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ABSTRACT

Based on Habermas' Theory of Communicative Action, this paper critiques the transparency and legitimacy of participatory scenario planning, considering a case study of scenario development for the livestock industry within Scotland. The paper considers the extent to which the case study approximates the conditions for 'ideal speech situations' and how these conditions could be applied more widely in participatory scenario planning. The authors explore the rationale for participatory scenario planning within the science–policy interface with critical reference to the corporate context in which scenario planning has evolved. The aim is to optimise the potential for its use in the context of socio-technical and environmental governance. Researcher co-reflections on the case study are mapped within a matrix of indices representing conditions for ideal speech situations. Further analytical categories highlight the extent to which ideal speech was approximated. Although many of the constraints on achieving ideal speech situations reflect intransigent, practical logistics of organising participatory exercises, our novel approach enables the systematic identification of some important issues and provides a conceptual framework for understanding how they interrelate that may prove useful to practitioners and theorists alike.

1. Introduction

The history of scenario planning coincides with a prominent shift in governance approaches in western democracies. This shift has been attributed to a crisis of legitimation surrounding public decision-making institutions in which the role of traditional knowledge bases is eroding (Enticott and Franklin, 2009; Hajer, 2003). It is evidenced through the way democratic governments increasingly seek legitimation for their policies by commissioning participatory exercises including scenario planning (for example, Eames and Egmose, 2011). This is particularly evident in relation to policy around science, technology and environmental management (Attar and Genus, 2014; Wachinger et al., 2014). Participatory processes and the values behind them are championed by critics of technocratic approaches (Irwin and Wynne, 1996; Wynne, 1975, 2008). The participatory research paradigm embraces local knowledges and promotes bottom-up ownership of data generation and analysis in opposition to traditional, institutional power centres (Holland, 2013).

Scenario planning is widely used in participatory exercises and researchers are often involved in the design and facilitation of stakeholder workshops (Patel et al., 2007). At the science–policy interface, where significant deployment of this method is currently taking place (Government Office for Science, 2013), its application potentially intersects with a wider set of democratic values. In order to realize its potential in the public sphere however, it is argued that, a participatory engagement needs to respect key normative criteria, including representativeness and transparency, to underpin legitimacy (Horlick-Jones et al., 2007; Rowe and Frewer, 2000). In practice many processes lack optimal representativeness (Reed et al., 2013), but so long as their composition is transparent the public can at least draw inferences about whose interests are being represented. However, critics maintain that orthodoxies, institutional power bases and established orders continually attempt to reassert and reinvent themselves by undermining genuine participation often under the guise of allegedly scientific modes of thought (Stirling, 2006, 2008; Wynne, 1975, 2008). Furthermore, the status quo across Europe remains decidedly non-participatory, leaving the framing of most science and technology deliberations in the hands

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of experts and officials (Hagendijk and Irwin, 2006) with a tendency to use approaches with technocratic overtones (Chilvers, 2008).

The emergence of scenario planning within the context of science, technology and environmental management follows decades of development as a corporate strategy development tool. However, expectations from participatory exercises undertaken by researchers to inform policy extend beyond those associated with scenario planning in the corporate world (Bishop et al., 2007; Flowers, 2003). At the science–policy interface the researcher is not solely intent upon developing a corporate strategy, which may stand or fall upon its utility as determined by institutional decision-makers. Rather, scenario planning is being used to feed into government policy as part of wider democratic decision-making processes. Initiatives like Foresight (the UK Government Centre for Horizon Scanning), for example, exist to explore policy options through projects either directly or indirectly commissioned by governments and their agencies to "provide strategic options for policy" (Government Office for Science, 2013; see also Foresight, 2008, 2010, 2011). This is not to say that scenario planning for policy makers is necessarily always participatory, nor that valid contexts do not exist for scenario planning outside the public sphere. However, this paper concerns participatory scenario planning exercises in the public sphere, particularly those that aim to address socio technical and environmental concerns of which there are many (for example Foresight, 2013). In this context researchers are placed under a special obligation to reflect on the legitimacy of the recommendations or evidence obtained through the methods that are used. Two particular areas that we address are: firstly, problems regarding representativeness (Horlick-Jones et al., 2007; Irwin, 2006; Blackstock et al., 2015) including unavoidable participant biases (O'Brien, 2004) and power relations (Attar and Genus, 2014); and secondly, issues relating to the tools, methods and practices that influence the creation of the messages emanating from the process that need to be critically examined (Irwin and Wynne, 1996; Latour and Woolgar, 1979; Chilvers, 2008) rather than creating a black box and masking prevailing orthodoxies under the guise of scientific neutrality (Wynne, 1975). This 'special obligation' is an underlying assumption in this research, which is founded in the democratic ethos of Habermas' Theory of Communicative Action (1984a,b).

The scenario planning literature reveals that a variety of techniques have entered into use within the science–policy interface (Bishop et al., 2007) and highlights a wide range of limitations of the scenario planning approach (e.g. O'Brien, 2004; Wright et al., 2009). We focus on those concerning the legitimacy of scenario planning methods related to their use in participatory processes in the public sphere. We recognise that considerable challenges exist elsewhere, for example regarding relevance and creativity (see also Alcamo et al., 2006); however, we explore how scenario planning can act as a policy-enabling participatory process by identifying some of the issues that potentially erode its legitimacy, and by taking a critical look at the concerns raised by Rounsevell and Metzger (2010) regarding deficiencies in its robustness. We argue that there are distinct issues surrounding participatory democracy where scenario planning is deployed in a societal governance context that demand greater scrutiny than is necessarily required in the corporate sphere where much of the methodology has been developed. In Section 2.2 the paper considers the nature of the differences between these two contexts and a case is made for a re-appraisal of aspects of the praxis of participatory scenario planning in the public sphere.

The remaining sections draw on the authors' experiences of a series of scenario planning exercises involving stakeholder workshops. The motivation for this paper stems from critical reflection of these experiences and a firm belief that methodological improvements can be attained in regard to the legitimacy of such processes by drawing on existing theory in the field of discourse ethics, namely work of the philosopher Habermas. The case study considers the future management of livestock disease in Scotland and was conducted within a Scottish Government funded research programme. Drawing on a critical reading of Habermas (1984a,b), and in particular his concept of 'ideal speech situations' (see Section 3), general principles for increasing the transparency and legitimacy of participatory scenario planning processes are explored.

2. The uses of scenario planning

2.1. Scenario planning: the development of an approach to futures thinking

Following Foucault (Foucault, 1972; Foucault and Senellart, 2008) we approach scenario planning as a process that has been uniquely shaped by the particularities of its development. The provenance of scenario planning will be considered in this section after brief introductory remarks. At its most basic level the rationale behind scenario planning is that imagined, potential and possible worlds can help people or organizations to deal with the inherent uncertainty of the future (Börjeson et al., 2006). Via multiple re-imaginings of the world as it might be, the scenario planner hopes to influence current behaviour to act in the interests of a better future, or at least improve preparedness for imaginable adverse eventualities. Based on this general conception, it is clear that some form of scenario approach has long existed in society. Creative minds, from Hieronymus Bosch (c. 1450–1516), whose paintings are widely interpreted as didactic templates, to William Gibson, author of the novel Neuromancer (1984), have long used imaginaries to influence the socio-political landscape. However, as a formal research method, scenario planning emerged in the 1960's as a tool to support government planning. An influential early futurist, Gaston Berger, founded a school dedicated to the study of possible futures (Godet and Roubelat, 1996). The rationale of his method is to allow future possibilities to be investigated in a systematic manner, thus "clarifying present action in the light of possible and desirable futures" (Durance and Godet, 2010: 1488). Berger's scenarios, and those developed in the case study below, are not primarily about the likelihood of what will happen in the future, but instead provide the opportunity to evaluate a range of different possible futures, through a combination of "unfettered creativity with a methodological prospective approach" (De Brabandere and Iny, 2010: 1508).

More recently, a distinct context for scenario planning has flourished around socio-technical change and management of environmental issues in the public sphere (cf. Robinson et al., 2011; Zurek and Henrichs, 2007; Eames and Egmose, 2011). As mentioned, scenario planning began as an instrument developed to support public policy, but the processes we see in evidence today have been significantly influenced by two key developments: firstly by the expansion of the approach in the corporate world where it has not required the same emphasis on democratic principles; and secondly the shift in public policy development away from the top-down supremacy of experts, preeminent in the era of Berger, towards at least the aspiration of a more citizen-centric world of policy generation evident today. However, this latter shift has not overturned the dominant culture, nor has it necessarily been matched by a corresponding epistemological orientation of policy makers or scientists (Wynne, 1975) who, in many instances continue to privilege expert knowledge, serving to undermine more democratic attempts to influence policy. Given the tendency that the dominant culture has to reinvent itself as it confronts pressure for reform manifest in new forms of engagement (Wynne, 2002), there is an added incentive to be critical of approaches claiming to advance democracy through more participatory governance.

2.2. Corporate planning contexts versus public policy contexts

Concerns about the democratic credentials of participatory scenario planning were not central to early scenario planners (see Kahn, 1962; Rounsevell and Metzger, 2010), who sought to influence policy in an epoch characterised by greater top-down governance and less public engagement than the more bottom-up forms (Bevir, 2007) that have arguably gained ground more recently. What followed these early

developments of scenario planning in the public policy arena amounted to an appropriation of a public policy tool by the corporate world where the requirements for democratic checks and balances have always been more peripheral drivers of the methodology. A glance at one of the popular scenario planning guides aimed at business users will confirm that the pressing problems concern, for example, future profits, increasing market share, positioning new products, identifying talent and effectively utilizing resources (Wade, 2012). Future-proofing against market shocks has also been seen as a potential benefit of scenario planning, and influenced by this emergent trend many corporations have adopted the method (Huss and Honton, 1987; Durance and Godet, 2010; Ringland, 2006; Rounsevell and Metzger, 2010). By 1981, 75% of Fortune 100 companies reported using some form of scenario planning (Linneman and Klein, 1983). Variations proliferated including; Two Axes method, Branch Analysis method, Cone of Plausibility method, Cause & Effect Scenario Generation, Force Field Analysis, Backcasting, Morphological Analysis, and Field Anomaly Relaxation (Foresight, 2009). The range and variety is considerable and it falls outside the scope of the current paper to differentiate between them beyond commenting that many approaches lend themselves to participatory exercises with stakeholders. A notable exception, not involving the sort of stakeholder participation reflected upon here, is quantitative scenario planning (for example Thomas, 2012) which is typically founded on probabilistic or other mathematical models.

In more recent decades, notably since the 1990s and in the sphere of socio-technical and environmental governance, scenario planning has again become a significant policy instrument for governments (Rounsevell and Metzger, 2010). It has, in a sense, come 'full circle' in that it has been re-appropriated from its strategic, corporate management context by governments, their agencies and related research institutions, to be incorporated in a wide variety of projects at all scales: for example from the Millennium Ecosystem Assessment (Carpenter, 2005) to the Scottish Land Use Strategy regional pilot project (Aberdeenshire Council, 2014). However, while corporate decision- makers may be satisfied to know that strategies emerging from scenario planning exercises have potential business utility and comply with corporate governance requirements, the researcher engaged in work directed towards public policy may have a wider interest in the legitimacy of findings presented as originating from participatory stakeholder processes. It is not generally sufficient, critics argue, for recommendations or strategic guidance feeding into public policy to originate from a black box (Godet and Roubelat, 1996). Policy makers need to be confident that bias is explicit (Rounsevell and Metzger, 2010) and more widely, following Wynne (2008) and Stirling (2008), that any constraints that may have influenced the generation of the 'evidence' have been recognised and accounted for by the researchers. Policy-facing research, especially when it is explicitly aiming to be participatory, needs to be measured by a different standard than corporate research, particularly when the research has been publicly funded, and where it may feed into democratic decision-making processes.

In response to these concerns, significant critical reflection has been directed towards scenario planning with much of it aiming to improve practice and help researchers achieve outcomes with improved levels of scientific credibility. Critics have questioned the predictive power of scenarios (for example Wright et al., 2009). Other criticisms point to positivistic assumptions within scenario planning, and have proposed alternative theoretical perspectives (Chermack and Van Der Merwe, 2003). Wider questions have also been raised about the credibility and legitimacy of scenario planning at the science–policy interface, where socio-technical and environmental decision-making occurs (Clark et al., 2002). Notably, one issue that has been recognised is that the scenario planning process is necessarily constrained by the worldviews of the participants whose values and life experiences are an uncontrollable precondition of the engagement that can only be acknowledged (O'Brien, 2004). Related to this is a concern that information obtained from elements commonly used in scenario planning, for example, PEST (Political, Environmental, Social and Technological) analysis may produce uncontested knowledge claims, subject to:

> "an assumed veracity of obtained knowledge … [lacking evaluation of] potential vested interests involved, i.e. little or no consideration of how 'knowledge' is socially constructed according to the knowledge-originator's beliefs, values and rationalities." (Wright et al., 2009: 325).

Materials derived from the process, for example, in the form of recommendations to policy makers, can therefore become decontextualized, with the intermediary steps leading to their production being forgotten (see also Latour and Woolgar, 1986). It is against the backdrop of such fundamental issues concerning the legitimacy of participatory scenario planning that this paper introduces novel thinking based on the Theory of Communicative Action (Habermas, 1984a, 1984b).

3. Communicative action: a theoretical perspective

Communicative Action, in general terms, is a framework for understanding and improving society that seeks to identify and remove unnecessary constraints that stem from the structure of social life (Phillips, 1994). The scenario planning context is relatively unexplored through a Habermasian lens, however, there are a number of studies that have linked Habermas more generally with participatory planning, for example, Healey (2006); Allmendinger (2009); Taylor (2010), and Fast (2013). Working in the spatial planning and environmental governance contexts, these authors have recognised the potential of 'ideal speech situations' developed in The Theory of Communicative Action (Habermas, 1984a,b) to resolve some of the methodological challenges with participatory planning. Healey and colleagues advocate a change in governance 'culture' necessary to improve the management of co-existence in 'shared spaces' through enhanced deliberative, collaborative and inclusionary planning processes (Healey, 2006: 297; Hajer and Wagenaar, 2003; Healey et al., 2003). Both Allmendinger and Healey have incorporated elements of the Theory of Communicative Action (1984a,b) into the development of spatial planning principles. Other notable applications of the Theory have judged it to be a useful basis for incorporating normative considerations derived through stakeholder or citizen engagement into policy and planning processes (see also Dietz, 1995 (in Renn et al., 1995); Dietz and Pfund 1988; Stern et al., 1992). Building on this work, this paper considers the ideal speech situation as a conceptual tool to explore the legitimacy of participatory scenario planning in the public sphere where the need is most acute and where the focus of Habermas' critique is centred.

Habermas (1984b) argues that democratic decision making can only be regarded as legitimate provided it issues from a process of public deliberation. All political legitimacy, for Habermas, stems from communicative power, which is in turn generated by public discourse (Olson, 2011). The organization and execution of that public process are predicated upon reason. Reasonableness can only be presumed when certain generalizable conditions (which we will introduce shortly) are met. Habermas' ideas concerning legitimation for the democratic state are founded, following Durkheim, on the idea of a common will or consensus that can be communicatively shaped in the public sphere. The more deliberation, critical spirit, and reflection that are attained in this shaping of public affairs, the more democratic the state becomes. For the state to legitimately govern it must seek to determine which representations hold good for the collectivity. In other words, outcomes from communicative processes must be held to be sufficiently representative in order to be founded on a common will which in turn ensures legitimacy across society. Furthermore the high degree of consciousness and reflection required by the state, if it is to be democratic, requires it to minimize prejudices that evade detection through the transparency of the arrangements it instigates for the discursive formation of a common will (Habermas, 1984b, p.81).

Habermas proceeds to establish the conditions under which genuine democratic processes flourish through forms of participatory engagement for the free and fair governance of society. The basic proposition is that democratic politics involves people determining the rules by which they will live together and that these rules are established through political argumentation. Given that argumentation is an inherently communicative practice and that language implicitly commits speakers to cooperate through its very structure (Weber, 1904), Habermas bases his entire democratic theory on discourse (Olson, 2011). Habermas argues that social coordination (or 'reproduction') and the halting of disruptive social pathologies stem from communication oriented towards mutual understanding between actors (Habermas, 1984b; Fast, 2013). He develops a conceptual framework to reclaim the project of enlightenment, with its values of truth, critique and rational consensus that have been labelled transcendental pragmatics, after its opposition to other forms of pragmatics that propose relativistic notions of truth (Honderich, 1995). The approach is deemed transcendental because of its faith in the universality of validity claims that are derived through principles that go over and above specific locations and situations (Fast, 2013; Harvey Brown and Goodman, 2001).

At the core of Habermas' value system is the notion of a regulative 'ideal speech' situation that allows human emancipation within a public sphere where citizens can engage in reasoned debate free from coercion (Honderich, 1995). He supports this construct with an analysis of discourse focusing on the core components of the pragmatic, reasoned argument. Habermas proceeds by conceiving of ideal conditions under which contested validity claims can be supported by good reasons that can in turn be criticized, leading to mutual understanding (Habermas, 1984a). It is important to note, however, that Habermas explicitly recognises that his ideal conditions can only be approximated in the 'real' world, and that the utility of his conceptual guide to emancipatory argumentation, lies in pragmatically attempting approximation. Speakers in actual deliberations may be disappointed that the regulative ideal is generally unattainable, but Habermas interprets this disappointment as confirmation that we have presupposed the conditions of legitimacy (Yates, 2011); this presupposition is a central condition in his overall argument.

Mutual understanding (and 'Communicative Action') is therefore made possible, according to Habermas, through the approximation of an 'ideal speech situation' which entails a number of important conditions: All parties have access to the same information with the implication that relevant implicit knowledge is (in theory) explicit (Harvey Brown and Goodman, 2001: 206); no relevant argument is excluded or ignored; and participants' views are based on the rationality of the argument rather than the instrumental steering mechanisms of 'status, money or power' (Habermas, 1976; Harvey Brown and Goodman, 2001). The ideal speech situation is a space in which citizens have the opportunity to freely participate in democratic decision-making (Harvey Brown and Goodman, 2001; Allmendinger, 2009). Ideal speech, in Habermas' overall schema, underpins communicative action. Strategic action, in contrast, involves the failure of ideal speech whereby interests undermine legitimate argumentation.

Wynne (1975) emphasizes the potential for Habermas' approach to help guard against illegitimate distortions produced by the frameworks of data collection and analysis that subvert genuine public participation and uphold powerful orthodoxies. The potential for subversion is wide-ranging and the relevance of Habermas' work to the critical consideration of frameworks of data collection and analysis used in participatory processes transcends any specific point in the policy cycle. Whether the participation is constituted in the decision-making phase or earlier in the agenda-setting stages, Habermas' approach aims at the general level of reaching discursive understanding, is concerned with the 'rightfulness' of reasons, and promotes developing cooperative approaches between actors based on reason (Habermas, 1984a: 25). While Habermas' pragmatic approach allows that constraints cannot necessarily be removed, one of the challenges that this paper takes up is to make them more explicit using ideal speech to highlight the barriers.

4. Methods

4.1. Theoretical framework development

To illustrate the challenges of achieving objective validity within participatory scenario planning processes, we use The Theory of Communicative Action (Habermas, 1984a,b) to reflect on a particular case study of scenario planning in a socio-technical context. Our post-hoc reflection of the scenario planning exercise was guided by indices drawn from our reading of Habermas' original text through which we identified relevant factors associated with the 'ideal speech situation'. Care was taken to respect the principle of transcendental pragmatics whereby our indices would be generalizable. These factors are presented (in Table 1) as a set of criteria or indices that we used to interpret obstacles to ideal speech which appeared to be present in our scenario planning exercise and indeed in other scenario planning experiences that the authors have participated in. We proceeded by systematically evaluating individual elements or activities that comprised the case study scenario planning exercise against the indices. These activities are chronologically arranged in a matrix (Table 2) and a brief comment is given about the approximation to an ideal speech situation (as assessed by the researchers) that was achieved, according to the most relevant indices (see Table 1). Section 5 presents a more detailed account of some key findings in relation to scenario planning as Communicative Action arranged according to Habermas' triad; *process*, *procedure* and *product* (see Section 5.1).

Table 1
Indices of ideal speech, after Habermas (1984a).

Summary 'ideal speech' indices	Description
(1) Domination-free	• Equal voices — the same chance to speak is afforded to all; • Authority based on 'good argument' not hierarchy — devoid of coercion; • Allows for criticism and reply.
(2) Free from strategizing	• Participation with intention to convince universal audience and/or gain general assent; • Rationally motivated agreements end disputes; • Implicit knowledge is theoretically explicit ('all cards on the table'); • Universality: principles transcend specific locations and situations.
(3) Deception-free	• Absence of self-deception and absence of deception through participation; • Trust implicit through assumption of consensus.
(4) Egalitarian	• Power relations between participants play no role in the situation, and only speakers with an equal chance to employ representative and regulative speech acts are allowed in the discourse.
(5) Promotes intersubjective validity claims	• Encourages a 'hypothetical orientation' and the shared airing of hypotheses lends itself to intersubjective recognition of claims (i.e. exchange and acceptance of diverse viewpoints).
(6) Recognises different kinds of evidence	• An open, respectful environment allows a variety of knowledge claims, different grounds or ways of backing claims to be brought to the table including anecdotal evidence.
(7) Constraint-free	• No limits on participation (i.e. in terms of numbers, knowledge types, etc.); • No force (or exertion of power), except the force of better argument; • Better arguments to stand, nothing ruled-out or ruled-in.
(8) Inclusive	• Includes all those who are affected by its decisions. Anyone who considers his/herself to be potentially affected by the results of the discourse must have an equal opportunity to participate.

Table 2
Consideration of scenario workshops and approximation to ideal speech situations; text in italic (column 3) indicates process divergence from ideal speech.

Activities	Activity description	Ideal speech situation — insights from indices
(1) Participant recruitment (pre workshop)	Selection including convenience sampling and utilising existing researchers' networks.	Opportunity for participants to identify perspectives that were absent was provided (increasing inclusivity). *Emphasis on 'expert' and institutional actors (rather than practitioners). Potential for participant strategizing through self-selection in final attendance.*
(2) Identifying drivers (pre workshop)	Pre-preparation of drivers/sheep 'timeline' by project team.	*Pre-selection of industry 'drivers' by researchers had potential to influence final selection of drivers in the workshop.*
(3) Introduction to scenario planning method and principles (workshop events)	Introduction to EPIC project, team and individual participants; participant grouping according to workshop seating plan.	Open introductions (to each other and to method) are inclusive; 'laying cards on table', etc. *'Strategic' positioning of project members according to seating plan and spatial arrangements may be considered power balancing (intended) or deceptive (unintended). Power balancing by researchers to facilitate group activities (i.e. domination by powerful interests/personalities minimised) can also be an exercise of power by researchers over participants.*
	Defined rules of engagement as 'Chatham House Rules' (i.e.; individuals and affiliations not associated with any comments in proceedings) – no audio recording permitted.	Chatham House Rules removes constraints on free speech, as well as inclusive, equal, no force other than better argument; promotes need for validity claims. *Anonymity masks contributor's interests: strategic interest can appear as consensus.*
	Presentation of workshop outline and expectations.	Absence of deception in terms of explicit statement of objectives. *Research project remit required research-led agenda, which may be considered unequal and potentially strategic.*
(4) Ranking of drivers by impact (workshop event)	Exercise explanation	Absence of deception in terms of explicit statement of objectives. *Tension between openness/structured process and power of researchers versus other participants.*
	'Dynamic' plenary to discuss ranking of impact drivers.	Inclusive and promotes need for validity claims; promotes development of universal argument (i.e. agree level of impact of each driver). Participants were given the opportunity to add drivers to the pre-selected list. A number of drivers were added. *Anonymity can mask contributor's interests and strategic interest can appear as consensus.*
	Facilitated ranking exercise.	*Parcelled, timed release of information regarding workshop exercise by the facilitators increased efficiency but reduces transparency and maintains power balance in favour of facilitators/researchers.*
	'Reflective' plenary to finalise ranking.	Inclusive; reflective (permitting 'hypothetical attitudes').
(5) Ranking of drivers by uncertainty	'Dynamic' plenary to discuss ranking of impact drivers	Inclusive; relies on validated argument to process discussion (i.e. to combine the drivers – reach consensus). *Driver pre-selection by researchers may have influenced final workshop selection.*
(6) Selection of axes	Facilitated discussion of potential scenarios based on axes determined by critical uncertainties	*Pragmatic facilitation (based on previous workshop experience) limited freedom from domination and controlled selection of axes and scenario nodes (i.e. whether or not an axis represented a critical uncertainty).*
(7) Generating scenario narratives/storylines	Small group discussion based on presentation of method, goal of axes, generation of scenario titles, stylised representation and timeline.	Promotes intention to convince universal audience; also seeks to make knowledge explicit (what we know about the method, the drivers, axes, etc.).
(8) Closing plenary (workshop activity)	Description of interim and second workshop activities, including review of participation (i.e. representation of interests).	Opportunity for participants to identify perspectives that were absent was provided (therefore increasing inclusivity). Continuation of an open and respectful environment.
(9) Interim activities	Project team adds scientific detail and validation to scenario narratives	*Participants less able to promote intersubjective validity claims. Intention of researchers to validate scenario narratives may be considered to balance power in favour of researcher (and scientific knowledge).*
	Scenario narratives document distributed to participants and validation sought about accuracy (reflecting the workshop discussion), plausibility and internal coherence	Making implicit theoretical knowledge explicit and opportunity for 'criticism and reply' (rationally motivated agreement). Scenario narratives confirmed with participants at second workshop. *In practice the method did not result in significant interaction between workshops (limited inclusivity).*
(10) Presentation of scenario narratives (workshop activity)	Review of scenario narratives generated in first workshop including development of fourth scenario narrative	Promotes intention to convince universal audience; also seeks to make knowledge explicit, and allows criticism and reply. Revisiting scenario space identified by participants at close of first workshop. Inclusive element to agree fourth scenario.
(11) Scenario analysis/testing (workshop activity)	Group exercises designed to challenge and refine scenario narratives, including exercise in which participants invented scenario relevant newspaper headlines.	Exercises have potential to promote universal arguments through intersubjective validity claims.
	Group exercises designed to consider implications of each scenario ('shock' and strategy development exercises'.	Group discussions, where power is equal, promote greater opportunities for individuals to voice their views and make validity claims. *Potential for researcher-led process to be unequal (i.e. in terms of representation of views).*
	Group 'wind-tunnelling' exercise; 2–3 strategies from each subgroup discussed in plenary.	Allows authority based on 'good argument' and for criticism and reply, in discussion process (i.e. to agree effects of measures on scenarios).
(12) Participant evaluation (post workshop)	Feedback survey distributed to participants to capture participant evaluation of workshop process and experience.	Opportunity for criticism and reply. Acts to equalise power balance between participants and facilitators/research team. *Pre-defined survey questionnaire prone to shape responses to expectations and can be unequal.*
(13) Reporting and dissemination (post workshop)	Reports written by researchers primarily for Scottish Government and the stakeholders who had participated, but publicly available on the EPIC website http://epicscotland.org/ and academic outputs (including the current paper).	Enables realization of the intent to convince a universal audience and presents the opportunity for arguments to gain general assent. *Creates power imbalances between authors and participants. Introduces the danger of exclusivity by enclosing arguments in a black box.*

4.2. Case description

The case study workshops were designed and executed by researchers in the Scottish Government-funded Centre of Expertise on Animal Disease Outbreaks (known as EPIC) which was, "established with the overarching purpose of providing high quality advice and analyses on the epidemiology of animal diseases that are important to Scotland" (EPIC Action Plan EPIC Directorate, 2012) to policy-makers from the Animal Health and Welfare Division at the Scottish Government. EPIC researchers, with invited participants from Scottish Government and various stakeholders, conducted scenario planning exercises to think strategically about future disease management in the Scottish sheep and cattle industries (Boden et al., 2015). By following a conventional set of scenario building exercises, the research team facilitated the creation of plausible yet imaginative narratives (Shoemaker, 1995) through a series of stakeholder workshops, as outlined in Fig. 1. The specific method in the case featured in this paper is normative scenario planning, also known as exploratory scenario planning (Thomas, 2012; Chermack, 2011). Normative scenario planning (see also Rounsevell and Metzger, 2010; Chermack and Van Der Merwe, 2003; Van Der Heijden, 2005), as used in the case study, featured a derivative of the widely used Two Axes Method, namely, the hybrid Three Axes Approach (Mićić, 2005 (cited Gracht, 2008, p127); Ralston and Wilson, 2006). Given these conventional features, lessons learned from the case study are presented as having a useful degree of generality for participatory scenario planning more widely.

Training was commissioned from a professional facilitator and involved putting the researchers through a simulated scenario building process. The trainer was subsequently retained to assist with the facilitation of a series of workshops bringing direct experience of Foresight (Government Office for Science, 2013) and other completed scenario planning projects. Two workshops were held, each comprising two days of scenario planning with stakeholders. One workshop in 2013 explored the future of the Scottish cattle industry. The second workshop considered the future of the Scottish sheep industry and was held in 2014. In both cases the two-day workshops were not run on consecutive days but separated by several weeks to allow the researchers to conduct interim analyses. The future time horizon for both industries was 2040; a timeframe jointly agreed by the researchers and policy contacts from Scottish Government. The workshop facilitation was conducted by an interdisciplinary team comprising of two social scientists, three veterinary epidemiologists and the experienced trainer, supported by other researchers operating as scribes and assisting with presentational, operational and administrative tasks. Participants included representatives from the Scottish sheep and cattle sectors, wider farming representatives, those with interests in land use, wildlife conservation and forestry, the Scottish Centres of Expertise on water (CREW) and climate change (CXC), economists, agricultural and social scientists, veterinarians, epidemiologists, EPIC scientists and Scottish Government officials. Participants were given the role of scenario planners, tasked with engaging in strategic thinking through a series of conventional scenario planning exercises that resulted in the creation of four scenarios set in 2040. The focal question addressed was: *What will the Scottish sheep/cattle industry look like in 2040 and how resilient will it be to livestock disease?* (EPIC, 2014; EPIC, 2015) The question owed its form to the twin concerns of encouraging the development of radically different farming future scenarios incorporating socio-cultural, technological, economical environmental and political elements (STEEP (see also Political, Economic, Social and Technological with the acronym PEST)) in order to transcend current thinking but at the same time to limit the scope of the exercise to factors considered relevant to the control of livestock disease in Scotland.

The workshop discussions and resulting scenarios formed the basis for interim reports distributed between workshop events, and final reports written for a policy/non-academic audience (EPIC, 2014; EPIC, 2015). Following each workshop event, participants completed a short evaluation questionnaire; the results of which were incorporated into future workshop planning and processes of researcher co-reflection, reported in the following section. Rich narratives and interesting strategic ideas were obtained and both are described in detail in Boden et al. (2015). The current paper will not cover the same ground but rather, as has been set out, will critique the organization and execution of the exercise in terms of its generalizable characteristics according to the ideal speech indices in Table 1.

4.3. Case study analysis

The data were analysed qualitatively to consider the ways in which the scenario planning case had approximated ideal speech using techniques of content analysis (for example Krippendorff, 2013) and reflective commentary. A matrix was constructed (Table 2) in order to present the results, where Columns 1 and 2 represent the different phases of the process in chronological order and Column 3 includes subjective assessments of the key issues under investigation, namely whether and how the activity successfully approximated ideal speech (considering the indices presented in Table 1). The data used to support the completion of the matrix comprised the EPIC workshop process design (see Fig. 1), project materials including reports, scribes' notes and project team comments. An analytical approach, which is explicitly qualitative, has been followed to stimulate a discussion about the correspondences and divergences between an extant theory and an example of practice.

5. Results

5.1. Habermas' analytic viewpoints

This section deals in some detail with what are identified as the most significant items recorded in Table 2. The presentation of results follows Habermas in deploying three lenses to consider the specifics of the stakeholder engagement: *process*, *procedure*, and *product* (see Fig. 2). Developing the concept of ideal speech situations Habermas delineates these three viewpoints on argumentative speech which we further develop to organize our findings in this section. The "three aspects" (Habermas, 1984a:25) do not directly map onto the indices in Table 1, nor do they necessarily relate to one passage of the scenario planning exercise. The perspectives cut across both and serve to draw-out particular challenges to legitimacy by looking at the whole from different angles as they form separate analytic resources for interpreting discourse.

Firstly, Habermas considers argumentation as a *process* governed by pragmatic presuppositions on the part of every competent speaker. These presuppositions are prerequisites to enter into argumentation. For Habermas, actors must presuppose that reaching a rational understanding excludes all force, both internal and external, from the argumentation process, apart from the force of better arguments. A useful metaphor Habermas invokes is that argumentation in which reasons for accepting or rejecting claims are advanced cannot avoid using 'the voice of reason' which presupposes the wider emancipatory project (Habermas, 1991). Furthermore, all motives, beyond the motivation to cooperatively seek truth, are ideally excluded. He also refers to this *process* of argumentation, when it is approximating 'ideal speech' as "reflexive continuation", whereby actors cooperate in good faith free from constraints, (Habermas, 1984a: 25).

Secondly, Habermas critically views argumentation as a *procedure* subject to special rules whereby normative regulation operates to allow disputants to adopt hypothetical attitudes. For this to succeed,

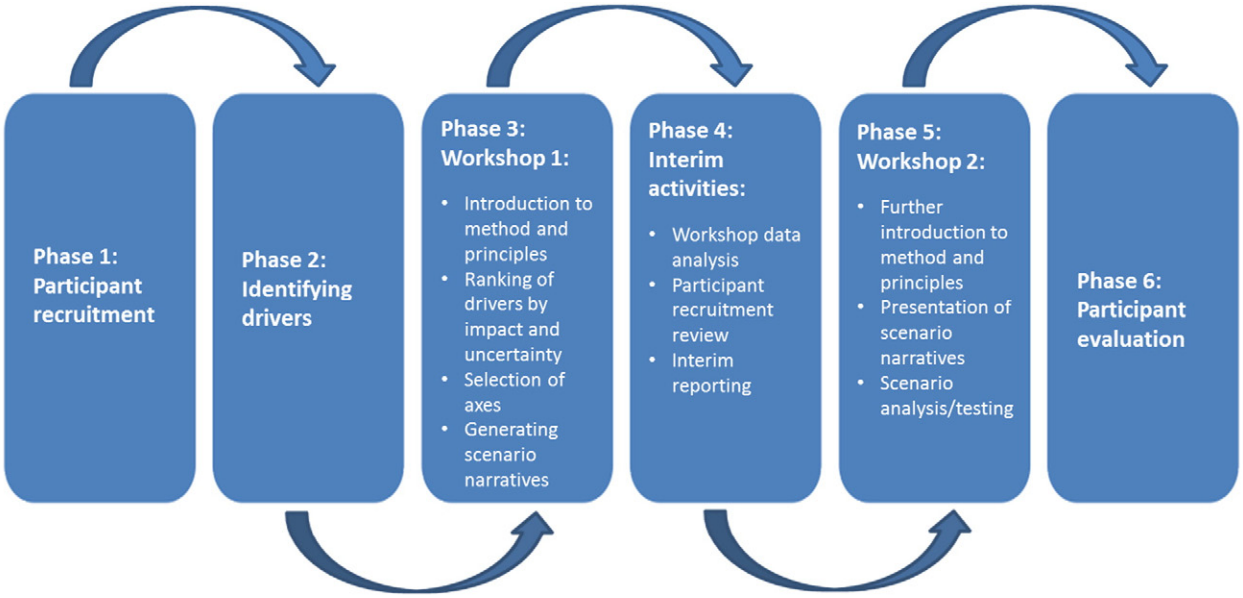

Fig. 1. Scenario planning process.

disputants must be relieved of practical pressures, freed from relying on their experiences and allowed the space to use tests of reason only, to assess the claims of their opponents.

Thirdly, Habermas sees argumentation as a vehicle for producing cogent arguments (or *products*) that have the power to convince (by force of argument) dependent on inherent validity claims that can be refuted (or upheld). These claims are supported by intrinsic components which Habermas further subdivides into: *grounds* (or reasons) through which claims are established; *rules* or warrants through which grounds are obtained; and *backing* from evidence of various kinds which support the grounds and the rules. This perspective (*product*) reveals the underlying components of individual arguments and how they are interrelated. In doing so it allows insight into how validity claims are grounded in arguments.

Explaining his triadic approach, Habermas draws a parallel between his three distinguishing aspects and the Aristotelian

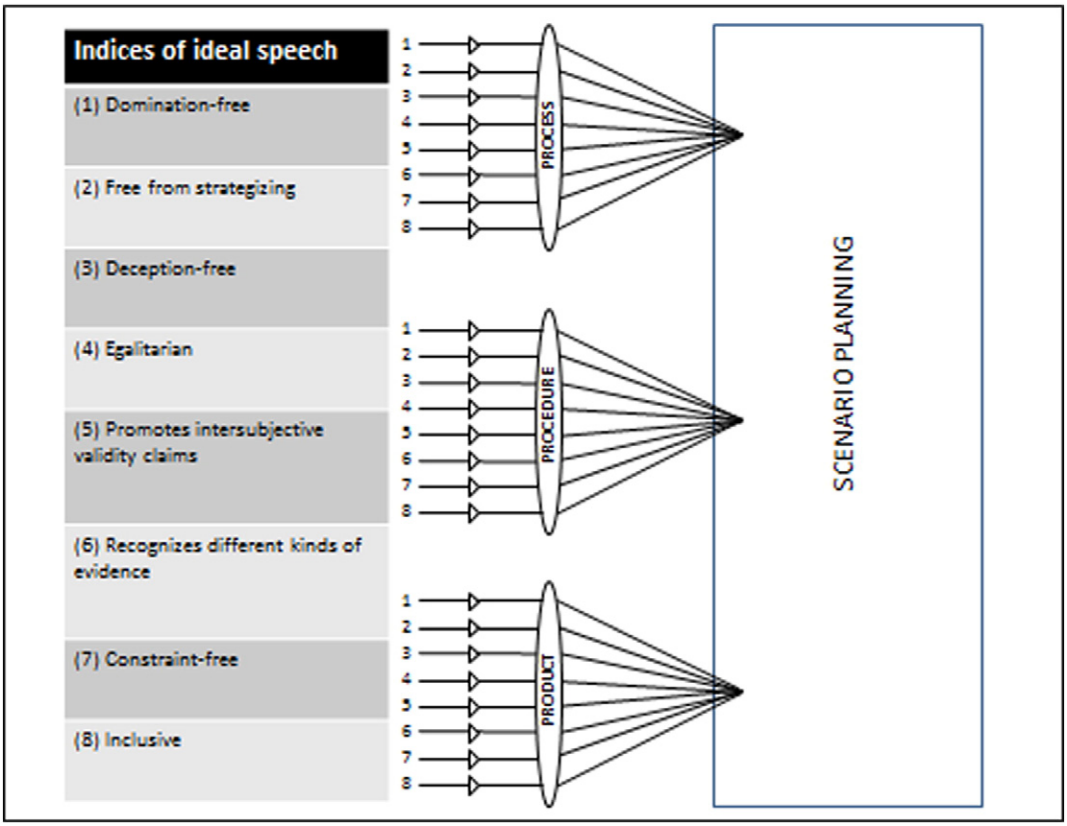

Fig. 2. Trinocular framework: Three critical lenses to evaluate the approximation of ideal speech in scenario planning.

canon. He links rhetoric with *process*, dialectic with *procedure* and logic with *product*. He proposes that this formal division, which grounds his approach in the philosophical tradition, reveals different facets of argumentation. These abstractions serve to allow a nuanced understanding of different elements of Habermas' theory and we adopt them as an organizing framework to similarly facilitate a nuanced reading of the case study in this section. It must be emphasised that Habermas is explicit in stressing that these three lenses are not discreet categories whereby discourse can be sorted into separate components, but that they are alternate ways of analysing discourse. Correspondingly, there is no strict division between episodes that were enacted in the course of the exercise and the three perspectives Habermas distinguishes. Each one of the three modes can be applied to each stage of the public deliberation. *Process*, which Habermas discusses in relation to rhetoric, concerns the form of an argument rather than its content. In particular, the person practiced in the technique of rhetoric employs a set of processes to persuade an audience without necessarily holding a corresponding belief in what is being said (Foucault, 2011). Looking through the lens of *process* one therefore seeks to analyse the individual deployment of speech through which attempts to exert influence are exercised. To look at *process*, in other words, is to consider the strategies, techniques and overall form with which knowledge claims are advanced. *Procedure* also relates to form rather than content, and hence there is a degree of overlap in the following analysis, however *procedure* captures the idea of exploring the coherence of the discursive system that allows us to determine good and bad forms of reasoning. For our purposes this entails an investigation of the normative, regulative structure of the scenario planning exercise in which we want to promote ideal speech. For example, exploring the basis by which researchers exert control as they direct different activities. Finally *product* is a lens through which we aim to evaluate the content produced by the *process* and the *procedure* in terms of its association to evidence or other authority. The expertise, for example, supporting a particular claim, may be an important factor, or 'ground' (Habermas, 1984a) in its argumentative force or validity, particularly when it comes to persuading a universal audience, therefore a link may need to be explicit for ideal speech to be better approximated. It is therefore through this rather formal triadic framework, based on Habermas (1984a) that we seek to identify different ways in which the EPIC scenario planning approximated or fell significantly short of ideal speech.

5.2. Process

It may be useful to consider the *process* lens as one focused on the unit of analysis of an individual participant attempting to advance claims in order to shape outcomes of the discursive activity. At this level there are preconditions necessary to enter into an argumentation in the first place (Habermas, 1984a: 25). Individuals hold worldviews. These are an unavoidable condition of participatory scenario planning that the researcher cannot control (O'Brien, 2004) and that condition the speaker's rhetorical repertoire. The planner is not completely powerless however. At the planning and recruitment stage (see Table 2, Activity 1), there is theoretical scope to ensure the inclusion of a wide range of worldviews by considering individual socio-economic circumstances and political affiliations.

Habermas' ideal is to include all those who are affected by decisions that may emerge, directly or indirectly, from the process (Table 1. Index 8). In Habermasian terms, the detachment of those affected from decision influencing processes is conceived as contributory to 'the uncoupling of the system from the lifeworld' (Habermas, 1984b: 187), a generally undesirable outcome in which human freedom is unnecessarily limited by social structure. Alcamo et al. (2006) offer the same direction to minimize partisan strategizing by being more expansive in terms of inclusion. Against this, the participatory opportunity in any scenario planning process is necessarily limited in several ways. First, researchers are subject to resource constraints that limit both the number of external interests being invited to participate and the temporal extent of any engagement. From the outset these constraints are anathema to the ideal speech situation (see Table 1.). Inclusion in the decision-making process of those potentially affected by decisions constitutes a normative value associated with fairness (Rowe and Frewer, 2000; Horlick-Jones et al., 2007). Temporal limitations, which operate at the individual (*process*) and more general (*procedure*) level, further constrain the opportunity for rational argument; a commodity that ideally ought not to be a rationed, finite resource, but should be sufficient for the task in hand (Horlick-Jones et al., 2007). In Table 1. Indices 7 and 8 describe the ideal requirements that may be compromised.

Second, owing to resource limitations, potential participants are evaluated and selected on the basis of overt or implied criteria (e.g. the ability to represent a particular knowledge in the scenario process, such as speaking credibly on behalf of a group of individuals or body of scientific knowledge). These selection criteria represent the potential to privilege certain types of knowledge (e.g. scientific over experiential or professional over practical). The expectations of the funder for the scenario process may also influence participant selection (e.g. emphasising the selection of 'experts'). It is important to note that there is no inherent reason why scenario planning should not be undertaken exclusively by experts, however, in such cases the process might better be regarded as expert elicitation or some other form of consultancy and not participatory in the sense discussed here (see also Blackstock et al., 2015; Kishita et al., 2016). Index 4 (egalitarian) speaks to the precondition of fairly based initial recruitment.

Third, potential participants in scenario processes are limited by their own individual resource constraints (e.g. the time and skills necessary to participate in these types of exercises), as well as the immediacy of the topic of scenario planning to their personal and professional interests. There is therefore a degree of self-selection in terms of potential participant willingness and availability to participate in scenario processes. In the current case study, the original specification from the project plan had been to assemble key informants and stakeholders with further reference made to 'a panel of experts'. In the early stages of planning the research a collaborative exercise in stakeholder analysis was undertaken, which systematically identified the areas of interest (rather than specific individuals) that the researchers considered appropriate to invite to the workshops. The interpretation of the research brief by the researchers resulted in invitations to institutional representatives and professionals (for example veterinarians); potential participants were identified and approached on the basis of their ability to fulfil the established criteria (see Table 2, Activity 1). Inevitably, a number of invitations were declined. Researchers then drew on their professional networks to recruit a predetermined number of participants, utilising personal connections to overcome barriers to participation (McKee et al., 2015), albeit within the parameters of the roles that had been identified. Certain groups proved more difficult to recruit than others. For example, only one representative from the retail sector was successfully recruited for the sheep workshop, and none for the cattle workshop. The result was that participants mainly comprised representatives of organisations, professionals (for example veterinarians), other researchers and officials. One consequence of this self-selection was, to some extent, the participation of 'the usual suspects' (Lee and Abbot, 2003), the effect of which is potentially far reaching and difficult to control for despite extra efforts that were made to recruit from groups that initially

declined invitations. These various constraints limit the degree to which index 7 can be satisfied.

One technique adopted to broaden participation was to provide the participants with an opportunity, in the workshop structure, to identify significant additional perspectives that they believed were missing (see Table 2, Activity 8). At the cattle workshop, participant feedback highlighted that farmers were perceived as underrepresented, suggesting they should be directly involved instead of represented by industry bodies. During the sheep workshop, at which researchers were able to achieve greater farmer participation, the participants identified consumers and retailers as underrepresented groups. One challenge of integrating these groups into the workshop structure of the participatory scenario process is in enabling integration of the different types of expertise and knowledge these groups are likely to bring. For example, policy professionals and organisational representatives are typically more experienced and therefore confident in participating in workshop-type environments (Pinto-Correia et al., 2015). Consumer groups and retailers are less likely to engage in processes which appear distant from their primary interests. Participation of these more peripherally engaged or differently skilled groups may thus be limited by self-selection, rather than researcher intent. Reflecting on the scope of the engagement, the researchers considered that additional validation of outcomes might be attained via future work with a broader group of stakeholders (see also Alcamo et al. (2006) and discussed holding activities at both public events (for example agricultural shows) and at schools.

Another practical way to deal with any imbalance is for the researchers to be transparent regarding participant recruitment strategies, and to ensure that any claims that they make about inclusivity regarding the scenario planning exercise are carefully considered, following Habermas' presupposition that truthfulness is integral to ideal speech (1984b). Further analyses of who is willing to participate and how power and exclusion operate to shape process outcomes would also add to the validity of similar exercises (Lee and Abbot, 2003).

5.3. Procedure

To delineate the lens of *procedure* from those of *process* and *product* it can be considered as relating more to the way in which the discursive interactions (here our stakeholder workshops) are normatively regulated. As with the logistics determining the composition of participation (considered above as *process*), workshop exercises are similarly subject to practicalities over which the organizers of the scenario exercises, in this case the researchers, inevitably hold power to structure and define the nature of interactions. The facilitated exercises were, in theory, intended to free the participants from the ordinary constraints of their immediate environment and individual interests by enabling them to engage collaboratively in creative scenario building, with no proposal off-limits and imagination explicitly encouraged. There was, in Habermasian terms, an intention from researchers to create the conditions for a hypothetical attitude to flourish (Habermas, 1984a) and for participants to bring only reasons to bear on each other's claims (see Table 1. Indices 5 and 6). However before these ideally 'unfettered' tasks (De Brabandere and Iny, 2010: 1508) were undertaken the broad outlines or building blocks of the scenarios were shaped by the researchers including the pre-selection of a set of drivers (see Table 2, Activity 2), which were used to form the axes and underpin the general dynamics of the scenarios (Gracht, 2008; Ralston and Wilson, 2006). Notwithstanding the potential for ideal speech patterns in plenary exercises in which the stakeholders ranked, chose and were encouraged to add to the list of drivers initially presented to them, the 'three axes' method adopted to structure the scenario generation involved the researchers overseeing the selection process which led to the formation of the three scenario axes[1] required by the method (see Table 2, Activity 6). These interventions were justified to participants by the researchers on pragmatic grounds, guided by the most experienced trainer's prior experience about what would constitute a workable set of axes and what would lead to completion of the exercise in a timely fashion (both important considerations). Although the axes selected were generally in line with the expressed preferences of the participants, in one instance, a potential choice for one of the axes proposed by the participants in the sheep workshop, was rejected by the researchers on the grounds that it had the wrong properties to be an effective axis. The resultant scenarios therefore were not developed around this participant proposed axis. The specific proposal in the case study was 'climate change', a driver that was considered in the scenario development, but one that was not accorded the particular status of an axis.

The intervention by the researchers in the selection of axes (on pragmatic grounds) reflects a power imbalance at play during the interaction driven by the requirements of the method for achieving outcomes set against the messy characteristics of the visioning field. In broad terms the facilitators can act to shape the scenarios both through pragmatic pursuit of effective engagement and their own assessments of the knowledge put forward by participants, consequently influencing any reports and recommendations that may emerge. While this clearly constrains ideal speech, given the inevitable time restrictions and the unfamiliarity of the scenario process to the participants, a certain imbalance may be unavoidable. Indeed many participatory research and other workshop exercises, of which scenario planning is no exception, need to balance the needs of timely completion and production of project outputs against the concern that the results are artefactual. Further challenges are introduced by considering participation in simple terms as 'human to human interactions through the medium of language(Webler, 1995:40) for example, managing participant fatigue (Gramberger et al., 2015). The general point is that this balancing act, which may be pragmatically justifiable, is not necessarily explicit and may have a bearing on claims about the participatory nature of outcomes that undermine legitimacy.

Another critical activity conducted in our chosen form of scenario planning that can be viewed through the lens of 'procedure' is the development of a set of scenario narratives (see Table 2, Activity 7), an activity which is a central component of the methodology (Mićić (2005 cited Gracht, 2008, p127); Ralston and Wilson, 2006; Schoemaker, 1995). This particular element potentially corresponds with ideal speech (Table 1. Index 5) in respect of the claim made for the technique to free scenario planners from their regular ways of thinking through a level of abstraction inherent in the method (Schoemaker, 1995). Potentially this imaginative space can act to reduce strategizing and political manoeuvring. In our experience, the scenarios did appear to live up to this expectation, often throwing up highly imaginative elements that did not seem to be contingent upon the interests of the individuals participating. Indeed, there seemed to be an intersubjective space created where the intention was to create stories that would convince a universal audience or gain general assent (see Table 1. Index 2). Nonetheless, the facilitation of narrative generation appears ill-equipped to either recognise or mitigate for participants determined upon 'gaming' the process, particularly anyone with prior knowledge of the method intent on representing a particular interest. In other words, participants with a strategic interest in telling a particular future story had an opportunity to do so. In Habermas' terms, strategic action could potentially compete with Communicative Action, although there is no evidence of any such activity in

[1] Axes are treated by the methodology as critical uncertainties that are more important than others being most likely to define the way the future will unfold around the focal issue (Garvin and Levesque, 2005).

the case study. Pragmatically facilitators can attempt to restrict the opportunity for participant strategizing by withholding information, releasing it stage-by-stage and thereby restricting the time available for strategic action. There was certainly an element of this present in the case study as the logic of particular elements, for example 'windtunnelling' was explained only immediately prior to the exercise (see Table 2, Activity 11). However, the down-side of trying to out-manoeuvre participants are two-fold; firstly that the researchers can underestimate the participants who may already know about the intricacies of scenario planning or may 'catch-on' quickly; secondly, allowing the facilitators the upper hand is no closer to the ideal, potentially shaping outcomes in an unequal way lacking legitimacy and jeopardizing Indices 1 and 3 (see Table 1.).

5.4. Product

Product is adopted as a conceptual lens to focus on the arguments or claims that emerged from the scenario planning exercises in the form of reports and communications intended for the consumption of Scottish Government policy teams, and that present a significant challenge from an ideal speech perspective (see Table 2, Activity 13). A major issue concerns the tendency for the claims arising from the exercises to become detached from supporting evidence and from any warrants that were originally associated with the force that accompanied their production. In Habermasian terms the backing for a claim (which is part of the structure of argumentation and can be made up of different kinds of evidence) needs to be associated with a "problematic utterance" to establish the validity of the claim (Habermas, 1984a:25). This detachment is manifest in unsupported claims being present in the scenario narratives, which are in turn present in reports and outputs. In other words, there is a reification of claims present in the scenario narratives whereby recommendations appear to have emerged from a 'black box', with no effective mechanism for establishing who made them and weak reporting of how they were justified at the time. It is therefore possible for the perspectives of dominant participants (or the facilitators) to feature more strongly in the development of strategies, contrary to the democratic objective of ideal speech (Table 1. particularly Indices 1 and 4) and for this influence to be unacknowledged in outputs.

For example, the scenario narratives themselves and the surrounding exercises resulted in the development of a number of suggested strategies that purported to promote resilience in both the cattle and sheep industries in Scotland (see Table 2, Activities 10 and 11). One key aspect of that development however, was that the recommendations emerging from the process are not attributable to the individuals who argued for them, because of an earlier process decision taken to grant anonymity through 'Chatham House Rules'[2] (see Table 2, Activity 3). Within the workshop this convention for maintaining anonymity aimed to lift constraints by allowing the participants to speak candidly 'off the record' and to think beyond the established positions of their respective institutions without fear of sanction. However, in terms of universality and transparency, something that ideal speech situations intend to foster, this provision operates to mask the identities of the individuals who propose and refine the emergent strategies. There is a resulting opportunity for, 'strategic action' (Habermas, 1984b: 86) for example, when one interest group proposes measures that could hypothetically affect another interest group not represented at the table. In the case study there was an instance when changes to the school curriculum were proposed, in order to make epidemiology a core subject for school children. This strategic response to challenges in one of the future scenarios arose in a small group exercise where no representatives of the educational system were present. Another strategic proposal was the establishment of an international laboratory in Scotland to undertake research into livestock disease control. While it is known that researchers were at the table where this strategy was proposed, the anonymity protocol agreed at the outset precludes revealing the degrees to which this strategy was pursued or developed by those with a direct interest in research, industry or policy. The general point is that the presence or absence of vested interests influences outcomes (O'Brien, 2004; Rounsevell and Metzger, 2010; Wright et al., 2009). Subtle influences can become reified in recommendations, claims or agendas derived from scenario processes, emerging either implicitly or explicitly, packaged as scientific findings.

To summarise, the inability to attribute any of the measures proposed in the case study's outputs to any of the participants falls short of the transparency demanded of ideal speech, particularly given that the intended audience is policy makers in the public sphere. Against this, freeing participants from their outside obligations, which may include pressures to act strategically, is something that ideal speech encourages.

6. Discussion

At this point, it is important to reiterate that the ideal speech standard as applied to the case study is explicitly an ideal and not a test to be passed or failed. Various commentators have critically noted that ideal speech is unattainable (Leeuwis, 2000; Allmendinger, 2009; Taylor, 2010; Fast, 2013; McKee et al., 2015). Indeed, Habermas himself allows that the 'ideal speech situation' cannot be achieved given the role of outside forces, the challenges of ensuring that those communicating are 'equal partners' (see Allmendinger, 2009), and that strategic considerations do not override commitments to participation. Research projects, by their nature, are often predicated on predefined objectives; a remit bias generally exists in having to deliver to a specific timeframe and to a customer, which challenges the Habermasian ideal. Power relations, such as the power to exclude, are displayed and reinforced both in research and throughout the public sphere. As Berger and Luckmann (1967): 109) observe: "He who has the bigger stick has the better chance of imposing his definitions of reality" (see also Taylor, 2010) and interest groups often pursue their particular interests highly successfully. Indeed this recognition of 'far from ideal' reality is in fact what drives the whole Habermasian theory of democracy. Habermas argues that what underpins deliberative processes is the presupposition of particular universal norms, despite the failure of argumentation in a whole array of social contexts including scenario planning. It is the presupposition by citizens engaged in the deliberative process that the general norms, represented here in the indices (see Table 1.), ought to be those that govern democratic deliberation, *ceterus paribus*, that motivates further attempts at Communicative Action (Olson, 2011). Furthermore, it is self-evident that the presumptively valid general norms cannot always be realized, because they themselves are not practicable in all circumstances. Human enterprises, including deliberative processes, are constrained by resources in ways that impact democratic freedoms. Here, Habermas invokes a 'principle of appropriateness` (Rehg, 2011). This principle rests counterfactually on the notion that those affected *could* accept the appropriateness of the proposition given that those who actually took part in the discourse did so free from coercion, having judged the matter on its merits and in possession of the necessary information.

Therefore, this paper has set out to a way of thinking about the legitimacy of a method that we acknowledge to be already useful

[2] This is a convention established to ensure a level of confidentiality. Meetings held under the Chatham House Rule allow participants to freely use information received under the provision that neither the identity nor the affiliation of any other participant may be revealed outside the confines of the meeting.

(cf. Rounsevell and Metzger, 2010), not to propose infeasible conditions. The utility of bringing the Habermasian framework into the scenario planning domain lies in promoting the adoption of a particular mind-set through which better processes can be enacted. Clearly, critical researchers already question the assumptions that they make when designing processes, and many if not all the challenges identified above are not new to seasoned practitioners however, what the introduction of Habermasian theory brings is a conceptual framework through which the various challenges can be thought of in an holistic and systematic way.

For the case study presented, a degree of success can be claimed for its execution as a participatory research project. For example, the participants appeared to have been challenged and enlightened by one another's perspectives; an assessment supported by the participant's feedback responses. In addition, social learning appears to have been enabled, not least through the creation of new relationships, the development of understanding built on trustworthiness, and an appreciation, indicated by participants in their feedback, of other legitimate viewpoints (Reed et al., 2010). With regard to research outcomes, the researchers can also claim, for example, that the participants drawn into the process increased the knowledge-base available to EPIC, that useful inputs were obtained from a range of stakeholders that contributed to more realistic epidemiological models being developed, and that new networks and collaborations were encouraged by assembling the chosen stakeholders. These positive research outcomes were the result of the application of a conventional qualitative scenario methodology (Schoemaker, 1995). However, these achievements, whilst welcomed from a general research perspective are not sufficient to be considered Communicative Action, nor can they ensure that the outcomes generated are free from what Habermas conceives as Strategic Action (1984b). Habermas is concerned that various constraints can act to allow the promotion of certain interests at the expense of others and he is proposing emancipatory approaches that lead to more democratic decision-making. As such he is keen to distinguish between participation that encourages debate freed from unnecessary constraint, based more firmly on reason and other, less emancipatory forms where participants may well challenge one another and even learn something, but where their arguments are strategic. Our reflection on this particular case suggests that determinations regarding which engagements resemble Communicative Action and which appear closer to strategic action are by no means straightforward. In order to present some of the issues it is possible to identify two distinct ways in which the indices in Table 1 can guide the scenario planner.

The first insight that ideal speech allows is where a comparison between the indices in Table 1 and a real-world participatory scenario planning exercise indicates a challenge to legitimacy (i.e. the underlying assumption being that approximating an ideal speech situation offers greater legitimacy for participatory exercises in the public sphere). Aspects of the engagement in the scenario planning case under review, for example, appear to approximate ideal speech in certain respects and diverge from it in others, as the preceding analysis has shown. These binary oppositions are sometimes a challenge, however they can present a clear opportunity for process improvement even if that simply amounts to being more explicit about process constraints (for example, acknowledging how much time was allowed for particular activities). The logic of the proposed approach is that the utility of the scenario planning process can be improved by managing known dynamics effectively. At the simplest level this means maximising the degree to which approximation to ideal speech can be achieved, minimising elements that appear to poorly approximate the ideal, and where reconciliation is problematic, being explicit about the shortcomings. The controlling influence of the researchers in the selection of axes provides a useful example of the issues involved in managing these dynamics. While the researchers' power to intervene and shape many aspects of an engagement limits the egalitarian basis upon which argumentation ought to be founded for ideal speech (see Table 1, Index 4), there can be pragmatic justifications especially during complex steps in the scenario process. These operational challenges can be recorded, made explicit in outputs to enhance the participatory credentials of scenario planning. Process improvement for future axes selection exercises may include providing additional information to participants and timetabling more time for this activity. The general principle, across all aspects of scenario planning in the public sphere, is that the facilitators (in our cases, researchers) are vigilant regarding unnecessary constraints and committed to reducing them where possible. The methodological challenges to using this principle to improve processes are significant with pragmatism repeatedly interrupting the pursuit of ideals and demanding a high level of sensitivity on the part of the researcher. While these may not be easy skills to acquire (McKee et al., 2015) the general principles are usually straightforward.

The second way in which ideal speech can guide participatory engagement is more complex and not simply a matter of weighing binary oppositions. When considered holistically, particular elements can be quite reasonably evaluated both positively and negatively against the ideal speech benchmark. An example of this ambivalence is the question of participant anonymity under Chatham House rules. While this provision may have had the intended effect of enabling the participants to express their views without the fear of organisational censure from their respective employers, it was a double-edged sword when it came to presenting participant views to a universal audience from whom possible self-interest (on the part of both the scenario planners and the researchers) was effectively concealed. In such cases the solution must lie in making a determination about which constraints on ideal speech are more detrimental to the objective of the engagement. In certain contexts a failure to guarantee anonymity might jeopardize any useful contributions with participants not willing to expose themselves to institutional reprimand or under an obligation to refrain from criticism of certain kinds. A whole range of political, legal, medical and other situations may require participants to be able to speak ‘off the record’ in order to facilitate generation of any useful scenarios. Nevertheless, the decision to proceed with some level of anonymity may impose a limitation, not only on the transparency of the outcomes but on the overall legitimacy of the exercise. When these significant determinations are made we contend that it may be useful to consider all eight indices and how any of them can be accommodated into the scenario planning in any of the activities represented in Table 2. When none or few of the indices seem appropriate in the process we would argue that the engagement does not lay within the participatory paradigm described in our introduction but may be better described as some form of expert elicitation. However, there are clearly matters where participation is considered useful or even essential and it is important to emphasise the inherent danger that Habermas places on this separation between institutionalized, systematized influences and the broader lifeworld in which human action occurs. For him the democratic governance of society itself is at stake (Habermas, 1976).

7. Conclusion

Habermas highlights the special demands incumbent on the state to foster rational argumentation in the public sphere as the basis of democratic governance. His particular contribution in the context of scenario planning is to map the conditions under

which claims and counter claims can be rationalised and freed from unnecessary constraints which is something that the technique also aspires to. In particular, when participatory stakeholder engagement is brought into the policy development arena it demands the highest level of accountability, absent in parallel exercises conducted in the corporate world, and it is therefore under a special obligation to be self-critical. While critical reflection on scenario planning is not new, Habermas provides a systematic and detailed account of discursive practices in the public sphere that allows a comprehensive exploration of the challenges within a broader social theory.

We have articulated a number of specific challenges through a case study and have shown how scenario planning exercises are social artefacts that necessarily frame the data they generate in particular ways. Habermas' theory has been applied to investigate the extent to which scenario planning processes can transcend methodological challenges and legitimately contribute to the public sphere through approximating 'ideal speech situations'. This approach does not provide the practitioner with a blueprint for the perfect participatory scenario planning process; however, it does help in the systematic identification of the various problems associated with legitimacy in this context. Habermas' shows us where the problem areas are and perhaps crucially, how they are linked together, and that knowledge can improve scenario planning in the public sphere. A key strength of a Habermasian approach is that the democratic principles underlying 'ideal speech' are generally enshrined in shared social values. An open and critical attitude on the part of the researchers guided by Habermasian principles will not only improve the legitimacy of the outcomes but will further encourage reflection on the method and reduce any artefactual issues that may otherwise be obscured by the appearance of a neutral, objective methodology. More widely, cultural and epistemological assumptions about the nature of scientific enquiry will continue to limit the effectiveness of public engagement exercises, but progress can be made toward developing scenario planning following the critical approach discussed here.

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