

Can Habermas be used to legitimise new governance approaches in the field of radioactive waste management?

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ABSTRACT

New governance approaches in the field of radioactive waste management conceive of both 'social' and 'technical' aspects as being inseparably intermingled. In line with this conception, a simultaneous construction of both the scientific and ethical foundations 'in the field' is proposed. However, proponents of these new methods are faced with a dual challenge. On the one hand, there is a need for a justification in ethical terms. On the other hand, professionals in the field, confronted with a (sometimes urgent) need for finding workable solutions, cannot wait for armchair philosophers to formulate the correct academic ethical framework. Different public participation and communication models have been developed and tested in real-world conditions, for instance in the Belgian 'partnership approach' to the siting of a low-level waste management facility. This confrontation of both theoretical needs and pragmatic solutions serves as the kernel for our analysis. The paper starts from a short discussion of participative and deliberative democratic ideals (most notably as expressed in Habermas's ideal of a free *public sphere*) – which are often advanced as normative sources of inspiration – and discusses their strengths and weaknesses in meeting theoretical and practical challenges. Next, the Belgian 'partnership approach' is scrutinised as a practical example of negotiating complex social dynamics in radioactive waste management. From our investigations, we conclude that both references to 'participation' or 'deliberation' (in the Habermasian sense) are underdetermined, leading to systematic fragmentation strategies in practice (e.g. by reducing the scope of the deliberations, pre-defining the 'admissible' arguments, limiting the number of roles represented in the deliberations, etc.). Such strategies likely render practical approaches vulnerable to criticisms which might even affect the overall robustness of the process outcomes. Mending these shortcomings is of course difficult and conditional on many contextual factors, but nevertheless at the end of the paper an attempt is made to sketch the contours of a research agenda which might avoid the most common and serious pitfalls.

0. INTRODUCTION

The present discourse on decision support for complex technological choices is for a large part shaped by lively discussions on the merits of public participation. Moreover, a seemingly ever expanding circle of people seem to have developed an interest in the outcomes of such discussions. Academic analysts, self-employed consultants, business managers and public servants alike appear to hold sincere convictions that the answer to a number of wide-ranging problematic contemporary dynamics (e.g. the 'great divide' between experts and laymen or political representatives and citizens; sweeping economic and technical changes with associated problems of social exclusion, etc.) lies in a greater degree of 'involvement' or 'participation' of the people most affected by these dynamics. This paper is intended as a (necessarily limited) exploration of whether we are

justified in fostering such high hopes for participation in the context of new approaches to radioactive waste management (RWM). Let us be clear from the outset of this paper: we also find participative or deliberative democracy to be an interesting idea. According to us, its potential to alleviate at least some of the ills of decision making in complex technological issues should at least be a stimulant to explore the idea further. However, we contend that the (scholarly) literature on the subject has a tendency to overlook its drawbacks.

To demonstrate this, our reasoning will unfold in six steps:

1. Firstly, as with any other innovative approach to public problems, we believe it is wise to reflect on the question "What is this innovation for?";
2. Secondly, we believe it would be helpful to divest ourselves of prejudices when dealing with concepts such as 'participation'. Therefore, we propose an analysis of participation from the point of view of everyday language;
3. Thirdly, having outlined the basic network of concepts, ideas and hopes attached to participation, we propose to further clarify the issues at stake by relying on some of the insights of one of the late twentieth-century's most influential social-political philosophers, Jürgen Habermas;
4. Fourthly, as it is always a good idea to confront theory with reality, we present the Belgian partnership approach as a touchstone for our theoretical insights;
5. Fifthly, based on insights gleaned from both theory and practice, we briefly discuss what we believe to be some of the most vexing dilemmas of participation in RWM;
6. Finally, we will propose the first outlines of a research agenda that would be more adapted to dealing with the (political and socio-economic) realities of participation and deliberation.

1. THE EXPECTED BENEFITS OF PARTICIPATION IN LLW MANAGEMENT

Management of low-level radioactive wastes (LLW) seems to be a typical example of an intractable technological problem facing modern democratic industrial societies. What makes this problem so difficult to handle is not so much the technical knowledge required to build and operate LLW management facilities (several facilities are already operational worldwide), but rather the complex ethical questions it raises – especially in the repository siting phase. Different actors in the debate tend to adhere to different conceptions of (environmental) fairness and justice. For instance, the general opinion among scientific experts (geologists, engineers, modellers, assessors, etc.) in the field is that by striving towards the best technical solution (from the point of view of objective safety and health-related criteria) and by trying to find the perfect site matching these criteria, people will be rationally convinced and will accept the solution proposed to them. Setting aside the fallacy of this reasoning from a purely strategic point of view (as we will show in Section 4 where we will discuss the Belgian experience with siting a LLW repository), this 'expert logic' tends to be at odds with other perspectives. Local candidate communities for hosting a LLW repository will refer to a principle of autonomy and correspondingly expect to have a say in the final decision. Thus, according to the latter position, 'justice' means that local actors should have the opportunity to learn about the advantages and disadvantages of various LLW management options and, having considered these, decide on acceptance or rejection of these options. Furthermore, there is the difficult question of relating the justification for building and operating a LLW management facility to the justification of the activities generating LLW (nuclear industry, hospitals, universities, research centres, etc.) in the first place. And – to make matters even worse – questions of intragenerational ethics (distribution of costs and benefits over current stakeholders) are compounded by questions of an intergenerational nature (distribution of costs and benefits over present and future generations). Still, these different conceptions somehow have to be reconciled in one integrated long-term solution (LLW typically takes about 300 years before radioactivity drops to background levels).

Conceptually, taken as a whole a justification discourse has to address the terms of a distributive formula expressed as follows: **"Who distributes what to whom by what procedures and with what outcomes?"**. With regard to LLW management, this formula boils down to questions regarding who has the responsibility for determining what counts as positive and negative impacts of a LLW repository and by which procedures (e.g. information gathering, bringing in scientific expertise); what counts as an 'appropriate' form of compensation for the unavoidable negative impacts; and who has the authority to close the debates. A more

'inclusive' participatory policy process is often advocated to fill in the different terms of this formula. In **cognitive** terms, participation is expected to inject technological developments with a different mode of understanding – in particular the locally-produced knowledge of the environments new technologies are supposed to work in. In **normative** terms, participation is seen as a new source of justification, no longer stemming from the top-down dictates of authorities and their associated experts, but rather from following correct and inclusive procedures giving a 'voice' to the otherwise 'voiceless'. Finally, in **pragmatic** terms, the claimed advantages of the participatory approach include giving new and creative answers to failed (top-down) strategies, with a view to include 'patients' in their own care [1].

In this 'inclusive' view on policy making, participation – i.e. communications and interactions among multiple actors – evidently is of key importance. In the next section (Section 2) we submit the notion of 'participation' to closer scrutiny.

2. A VERNACULAR UNDERSTANDING OF PARTICIPATION

If we insist on investigating the vernacular understanding of participation, it is because, following the sociologist C. Wright Mills [2], we firmly believe that in this everyday understanding lies the key to good philosophical research¹. No matter how intricate the philosophical theories and classifications, at the most fundamental level they are always rooted in everyday experience shared in everyday language [3]. Such investigation, even if only summarily undertaken in the present context, can be very helpful in bringing out the 'fuzzy' network of themes, topics and expectations.

A quick dictionary search shows that the word 'participation' is used in many different ways (see also in particular reference [4]). Synonyms include 'attendance', 'entry', 'membership', 'engagement', 'involvement', 'joint management', 'say', 'voice', etc. All of these words include a notion of 'partaking', but their use is not restricted to specific contexts: one can participate in economic, social, political, etc. activities. Most of the time 'participation' is accepted as something positive, but nevertheless, taken by itself, the notion of 'partaking' is quite neutral: one can participate in projects with 'good' or 'evil' outcomes, and one can do so willingly or unwillingly. Participation can also be more or less intense (hence the distinction between 'active' vs. 'passive' forms of participation). *Etcetera*.

Perhaps it is useful to clarify things a bit further by using the metaphor of a game. There are many kinds of games, but all have particular objectives (defining what that particular game is all about), rules (which have to be understood by all players in order to play the game fairly) and strategies (which players can rely on to play the game successfully). Participation in the game can then be promoted on a number of accounts: e.g. to restore a notion of 'fair play' shared by participants, to bring new players into the game (which were previously excluded because they felt the game was too difficult for them, or because they did not belong to the right social class, etc.), or to ensure that every player understands the rules correctly so that each can choose an appropriate strategy. In a more radical sense, for some of the players 'participation' can also mean having a say in the rules of the game, or, to carry the matter to the extreme, re-inventing what the game is all about. Substituting 'objectives' by 'social order', 'rules' by 'institutions', 'strategies' by 'action', and 'fair play' by 'social peace' already gives you a fair idea of the issues at stake when 'the game' is a political one (like finding a candidate community to host a LLW repository, for example)... Finally (but this is really stretching our 'game' metaphor) if life experience is seen as the sum of experiences gained in different games, or simply as the enjoyment one gets out of playing (without any real objective), participation can also mean enhancing opportunities for people to consciously choose whatever games they want to participate in in order to lead a fruitful and fulfilling life.

Hence, the notion of 'participation' is too amorphous (and even ambiguous) to be used as the sole normative reference. The challenge is to somehow advance in the direction of effective checks and balances in between different actors in a (technology) policy debate, inhibiting any communicative distortion through the use of coercion, and thereby assuring the **quality** of ongoing interactions and communications. This in turn implies judging ongoing interactions from a certain 'vantage point'. Jürgen Habermas's theory of deliberative democracy provides precisely such a 'vantage point' (Section 3).

3. HIGH-QUALITY PARTICIPATION: BRING IN HABERMAS!

Before entering into the specifics of Habermas's theory, we should perhaps justify our choice in favour of this venerable German a bit further. We are not saying that Habermas's model of deliberative democracy is the only possible way of conceptualising the problems and possibilities of participation. On the contrary: participation has a long history in political theory (Rousseau, J.S. Mill, Dewey), and contemporary participatory democrats include amongst their ranks those in favour of a reinforcement of the 'traditional' mechanisms of representative democracy [5] or those in support of newly emerging forms of 'governance' [6] (to name but a few). And of course, Habermas is not without his critics or detractors². Nevertheless, his theory shows a number of attractive features. Firstly, contrary to most other political theorists, the scope of his theoretical insights is so extended that it is possible to address almost all of the above-mentioned ramifications of the participation discourse. Over the years, Habermas has continuously sought to apply his core ideas of 'communicative action' (developed in [7] and [8]) to *inter alia* fundamental questions of ethics, the functioning of law in modern societies, the development of autonomous selves, and questions of international politics. Indeed, his credentials as a polymath are staggering. Secondly, and perhaps more to the point, Habermas's theory has been used actively by some of his acolytes in the field of participatory technology assessment [9] and to promote participatory approaches in RWM (e.g. in the so-called RISCUM model [10, 11])³. In jest, we could even say that HabermasTM has become a recognised quality label for those in the flourishing business of participation.

It is of course not our intention here to attempt a learned philosophical exegesis on Habermas's quite formidable oeuvre. Let us confine ourselves to the strands of thinking most relevant to our present purposes. A first central issue of interest to us in Habermas's theory of deliberative (or discursive) democracy is that, unlike many other contemporary theorists of democracy, Habermas does not equate democracy with any particular set of institutional mechanisms (such as voting, a separation of powers, representation, etc.). Rather, he understands democracy as any institutional order whose legitimacy depends on collective will-formation through **discourse**. In other words, a democratic political system is a system that favours discursively mediated consensus over other ways of making decisions, namely by means of coercive authority, the authority of traditional (or other non-discursively created) identities, or the authority of the market (as in other models of democracy such as 'agonistic pluralism', 'rational choice theory', 'public choice theory', etc.). To understand Habermas's concept of 'discursive will-formation', it is important to understand that the term discourse does not refer to all communication but only that which follows the immanent (i.e. pragmatic-transcendent) logic⁴ of its own 'validity claims'. What does he mean by that? Discourse, according to Habermas, is a particular form of communication that, removed from the context of immediate experience and/or action, is oriented towards understanding rather than success. Each participant in discourse should produce, in addition to **intelligible** utterances, statements that are **true, right and truthful**. Producing these statements require people's knowledge of what is the case in the 'objective' external world-out-there, awareness of social intersubjective agreements that give legitimacy to their actions and consistency of their actions with their beliefs and intentions. **Intelligibility, truth, legitimacy and authenticity** are the valid conditions for discursive action, which each participant should be prepared to redeem through discourse. This in turn requires some other procedural guarantees, namely that participants, themes and contributions to the discourse are not restricted except with reference to the goal of testing the validity claims; that no force except the force of the better argument is exercised; and that, as a result of the previous requirements, all motives except that of the co-operative search for a rationally motivated consensus are excluded (this is Habermas's famous concept of the *Herrschaftsfreie Dialog* or 'ideal speech situation')[12].

How does all of this translate into Habermas's political conception of the 'good society'? According to Habermas, an indispensable component of a 'good society' is what he calls the **public sphere**, that is an arena in which individuals participate in discussions about matters of common concern, free of coercion or dependencies that would incline these individuals to mere acquiescence. The public sphere should be the political embodiment of the demanding requirements for true discourse to happen. Therefore, it should be institutionally separated (e.g. through a system of political and civil rights) from collective powers of action located in the 'official' political structures, while also serving as a source of direction and legitimacy. Habermas – and this is crucial for our present topic – is not arguing that discourse can be the organising principle of institutions. Institutions cannot conduct all of their affairs through discourse, any more than individuals would wish to devote their lives solely to discourse. Rather, we generally tend to avoid discourse because it is so cumbersome and consumes much time and effort. Moreover, genuine discourse is made impossible by the division of labour necessary for any collective action. Summing up, Habermas's argument is not that

democratic institutions should conduct their affairs through discourse but rather that they should be structured so that discourse can emerge (in the public sphere) when ruptures of shared understanding require some kind of resolution.

4. LOCAL PARTICIPATION IN LOW-LEVEL WASTE MANAGEMENT: THE BELGIAN CASE

Before applying the above theoretical insights in practice, this section gives some essential background on low and intermediate-level RWM in Belgium. RWM is since 1980 entrusted to the 'Belgian Agency for Radioactive Waste and Enriched Fissile Materials' (NIRAS/ONDRAF). Following the international moratorium on the dumping of low-level radioactive waste in the North-Atlantic Ocean, NIRAS/ONDRAF took care of conditioning and interim storage of this type of waste (entrusted to its industrial subsidiary, called 'Belgoprocess'). Over the years, NIRAS/ONDRAF inquired into three disposal options for LLW: charcoal mines or quarries, shallow-land burial and deep geological disposal. In 1990, NIRAS/ONDRAF concluded that the surface disposal option was the most favourable from a technical feasibility, safety and cost point of view. This option was subsequently studied and developed in greater detail. In the meantime, the debate on the back-end of the fuel cycle had become more intense, caused by some (international) political developments. Because the option of sea dumping was permanently banned in 1993 (and export of wastes is not permitted in the European Union), an inland solution for the disposal of low-level wastes had to be found, leading to severe political frictions and NIMBY-type reactions to the top-down approach first employed in 1994 by NIRAS/ONDRAF (publication of a report which acknowledged 98 potential zones in Belgium for disposing at least 60% of the LLW). This in turn led to a new strategy of allowing participation of local stakeholders and citizens in so-called 'local partnerships' with NIRAS/ONDRAF, based on the concept that every party that could be directly affected by the decision concerning LLW management should have an opportunity to express its opinions [13, 14]. The objective of this participatory programme was focussed on **finding a site to host a LLW repository**.

As a result of a government decision, NIRAS/ONDRAF had to limit its search for potential hosts to the existing nuclear zones in Belgium (i.e. Doel, Tihange, and the neighbouring communities Fleurus-Farciennes and Mol-Dessel) and to local towns or villages that volunteered in preliminary field studies. Four communities (in nuclear zones) responded positively, and following local negotiations and the approval of the respective municipal councils, three partnerships were erected (STOLA in Dessel, MONA in Mol, and PaLoFF in Fleurus-Farciennes) between 1999 and 2003. An important aspect of the 'partnership approach' was the introduction of the notion of an '**integrated repository concept**' and the idea to jointly study and develop this project. This means that the partnerships did not only debate and decide on the repository concept and where it should (or should not) be located, but also on what it considered to be the necessary conditions (e.g. socially, environmentally, aesthetically, etc.) for accepting such a repository on their territory. The basic idea was that within a partnership, a possible repository concept should be integrated into a local development package bringing 'added value' to the community.

This basic mission was reflected in the practical organisations of the partnerships. The local partnerships were set up as a kind of representative democracy on a micro level. Each of them had a general assembly, uniting representatives of all interested organisations in the community in question. The general assembly represented all partaking organisations, decided on the main objectives and boundaries of the discussions, and appointed an executive committee. This executive committee was in charge of the day to day management of the organisation, budget supervision, co-ordination of working group activities, etc. MONA, STOLA and PaLoFF also each had two project co-ordinators and four working groups. These working groups all debated a specific topic and represented not only the community's organised interest groups (as in the general assembly and executive committee), but also individual citizens could take part in the discussions. In the case of MONA, these include 'implantation and design' (I&D), 'environment and health' (E&H), 'safety' (S) and 'local development' (LD). The I&D working group was the most 'technical' one as it discusses the repository design and the site location. The E&H working group looked at the possible impacts on human beings and the environment. The S working group discussed safety and emergency issues. Finally, the LD working group debated about the possible 'added value' of the proposed repository to the community.

After some years of debate, all partnerships published in the course of 2005 their conclusions and recommendations in final reports. All agreed to the construction of a LLW repository on their territory, provided that certain conditions are met. Most notably, all partnerships demanded the continuation of the

participatory programme in their community, in order to deal with all nuclear issues relevant to them (not limited to the LLW issue). However, in Fleurus the municipal council rejected the conclusions of the local partnership (PaLoFF), leading to the effective end of Fleurus-Farciennes potential candidacy to host Belgium's LLW (as a result of an explicit agreement between the two communities). In Mol and Dessel, conclusions of the local partnerships were endorsed by the respective municipal councils. It was then up to the federal government to make a choice between those two communities (whereas the government, or even the federal regulatory agency for nuclear control (FANC/AFCN) had been largely absent in the partnership deliberations). In 2006, the Minister of Energy decided to attribute the LLW repository project to the community of Dessel. Since both project proposals advanced by Mol and Dessel were very similar with regard to e.g. technical requirements, cost structure, 'added value' proposals, etc. – and furthermore could not be significantly distinguished on the basis of safety or environmental criteria – one can only speculate on the deciding factors behind the government decision. Indeed, during the partnership negotiations, STOLA (the Dessel partnership) has proved to be the most 'loyal' partner (from the NIRAS/ONDRAF point of view). Both the STOLA general assembly and the Dessel municipal council have unanimously accepted the integrated project proposals made up by the partnership working groups, whereas in Mol there were some abstentions and dissenting votes. Furthermore, Dessel has no active environmentalist (i.e. anti-nuclear) groups, whereas Mol counts several of such groups. Taken together, these facts indicate a higher level of public support in Dessel, and hence better guarantees for a quick and expedient resolution of the LLW repository siting issue.

5. THREE DILEMMAS OF PARTICIPATION AND DELIBERATION

Having gone through the preparatory stages of our assessment, we are now in a better position to explain some of the dilemmas facing public participation in RWM, taking the Belgian experience as an example. Discussing these dilemmas will help us to clarify two propositions already foreshadowed in the preceding sections, namely that a) participation is a **political** project (i.e. it does not observe an abstract standard of rationality to which each and everyone can, will or should agree); b) participation raises a number of dilemmas in the truest sense of the word – i.e. one has to set priorities and **choose** with the absolute certainty that the choices made will always be contestable (and in some cases, contested). We do not pretend that these three dilemmas represent an exhaustive summary of all possible discordant areas (these are discussed in more detail in [15]), but rather that they are sufficient within the present limits of this paper to illustrate the two above-mentioned propositions.

First dilemma: Ideal speech vs. goal-oriented action

The first dilemma was already foreshadowed in our discussion of the Habermasian model of deliberative democracy, where we pointed out Habermas's point of view that conditions of 'ideal speech' can, on principal grounds, never be realised in institutionalised contexts (with an implied division of labour). Indeed, it is simply impossible to stick to a purely procedural solution (favouring conditions of unconstrained dialogue) to a given problem, since any procedural choice implies a substantive answer to the question why you are precisely choosing that particular procedure. In this vein, institutional participatory structures embody choices, and these choices (pertaining discussion rules, participants in the debate, the link to instances of official decision-making, etc.) to a large extent determine the scope and possible directions of the deliberations. The partnership approach clearly incorporates some of Habermas's ideas⁵, e.g. ordinary citizens were invited to deliberate on 'equal grounds' with representatives of local organisations and the waste manager NIRAS/ONDRAF on the 'common good'. Nevertheless, the partnership's task is (institutionally) limited to a local discussion concerning a proposed siting for a LLW repository, and not for instance concerning the problems posed by the long-term management of high-level waste or nuclear energy policy in general. Of course, these examples are rather extreme, and people generally agree that one cannot discuss everything at once (though there was some talk of 'evasive tactics'). But the legitimate distinctions between a 'particular' common good and a 'more general' common good become more blurred when considering issues such as the presence of high-level waste in a temporary storage in one of the partnership communities, or the definition of the type of waste suitable for surface disposal. We submit that the fact that NIRAS/ONDRAF took the initiative for setting up local consultative structures also had a particular influence on the framing of the debate. Since NIRAS/ONDRAF is institutionally empowered only for managing nuclear waste carried over to their responsibility by the waste producers (and not e.g. setting strategic orientations for waste management, minimisation of waste production, etc.) it is only logical that the deliberations will mainly concern

NIRAS/ONDRAF's effectiveness in carrying out this responsibility. As a result, deliberations will be generally confined to the technicalities of the proposed RWM approach⁶ and to clarifications regarding the institutional mandate of the waste manager. In Habermas's terms, questions on the truthfulness and intelligibility of propositions will take the upper hand over questions of legitimacy and authenticity. This is evident from the structuring of the local partnerships – e.g. in the case of MONA, three out of the four working groups deal with technical questions related to implantation of the waste repository, safety, health and environmental concerns, institutional responsibilities in emergency planning, etc. Only the LD working group could go into the larger issues of the social embedment of the proposed waste repository; but then again, deliberations going on in this group were restrained by its strictly local character (whereas it will be the electricity consumer who will pay the price of the future LLW repository).

Second dilemma: Ideal speech on a local level vs. larger democratic concerns

The second dilemma we want to raise is not unlike the more familiar problem of the 'hen or the egg'. What can be the 'added value' of subjecting local consultations on LLW management to highly demanding standards of 'ideal speech' while the more influential deliberations going on at 'higher' political levels are left relatively undisturbed? As a (slightly provocative) thought experiment, one could ask oneself what would happen if the machinery were reversed. What if the habits, interactions and motivations of the (economically or politically) powerful were followed up by social science researchers and analysed, diagnosed and corrected with social engineering tools as was the case for the local partnerships? This provocative question in our opinion seems to be relevant for the nuclear sector, where interrelations between institutions are usually very strong [15]. This goes for NIRAS/ONDRAF as well, since its research plans, investment and communication policy, etc. have to be submitted to a 'fixed technical committee' made up of waste producers – i.e. the institutions that finance it. While NIRAS/ONDRAF's management board is made up of public representatives and supervised by the Minister of Energy, the board has to have the approval of the 'fixed technical committee'. NIRAS/ONDRAF can therefore, in practice, strictly speaking not play its role as an independent national agency but should rather be considered as a new kind of governance institute aimed at taking over private responsibilities in a public/private partnership. A final point to raise here is of course the commitment of the federal government in finding LLW management solutions. During the entire period of partnership negotiations (1999-2005), it was never made transparent when or on the basis of which criteria the government would decide between the different (competing?) proposals. This leads us to speculate that the government agenda is dominated by strategic (rather than communicative) action in the Habermasian sense of the word (cf. Section 4)⁷.

Third dilemma: Ideal speech vs. forceful 'stretching' of arguments

The last dilemma is a rather classical one, namely that conditions of 'ideal speech' can by definition not be enforced; however, without some kind of (political) force or influence in place, it is unlikely that such conditions will ever emerge. After all, the Belgian partnerships were only erected after the top-down approach proposed by NIRAS/ONDRAF was 'forcefully' resisted by mayors of the concerned communities. Therefore, successful (in a qualitative sense) participation and deliberation will depend on the presence in the debate of a sufficiently 'strong' and credible actor. Who could take up these roles? There are a number of possibilities, each with their own drawbacks however. Existing nuclear institutions either have a commitment towards finding a solution (e.g. NIRAS/ONDRAF) or are reluctant to enter into the debate at the present stage (e.g. the nuclear regulator). The partnerships themselves could contribute to further 'stretching' of arguments towards issues of concern to them, provided of course that they can operate independently and with sufficient resources. However, it is clear that such partnerships can contribute only to 'localised decisions'; the question remains whether such local decisions can prove to be sustainable enough to 'force' the federal government to follow the path drawn by a local partnership. Finally, and this is one of Habermas's key messages, the best guarantee for 'stretching' arguments and enhancing democracy lies in a vibrant, attentive and critical public sphere. Here, the problem is of course that such forces (in particular, we are thinking of environmentalist groups) do not easily lend themselves to co-optation in a partnership approach. This leaves promoters of a participatory approach such as the Belgian partnerships in the somewhat paradoxical situation that, in order to be true to their aims, they should actually encourage criticism of their own approach as the best guarantee for whatever 'common good' to emerge.

6. A RESEARCH AGENDA FOR THE FUTURE

How will these dilemmas play out in the future? Can local participatory experiments such as the Belgian partnership approach instigate significant changes on a macro level or are they condemned to play only a 'marginal' role? The answer to such questions is of course difficult and conditional on many contextual factors. Public participation in complex technological questions is only in its infancy stage, and the lack of a comprehensive empirical base makes life very difficult for any researcher. Nevertheless we dare to advance (with great caution though) a research agenda for deliberative democracy in RWM, build around what we perceive to be (broadly schematised) possible dynamics in the relations between the future of the welfare state (in the context of the ongoing liberalisation of energy markets in Europe), management of science and technology, and politics. Taken as a whole, they also embody different perspectives on the (admitted or unadmitted) 'added value' of participation, and thus might serve as a broad indication of the philosophical and political options lying before us.

First research need: An economic analysis of the public sphere

Firstly, we suggest an **economic** analysis of the 'public sphere'. Research into economic structures and property relations remains more important than ever. Each time a 'public sphere' (e.g. a local partnership) is created, we should ask "**Whose** public sphere are we talking about; and in **whose political or social-economic** interest is it?". Here, we are certainly tempted to quote (again in a somewhat provocative manner) the political theorist Przeworski [16]: "...*Deliberation can occur only if someone pays for it. Deliberation can be effective only if there is inequality, either of access to specific information or of calculating capacity. Add a dose of self-interest, and the mixture will reek of "manipulation", "indoctrination", "brainwashing", or whatever one wants to call it...*". A reflection along these lines is absolutely essential in view of the dominant European energy policy dynamics relating to neo-liberalism (opening up of energy market, privatisation, deregulation, etc.), facilitated by the national governments who often act as willing associates to promote their 'national champions' on the international competitive scene (e.g. through funding of research programmes, market reform measures, etc.) [17]. In this context, it would be extremely naïve to assume that a 'neutral' public sphere, belonging as it were to 'everyone', would simply emerge. Rather, the dominant understanding and support of participative or deliberative settings will come as a part of a top-down management approach, i.e. a way of involving people (where necessary e.g. due to previously failed approaches) as 'clients' for negotiating compromise solutions. This leads to a tendency to depoliticise participatory instruments as mechanisms of consultation and to observe a pronounced distance between the participatory mechanisms and formal political decision-making structures.

Second research need: An institutional analysis of nuclear energy policy

Next to an economic analysis, **government policy on nuclear energy** should also be part of the research agenda. Nuclear energy policy precisely presents us with an institutional configuration which has been shown to be remarkably resistant to the ideals of transparency embodied in Habermas's theory [18]. The abstract, even utopian, characteristics of purely normative discussions of deliberative democracy have led some of its advocates to shift their research to the examination of really existing deliberative democratic practices and institutions. Instead of deducing deliberative democracy *a priori* from normative first principles, it seems to us to be more sensible to build from the ground up, by looking for deliberative democratic practices, trends and potentials embedded in existing institutions and consider which deliberative democratic institutional designs are better in different social contexts. This kind of research could serve as an inspiration to look for counterweights to the above-mentioned neo-liberal dynamics. In fact, governments actively intervene on multiple levels (e.g. international treaties, EU legislation and national/regional policy) in order to correct free market dynamics, i.e. in the case of environmental protection, social justice, etc. In the nuclear policy domain this could for instance imply setting up a sufficiently strong and independent regulator (see e.g. [19] for a good overview of the necessary 'checks and balances'). As part of this 'realistic approach' to participation, deliberative democratic practices could for instance be encouraged mainly at the local level as part of a 'modernised' decentralised approach to government and administration, also aimed at increasing the legitimacy of the political process. Applied to the issue of LLW management, this kind of research could e.g. look for ways to continue the now existing partnerships in the communities of Mol and Dessel (or perhaps even a partnership uniting neighbouring communities, or

better still following a regional approach) for further follow-up and control of the repository implantation, serving as a counterweight to dominant socio-political interests.

Third research need: A systematic analysis of signification processes

Lastly, the political-economic approach advocated in the previous two paragraphs must be complemented by a **systematic analysis of signification processes** in deliberative settings, if we are to avoid slipping back into economic reductionism. Indeed, an analysis of any public sphere should not confine itself to a mapping of socio-economic or institutional configurations. The dynamics of the public sphere can only be understood if one also considers the micro-level: a public sphere will only come about as a result of a sense-making process realised by concrete individuals in their day-to-day reality. We submit that it is precisely the confrontation between the top-down 'impact' of institutional configurations and the bottom-up process of signification which gives the public sphere its dynamic character. In line with this research track, we would recommend setting up a multiplicity of fora where a plurality of deliberative signification processes can be played out. This means that participation should be encouraged at multiple political levels (and not only the strictly local level as is the case for the time being in Belgium). In the nuclear policy domain, research along these lines could for instance support the development of independent expertise on a European level, setting up a technology assessment institute at the Belgian federal level, experimenting with participatory mechanisms such as consensus conferences and citizen juries, etc. Arguably the most challenging part of this research track is to wed the institutionalisation of innovative participatory approaches to the much-needed bottom-up dynamics in order to ensure that the new structures are not in turn 'alienated' from their bases, forming a new kind of post-modern corporatism.

7. CONCLUSIONS

Hidden behind an apparently simple plea for more participation lies a daunting complexity of (possibly conflicting) goals, expectations, experiences, conceptions of the self and society, and so on. This is no less true in the field of complex technological questions (including RWM), where participatory mechanisms seem to have found a new lease on life. In this paper we have argued that Habermas's theory of deliberative democracy should be understood from this perspective. Habermas reaches into the domain of politics, but it is only a *reaching*, in the sense that he is looking for those conditions that might allow 'free and unconstrained dialogue' to emerge, without however prescribing the direction this dialogue should take. Habermas's work should not be interpreted as a kind of blueprint for the design of ideal (participatory) political institutions because, according to us, this has never been his aim. We believe Habermas has frequently been misunderstood on precisely this point. In corroboration of our point of view, we would like to quote Habermas himself [20]: "*...The utopian content of a society based on communication is limited to the formal aspects of an undamaged intersubjectivity. (...) What can be outlined normatively are the necessary but general conditions for the communicative of everyday life and the procedure of discursive will-formation that would put participants themselves in a position to realise concrete possibilities for a better and less threatened life, on their own initiative and in accordance with their own needs and insights...*". Thus, throughout Habermas's immense work, we are given the tools to construct emancipatory political projects, but the content of those projects remains stubbornly undefined. Some have attacked Habermas on this point, accusing him of offering no concrete solutions other than a 'sublimely empty' model of ideal communication. We would not count ourselves amongst those, though. Rather, we propose to accept Habermas's challenge to seek consensus but refuse to permit closure. With this statement, we also want to react against those who want to wave aside the concept of 'the public sphere' as an obsolete museum piece, because it would no longer be relevant in the present (post-modern) context. It is not because the public sphere is subject to transformative pressures that it has become less important. It is however necessary to rethink this concept, as we have tried to demonstrate in this paper. There are no easy 'ethical' answers to the inherently 'political' questions of participation and deliberation. However, we have argued that, rather than being depressed by this state of affairs, one should feel invigorated by the political possibilities lying before us. It is too early to say where these will take us, but there are strong indications that something is stirring, and that it will be difficult to revert to the old 'expertise-as-usual'...

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FOOTNOTES

1. Wright Mills provided a specific set of research recommendations, including *inter alia* adopting an attitude of playfulness towards language by looking for synonyms for all key terms under investigation, searching for comparisons in other cultures or in time, considering extremes (i.e. thinking of the opposite of the key terms under investigation), etc.
2. Criticisms relate for instance to Habermas's apparent indifference to gender issues, his inflation of the idea of communication to all social relations, his inability to understand the true nature of politics, his failure to address the problems of communicative incompetence engendered by the mass media, and the impotence exhibited by his theory for launching an ecological critique on industrialised societies.

3. This model was developed in the context of two projects; RISCOS I and RISCOS II. The Swedish Nuclear Power Inspectorate (SKI) and the Swedish Radiation Protection Authority (SSI) sponsored the first project. The second was sponsored by several nuclear related agencies in Sweden, France, UK, Finland and Czech Republic and carried out within the European Union Framework 5 Programme (RISCOS II web site: www.karintakonsult.se/RISCOS.htm). The focus of these projects was on decision processes for the long-term management of nuclear waste.
4. This means that any specific use of language that is not (primarily) intended to be discursive – e.g. a command, a play of words, a joke, a lie, or a strategic use of language – nevertheless could be raised to the level of discourse through systematic questioning.
5. It is somewhat surprising to see that the partnership approach was described and evaluated by one of the researchers affiliated with the research group which developed this approach for NIRAS/ONDRAF on the basis of other sociological references, most notably Beck and Luhmann [14].
6. We do not want to suggest here that discussing technicalities with laypeople is pointless. On the contrary, the Belgian partnership experience proved that laypeople can become very familiar with the proposed technologies. For instance, participants in MONA 'stretched' NIRAS/ONDRAF engineers with discussions about technical issues such as the tension in a concrete roof or about surface corrosion phenomena. In the case of PaLoFF, this technical role was even more marked, since the location of old mine shafts, part of local knowledge, is crucial for ground stability.
7. Not to mention the strategic importance of a successful resolution of the RWM issue for the nuclear sector. For instance, the first 'success stories' with public involvement in RWM are already advanced as proof that the radwaste issue is tractable after all. Tomihiko Taniguchi, deputy director general and head of nuclear safety and security at the International Atomic Energy Agency's (IAEA) – an organism which has always struggled with its dual role of being both a promoter of the peaceful application of nuclear power and a non-proliferation watchdog – reassured the nuclear community assembled at the 'International Conference on the Safety of Radioactive Waste Disposal' (Oct. 2005) that progress is being made on the radwaste issue. He said experts agree disposal in geological repositories is the best and safest solution, but finding communities willing to accept a repository in their "backyard" has proved difficult. But he also pointed to progress in Finland, where construction began in 2003 on a potential repository site at Olkiluoto, and Sweden, now in the final stages of site selection, with plans to start construction around 2008. Mr. Taniguchi called for the establishment and training of a group of communications experts whose job it would be to get the message about radioactive waste across to the public. Overall, the story was "positive" with progress being made. "*Soon, perhaps, radioactive waste will no longer be seen as an 'intractable' problem*", Mr. Taniguchi concluded. (Source: NucNet No. 90, 17 October 2005, "*Greater Effort' Needed to Inform Public on Repositories*")