Technology and the quality of public deliberation: a comparison between on and offline participation

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Abstract: The empirical turn in deliberative democracy has recently generated a considerable amount of academic work. Scholars have tried to operationalise the theoretical dimensions of deliberative democracy into robust criteria in order to evaluate the quality of public discussion. Few of them however have systematically compared online and offline deliberation to analyse the link between the technological formats deployed in a deliberative procedure and the quality of the discussion. This is what this paper aims to do through a French case study of a national public debate. Drawing from a revised version of the Discourse Quality Index, we will theoretically discuss and propose a coding scheme for quality analysis which rests on an enlarged definition of deliberation. Our results suggest a dynamic appropriation of the various settings, each presenting features in which actors strategically position themselves.

Keywords: online deliberation; face-to-face deliberation; technology; coding; DQI; quality of deliberation; evaluation; e-governance; public debate; waste treatment facility; quality.

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1 Introduction

Is deliberative democracy a 'working theory' (Chambers, 2003)? During the last decade, academics have contributed, along with practitioners, to developing and experimenting numerous arrangements in an attempt to put deliberative democracy into practice. In this context, a growing demand for evaluation has emerged, and academics have been called upon to assess the quality of such experiments and their various impacts on the final decision, on citizens' political engagement and participation in the decision-making process. A growing body of literature has therefore tackled the connection between the normative standards of deliberation and the empirical conditions under which they could be put into practice (Neblo, 2000; Steiner et al., 2004; Thompson, 2008; Bächtiger et al., 2009; Black et al., 2010). One of the main works of scholars has been to propose and discuss methods and frameworks that are capable of operationalising the concept of deliberation, in a context of 'family disputes' (Neblo, 2007) where the boundaries of deliberative theory are strongly challenged by various authors (Mansbridge, 1999; Mansbridge and Karpowitz, 2005; Steiner, 2008; Mansbridge et al., 2010), and its democratic efficiency contested (Mouffe, 1999; Young, 2001; Rancière, 2007).

Our objectives in this paper are twofold: firstly to discuss theoretically the relevance of criteria used in academic literature to evaluate the quality of a public deliberation. Secondly, we aim to use those criteria to evaluate the quality of a deliberative arrangement organised by a public authority, the French National Commission of Public Debate (CNDP) which mobilises both online and offline modalities of participation. Beyond the diversities of the settings, we aim to analyse the way in which citizens discuss and exchange online and offline, and how the technological configuration of the setting impacts the way people express themselves. As Stromer-Galley and Muhlberger (2009) put it, deliberative arrangement should be analysed as a communication process, in which the context and the communication channels made available to participants, play an essential role. Design, moderation and deliberative practices are a fundamental part of the way power is distributed among participants and have an impact on the outcomes of the process as a whole. As Kadlec and Friedman (2007) have shown, relations of power are intertwined with the construction of the deliberative setting and therefore structural inequalities might persist if an appropriate design is not carefully thought out.

Various authors have proposed coding schemes for measuring the quality of deliberation[1], either trying to operationalise variations of Habermas' model of the ideal speech situation (Dahlberg, 2001; Trénel, 2004; Steiner et al., 2004; Muhlberger, 2007; Black et al., 2010; Kies, 2010), or to understand how citizen discussion works, and how

external factors (e.g. moderation, composition of the group) affect the group process (Stromer-Galley, 2005; Stromer-Galley, 2007). Our approach here is slightly different as our objective is not to compare a deliberation arrangement with an ideal situation but with an alternative one which is the offline counterpart of an online discussion. We posit that the ideal speech situation remains a normative horizon, a Weberian ideal type, to evaluate and compare various existing arrangements which can reveal forms of argumentative exchanges other than linguistic rational ones (Neblo, 2007; Monnoyer-Smith, 2009). Following previous academic work on the role played by the layout of deliberative devices in terms of the shape of participation and its nature (Wright, 2005; Wright and Street, 2007; Monnoyer-Smith, 2007; Coleman, 2008; Witschge, 2008; Davies and Gangadharan, 2009), we investigate further how these mediating factors (Albrecht, 2006) are relevant in explaining, among other sociological factors, differences between online and offline forms of participation.

We will start by discussing the various conceptions of deliberation and how they have impacted the elaboration of criteria to evaluate the quality of public deliberation. Drawing on the Bächtiger et al. discourse quality index (DQI), we will propose a set of criteria and subsequent methodology to operationalise them. We will then select specific criteria that we were able to measure in order to apply our model to a recent local public debate on waste disposal in the Paris region.

The main results so far are the following: firstly, on a theoretical level, establishing a robust criteriology to evaluate public deliberation remains a complex operation and we show that some criteria like *sincerity* and *respect*, although theoretically relevant, should be empirically reconsidered in order to be properly operationalised. Quantitative analysis does not offer satisfying methods to grasp their various dimensions; therefore we suggest some qualitative options. Similarly, we are proposing a new coding method for the rational *justification* criterion, based on Boltanski and Thévenot theory regarding pragmatic justification (2006).

Secondly, as far as empirical results are concerned, there is an obvious link between the nature of the deliberation, its quality and the technological frame of the arrangement. One can clearly see that the form of argumentation, type of justification and interactivity vary according to the setting, showing differences even between different online settings. Thirdly, deliberation proves to be more justified online than offline, whereas the offline setting allows more constructive discussion than the online one. This will lead us to consider that it is more fruitful, as Bächtiger et al. (2010) suggest, to evaluate discourse types in deliberative arrangements, than to make a judgement on the quality of the deliberation for each setting. More fundamentally, our results suggest that hybrid (online and offline) arrangements allow a wider array of discourses to be heard, and therefore broaden the scope of the discussion.

2 Evaluating the quality of deliberation

Recent years have been marked by a turning-point in the analysis of deliberative processes. The richness of academic literature that has developed over the last ten years has been twofold: firstly, it has clarified the various definitions of the concept of deliberation and has prepared the way for dispute reconciliation (Neblo, 2007; Stromer-Galley, 2007; Kies, 2009; Bächtiger et al., 2010; Kies, 2010; Black et al., 2010); secondly, it has proposed schemes for empirical encoding according to those disputed

definitions. These coding schemes allow us to understand how the layout of deliberative procedures affects the variety of participants' expression, each arrangement showing benefits and drawbacks while at the same time taking into account the temporality of the debates (Bächtiger et al., 2010). The diversity of measures used to evaluate the quality of deliberation, the variety of methods employed to collect data, and the heterogeneity of contexts in which the deliberation occurs, render any thorough and precise scientific synthesis particularly difficult to perform.

Recent work has privileged measures of deliberation around relatively stable criteria in order to improve the comparability of results. Grounded on a broader reflection on the concept of deliberation itself, Bächtiger et al. (2010) propose henceforth to distinguish two sorts of deliberation based on a re-reading of Steenbergen et al.'s (2003) deliberation quality index (DQI) work.

In their new version of the DQI, processes of deliberation can be submitted to two levels of analysis. Type I deliberation is "rooted in the Habermassian logic of communicative action, and embodies the idea of rational discourse, focuses on deliberative intent and the related distinction between communicative and strategic action, and has a strong procedural component. In this view, deliberation implies a systematic process wherein actors tell the truth, justify their position extensively, and are willing to yield to the force of the better argument" (Bächtiger et al., 2010, p.33). Type II deliberation answers the criticism formulated with respect to type I deliberation which corresponds to a narrow vision of the deliberative ideal formulated by Habermas in the Theory of Communicative Action. Thus, whereas the criteria retained in type I capture the rational dimension of discursive exchanges (equality, justification, orientation towards the common good, respect, interactivity, constructive exchanges and sincerity), the criteria for type II considers alternative forms of communication which may emerge during the course of deliberative exchanges and takes into account the expression of conflicts and negotiations. Bächtiger et al. sum up this type II deliberation as including what Warren (2007) calls: "all activities that function as communicative influence under conditions of conflict" (Bächtiger et al., 2010, p.33).

Type I deliberation differs from simple conversation or exchange of information: it supposes rational justification and provides the conditions for the emergence of validity claims. Expression of disagreements on the norms allows the emergence of a consensus while respecting an equal freedom of speech. This conception of deliberation, which is essentially procedural, aims at guaranteeing the conditions for a rational exchange, i.e. an exchange which is based on explicit arguments and justifications to which the participants can refer, even for the purposes of refuting them. The effects of domination, coercion or manipulation, which can be observed in certain contexts, are disqualified as strategic forms of communication which do not make it possible to obtain a genuine, free consensus on the results of the deliberation.

The limits of this first conception of deliberation have been repeatedly pointed out by various scholars: *difference democrats* advocate the respect for differences[2] jeopardised by a procedural conception of deliberation (Young, 1996; Sanders 1997; Young, 1999; Young, 2001), *radical democrats* go a step further in accusing deliberative democracy of concealing the oppressive dimension of our current liberal and oligarchic democratic systems (Mouffe, 1996; Rancière, 2006), and *theoreticians of social choice* reject the normative possibility of overcoming private interests through rational discussion[3] (Austen-Smith and Riker, 1987; Austen-Smith, 1990; Austen-Smith, 1992; Dryzek, 2000; Dryzek, 2007).[4]

These criticisms have lead to recent reformulations of the deliberative democracy theory (Thompson, 2008; Mansbridge et al., 2010) and therefore new criteria to evaluate the quality of public deliberation have been proposed in what Bächtiger et al. call Type II deliberation.

Indeed, unexpressed personal interests can become the source of resentments and might put in peril the whole deliberation process (Mansbridge, 2009). In this sense, in the field, we regularly observe the importance of the cathartic dimension of deliberation. In our view, the expression of personal resentments constitutes an essential phase of the deliberation: confidence between actors is built upon the recognition of one's sufferings and difficulties, before even beginning to share normative preferences.

Moreover, communicational modalities which valorise self-expression intrinsically bear in themselves recognition of the importance and the legitimacy, in processes of discussion, of the expression of personal interests, conflicts, contestation, and negotiations (Mansbridge et al., 2010). In its classical version, deliberation theory has indeed underestimated the role of conflict and contestation emanating from counter-publics often relegated outside of deliberative procedures (Fraser, 1992; Dahlberg, 2007). Without going deeper into this controversy between radical and deliberative democrats, one can acknowledge that these critics have been partly heard to the extent that type II deliberation introduces other discursive processes than simply rational argumentation in its definition. Nevertheless, as we will show in our criteriology discussion, the evaluation of the role of conflicts in the deliberative process remains complex to assess and empirically difficult to measure. Our position here is to follow Mansbridge et al. (2010) in their call for an enlarged conception of deliberation which considers personal interest conflicts as a necessary step for a deep exploration of normative divergence; it should therefore be taken into consideration in our criteriology.[5] However, we distance ourselves from the *radical democracy* thesis because we believe that established domination phenomenon in deliberative processes should not be mixed up with structured oppression by oligarchic democratic elite.

At this point, one final post-modern criticism needs to be mentioned: *the external impact factors* (outcomes). It stresses that the internal approach, which focuses on the unfolding of the procedure and on the rationality of the arguments put forward, minimises the more reflexive effects of deliberation on participants and its link to the decisions taken afterwards. For certain authors (Janssen and Kies, 2005; Thompson, 2008; Kies, 2010), "if ordinary citizens believe what they write could have an impact on the decision-making process, they will be more motivated in adopting a deliberative attitude"[6] (Kies, 2010, p.96).

In our view, this criticism bears less on the criteria of rationality in type I deliberation, but rather on the disconnection of these criteria from a precise analysis of the whole process and its endeavours. The difficulty here lies in the diversification of methods of analysis which are adopted by the investigators. Indeed, as emphasised by Black et al. (2010), studies which bear on political deliberation generally proceed by analysing the content of the discussions, applying a codebook which it should be possible to use independently of the context of implementation of the procedure – the aim being to facilitate comparisons (Krippendorff, 2004). The large number of case-studies which would be necessary to establish – in a scientifically satisfactory way – a link between the process and the quality of the exchanges, makes this a difficult enterprise, and to our knowledge only Kies has managed to make a significant contribution in this direction. Therefore, we thought it would be appropriate to take this criticism into account when establishing the criteria for the evaluation of the quality of the deliberation.

These criticisms formulated by the 'difference' school and the proponents of the Theory of Social Choice, encourage the introduction of other dimensions in the evaluation of the quality of the deliberations. Thus, type II deliberation enlarges the criteria of rationality established for type I deliberation: "Type II deliberation generally involves more flexible forms of discourse, more emphasis on outcomes versus process, and more attention to overcoming 'real world' constraints on realising normative ideals" (Bächtiger et al., 2010, p.33). This extensive conception of deliberation not only allows rival approaches of Habermassian deliberation to be heard, but is also more consistent with field observation. Indeed, it has been empirically shown that the formulation of personal arguments, the existence of bargaining between interested parties, or the insincere reformulation of arguments in order to obtain the adhesion of stakeholders, are all part of deliberative procedures and can favour a more consensual outcome.

In sum, type I and II deliberation make it possible to include the totality of the process, by stressing its capacity for inclusion and insisting on the structural role of the procedure for the quality of the deliberation. In this perspective, the comparison between online and offline setups will help us to apprehend the nature of the procedural constraints exerted upon participants in the deliberation process.

It is now time to present our choice of criteria, their operationalisation in our field, and the comparative methodology employed in our case study.

2.1   Criteria to measure the quality of deliberation

Our approach to deliberation takes up the conceptual criteria which define deliberation as the public expression of a reasoned opinion in the context of a disagreement in order to produce a legitimate collective decision (Thompson, 2008).

As we have seen, seven criteria pertain to type I deliberation according to the revised version of the DQI. These criteria are: equality, justification, orientation towards the common good, respect, interactivity, constructive exchanges and sincerity. Since it can be particularly delicate to operationalise each of these criteria, and even impossible in some cases (sincerity and respect for example will be eliminated), we will justify our choices of criteria, and adapt for our case study the coding propositions that have been put forward by researchers.

Type II deliberation includes the possibility of alternative modes of expression (of the storytelling type) and what Bächtiger et al. call the criterion of 'deliberative negotiations', following the work of Mansbridge and Karpowitz (2005) and Mansbridge (2009), which values conflict as a cathartic element in deliberation. We will discuss those two criteria and explain why we decided not to select deliberative negotiations as a relevant one according to our definition of deliberation. Finally, we will plead for future research in order to reach a direct operationalisation of the external impact factors: we have started such work in our case study, but it is too early to present the results in depth in this paper.

This will lead to a set of criteria which should make it possible to measure the greater or lesser quality of the deliberation depending on the contexts of its implementation. Our goal is not to gauge the gap between a normative ideal and a real procedure, but rather to gain a finer understanding of how the online and offline spaces of debate articulate with one another.

1   *Equality*: This criterion covers in reality at least two complementary dimensions. The first, minimalist dimension covers equality in access to speech (Dahlberg, 2001; Chambers, 2003; Graham and Witschge, 2003): all the participants should be put on an equal footing in terms of the opportunity for speaking. Social status or other marks of domination should not authorise a monopolisation of public expression. This first construal of equality is measured in various ways: the number of interruptions during a speech, the number of participants who intervene only once, the frequency of participation, the number of 'non-active' participants (a passive audience, or a passive audience online) (Stromer-Galley, 2005).

    However, according to some authors (Cohen, 2007; Thompson, 2008), this concept of 'equality' does not permit capture of the logic of inclusion which seems to be inherent in the idea of an enlarged deliberation, particularly in the case of attracting online members of the public who are rarely present at public meetings. Apart from the 'mini-publics' which are more or less selected, the deliberative procedures should address the whole sector of the population concerned by the theme under discussion. Equality in access to speech is thus conditioned upstream by an equal opportunity for access to the procedure itself in order to exert an influence on the course of the debate (Knight and Johnson, 1996). "The general standard of equality is applied both to the distribution of membership in the deliberative body and to the patterns of participation in the deliberation itself" (Thompson, 2008, p.8). Operationalising this criterion can be delicate as the evaluation of access' opportunity requires in-depth interviews with participants and non-participants. Therefore, it is more a question of taking into account the diversity of the population[7] who attend the debate and who express themselves rather than trying to apprehend why non-participants were not in position to participate to the debate.

    This is what we have focused on in our study: the 'internal' dimension of equality within the debate, by coding the number of speech-acts by gender and socio-professional category.

2   *Justification*: The engagement in a process of reasoned exchange of arguments supposes that the participants justify the positions they hold. The evaluation of this criterion is regularly limited to its formal aspect: presence or not of justifications in the argumentation; or gradation in the link made by the participant between the justifications that are invoked and the conclusions which are drawn from them (Bächtiger et al., 2010). Other criteria have been envisaged which concern the nature of the justification itself (Gutmann and Thompson, 1996): certain racist arguments for example, or arguments which damage human dignity, should *a priori* disqualify the deliberation. Indeed, as Neblo has noted, a reduction of this criterion to its purely formal dimension "comes at significant cost in that the theory does not stipulate that the force of the better argument is a purely formal property" (Neblo, 2007, p.546). However, it is difficult to entrust the scientist alone with the task of identifying what constitutes a 'good' or a 'bad' argument; this difficulty is compounded by the variability in time and space of the scales of the arguments (Dryzek, 2000), and also by the risk of an 'essentialism' which considers that certain arguments are *a priori* contradictory with the very principle of deliberation.[8]

    Nevertheless, the possibility for the participants to assert the force of the better argument can be apprehended by examining the diversity of the principles of

justification put forward in the course of the discussion (Kies, 2010). The greater the diversity of principles, the greater the chances for a better argument to prevail. We therefore decided to code the variety of principles of justification proposed by the participants in the deliberation. Using the work of Boltanski and Thévenot (2006), we have thus coded the reference domains of the beliefs or values to which the justifications of the participants belong. They all are rational justifications oriented towards the common good. These references can thus be inscribed in seven different domains[9]: *civic justification* (arguments justified by the idea that citizen participation is a good thing in itself (for democracy) – inspired by the theories of classic republicanism or civic humanism), *ecological justification* (arguments justified by reference to the necessity to defend the environment, considered as a good in itself), *industrial* (or realist) *justification* (arguments justified by an imperative for economic or practical efficiency), *domestic justification* (arguments justified by the necessity to respect the private domain, such as the respect for someone's religion), *solidarity justification* (justified by a principle of altruism or solidarity. The well-being of future generations belongs to this category), *justification of proximity* (arguments justified by the idea that the nearer it is, the better it is) and *aesthetic justification* (arguments justified by the aesthetic interest or the beauty of a proposition (concerning a territory, a town, etc.).

This type of criterion presents the double advantage of evaluating both the diversity of modes of justification and thus the richness of the deliberation, but also of analysing more finely the possible impact of the organisation of the deliberative setup on the orientation of the justification. Are some domains more audible than others according to the context? The public nature of the deliberation can constrain the nature of the justification which is evoked (Goodin, 1992; Cohen, 1997; Elster, 1998; Chambers, 2004), even though empirical studies in this area emphasise the possibility of a conflict between the public nature of a deliberation and the rationality of the arguments involved (Chambers, 2005).

3   *Orientation towards the common good*: Overcoming one's specific interests. In the classic definition of deliberation, the search for collective solutions towards a given problem supposes a restriction on preferences, as we have seen above. Theoreticians who are sensitive to the Rawlsian approach to deliberation have contributed, in the DQI, to proposing an evaluation of propensity towards an increase in the generality of the arguments over the course of the exchanges. Going beyond one's own preferences in order to inscribe oneself in a collective movement of searching for the common good reflects the efforts accomplished by a deliberative assembly (Dryzek, 2000).

As we have mentioned above, this classic definition of deliberation has nevertheless been recently challenged by Mansbridge et al. (2010) who have stressed the importance of the expression of personal interests and conflicts between diverging concerns in the deliberative process. Indeed, for these authors, expression of personal interests can pave the way for a proper exploration of normative assumptions underlying participants' positions. Therefore, it might be a practical necessity if those normative preferences are not clear when the deliberation starts. It is therefore essential to leave a space, in a deliberative process, for personal expressions of private interests. Nevertheless, the ultimate goal of a deliberation

remains (even if it takes time and maybe multiple deliberative discussions to reach it), for these authors, the collective definition of a common good. This is why we have kept in our scheme the common good orientation criterion and, as we will see below, we have added the expression of personal interest (also called 'alternative expression') as relevant to a comprehensive evaluation of the quality of deliberation.

We have therefore coded this expression of the common good to the extent that it was a normative qualification of a desired collective goal.

4   *Expression of respect*: The expression of respect and the manifestation of empathy during the important stages of the discussion are symptomatic of the spirit that is necessary for the construction of a legitimate agreement which characterises a high-quality deliberation. For J. Bohman (1997), this manifestation of respect corresponds to another construal of equality between individuals, to the extent that any argument should be considered with equal care and attention. Although important on a normative level, this criterion is nevertheless quite difficult to operationalise. Bächtiger et al. for example chose to code the linguistic markers of disrespect or, on the contrary, of esteem and agreement. This sort of criterion seems relevant, even though it can be complex to code since the markers of arrogance and disrespect are often para-verbal signals (posture, tonality, behaviour). Direct real-time observation in the field is thus a more reliable source of data than codification on the basis of verbatim transcriptions.

J. Stromer-Galley, for her part, apprehends it however with what she designates as 'sourcing', i.e. the quality of the external information that is brought to support the arguments (2005, p.19). The more this 'sourcing' is thorough, balanced and reliable, the more the importance accorded to the collective engagement in the deliberation is manifest (Mucciaroni and Quirk, 2006). Nevertheless, this narrow apprehension of the respect criteria remains unsatisfactory and does not capture its complex structure (Bächtiger et al., 2010, p.42). Therefore, so far, all coding proposals offered by academic literature fail to operationalise the respect criterion in a comprehensive fashion. This can be explained by a lack of pluridisciplinary research in this area: political scientists usually have recourse to quantitative methods based on verbatim or attitude codification. We plead here for a diversification of methods and suggest considering an ethnomethodological approach. In this perspective, conversation analysis (CA), a methodology developed by H. Sacks, E. Schegloff and G. Jefferson, in the late 1960s, could bring some new insights into the analysis of the quality of public deliberation and especially its respect criterion. Inspired by H. Garfinkel and E. Goffman's ethnomethodology, CA aims to study social interaction and embraces both verbal and non-verbal behaviour. Researchers in this area usually video record public conversation and construct a detailed transcription which aims to find recurring patterns of interaction (Sacks, 1992; Sidnell, 2010), and especially patterns of domination.

Because we have not been able to conduct this method which requires a highly proficient linguist to be done properly, we have decided to exclude this criterion for the purpose of our analysis. Nevertheless, respect remains a normative ideal widely referred to by scholars, and we are convinced that some arrangements (online and offline) facilitate it. Further research is needed to explore either CA or other qualitative methods to evaluate the fulfillment of the respect criterion in discursive exchanges.

5 *Interactivity*: Here one measures the level of responsiveness and the involvement of the participants in a discussion. Empirically, the measure of interaction tends to be confounded with the criterion of respect shown to partners.[10] Nevertheless, if participants express themselves mainly by monologues and don't reply to one another, it is difficult to consider that one effectively enters into a deliberative process. Therefore, an absence of reference to the preceding argument or comment can be a sign of low interactivity. On the other hand, expression of agreement or disagreement – as opposed to no reference at all to the preceding argument – reflects a high level of deliberative vitality. As a consequence, we have opted for a coding based on the attention given to an argument by expression of agreement and/or disagreement.

6 *The constructive character of the exchanges*: This translates the effort towards cooperation manifested by the participants. Academics use the notion of reciprocity, which is the proposal of alternative solutions (Steiner et al., 2004). Our encoding proposes to distinguish between different types of message: those that correspond to a proposition, a personal opinion, a factual statement, a question, or yet again an appeal for mobilisation. These types of message correspond to forms of engagement in the debate which can be relatively turned towards collective elaboration (propositions, questions addressed to the assembly), towards more sectorial interests (appeals for mobilisation), or finally towards personal interests (opinions, factual statements). We have considered that propositions and questions are generally more constructive than appeals for mobilisation or expressions of personal interests.

7 *Sincerity*: Both at the theoretical and empirical level, this criterion has been thoroughly discussed and remains quite controversial. According to Habermas, validity claims must be sincere to be legitimate. But should one focus on the personal sincerity of the individual or on the nature of the argumentation? As Neblo (2007) states, an insincere argument can allow fruitful discussion and make it possible to reach a reasonable agreement. This virtuous effect is called by Elster the 'civilizing force of hypocrisy' (Elster, 1998). We therefore consider that sincerity remains a normative horizon to evaluate the quality of the deliberation; although on an empirical level, it is not possible to measure the effect of sincerity on the quality of the deliberation, since an insincere argument may nevertheless contribute to the emergence of a reasonable agreement.

8 *Alternative expressions*: This is a type II criterion. Storytelling in particular constitutes one of the main forms of expression that present an alternative to rational argument (Polletta, 2006; Polletta and Lee, 2006). Individuals who have difficulty in mobilising a complex set of concepts can manage to make their point in a more narrative style, relating their personal experience. Taking personal expression into account to evaluate the quality of deliberation also enables us to include in our model the expression of conflicts, as they often arise when an individual uses a personal experience to contradict a general or normative argument.

Our encoding thus takes into account personal expression, which goes beyond the restrictive approach to equality and evaluates the inclusion of populations.

9 *External impact factors*: Although excluded by Bächtiger et al. from their revised version of the DQI as presenting a risk of concept stretching for deliberation, we consider here that some external factors should be taken into account. Indeed, the

way outcomes of a debate are prepared and acknowledged by participants can have a structuring effect on the quality of the debate itself. Gaining in knowledge, acquiring political skills and believing that what one says will make a difference, are substantial elements which reveal an efficient and inclusive procedure. However, this can only be apprehended through a qualitative analysis, i.e. with questionnaires, interviews or direct observation. In our study, we have conducted interviews and distributed questionnaires to evaluate the knowledge gained, the political skills acquired and the participants' perception of the deliberation's impact on the final decision. We will not be able to present them in this article as they would require lengthy developments.

Table 1 summarises the criteria that we have retained for the analysis of the quality of the deliberations in our case study.

Table 1   Criteria retained for the evaluation of the quality of the deliberation

DQI criteria	Evaluative criteria	Measurement
Type I criteria	Equality	Gender Profession
	Justification	Presence of rational justification Order of justification
	Common good orientation	Presence of general justification vs. personal experience
	Respect	Not evaluated
	Interactivity	References to preceding argument
	Constructive politics	Constructive nature of the message (proposition, opinion, facts, question, mobilisation)
	Sincerity	Excluded
Type II criteria	Alternative expression	Reference to personal experience
	Deliberative negotiations	Excluded
Added criteria	External impact factors	Qualitative evaluation suggested, not evaluated

3   Case study and methodology

The debate we have analysed was organised by the French National Commission of Public Debate (CNDP) between September and December 2009, and was devoted to an old waste treatment facility which included an incinerator operated by the SYCTOM, the local public consortium for waste treatment.[11] An *ad hoc* commission (called Particular Commission of Public Debate, CPDP) was set up especially for this debate in order to complete the mission.[12]

Citizens attended nine public meetings to discuss the suitability of transforming the industrial plant into a modern methanisation unit which would produce gas along with heat. An innovative participatory website was set up including a blog which also offered filmed interviews, collaborative meeting reports and a Q&A system to prolong the debate

online. Although they present two different on and offline formats, these two debates offered two arenas of argumentation on the same topic with a circulation of actors from one scene to another.

The CNDP procedure was characterised by the intertwining of two formats (Bonaccorsi and Julliard, 2010). The articulation between online and offline formats was planned so as to constitute a complete setup aimed at fulfilling the two main objectives of the procedure, informing the public and allowing the public to express itself.

Thus, besides its documentation function (archiving and downloading the documents, video-recordings of the meetings), the web portal displayed the public meetings, and allowed people to ask questions before and after them. Indeed, the week preceding each meeting, web users were invited to post on the blog all the questions they wished to see addressed, and the CPDP relayed them during the meetings. Then, after the public meetings, were available online: presentations of the speakers, the whole verbatim transcription with an executive summary of the meeting, and proceedings written up by the CPDP entitled 'the lessons of the meeting'. This last document was submitted to online comments through the platform *co-ment.net*. Participants published 62 comments between September and December. The CPDP then integrated them into the final version of the report. The whole documentation (lecture-notes, reports, studies…) brought by participants could be freely downloaded from the website.

In order to compare the two arenas of public debate, we have encoded face-to-face discussions as well as online contributions. Two separate coders[13] encoded all speech acts of 4 (out of the 9) public meetings spread over the whole period of the debate. We then encoded the entire online corpus: the 63 posts and the 107 comments on the blog, the 62 comments posted on the collaborative platform containing the minutes of the meetings, as well as the 280 questions posted on the Question-Answer system[14] and their 221 answers[15] (Q&A). The overall online and offline corpus adds up to 1212 observations (469 offline, 743 online).

Our methodology also included a questionnaire, interviews and on site observation. 107 people[16] replied to our questionnaire (25.2% online[17] and 74.8% offline[18]), 16 semi-conducted interviews were carried out, and we closely monitored the whole process.[19] The questionnaire was intended to complement our criteria coding, notably equality and external impact factors. Interviews and observation helped us to interpret our data as we shall see in the following section.

This differentiated encoding allowed us to analyse the various online setups which contrasted with their interface, aim and functioning. The Q&A consisted of various questions and was moderated by the CPDP which excluded purely rhetorical questions and included those that called for a genuine response from the SYCTOM. This is different from the blog which was mainly aimed at allowing the expression of viewpoints. Comments on the *co-ment* collaborative platform were aimed at discussing the minutes. Both the blog and the *co-ment* interface were moderated by the CPDP, although none of the posts and comments were ever removed or modified. Their only significant intervention was that some questions posted on the blog were moved to the Q&A section in order to guarantee an answer from the SYCTOM, which would have been unlikely to happen on the blog, as we will see in the discussion section.

In the following section, we will focus on the criteria measured by discussion coding therefore excluding the evaluation of sincerity, respect and the external impact factors, which would have needed more space to go deeper into the qualitative analysis.

4   Results and discussion

As we shall see, almost all the variables provide evidence of the influence of the procedural context on the criteria retained for analysing the quality of the debates.

In the tables which follow, we present the results for the discussions in public meetings and for the online exchanges, the latter being divided into three categories: those which occurred within the Q&A, those which occurred on the blog, and finally those which were held on the collaborative platform concerning the minutes of the meetings (*co-ment*).

4.1   Equality: a distribution between online and offline

4.1.1   Gender

The interventions of men and women clearly vary according to the arenas: in our data, women intervene much less frequently offline than online, and certain forms of online participation suit them better than others. 38.9% of women participate offline (as experts/guests on stage or as participants in the room) whereas 58.3% of men do so. Online, it seems easier for women to ask questions, since 41.4% of them sent at least one question to the CPDP (whereas only 24.8% of men post on the Q&A). There are slightly less women than men that post on the blog (7.2% of women and 9% of men), but they do write proportionally more on the *co-ment* platform (12.5%) than men (7.7%).

Table 2   Distribution of male and female intervention in the participatory system

	N/A	*Men*	*Women*
N/A	0.0	0.2	0.0
OFFLINE	0.0	58.3	38.9
Q&A	74.4	24.9	41.4
BLOG	24.7	9.0	7.2
CO-MENT	0.9	7.7	12.5
TOTAL	100	100	100

Besides the Q&A interface, for which it is difficult to draw any conclusions due to the small rate of reply (questions are mainly asked anonymously), we see that women participate proportionally less than men, and especially offline, where the gender difference is striking. This result is fairly classic in field literature (Seyle et al., 2008) which explains this difference in terms of education involving an acculturation to taking the floor in public (Cala Carillo and de la Mata, 2004), and by a rhetorical preference of women for a mode of exposition of arguments oriented towards personal narration (Farell, 1979), which is less audible in offline public debate.

In his study of Pittsburgh citizens' political discussion online and offline, Muhlberger (2004) shows that gender and education significantly affect all political discussions (though less online than offline), whereas age is negatively linked to online discussion. This observation of a limited involvement of women online and offline is even reinforced in the institutional context of a public debate where women are systematically outnumbered. In absolute terms: 208 coded interventions (online and offline) were made by women and 664 by men (Monnoyer-Smith, 2011). This 'deliberative' gender gap is even larger than the 'participatory' one as our questionnaire shows a 50% male/female presence ratio in the debate in general.

Nevertheless, online, the interventions tend to be *proportionally* more equal, and even slightly favourable towards women on the *co-ment* platform. This can be explained by the large number of associations posting on *co-ment*: we noticed that local and environmental associations involved in the debate were largely represented by women who were very active in the whole process. In sum, it seems that gender inequality in public deliberation remains quite active, although blogging and discussing online attract proportionally more women than men.

4.1.2 Socio-professional background

In terms of socio-professional origin of the participants, we also notice a distribution in the different arenas: some of them are massively invested by a few categories of participants, as shown in Table 3.

Table 3 Distribution of participants online and offline

Categories	N/A	Citizens	SYCTOM	Associations	CPDP	Elected officials	Experts	Total
OFFLINE	0.0	14.7	20.7	9.8	41.5	5.6	7.7	100
Q&A	1.4	40.1	40.3	8.1	9.1	0.6	0.4	100
BLOG	0.0	32.1	8.2	17.6	39.0	2.5	0.6	100
CO-MENT	3.6	37.5	0.0	48.8	1.3	0.0	8.8	100

As we can see, elected officials were not very involved in the debate. They nevertheless favoured attendance of public meetings (5.6% of offline participants were elected officials) rather than intervention online (3.1% of online participants). This is consistent with previous research which has shown that elected officials feel more at ease exchanging with citizens in public rather than online (Wojcik, 2009). This is symptomatic of their difficulty in overcoming a traditional propensity towards representation which rests on regular meetings with citizens, but avoids a permanent contact through ICTs (Coleman, 2005).

We also noticed the limited involvement of experts in the debate. They hardly intervened at all during the public meetings and then only at the invitation of the CPDP (7.7% of the offline participants). This may appear surprising given that it was a very technical debate and that some participants were in need of neutral information. Most of them obviously did not want to commit themselves and spend time on the blog to bring additional technical information to the attention of the participants. They nevertheless amended the minutes of the public meetings on the *co-ment* platform (8.8% of total comments were published by experts).

Citizens preferred to talk online, whether on the blog (32.1% of total posts and comments), *co-ment* (37.5%), or the Q&A interface (40.1%). This can be explained by the organisation of the public debate itself: citizens had a very limited amount of time to ask questions or to express viewpoints. They clearly saw the advantages of online discussions to deepen their argumentation.

Associations engaged on the *co-ment* interface (48.8% of total comments on the platform) essentially in order to follow up offline discussions, instead of simply amending the minutes as the CPDP thought they would. They also used the blog as a platform to publicise their official position (17.6%). This is an interesting result as one can notice that they have been quite absent offline (9.8% of public interventions). Two

types of associations were involved in this debate: environmental associations that were local branches of national or international associations (Friends of the Earth), mainly focused on recycling and methanisation issues; local associations that were smaller, either *ad hoc* or Parisian associations involved in health and urban planning issues. During the course of the debate, they created a group of associations to defend their position namely on waste incineration (capacity of the future plant), and selective sorting. They therefore organised themselves and made use of the internet in order to develop their common positions. For them, the use of Internet has been quite strategic as they could not easily access the floor in the public meetings which were largely monopolised by the CPDP, the SYCTOM and the various experts.

The CPDP appears to dominate the blog (39% of posts and comments) and the public meetings (41.5% of total interventions). This is largely attributable to the process itself since the CPDP ran the blog, advertised the public meetings on it and subsequently posted the minutes of these meetings. The CPDP also organised and led the public meetings, distributed the speaking time, and spent a fair amount of time explaining the deliberative process at the beginning of each meeting.

The SYCTOM put its human resources mainly into the public meetings (20.7% of interventions) and the Q&A system (40.3% of total). It made no comments at all on the *co-ment* platform, since every disagreement with meeting minutes had been solved by an official mail or email directly addressed to the CPDP's President. This disengagement from the online sphere of the debate presents a deliberate strategy. Firstly, the SYCTOM was absorbed by the Q&A task: every answer given to a question was scrutinised by the CPDP which verified the thorough nature of the answers provided, the SYCTOM being asked to complete and rewrite some of them. Secondly, the non official and casual nature of the blog discussion did not fit with its hierarchical internal organisation. In private, it has confessed that none of the SYCTOM delegates in the debate were able to write on the blog without first having to go through a complex process of signatures and approvals. This considerably slowed down their reactivity to bloggers' interpellations. Thirdly, it was able to pass on its messages to associations through the CPDP, since they were in permanent personal contact. This explains why the associations were far more active online than the SYCTOM, despite the many open attacks it was subject to.

As we can see, equality is not constructed within each arena of discussion, but globally by allowing each participant to find a place which suits his needs and his strategic objectives.

4.2   Rational justification: more justification online

Almost 60% of the arguments put forward offline are not supported by any justification: we are indeed in the context of a lively exchange, where participants take positions that are less supported than online. The verbal jousting and exchanges which are sometimes difficult, over a relatively limited period of time, are not always compatible with complex justifications. Therefore, arguments are more justified online (Talpin and Wojcik, 2010). It is within the Q&A interface that justification seems to be strongest (82.3% of total Q&A): the very aim of this interface, which supposes that the answers contributed by the SYCTOM should be based on a solidly built argument, explains this result. The two other participatory modalities seem to allow a better justification and this in an equivalent fashion: the temporality of writing seems to suit the development of the argument. 68.6% of blog posts and 65% of comments indeed present a general justification.

The quasi-absence of references to personal experience whatever the arena provides us with another interesting result. Only 4.1% of offline and 4.4% of online participants have used their personal experience to justify their argument.[20] The technicality of the debate's topic and the low emotional involvement of actors probably explain the formal rhetoric used throughout the discussions. Observation of meetings reveals that when outnumbered, lay citizens and associations rarely feel legitimised in using personal justification in their argumentation. More often they try to appear as professional as possible (using technical terms, referring to legislation for example). In this context, one might expect that online, citizens and associations would feel freer to use their own experience rather than rational justification. As this has not been the case, one can formulate the hypothesis that within a context of technical debates, lay citizens[21] remain prisoners of an expertise rhetoric which prevents them from using storytelling or any other type of personal expression, especially when they do not feel immediately threatened (the plant was built in the seventies, the debate only deals with its renovation).

Table 4 Rational justification online and offline*

Justification	None	General justification	Personal experience	Total
OFFLINE	58.1	39.5	4.1	100
Q&A	14.9	82.3	3.0	100
BLOG	30.2	68.6	4.4	100
CO-MENT	35.0	65.0	0.0	100

Note: *Multiple answers possible: total above 100.

Concerning the types of justification employed, Table 5 shows that some types of justification are clearly not mobilised by actors, for example the civic, aesthetic, proximity and solidarity justifications. One explanation of this phenomenon could be that, compared with other CNDP debates, associations involved in this particular one were a lot more focused on environmental issues and on the technical specifications of the industrial project. Therefore, the 'realist' type of justification dominates all arenas of the debate.

> "Actually, I totally go along with the fact that incineration has positive results as regards the CO_2. [...] The Parisian urban heating company serves about 450,000 accommodations in the Parisian area, [...] and almost half of the heating is provided by the incineration plant right now. If this factory disappears, turning to new sources of energy would indeed be necessary. Unfortunately, there are not lots of these beautiful future energies" [Jean-Christophe A., Public meeting, Paris XIII, Salle Mas, 7 October 2009].

This justification, which privileges reasons based on imperatives of economic efficiency, was in fact very much driven by the SYCTOM, which largely contributed to framing the debate. The procedure itself, especially the public meetings elements, leads all actors to frame their words in a very objective and factual fashion (Monnoyer-Smith, 2011).

Interestingly, the ecological justification, which presents the defence of the environment as a good in itself, is more frequent online than offline.

> "We think that keeping in stock the few amounts of waste that would escape from the prevention and recycling/compost/methanisation efforts, without resorting to incineration, would be less disastrous for the environment and health, more transparent, and less expensive for the community" [Annelaure W., 11 November 2009 – 16 h 14, reply to "Le 5 novembre, première réunion locale à Ivry !"].

Table 5   Type of general justification*

Type of justification	None	Civic	Ecological	Realist	Domestic	Solidarity	Proximity	Aesthetic	Total
OFFLINE	58.1	12.4	18.2	22.7	4.9	9.0	6.6	0.6	100
Q&A	14.9	9.5	47.0	61.7	16.3	7.1	11.3	0.4	100
BLOG	30.2	12.6	52.2	53.5	34.6	20.8	14.5	1.3	100
CO-MENT	35.0	2.5	27.5	46.3	6.3	3.8	8.8	2.5	100

Note: *Multiple answers possible: total above 100.

The Q&A and the blog both present high figures for ecological justification. In terms of the Q&A interface, where the SYCTOM remains in charge, the need for a legitimate project certainly supposed the wide development of environmental justifications. On the blog, associations partly based their arguments on their statutory goal, which was obviously environmental oriented.

Finally, one is forced to notice the striking heterogeneity of justifications on the blog. Almost all of them are evoked. The length of each post here reflects the richness of the positions defended by the actors: they made the most of every normative justification when needed in the course of their argumentation.

4.3 Common good orientation: better on line

As a consequence of previous observations (Table 4), the orientation towards the common good is more manifest online than offline, showing that the online interface seems better adapted to a rationally justified debate. In this context, the Q&A figure of 82.3% of arguments related to a common good orientation reveals a very formal and institutionalised arena where the SYCTOM publicises its official position. Being composed in its board of elected officials, the SYCTOM often refers to its representative legitimacy to evoke its permanent concern for citizens' general interest, and therefore multiplies references to the common good.

4.4 A low level of interactivity, but slightly better on the blog and the co-ment interface

Interactivity, which is evaluated using a measure of agreement and disagreement with speakers, is strikingly low in all arenas of the debate. As expected, the Q&A interface scores particularly low on interactivity (5.4%). The design of the interface, which only allows actors' questions to the SYCTOM, makes it difficult to bypass the device and therefore it remains a traditional, non interactive tool.[22]

It still remains that the vast majority of positions adopted online and offline express neither agreement nor disagreement with the preceding interlocutor. Nevertheless, interactivity is more likely to occur online on *co-ment* (37.5%) and on the blog (26.2%). Online tools here facilitate a reflexive attitude towards one's positions, as the writer has time to build up a proper argumentation. The *co-ment* interface, which allows participants to review the minutes of the meetings, offers an opportunity to come back on fundamental conflicts. This is probably why the interactivity rate on it is so high. Offline, speakers interact less and mainly express themselves by monologue (interactivity rate: 21.6%).

Table 6   Reference to preceding argument (agreement/disagreement/both)

Reference	N/A	None	Explicit reference	Thread breaking	Total
OFFLINE	0.4	75.9	21.6	2.1	100
Q&A	0.0	94.6	5.4	0.0	100
BLOG	0.0	74.8	25.2	0.0	100
CO-MENT	0.0	62.5	37.5	0.0	100

4.5   Constructive politics: the weight of the different arenas

We have coded as 'propositions', those constructive ones which aimed at offering practical solutions to problems raised during the debate.

The majority of propositions put forward by the participants in the public debate are pronounced offline (51%), the rest being divided almost equally between the blog and the Q&A (Table 7). One might imagine that the efforts directed towards a synthesis requested by the CPDP, especially during various thematic meetings and the final meeting, in order to find the terms of an agreement for the follow-up discussions after the debate, bear their fruits here. By contrast, the questions asked are mainly restricted to the Q&A and offline. As for the blog, it is largely used to relay calls for mobilisation, rather like a social network. The weakly organised associations seizing the opportunity of an institutionalised website to link up and form a stronger group,[23] hence the high instance of calls for mobilisation.

Table 7   Distribution of the types of statements

Nature of the statement	Proposition	Opinion	Facts	Question	Mobilisation	TOTAL
N/A	0.0	0.2	0.1	0.0	0.0	0.1
OFFLINE	51.0	53.5	33.4	30.5	25.0	38.6
Q&A	21.5	20.8	41.9	52.7	8.3	41.6
BLOG	19.5	15.0	17.8	12.1	50.0	13.1
CO-MENT	8.0	10.5	6.9	4.7	16.7	6.6
TOTAL	100	100	100	100	100	100

If we concentrate now on the internal organisation of each arena (Table 8), we can see that the place taken by constructive propositions is slightly greater on the blog (18.2%) than offline (16.2%). Thus, if a majority of propositions are formulated offline, as a proportion of other types of statement they are nevertheless clearly behind. Factual statements dominate offline (53.9%) and online (62.3% in the Q&A, 84.3% on the blog and 65% on *co-ment*), especially on the blog where reinterpretations of controversial data take a considerable place.

We can ascertain from our interviews that associations used face-to-face meetings to position themselves within the debate by affirming strong opinions. They also used the blog as a legitimising arena to leave a written trace which is well-sourced and factually argued. The two arenas therefore served two distinct purposes: face-to-face meetings to exist in the debate through asserted values, and the blog to be credible in the debate.

Table 8   Distribution of the types of statements in each arena*

Nature of the statement	N/A	Proposition	Opinion	Facts	Question	Mobilisation	Total
OFFLINE	0.0	16.2	48.9	53.9	27.6	0.6	100
Q&A	0.4	6.4	17.7	62.7	44.3	0.2	100
BLOG	0.6	18.2	40.3	84.3	32.1	3.8	100
CO-MENT	0.0	15.0	56.3	65.0	25.0	2.5	100
TOTAL	0.2	12.3	35.3	62.3	34.9	1.0	100

Note: *Multiple answers possible: total above 100.

4.6 Alternative expression: little difference between online and offline

Table 4 provides indications with respect to alternative expression, and the recourse to storytelling. One might have thought, in conformity with the literature presented in the first part of this text, that the online interface would constitute a refuge for this sort of expression which is not very audible in public. It appears, however, that the difference is negligible, hardly greater online than offline. Nevertheless, the table above shows that some interfaces are not at all amenable to these forms of expression: the Q&A interface and the platform for comments, which promote a high level of justification, leave little space for personal experience.

In general, as we have seen, the procedure has forced the associations to conform to the general rhetoric pattern followed by the SYCTOM which has developed a rational argumentation. The limited presence of lay citizens also explains the limited recourse to personal expression in this debate. The domination of institutions has created the normative assumption that only rational arguments are legitimate during the process.

5 Conclusion

In this paper, we have discussed criteria proposed by the Discourse Quality Index to evaluate the quality of a public deliberation. This index envisions deliberation as a discursive process, open to personal expression, in which citizens are put on a equal footing, use rational argumentation, show respect to one another, justify their positions, tend toward the common good and try to be constructive in their proposals. We have shown that some criteria are very difficult to operationalise: sincerity and respect need further methodological research in order to be fully taken into account. Moreover, it is not clear yet if sincerity should be included as a criterion, since insincere argument can nevertheless help citizens to find common grounds.

We have proposed a specific coding for the evaluation of justification using Boltanski and Thévenot's theory of pragmatic justification. The nature of justification indeed differs online and offline, suggesting that actors adapt this according to the specific arena in which they are expressing themselves.

Our case study brings insights into how the articulation of the various arenas within the framework of a common debate improves the general quality of the deliberation: actors appropriate each space of expression both according to their competence and to their argumentative strategy. The criterion of equality for instance, improves online as women, citizens and associations are proportionally more present online than offline. Justification is also better online than offline as participants take the time to develop online a proper argumentation based on general justification.

This specialisation of arenas is a dynamic one: arenas are linked up to one another depending on the way in which the actors progressively invest those spaces. For instance, since the SYCTOM stands out as the most legitimate actor during the face-to-face meetings, associations balance out by a strong online presence. The dynamic of the inter-arena exchanges is nurtured by the circulation of utterances between various kinds of actors which compensates the low intra-arena level of interactivity. From then on, it seems necessary, when one evaluates the quality of a deliberation, to take into account all arenas of discussions and their interaction. Otherwise, one might have a very limited overview of the whole process.

In order to go further in the analysis, it would be useful to characterise each type of discourse produced in the different arenas; this might make it possible to propose to the organisers the best possible arrangements for each given context.

In this global frame, the blog appears as a space for associations' legitimisation, where a strongly backed-up rational argumentation is developed. The Q&A interface serves as a space for offline conflict resolution since it follows up public debate controversies. The *co-ment* platform has clearly been reoriented by actors as a post-debate space for negotiations on specific controversial topics. It has therefore been the most interactive arena amongst all the online arenas. The offline meetings have permitted constructive elaboration of shared proposals. One has to acknowledge the essential role played by the CPDP, which explicitly pushed the actors during public meetings to make constructive proposals. This injunction was not made online where the moderator did not endorse this role, hence limiting its deliberative dimension (Coleman and Götze, 2001).

To sum up, it appears that criteria to evaluate the quality of a deliberation can be quite useful for an analysis of how actors' strategies valorise their position by investing various spaces at their disposal in a dynamic way.

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Notes

1   For an exhaustive discussion on deliberation and its operationalisation, see Kies (2010), chap. 2 'Deliberative democracy and its operationalization', pp.39–68.

2   Difference democrats criticise the incapacity of the Habermassian model to consider forms of expression other than the rational, objective discourse promoted by the procedural model. For them, this model disqualifies not only certain communities with oral traditions which are directed towards the expression of self, such as storytelling or the narration of personal histories; it also disqualifies all those whose personal culture and education renders inapt for public expression and the presentation of a coherent, justified argument (Monnoyer-Smith, 2007). Thus, for Young, the promotion of a procedural model with a consensual vocation constitutes a form of repression (Young, 1999).

3   For a deeper discussion, see Dryzek and List (2003), Dryzek and Niemeyer (2006), Dryzek (2007).

4   However, according to Neblo (2007) and Bächtiger et al. (2010), these criticisms do not fundamentally invalidate the theory of deliberation. Firstly, because in his more recent work Habermas (1996) has pleaded for a softening of the criteria for the validity of rational expression, and secondly because his procedural approach to deliberation transfers the responsibility for ensuring that they are respected to the procedures themselves. For example, the judicial procedure takes sincerity in charge during debates with the penalisation of perjury and the equality criteria can be partially solved with the instauration of quotas.

5   We also believe that processes other than deliberation can produce normative agreements, but this lies outside the scope of this paper.

6   Thompson (2008, p.53) proposes a contradictory reading of this 'presupposed impact on the decision' on the deliberative process: "participants may act more strategically, show less tolerance for opponents, and take more extreme positions". Nevertheless, the studies carried out by Janssen and Kies (2005) demonstrate the influence of external impact factors on the quality of deliberative exchanges, in particular concerning the criteria of reciprocity, respect and reflexivity.

7   In terms of gender, social category, or membership of an ethnic community – Andersen and Hansen (2007).

8   We acknowledge the fact that this should be further discussed: see Bohman (2003) and Neblo (2007).

9   Boltanski and Thévenot use the terms 'cities of justification', as coherent sets of beliefs and values which bind actors and orientates their actions towards the common good. They distinguish seven 'orders of worth' which are not associated with particular social domains but coexist in the same social space.

10 High interactivity can be considered as an uncivil attitude as people are constantly interrupting each other (Bächtiger et al., 2010).

11 See http://www.debatpublic-traitement-dechets-ivry.org/

12 This is a standard procedure in France whenever the CNDP is commissioned to organise a debate. A CPDP is set up which appoints experts in the topic. This CPDP is then in charge of the whole process.

13 This study is part of a larger one which has analysed three different set-ups. Our coders have used the same coding system for the other arrangements. This explains why our coding system has not generated more than 5% differences between the coders. We therefore didn't use two coders for the offline coding.

14 We considered the Q&A interface as part of the deliberation as some questions had been asked during the public meetings and then inserted in the Q&A in order to obtain written and precise answers from the SYCTOM.

15 Answers on the debate itself were provided by the CPDP, the others by the SYCTOM.

16   In its final report, the CPDP counted 960 persons in the 9 public meetings. Nevertheless, a great majority of those participants were the same from one meeting to another. It is more feasible to count half this amount as a correct evaluation of offline participation. As for online visits, we only know that the CPDP website has received 30,000 visits in all.

17   Available on the CPDP website.

18   The questionnaire was handed out to public meeting participants, hence the high level of feedback.

19   One of the authors was an appointed member of the CPDP for this particular debate. A team of 5 researchers observed the debate and produced an observation notebook which was then given for comment to this author and other members of the CPDP. This way, we managed to cross our viewpoints and were able to produce contradictory explanations for some observed phenomena.

20   For example, a citizen refers to what happens in his building: "you [the SYCTOM] were referring to your role in displaying information about selective sorting. In my building and around, nobody knows anything even today" [Public meeting, 22 September 2009].

21   And for associations also. If the organised ones already have limited expertise on technical topics, some of them struggle to get accurate information. This has been the case in Ivry where *ad hoc* associations have needed time to gain expertise.

22   The Q&A interface is originally an online version of the old snail mail one. Its uses haven't evolved much and the online adaptation remains, in many respects, old fashioned in a web 2.0 digital environment.

23   This has given birth to a network of seven associations called 'the 3R group', out of 'Reduce, Reuse and Recycle' wastes. They now have their own website: http://collectif3r.blogspot.com/2011/04/le-collectif-3r-se-retire-de-la.html.