Deliberation and environmental decision

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A voluminous literature addresses the weaknesses of stated preference methods used to value non-market environmental goods and services, such as contingent valuation and choice experiment. Deliberative monetary valuation (DMV) has emerged as a prominent alternative to these methods. It combines deliberative institutions with preference elicitation. Despite an anchorage in an extensive philosophical literature on deliberative democracy, the theoretical foundations of DMV are underinvestigated. A noteworthy exception is Bartkowski and Lienhoop's effort to use Sen's philosophical views to elaborate such theoretical foundations. The present article pursues this theoretical effort by pointing out two issues left unanswered by the above contribution: the first issue is the precise role that deliberation is expected to play in DMV and, more broadly, in environmental decision-making (we term this the *aim of the deliberation* issue); the second issue is the role that economists and consultants involved in the proceedings of deliberation are supposed to play (we term this the *role of the analyst* issue). In order to clarify the kind of investigations that DMV or any alternative method should implement to be unequivocal on these issues, we use a formal framework introduced by Cailloux and Meinard, designed to capture the stance that an individual has on a given topic once she has performed a deliberation: her "deliberated judgment".

This framework allows to identify empirical questions that DMV do not tackle whereas answering these questions would be necessary to clarify the stance that DMV takes on the *aim of the deliberation* issue. When it comes to the *role of the analyst* issue, our framework advocates an active role of the practitioner in creating what we call models of Deliberated Judgments. This framework helps to characterize the normative stance adopted when implementing a deliberative approach.

1 Introduction

A voluminous literature now addresses the practical, methodological and philosophical weaknesses of the standard economic methods used to value non-market environmental goods and services [Meinard et al., 2016]. These standard approaches are stated preference methods such as contingent valuation and choice experiment, which are used to elicit individual willingness to pay (WTP) and then aggregate it through cost-benefit analysis. As summarized by Bartkowski and Lienhoop [2018], the most important criticisms addressed at these methods raise two political and ethical concerns. The first one is articulated in terms of the so-called consumer-citizen dichotomy, and refers to the idea that methods based on stated preferences would discourage respondents from acting as citizens, in particular by taking into account the social implications of their choices and statements [Soma and Vatn, 2014, Vatn, 2009]. The second political and ethical concern is that stated preferences methods hide the reasons underlying respondents' statements or choices, whereas from a political point of view understanding those reasons is, according to some authors like Sen [1995], perhaps even more relevant and important than the statements and choices themselves. A further concern is that respondants typically need time and thinking before they can form a meaningful answer about their willingness to pay for such subtle matters as environmental questions, but standard willingness to pay methods do not consider ways of helping respondants form their preferences.

A prominent alternative to these standard stated preference methods has emerged in the past 15 years: deliberative monetary valuation (DMV) [Spash, 2007, Bartkowski, 2017]. These methods combine deliberative institutions, such as focus groups, with preference elicitation or choice experiments. The emerging literature on these methods suggests that they have important strengths as compared with standard stated preference methods, at several levels. At a very practical level, it appears that respondents find it easier to

make sense of these methods, and are less likely to refuse to answer [Lienhoop and MacMillan, 2007, Szabó, 2011]. At a philosophical level, the very label of these methods and the deliberative institutions that they use refer to the notion of deliberative democracy, which has been extensively investigated since the 1970 and now largely dominates the political philosophical scene [Chappell, 2012].

Despite this anchorage in the philosophy of deliberative democracy, the theoretical foundations of DMV are arguably underinvestigated [Bartkowski, 2017, Bartkowski and Lienhoop, 2018, Bunse et al., 2015, Kenter et al., 2015]. A noteworthy exception is Bartkowski and Lienhoop [2018]'s pioneering effort to use Sen [2009]'s philosophical views to elaborate such theoretical foundations. Although Bartkowski and Lienhoop [2018] articulate convincing solutions to some important issues in the foundations of these methods, they also leave aside some prominent theoretical problems. Our aim in this article is to highlight the importance of some of these remaining problems. More specifically, we focus on two sets of questions.

- A first set of questions has to do with the precise role that deliberation is expected to play in DMV and, more broadly, in environmental decision-making: what precisely is deliberation expected to do, when can one consider that there has been *enough* deliberation, when can one consider that deliberation has done its job? Let us call this set of questions the *aim of the deliberation* issue.

- A second set of questions has to do with the role of economists and consultants involved in the proceedings of deliberation: are they here simply to observe what happens, are they supposed to actively interact with participants, what are the ethical stakes of their intervention? Let us call this set of questions the *role of the analyst* issue.

The scope of these questions is clearly larger than DMV, and even larger than *environmental* issues. However, the pioneering research on DMV and associated methological problems have been developed in the context of environmental issues. In the present article, we pursue this dynamics, while emphasizing that our arguments could be adapted to other contexts.

In section 2, we argue that the current literature does not provide convincing answers to the questions above. In section 3, we then take advantage of a formal framework introduced by Cailloux and Meinard [2018] to clarify the challenges raised by these two questions. In section 4, we ponder on their philosophical meaning.

2 Two blindspots of deliberative approaches

In this first part, we explain why we claim that the current literature on the theoretical foundations of DMV, which in effect is largely limited to Bartkowski and Lienhoop [2018]'s contribution, does not convincingly tackle the *aim of the deliberation* issue and the *role of the analyst* issue. To establish this point, we examine in this section how Bartkowski and Lienhoop [2018] use the existing literature (and we use for that purpose the very citations they refer to in their article), and we argue that their interpretation leave entirely open the *aim of the deliberation* issue and the *role of the analyst* issue.

Authors on DMV vary in the answer they give to a very basic question: should deliberation give rise to a consensus?

Some authors such as Vatn [2009] claim that the point of exchanges of arguments and interactions during deliberation is to reach a mutual understanding of the environmental problem that participants face and to identify a common solution to this problem. This vision of the point of deliberation is endorsed by versions of DMV where the goal is to reach a consensus among all the participants in the form of a single social WTP [Orchard-Webb et al., 2016].

The idea underlying the first kind of approach, according to which deliberation is conducive to consensus, is often presented as a basic tenet of deliberative democracy theory [Wilson and Howarth, 2002]. However, this idea is challenged by two important objections. The first one is that there can exist deep moral disagreements [Dryzek, 2013] between some people or groups, and it might prove neither possible nor even desirable to heal such disagreements. The second one is that "unanimity, even if sincere, could easily be spurious in the sense of deriving from conformity rather than from rational conviction" [Elster, 1983], and could thereby reflect exclusion and power dynamics [Völker and Lienhoop, 2016, Vargas et al., 2016, 2017] rather than a normatively meaningful convergence of views.

Bartkowski and Lienhoop contrast this consensus tenet with the notion of a "plurality of impartial reasons" most prominently championed by Sen [2009], in part in an attempt to overcome the above problems of undesirable or spurious consensus. This stance leads Bartkowski and Lienhoop to defend an approach to DMV where consensus is neither required nor expected.

Such an approach might seem more open-minded than the doctrine that deliberation unavoidably generates consensus. However, it evades rather than answering the question: when can one consider that there has been *enough deliberation?* In a vision in which there is consensus if and only if there is enough deliberation, observing consensus, or the lack thereof, permits to determine whether there has been enough deliberation of the right sort. As

soon as one acknowledges that consensus can also be generated by brute force and that deliberation can leave room to dissensus, observing a consensus loses its relevance. How, then, can one assess the deliberative credentials of a given DMV? Bartkowski and Lienhoop neither raise nor answer this question.

Bartkowski and Lienhoop notice that, in an approach such as theirs, an aggregation mechanism is needed *after* the deliberative step. However, Bartkowski and Lienhoop do not properly discuss the aggregation issue: they highlight the usefulness of additive aggregation of individual WTP, "for lack of better alternatives", but do not investigate if and how using this aggregation rule could possibly solve the problem (a possible line of argument, which they do not develop, could be to argue that disagreeing people could all agree that their disagreements should be solved thanks to an additive aggregation; but this argument would require further development).

We therefore argue that there is a need to articulate much more clearly what the precise role of deliberation is supposed to be in DMV: this is the *aim of the deliberation* issue.

This first blindspot of the DMV literature is associated with a second one. The literature on deliberative democracy, and especially the writings of its founding fathers such as Rawls [2005] and Habermas [1992], is largely devoted to an investigation of the *status* that philosophers are assumed to enjoy when they state the tenets of moral or political theories [Meinard, 2014]. By contrast, the literature on DMV appears strickingly silent about the status of economists and consultants involved in the proceedings of deliberation as part of DMV, as if they were transparent and neutral observers. This stands in stark contrast, not only with the philosophical literature on deliberation, but also with some important contributions to the literature on decision analysis methodology and practice, emphasizing the importance of decision support interactions that consist, for the analyst, in ensuring that the aided individuals understand and accept the reasoning on which decision support is based. This is what we term the *role of the analyst* issue.

These two blindspots set the agenda for our work in the remainder of this article. In the next section, we start by presenting a formal framework, which is a simplified version of a framework developed by Cailloux and Meinard [2018], and we explain how this framework allows to articulate the *aim of the deliberation* and the *role of the analyst* issues more clearly and transparently.

3 A formal framework

Let us start by spelling out what a formal framework should capture, in order to be useful for our purposes. We want to carve out a formal representation of the stance that an individual has on a given issue once he has performed a deliberation, where "deliberation" is understood in a precise way spelled out here below. Following Cailloux and Meinard [2018], let us call this the individual's DJ. This reference to deliberation captures, in our view, two central ideas.

The first idea is that DJs are the result of a careful examination of arguments and counter-arguments: through deliberation, the individual gathers new information, he learns about the viewpoints of other people, he takes the time to think about all these elements, which are all arguments for or against this or that stance. This idea echoes the approach to the notion of rationality developed most prominently by Habermas [1981]. In his approach, actions, attitudes or utterances can be termed "rational" so long as the actor performing or having them can account for them, explain them and use arguments and counter-arguments to withstand criticisms that other people could raise against them. Variants of this vision of rationality play a key role in other prominent philosophical frameworks, such as Scanlon's [2000] and Sen's [2009]. (Using Sen's vocabulary, Bartkowski and Lienhoop talk about "reasonableness" to stress the interpersonal aspect of this idea. This choice of vocabulary can create confusions, because the term "reasonable" is more classically associated with Rawls [2005], who understands this term in a different sense.) For simplicity's sake, we will simply talk about "rationality" to refer to this first idea: the DJ of an individual is a judgment that considers all relevant arguments.

The second idea is that DJs are nevertheless the individual's own judgments, in the sense that they do not reflect the application of any exogenous criterion. This second idea will be nicknamed "anti-paternalism" in what follows.

We develop these ideas here in a very simplified form, and refer to the companion article [Cailloux and Meinard, 2018] for a more in-depth presentation and formal definitions.

Let us assume that a decision-maker is given – call her i – together with a topic T, about which i wants to make up her mind. Let us then define S as a set that contains all the arguments that one can make use of when trying to make up one's mind about T. Elaborate typologies of the kinds of arguments involved in environmental deliberations have been developed in the literature, for example by Chateauraynaud [2007]. By using here a very abstract notion of argument, we aim to encompass all the diversity included in such typologies.

Using these notions, we want to define i's stance towards the topic once a deliberation has allowed her to ponder all the arguments possibly relevant to the situation. Thus, we want to study changes of mind of i (or the lack thereof).

This is done by defining three relations, that we assume are partially observable. We say that an argument s supports a proposition $t \in T$ when i declares that s is an argument in favor of the proposition. We say that an argument s *sometimes trumps* another argument s' when i sometimes declares, upon seeing s, that in her current state of mind, s' is not a valid argument for some of the propositions it claims to support or some of the propositions it claims to trump. We use the word "sometimes" because i may change her mind during the process of being confronted to various arguments: she might initially, for example, state that s does not trump s', but then, after having seen a third argument which lets her better understand the content of s, declare that s trumps s'. Finally, we say that an argument s sometimes does not trump another argument s' when i sometimes declares, upon seeing s, that in her current state of mind, s' is a valid argument for all the propositions it claims to support, and a valid argument against all the propositions it claims to trump. (Thus, in the previous example, it would hold that s sometimes trumps s' and s sometimes does not trump s'.)

These relations permit to define the DJ of i: it consists of all and only the propositions that are supported by at least one argument s that is never trumped by any other argument (thus, an argument s such that it never holds that s' sometimes trumps s, for any s' in S). Those propositions are called acceptable. This definition echoes Rawls's [2005] emphasis on the requirement of *acceptability* by reasonable citizens.

We repeat here (with minor modifications) a remark from the companion article defining these notions, as it links these definitions to the literature in philosophy and rhetoric.

Remark 1 Notice also that, according to our definition, it is possible for a proposition t to be acceptable and for not-t, or more generally for any proposition t' in logical contradiction with t or having empirical incompatibilities with t, to be acceptable too; depending on i's declarations. To our best knowledge, the philosophical literature elaborating on Rawls' approach to reasonableness and acceptability did not investigate this point, despite its being a natural implication of the notion of acceptability. This means that the notion of acceptability does not exclude the possibility that, on due reflexion, i might admit that both t and its opposite are acceptable in some cases, because in these specific cases it is possible to construct convincing arguments *in utramque*

partem (to use the vocabulary of Humanist *ars rhetorica* [Skinner, 1996]), or because i does not see significant differences between t and $\neg t$ (think about the story of Buridan's ass). □

This series of definitions determines precisely when exposure to arguments is enough to consider that someone's stance has been formed and informed by deliberation. This is in our view a *sine qua non* condition to be able to spell out clearly an answer to the question raised by the first blindspot of the current literature on DMV: when can we admit that we have reached deliberated stances?

Moreover, tackling the two blindspots of deliberative approaches identified previously would require explicitly thinking a procedure to be performed by an analyst to capture deliberated stances. Our formal framework is useful to outline the first steps of such an endeavour. More precisely, it allows to test *models* of DJs by confronting them to the declarations of i.

We assume that the analyst has come up with a model of the DJ of i (given a topic T and a set of arguments S), defined as follows. A model is constituted, first, by postulated supports, indicating which propositions the model considers are in the DJ of i, and indicating the arguments that the model considers will be accepted by i as indeed supporting those propositions. The second ingredient of a model is an argumentation strategy: it produces counter-arguments against arguments from S that argue against the model's claims. We do not investigate here how an analyst might elaborate such a model in practice.

Example 1 Consider $T = \{t_1, t_2\}$, where t_1 is the proposition "I should eat all the cake" and t_2 is "I should share half the cake with my flatmate". The set of arguments $S = \{s_1, s_2, s_3, s_4, s_5\}$, representing arguments in favor (s_1, s_3, s_5) and against (s_2, s_4) eating all the cake. The model claims that i's DJ contains only t_1. It uses the argument s_1 to support t. If attacked with argument s_2, the model's argumentation strategy consists in playing the argument s_3 against s_2. The argumentation strategy does not play a response to s_4. □

The goal of a model is to capture the DJ of i. Accordingly, we say that a model is *valid* if i's DJ equals the one postulated by the model.

We have so far given no operational way of testing the claims of a model: the DJ of i can't be queried directly, as it is potentially not even known by i himself. Testing validity is done thanks to, first, defining an *operational validity* criterion, which, given a model, permits to validate the model using observable data only; second, a series of conditions defined on the way i reasons; and third, a theorem which shows that when the conditions are satisfied, testing operational validity is enough to guarantee validity of a model.

A model is operationally valid if, whenever an argument threatens its claims (that is, when the argument sometimes trumps an argument played by the model), the model is able to produce a counter-argument, thanks to its argumentation strategy, that indeed sometimes trumps the threatening argument; and when i agrees with the supports postulated by the model.

Example 2 (cont.) Assume that i declares that s_1 indeed supports t_1. Also, according to i's declaration, s_2 sometimes trumps s_1. In such a case, deciding about the operational validity of the model requires to test the answer from the model to s_2, that is, s_3. The model will be operationally valid (concerning its claim that t_1 belongs to i's DJ) if s_3 sometimes trumps s_2 and s_4 and s_5 sometimes do not trump s_1. □

At this stage, it is important to emphasize that, if an analyst wants to check whether the above operational validity criterion is satisfied, he does so by querying i about whether a given argument trumps another argument, which can, in some case, mean that he shows to i an argument that she had not thought about. The analyst therefore actively interacts with i, and possibly modifies i's perspective as he checks the operational validity criterion. This contributes to highlight the second blindspot of the current deliberative literature.

The three conditions of interest are *Justifiable unstability*; *Closed under reinstatement*; and *Boundedness*. *Justifiable unstability* mandates that the apparent unstabilities of appreciation of arguments as declared by i can be explained by other arguments playing a role in this judgment: when both s' sometimes trumps s and s' sometimes does not trump s, it holds that some argument s'' sometimes trumps s'. *Closed under reinstatement* mandates that whenever an argument s_3 always trumps another argument s_2, itself sometimes trumping a third argument s_1, then some argument s exists in S that plays a similar argumentative role as s_1 (trumping all the arguments that s_1 trumps and supporting everything that s_1 supports), and that is not trumped by more arguments than s_1 is, and that is never trumped by s_2. The idea is that s would adopt the same argumentation than s_1 but also incorporate the reasoning of s_3, thereby preventing the attack put forward by s_2. Finally, *Boundedness* requires that the sometimes trump relation be of bounded length (including, acyclic) and width.

It is proven in the companion article that when these three conditions are met, there exists an operationally valid model, and any operationally valid model is valid. This theorem provides an operational way of testing a model's claims, and thus, checking whether someone's DJ has been captured correctly, in our sense.

Example 3 (cont.) Let us illustrate the way the conditions permit to obtain validity from operational validity in our toy example. Operational validity only checks that s_4 sometimes does not trump s_1, whereas for t_1 to be effectively in i's DJ, we need that s_1 be decisive, thus, that no argument ever trumps it. But, when Justifiable unstability is met, we know that, if s_4 is not itself trumped, then s_4 either always trumps, or s_4 never trumps. Because we know that s_4 sometimes does not trump, we conclude that it never trumps. Similarly, we can deduce, assuming that no argument ever trumps s_3, that s_3 always trumps s_2. Adding the observation that s_2 sometimes trumps s_1, we can apply Closed under reinstatement, and deduce the existence of an argument that also supports t_1 but that is not trumped by any more arguments than s_1 (thus, in particular, never trumped by s_4 or s_5), and also not trumped by s_2. This is the decisive argument that we look for. (This reasoning holds only under condition that s_3 and s_4 are not in turn trumped by some arguments; if they are, a more complex reasoning is required, which will involve using Closed under reinstatement repeatedly as needed to "reduce" the chains of arguments trumping each other, together with Boundedness which ensures that this process will end.) □

The strength of this theorem is that it allows to say something about i's DJ despite the fact that directly identifying i's DJ is hopeless. But this strength has a price: it holds only if the above conditions are met. Therefore, in order to understand the true meaning of this theorem, and thereby to understand how likely it is that one will ever be able to correctly identify i's DJ, it is pivotal to ponder on the meaning of these conditions.

A first thing to notice in this respect is that the conditions above are quite heroic. One cannot realistically expect that real-life decision situations will fulfill these conditions. Fortunately, it is possible to weaken these conditions subtantially, by distinguishing S from the restricted set of arguments with which the analyst works in practice. This trick allows to define conditions whose meaning is very similar to the one of the simple conditions spelled out here, but which are more realistic because they refer to a restricted set of arguments. This task however involves quite a lot of technical subtelties. We refer to Cailloux and Meinard [2018] for a complete exposition. For our purposes here, it will not be necessary to delve into these technicalities. Indeed, because the weaker and simpler conditions have very similar meanings, we can content ourselves with a discussion of the simple conditions. This will provide all we need for the purpose of our methodological investigation into the theoretical foundations of DMV and deliberative approaches.

In general terms, our conditions can be interpreted in three different ways:

i as rationality requirements capturing minimal properties concerning arguments and the way *i* reasons,

ii as empirical hypotheses,

iii as rules governing the decision support process (rules that *i* can commit to abide by, or can consider to be well-founded safeguards for the proper unfolding of the process).

Some of the conditions of our theorem are arguably more congenial to a given interpretation. We do not want, here, to take a rigid stance on which interpretation or mix of interpretations should be preferred. Our point is rather to stress that, whatever the chosen interpretation, it has implications for analysts implementing deliberation and DMV in practice. If the conditions are understood as rationality requirements (*i*), analysts have to be able to entrench their justifiability. This might be possible, at least in some cases, for some of these conditions. If the conditions are understood as empirical hypotheses, then analysts have to be able to empirically test them, which raises difficulties falling beyond the scope of the present article. Lastly, if they are understood as rules (*iii*), then, even more than through the process of operational validity checking, the analyst is engaged in an active interaction with and modification of the decision process, that it should be able to account for and justify.

4 Meaning and perspectives

Before coming back to deliberation and DMV, it is useful to take a broader view to notice that the two notions of rationality and anti-paternalism, whose formalization provides the basis for our framework, play an important role in contemporary normative philosophy. Indeed, the search for a compromise, an equilibrium or a satisfactory articulation between these two requirements can be seen as a key thread running through contemporary political philosophy.

A case in point is Rawls's notion of a "reflective equilibrium". Following Goodman [1983], Rawls [1999, p.18] used "reflective equilibrium" to refer to a "process of mutual adjustment of principles and considered judgments". This formulation highlights that, in Rawls's *Theory of Justice*, a prominent role attributed to this concept was to do justice both to people's moral intuitions and to the need to systematize visions of justice. Rawls thereby granted a prominent importance to people's own judgments (both as to how specific

cases should be adjudicated and as to whether a given general principle is acceptable), which is what we termed "anti-paternalism". As for the reference to principles, and the idea that the judgments to be taken into account are the ones that can be termed "considered", they echo our rationality requirement, if one admits that judgments are "considered" when they are buttressed on a careful analysis of arguments and counterarguments, and that principles systematizing considered judgments provide arguments in favor of these judgments. Rawls's "reflective equilibrium" hence embodies the two ideas forming the core of our concept of DJ. The credibility of this interpretation is reinforced by the fact that Rawls's [2005] later work grants an increasing importance to the notion of "due reflection" — a notion that does not refer to principles and is more general than the one of "reflective equilibrium".

This broader philosophical perspective also usefully points another important debate. A prominent aspect of the concept of reflective equilibrium that our reasoning has so far set aside is its purported interpersonal dimension. In *A Theory of Justice*, the reflective equilibrium is not presented as the result of the endeavor of an insulated individual, but is rather defined from the very beginning in collective terms. Similarly, when Rawls makes use of the concept in *Political Liberalism*, he presents it as a "device of representation" that citizens can use to calibrate their public discussions. Like many other key concepts of the rawlsian framework, the one of reflective equilibrium is hence systematically presented by Rawls in pluri-individual settings — another notorious example being the "parties" choosing the principles of justice, which are unequivocally presented as a collective. At first sight one might object to our approach that it lacks such an interpersonal dimension. If true, this would be a worrying weakness, especially given that some authors such as Vatn [2009] argue that one of the distinctive strengths of deliberative approaches is that they lead people to reason according to "We-rationality", as opposed to "I-rationality". It is therefore important to stress how the interpersonal dimension comes into play in our approach, and to contrast it with how it comes into play in some prominent philosophical approaches.

Rawls's claim to integrate an interpersonal dimension has been fiercely criticized in the literature. In particular, Habermas [1999] famously argued that Rawls's approach involved a preemption, by the philosopher, of issues that have their proper place in public debates among citizens. Seen through these lenses, the proximity between our framework and Rawls's theory might seem to reinforce the impression that our framework lacks this dimension.

Habermas's [1983] attempt at overcoming this problem is of particular significance from our point of view. In his theory, the content of the theory of justice should not be seen as the result of an explicit deliberation or reflexion,

but are rather the result of a transcendental deduction (though of a weaker sort that the Kantian one) — that is, they are demonstrated to be conditions of possibility of all sorts of interactions mediated by communication in a society. As opposed to these so-called "moral" tenets, a given "ethical" notion can be consensually accepted in a given society or group, but can become a bone of contention when various groups meet or merge. Thus, in this approach, there can exist a dissensus between various individuals in the society on many issues. But when it comes to the subject matter of moral theory, any dissensus is bound to be ephemeral, because the very process of communication through which people try to settle their disagreement presupposes an implicit acceptance of the tenets that moral theory aims to capture.

Our frameworks shares with this reasoning of Habermas's the idea that it is important to distinguish different kinds of issues about which people can agree or disagree: disagreements are not necessarily fatal to deliberation, but disagreements on *some fondamental issues*, pertaining to the role of deliberation, are fatal. Habermas's purported solution through a transcendantal deduction has itself been criticized [Heath, 2001]. In particular, it is not self-evident that there is such a thing as a determinate set of conditions of possibility common to all sorts of interactions mediated by communication in a society. Habermas's theory hence appears to be plagued by the same problem that he denonced in Rawls's theory: both wanted to prove that consensus will occur on certain issues, but they both collapsed in "theoretical preemption". Rawls only provided conceptual reasons to believe that the "considered judgments" of various individuals in a society should converge towards an "overlapping consensus", and these concepual reasons fail to win over everyone, even among philosophers largely inspired by Rawls [Estlund, 1998, 2009]. Similarly Habermas's theory is weakened by the fact that its fixed point (the content of moral theory, the so-called "U" and "D" tenets [Habermas, 1983]) is a purely conceptual finding that happens to arouse conceptual criticisms.

Our approach ventures an alternative solution to this problem. We have to face the fact that, in situations in which various people diverge in their considered judgments, collective deliberation and decision-making unavoidably face issues of aggregation of diverging attitudes. One cannot simply take this idea as a mandate to accept the divergence of preference and additively aggregate them, as Bartkowski and Lienhoop suggest, because the relevance of such aggregation must in turn be justified. There is therefore a crucial need to empirically inquire whether such problems occur, or can occur, and if so in which conditions. Indeed, in such conditions, the relevance of deliberative approaches is questionable. Like any method, DMV and other deliberative methods have a potentially restricted domain of application, and any appli-

cation of these methods should therefore start by checking if it indeed falls in its domain of application. For such a verification, an empirical approach is needed. Both Rawls, Habermas, Sen and the DMV literature as a whole lack such an approach. To put it otherwise, a precise definition of the DJ, together with empirical tests such as the one proposed here, open an avenue of research aiming to detect which protocols of deliberation better achieve the goal of capturing the participants' DJ. Though the concrete details of such empirical studies fall beyond the scope of the present article, our framework spelled out above provides a backbone for such an approach.

That said, to conclude, we have to emphasize that, despite the promises offered by our framework, this is no magical tool. In particular, we do not claim that it overcomes Hume's law by providing the means to deduce ought from is. As repeatedly emphazised, our approach is anchored in two unmistakably normative tenets: rationality and anti-paternalism. Our reasoning in section 4 was devoted to show that these two tenets play a very fundamental role in contemporary normative philosophy, and can therefore in that very specific sense be considered minimal. But one could accordingly argue that the criticism that we address at Habermas also applies to our framework, one step deeper. This is certainly true. We accordingly do not claim that it solves all the philosophical difficulties of the theory of deliberative democracy, DMV and their fundations. We rather attempted to introduce an approach that allows to go deeper than the current literature in the direction of providing strong philosophical foundations to empirical applications of philosophies of deliberation, such as DMV.

Acknowledgements

References

B. Bartkowski. *Economic Valuation of Biodiversity: An Interdisciplinary Conceptual Perspective*. Routledge, 2017. doi:10.4324/9781315175911.

B. Bartkowski and N. Lienhoop. Beyond Rationality, Towards Reasonableness: Enriching the Theoretical Foundation of Deliberative Monetary Valuation. *Ecological Economics*, 143(Supplement C):97–104, Jan. 2018. ISSN 0921-8009. doi:10.1016/j.ecolecon.2017.07.015. URL http://www.sciencedirect.com/science/article/pii/S0921800916308163.

L. Bunse, O. Rendon, and S. Luque. What can deliberative approaches bring to the monetary valuation of ecosystem services? A literature review. *Ecosystem Services*, 14:88–97, Aug. 2015. ISSN 2212-0416. doi:10.1016/j.ecoser.2015.05.004. URL http://www.sciencedirect.com/science/article/pii/S2212041615300048.

O. Cailloux and Y. Meinard. A formal framework for deliberated judgment. *arXiv:1801.05644 [cs]*, Jan. 2018. URL http://arxiv.org/abs/1801.05644. To appear in Theory and Decision.

Z. Chappell. *Deliberative Democracy*. Palgrave, 2012. URL http://https://he.palgrave.com/page/detail/Deliberative-Democracy/?K=9780230252158.

F. Chateauraynaud. La contrainte argumentative. Les formes de l'argumentation entre cadres délibératifs et puissances d'expression politiques. *Revue européenne des sciences sociales. European Journal of Social Sciences*, (XLV-136):129–148, Feb. 2007. ISSN 0048-8046. doi:10.4000/ress.93. URL http://ress.revues.org/93.

J. S. Dryzek. The deliberative democrat's Idea of Justice. *European Journal of Political Theory*, 12(4):329–346, Oct. 2013. ISSN 1474-8851. doi:10.1177/1474885112466784. URL https://doi.org/10.1177/1474885112466784.

J. Elster. *Sour Grapes: Studies in the Subversion of Rationality*. June 1983. URL /core/books/sour-grapes/B14BD76FC83AB78E8CDF3151E2403355. DOI: 10.1017/CBO9781139171694.

D. Estlund. The Insularity of the Reasonable: Why Political Liberalism Must Admit the Truth. *Ethics*, 108(2):252–275, 1998. ISSN 0014-1704. doi:10.1086/233804. URL http://www.jstor.org/stable/10.1086/233804.

D. Estlund. *Democratic Authority: A Philosophical Framework*. Princeton University Press, 2009. URL http://press.princeton.edu/titles/8571.html.

N. Goodman. *Fact, Fiction, and Forecast*. Harvard University Press, 4th edition, 1983. URL http://www.hup.harvard.edu/catalog.php?isbn=9780674290716.

J. Habermas. *Theorie des kommunikativen Handelns: Band I: Handlungsrationalität und gesell. Rationalisierung Band II: Zur Kritik der funktionalistischen Vernunft von Jürgen Habermas - Suhrkamp Insel Bücher Buchdetail.* Suhrkamp, 1981. URL `http://www.suhrkamp.de/buecher/theorie_des_kommunikativen_handelns-juergen_habermas_28775.html`.

J. Habermas. *Moralbewußtsein und kommunikatives Handeln.* Suhrkamp, 1983. URL `http://www.suhrkamp.de/buecher/moralbewusstsein_und_kommunikatives_handeln-juergen_habermas_28022.html`.

J. Habermas. *Faktizität und Geltung: Beiträge zur Diskurstheorie des Rechts und des demokratischen Rechtsstaats.* Suhrkamp, 1992. URL `http://www.suhrkamp.de/buecher/faktizitaet_und_geltung-juergen_habermas_58126.html`.

J. Habermas. A Short Reply. *Ratio Juris*, 12(4):445–453, Dec. 1999. ISSN 1467-9337. doi:10.1111/1467-9337.00135. URL `http://onlinelibrary.wiley.com/doi/10.1111/1467-9337.00135/abstract`.

J. Heath. *Communicative action and rational choice.* Studies in contemporary German social thought. MIT Press, Cambridge, Mass, 2001. ISBN 978-0-262-08291-4.

J. O. Kenter, L. O'Brien, N. Hockley, N. Ravenscroft, I. Fazey, K. N. Irvine, M. S. Reed, M. Christie, E. Brady, R. Bryce, A. Church, N. Cooper, A. Davies, A. Evely, M. Everard, R. Fish, J. A. Fisher, N. Jobstvogt, C. Molloy, J. Orchard-Webb, S. Ranger, M. Ryan, V. Watson, and S. Williams. What are shared and social values of ecosystems? *Ecological Economics*, 111:86–99, Mar. 2015. ISSN 0921-8009. doi:10.1016/j.ecolecon.2015.01.006. URL `http://www.sciencedirect.com/science/article/pii/S0921800915000191`.

N. Lienhoop and D. C. MacMillan. Contingent Valuation: Comparing Participant Performance in Group-Based Approaches and Personal Interviews. *Environmental Values*, 16(2):209–232, May 2007. doi:10.3197/096327107780474500.

Y. Meinard. Du dépassement du welfarisme par le procéduralisme – une analyse conceptuelle. *Revue de philosophie économique*, 14(2):67–91, Mar. 2014. ISSN 1376-0971. doi:10.3917/rpec.142.0067. URL `https://www.cairn.info/revue-de-philosophie-economique-2013-2-page-67.htm`.

Y. Meinard, M. Dereniowska, and J.-S. Gharbi. The ethical stakes in monetary valuation methods for conservation purposes. *Biological Conservation*, 199(Supplement C):67–74, July 2016. ISSN 0006-3207. doi:10.1016/j.biocon.2016.04.030. URL http://www.sciencedirect.com/science/article/pii/S0006320716301677.

J. Orchard-Webb, J. O. Kenter, R. Bryce, and A. Church. Deliberative Democratic Monetary Valuation to implement the Ecosystem Approach. *Ecosystem Services*, 21(Part B):308–318, Oct. 2016. ISSN 2212-0416. doi:10.1016/j.ecoser.2016.09.005. URL http://www.sciencedirect.com/science/article/pii/S2212041616303278.

J. Rawls. *A Theory of Justice*. Harvard University Press, 1999. URL http://www.hup.harvard.edu/catalog.php?isbn=9780674000780.

J. Rawls. *Political Liberalism: Expanded Edition*. Columbia University Press, Mar. 2005. ISBN 978-0-231-52753-8.

T. M. Scanlon. *What We Owe to Each Other*. Harvard University Press, 2000. URL http://www.hup.harvard.edu/catalog.php?isbn=9780674004238.

A. Sen. Environmental Evaluation and Social Choice: Contingent Valuation and the Market Analogy*. *Japanese Economic Review*, 46(1):23–37, Mar. 1995. ISSN 1468-5876. doi:10.1111/j.1468-5876.1995.tb00003.x. URL http://onlinelibrary.wiley.com/doi/10.1111/j.1468-5876.1995.tb00003.x/abstract.

A. Sen. *The idea of justice*. Belknap Press of Harvard University Press, Cambridge, Mass, 2009. ISBN 978-0-674-03613-0. OCLC: ocn318421063.

Q. Skinner. *Reason and Rhetoric in the Philosophy of Hobbes*. Cambridge University Press, 1996. URL http://www.cambridge.org/fr/academic/subjects/politics-international-relations/history-ideas/reason-and-rhetoric-philosophy-hobbes?format=HB&isbn=9780521554367.

K. Soma and A. Vatn. Representing the common goods – Stakeholders vs. citizens. *Land Use Policy*, 41(Supplement C):325–333, Nov. 2014. ISSN 0264-8377. doi:10.1016/j.landusepol.2014.06.015. URL http://www.sciencedirect.com/science/article/pii/S0264837714001355.

C. L. Spash. Deliberative monetary valuation (DMV): Issues in combining economic and political processes to value environmental change.

Ecological Economics, 63(4):690–699, Sept. 2007. ISSN 0921-8009. doi:10.1016/j.ecolecon.2007.02.014. URL `http://www.sciencedirect.com/science/article/pii/S092180090700136X`.

Z. Szabó. Reducing protest responses by deliberative monetary valuation: Improving the validity of biodiversity valuation. *Ecological Economics*, 72(Supplement C):37–44, Dec. 2011. ISSN 0921-8009. doi:10.1016/j.ecolecon.2011.09.025. URL `http://www.sciencedirect.com/science/article/pii/S0921800911004010`.

A. Vargas, A. Y. Lo, N. Rohde, and M. Howes. Background inequality and differential participation in deliberative valuation: Lessons from small-group discussions on forest conservation in Colombia. *Ecological Economics*, 129(Supplement C):104–111, Sept. 2016. ISSN 0921-8009. doi:10.1016/j.ecolecon.2016.06.009. URL `http://www.sciencedirect.com/science/article/pii/S0921800915303840`.

A. Vargas, A. Lo, M. Howes, and N. Rohde. The Problem of Inclusion in Deliberative Environmental Valuation. *Environmental Values*, 26(2):157–176, Apr. 2017. doi:10.3197/096327117X14847335385472.

A. Vatn. An institutional analysis of methods for environmental appraisal. *Ecological Economics*, 68(8):2207–2215, June 2009. ISSN 0921-8009. doi:10.1016/j.ecolecon.2009.04.005. URL `http://www.sciencedirect.com/science/article/pii/S0921800909001323`.

M. Völker and N. Lienhoop. Exploring group dynamics in deliberative choice experiments. *Ecological Economics*, 123(Supplement C):57–67, Mar. 2016. ISSN 0921-8009. doi:10.1016/j.ecolecon.2016.01.006. URL `http://www.sciencedirect.com/science/article/pii/S0921800916000070`.

M. A. Wilson and R. B. Howarth. Discourse-based valuation of ecosystem services: establishing fair outcomes through group deliberation. *Ecological Economics*, 41(3):431–443, June 2002. ISSN 0921-8009. doi:10.1016/S0921-8009(02)00092-7. URL `http://www.sciencedirect.com/science/article/pii/S0921800902000927`.