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Published in:

Liber Amicorum Pascal Engel

2014

Document Version:

Publisher's PDF, also known as Version of record

[Link to publication](#)

Citation for published version (APA):

Hermerén, G., Brinck, I., Persson, J., & Sahlin, N.-E. (2014). Value uncertainty and value instability in decision-making. In J. Dutant, D. Fassio, & A. Meylan (Eds.), *Liber Amicorum Pascal Engel* (pp. 100-110). University of Geneva. <http://www.unige.ch/lettres/philosophy/publications/engel/liberamicorum>

Total number of authors:

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Value uncertainty and value instability in decision-making *

GÖRAN HERMERÉN, INGAR BRINCK, JOHANNES PERSSON AND NILS-ERIC SAHLIN

Abstract The purpose of this paper is to clarify the role of value uncertainty and value instability in decision-making that concerns morally controversial issues. Value uncertainty and value instability are distinguished from moral uncertainty, and several types of value uncertainty and value instability are defined and discussed. The relations between value uncertainty and value instability are explored, and value uncertainty is illustrated with examples drawn from the social sciences, medicine and everyday life. Several types of factor producing value uncertainty and/or value instability are then identified. They are grouped into three categories and discussed under the headings 'value framing', 'ambivalence' and 'lack of self-knowledge'. The paper then discusses the role of value uncertainty in decision-making. The concluding remarks summarize what has been achieved and what remains to be done in this area.

Keywords value uncertainty, value instability, decision-making, epistemic indeterminacy, ethics

*The authors wish to thank Paul A. Robinson for valuable help and constructive comments.

1. Introduction

In making decisions on ethically controversial issues it is useful to start with three questions —

1. What do we know?
2. What do we want?
3. What can we do?

— before trying to answer a crucial fourth:

- 4 What should we do?

Obviously, answers to the first three questions do not settle the fourth, but they provide evidence that needs to be taken into account. Moreover, the set of questions shows that there are interesting parallels between the problems raised by belief-issues and those arising from value-issues. Since Pascal Engel has highlighted the former in an original way in his research on beliefs and epistemic norms, we hope that this attempt to focus on the latter will be of interest to him.¹

The purpose of this paper is to clarify the role of value uncertainty and value instability in decision-making. When we have introduced definitions of value uncertainty and value instability, and having made some crucial distinctions, we will present a number of illustrative examples drawn from ordinary life, medicine and the social sciences.

As is well known, conclusions or decisions about morally controversial issues are based on premises of several kinds, and an understanding of value uncertainty, as well as of epistemic uncertainty and indeterminacy, is an important asset in the decision-maker. The analysis of these uncertainties will have important ramifications for questions about how to deal with the ethical issues raised by, among other things, new and emerging technologies. In our view, this approach involves a new starting point in ethical analysis.

We cannot take it for granted that all value uncertainty is based on – or is in some other way related to – epistemic uncertainty and indeterminacy. The possibility that two people can agree on all known facts but be genuinely uncertain about their goals and values must be taken seriously. Whereas goals

¹ See, for example, Jérôme Dokic and Pascal Engel, *Frank Ramsey: Truth and Success* (London: Routledge, 2006); Pascal Engel, "The disunity of reason", XVII Congresso Interamericano de Filosofia, Salvador Oct 2013; Nils-Eric Sahlin, *The Philosophy of F. P. Ramsey* (Cambridge: Cambridge University Press, 1990).

pull you in different directions, facts may push you around. Very early on in the discussion of this topic, Levi called attention to the important role of epistemic and value indeterminacy in decision-making.² We want to continue to explore these phenomena, and to relate them to earlier discussions of epistemic risk.³

The following questions will be discussed: (i) What does 'value uncertainty' mean? (ii) Does it come in different types? Do we, for example, have to make a clear distinction between value uncertainty and value instability? (iii) What factors contribute to, or help bring about, uncertainty? What causes instability? (iv) What role does value uncertainty play in decision-making?

The paper also makes a contribution to the phenomenology of moral conflict, on which there is a growing body of literature.⁴ Situations in which each alternative open to the agent "has a high moral cost" (Morris, p. 224) will naturally give rise to uncertainty. We claim that the experience of uncertainty – both epistemological and axiological – is an important aspect of moral engagement generally. In other words, the situation in which there is certainty about the alternative courses of action available, and the probability of their various outcomes, as well as about values, is a special case. Other possible combinations of epistemic (in)determinacy and value (un)certainty also need to be examined.

2. A tentative definition and some distinctions

We begin by proposing the following tentative definition. This pinpoints one type of value indeterminacy. We then seek to gauge whether, and to what extent, it fits the examples we subsequently present. Later, we will introduce another type of indeterminacy.

To say that a person, A, is uncertain at time, t, about which values should be the basis for a decision is to say that A has at t a set of val-

² Isaac Levi, *The Enterprise of Knowledge. An Essay on Knowledge, Credal Probability, and Chance* (Cambridge, Mass.: MIT Press, 1980); Isaac Levi, *The Covenant of Reason: Rationality and the Commitments of Thought* (Cambridge: Cambridge University Press, 1997).

³ See Nils-Eric Sahlin and Johannes Persson, "Epistemic risk: The significance of knowing what one does not know", in B. Brehmer and N.-E. Sahlin, eds., *Future Risks and Risk Management*, (Boston: Kluwer, 1994), pp. 37-62; Peter Gärdenfors and N-E Sahlin, "Unreliable probabilities, risk taking, and decision making", *Synthese*, Vol. 53 (1982): 361-386.

⁴ See e.g. Michael K. Morris, "Moral conflict and ordinary emotional experience", *The Journal of Value Inquiry*, Vol. 26 (1992): 223-257; and the literature he refers to.

ues $\langle a, b, c \rangle$ and *A* cannot decide at *t* (1) how *a, b, c*, are to be ranked and/or (2) what the value distances between *a, b, c* are.

The type-token distinction applies to values. It is one thing to discuss specific outcomes of preferences, where objects or events are ranked. It is quite another to discuss general types of value which, when used by people in specific situations to make decisions, yield different outcomes.

As to the latter case, consider *P*'s contemplation of abortion. Which value is most important to *P* in this situation? Justice or the right of women to decide for themselves? The latter, probably – at least in non-Catholic countries, probably the latter. Suppose instead that *P* is considering the allocation of resources in healthcare. Should the limited resources be spent on uterus transplantation or malaria? Which value is most important in this situation? Justice or the right of the stakeholders to decide for themselves? Probably the former. But there are bound to be murkier situations where there is uncertainty about what is to be preferred, and this uncertainty will be mirrored in differing value orderings with non-identical outcomes.

Clause (1) in the definition above, referring to doubts about how the values are to be ranked, is usually neglected, but it is very important. The reason is simply that many, if not most, values are recognized in all cultures, but at the same time cultures diverge over their relative importance.

The World Values Survey provides empirical data on differences in values, and on the ways in which values are ranked in different cultures, although it must be said that the values in this project are compared in very few dimensions. Interestingly, Sweden and Zimbabwe occupy very different positions on the world values map, which summarizes some of the findings of this project.⁵

Within Europe as well it is easy to find examples of values which are widely accepted but ranked differently: examples include animal health and welfare, the sanctity of unborn human life, the protection of privacy and integrity (and more generally the rights of individuals in the face of societal interests), and the place and role of women in society.⁶

The concept of value *uncertainty* describes cases where there are doubts about the two dimensions of evaluation we have identified (ranking, and the value distance) at a time. But even if these dimensions are settled at *t*, they may not remain so: the ranking, or the distances between the values, may

⁵ The World Values Survey, see <http://www.worldvaluessurvey.org>

⁶ Göran Hermerén, "European Values – and Others. Europe's Shared Values: Towards an Ever-closer Union?", *European Review*, Vol. 16. No. 3 (2008): 373-385.

change between t and a later time t' . Where this happens we propose to talk about value *instability*.

Value uncertainty and value instability Let us, then, distinguish the synchronic notion of value uncertainty from the diachronic notion of value instability. The latter arises where: (i) a person P is either certain or uncertain about his or her values at a given time t (P may, in other words, be in the grip either of value certainty or of value uncertainty); (ii) between t and a later time t' P changes his or her opinion about (1) the ranking of a, b, c and/or (2) the value distances between a, b, c ; and finally, (iii) when and how the values will change between t and t' is difficult for P to predict at t .

By eliminating the last clause (i.e. (iii)) about predictive difficulty, it is possible to obtain a simpler theoretical notion. Let us call this *simple value instability*. Where (iii) is included, we shall speak of *complex value instability*. It is the simple concept we have in mind when we refer to value instability without adding a qualifying adjective.

The difference between value uncertainty and value instability is a difference between absolute indeterminacy and underdetermination (as in 'not being fixed'). In the first case there is a genuine uncertainty about the ordering and distancing of the values of a sort that cannot be settled; in the second, the ordering and distance are stable at any given point in time, *but they are not determined/fixed*, and as a result of being underdetermined by the known facts they change from one time to another.

New experiences can help to create value instability, both simple and complex.

Value instability may occur in cases of both epistemic indeterminacy and determinacy. In the latter case we might be inclined to say that the decision-maker has changed his or her values. In the former, we would probably say the decision-maker does not know enough to know what he or she values. Changes of values over time – that is to say, value instability – can occur both ordinally and cardinally.

All combinations of value uncertainty and value instability are possible, and this suggests that value uncertainty and value instability are, in the sense given by this combinatorial potential, independent.

There are cases where value instability seems to presuppose value uncertainty. Whereas value uncertainty can occur both in the individual case and

in connection with a given value at large, generally and across contexts, value instability occurs only concerning values at large, or generally.

If a person is uncertain about the ordering and distancing of certain values at a given point in time, then, obviously, changes will be hard to predict. However, this difficulty is not philosophically interesting. Below we will argue that what matters is the kind of case in which value instability occurs in spite of a limited value certainty.

Now consider an example of what Thomas Magnell has called “collapsing goods”.⁷ His starting point is recent reports on antibiotic resistance, where we seem to be confronted with the choice between what is good in the short term for particular individuals and what may be good in a longer time perspective for the population at large. Antibiotic resistant bacteria may become a dangerous threat, but depending on the particular situation – the patient’s condition, the doctor’s relationship with the patient, and so forth – the doctor may be genuinely uncertain about how his or her values are to be ranked in a situation like this. The point is that this uncertainty need not signal uncertainty about the consequences of administering antibiotics.

The example can be developed to illustrate both value instability and value uncertainty. Suppose the values are clear in the sense that there is no value uncertainty in a particular scenario at a particular point in time, but that it is difficult to predict what the values will be at future times and in potentially developing scenarios. This is a case of value instability. In a situation (time, scenario) with uncertainty about values in the sense indicated by the first definition, by contrast, there is genuine value uncertainty.

Value instability concerns the comparison of values at different points of time. It can arise from many different factors, including events occurring during the decision-making process, and it is observable in everyday settings. For instance, suppose that you need to eat, take a shower, and be in time for a meeting. But it is not possible to do all these things. The situation can be complicated by difficulties predicting all manner of things – the mood of the chairman of the meeting if you are late, the traffic, your ability to work well at the meeting without breakfast, and so on. The wisdom of the decisions you make can also be influenced by misfortunes at home or while driving.

However, everyday life often involves a daily routine, and this means that changes over time in an agent’s ordering of a given set of values can often be predicted by others with a rather high degree of probability. This has a

⁷ Thomas Magnell, “Collapsing Goods in Medicine and the Value of Innovation”, *The Journal of Value Inquiry*, Vol. 40, (2006): 155-168.

bearing on some of the conceptions of value instability discussed above, and especially those involving (iii)* and (iii)**.

It may seem that value instability has limited importance because the implementation of values always requires adjustment to circumstance and the problems caused by value instability are therefore negligible. However, in many contexts value instability is a genuine problem. Decisions in economics and politics, at national and international levels, and the implementation of policies and provisions on healthcare, education and the environment, can all be complicated by such instability. In these arenas values are expected to remain relatively stable over time and across similar contexts. In fact, decision-making in politics relies on this expectation. Otherwise, it seems, there would not be any point in introducing policies and rules of conduct.

Consider another type of example, from everyday life: parenting. Mothers and fathers are expected to stick to the same values over time, so as not to confuse their children. They nevertheless sometimes neglect values they genuinely cherish. A bad day at work, a bad night's sleep, or a death in the family may lead the best of parents to apply a simpler strategy than the expected one to get some peace and quiet – to allow the children stay up and watch television too late, and eat too many sweets, or play computer games to see out the day. In hard times, the neglect of family values may become the rule rather than the exception, something that makes it difficult for the children to understand what the family's values really are, or what rules they are supposed to follow.

These examples show that value instability can damage long-term strategies for implementing values. We submit that the problems of value instability and uncertainty need, therefore, to be considered, particularly by regulators. Value instability is a nuisance, especially, for those making new decisions – decisions that are meant to be stable over time, of course – on regulations and policies designed to direct future behaviour. At least, this is the case when we focus on the values of individuals. For then uncertainties are likely to intensify the difficulties of collective decision-making connected with problems raised by the proportionality principle.⁸

Moral and value uncertainty Uncertainty about values of the sort defined above should be separated from uncertainty about which ethical principles or

⁸ Göran Hermerén, "Principle of Proportionality Revisited", *Medicine, Health Care and Philosophy*. Published on line Nov 1, 2011.

framework to apply (utilitarian, human rights, human dignity, virtue ethics, and so on). This other kind of uncertainty has been discussed extensively in the ethics literature in connection with copious concrete examples, among them abortion.⁹ Following Ted Lockhart, we shall refer to it as moral uncertainty.

The main difference between moral and value uncertainty seems to be this: values are not identical with normative theories, although the latter do promote certain values. A person who is not a utilitarian, or not a Kantian, or indeed somebody who has never heard of these theories, can certainly exhibit value uncertainty in the sense defined above. Thus, there can be value uncertainty without moral uncertainty, but usually not moral uncertainty without some degree of value uncertainty – although sometimes two moral philosophies can be used equally successfully to support a single moral recommendation on how to act.

It may be argued that the position of Lockhart, and the distinction above between value uncertainty and moral uncertainty, ignores particularism in ethics. Particularist positions have been suggested but also criticized by many during the last few decades, in this journal among other places.¹⁰ On a particularist position the differences between the two concepts will, at least, be less clear than is suggested above.

Some illustrations of value uncertainty The definitions of value uncertainty and value instability provided above can be illustrated with concrete examples like these: what do you prefer – tea, coffee or wine? Always in that order? What if the distance between tea and coffee is minimal, whereas the distance between coffee and wine is huge? We have a case of value uncertainty if the preferences of the decision-maker are unclear in the sense either that the ordering of the outcomes is uncertain, unclear or imprecise, and/or that the value distances between them are indeterminate or fluctuating.

Again, consider the following example. A particular Mac is twice as good as a PC, but the Mac is three times the price of a PC. Is the difference in quality worth the difference in price (quantity)? How is this to be analysed? The issue can be understood as an example of value uncertainty. The problem is that the

⁹ See Ted Lockhart, *Moral Uncertainty* (New York: Oxford University Press), 2000.

¹⁰ For instance, Jörg Schroth, "Particularism and Universalizability", *The Journal of Value Inquiry*, Vol. 37, No. 4 (2003): pp. 455-461; Maike Albertzart, "Missing the Target: Jonathan Dancy's Conception of a Principled Ethics", *The Journal of Value Inquiry*, Vol. 45, No. 1, (2011): 49-58.

decision maker is weighing up a number of aspects which are very difficult to compare in a non-arbitrary way.

The tentative umbrella definitions proposed above have to be tested against further examples. They may have to be refined later. However, the examples suggest that both value uncertainty and value instability play a significant role in decision-making, that there are several sub-varieties of the two phenomena, and that these are capable of being combined in various ways.

In what follows, we propose to focus on value uncertainty.

3. Examples

In this section examples will be presented and then used to illustrate various ways in which value uncertainty and instability are relevant in decision-making. We have tried to select examples of contrasting types which raise interesting issues, exemplifying (ideally different) types of value uncertainty and value instability.

Example 1 Closing down the nuclear power plant Controversies over the closing down or building of a new nuclear power plant may exhibit value uncertainty within and between stakeholders and decision-makers. The values at stake here include trust, safety, efficiency, industrial competitiveness, cheap energy, and so on. These can be interpreted in more ways than one and ranked differently, in different scenarios, at a single point in time. The result is value uncertainty.

The example illustrates a common feature of value uncertainty. Often it is taken for granted that the values are well-defined, and that uncertainty concerns how the values are to be ranked or the distance between the values. In this example the terms referring to the key values are all vague, and different interpretations yielding different results are possible. This means that uncertainty also concerns how the key terms are to be interpreted and made more precise – in other words, which particular notions of trust, efficiency, and so forth are to be assessed and ranked. This vagueness introduces new types of value uncertainty.

Example 2 Neonatal care In neonatal intensive care controversies over how to treat prematurely born infants are not uncommon. How active should the

treatment be? When should maximal intensive care resources be used and when not? Such controversies illustrate conflicts between well-established values and uncertainties as to how these conflicts should be resolved. The values at stake include saving life, minimizing harm to the child, and optimizing the parents' quality of life. These are capable of being interpreted in more ways than one and ranked differently in various scenarios – what do patients, parents, the wider family, nurses and doctors believe and want? What relative weights should be given to the interests of these stakeholders? What role should societal interest in containing healthcare costs play?

Example 3 Social influence on individual behaviour Some types of value instability, illustrated by experiences from ordinary social life, involve friends and co-workers. In these cases, peers are very influential. Anyone desirous of acceptance by a certain group who wants to achieve as high a status as possible is likely to follow the norms of the group. Very probably, a hopeful friend of this sort will interpret values in line with the scenarios considered acceptable within the group. In the case of co-workers, similar mechanisms seem to be likely to be at work. This is bound to result in value instability, depending on the social influences impacting on the agent's choice of scenarios for each separate decision-procedure (at different times).

Example 4 The Swedish politician Consider, moreover, the following problem – one facing more than one Swedish politician today. In view of the historical connection between labour unions and the social democratic party in Sweden, Swedish social democratic politicians may have several utility functions in the back of their mind: to promote the interests of their party, to act in the interest of the labour unions, and to further their own political careers. These utility functions are not identical. They can also be made more precise. But how should they be ordered?

In different scenarios, this can be interpreted as an example of value uncertainty or as an example of value instability.

Example 5 The suffering child Finally, Anders Castor and Nils-Eric Sahlin ask us to imagine a three year-old child with high-risk neuroblastoma.¹¹ Her clinical care has followed the standard paediatric protocols: she has been given haematopoietic stem cell transplantation, for example – a treatment not without complications, and one that can involve considerable suffering for the patient. But not all children respond to stem cell treatment, and let us assume this is a case of recurring neuroblastoma. The question is whether to continue treatment or not. How should we decide? Which values, and whose values, should be decisive? In whose interest would it be to continue? To stop the treatment?

This last example will be used to illustrate some important factors contributing to value uncertainty. But interestingly enough, this uncertainty can be paired with value instability. That happens when the parents change their views and reverse earlier decisions

4. Important factors: an overview and classification

In this section we will identify factors tending to produce value uncertainty and instability, and we shall illustrate them using the example chosen above. A complete list of such factors cannot be given. In each particular situation, partly different factors can play a role. Many factors can also be combined. Three main types of factor are distinguishable:

- A. *Value framing*, highlighting the role of external factors in the situation at hand.
- B. *Ambivalence*, highlighting ambiguous features either of the case or of the situation itself.
- C. *Lack of self-knowledge*, highlighting internal factors, including psychological characteristics of the decision-makers.

Each of these factors can in their turn be divided into subcategories.

¹¹ Anders Castor and Nils-Eric Sahlin, "Mycket svåra beslut", in Johannes Persson and Nils-Eric Sahlin, eds., *Risk & Risici*, (Nora: Nya Doxa, 2008), pp. 232-248. See also Nils-Eric Sahlin, Johannes Persson, Niklas Vareman, "Unruhe und Ungewissheit – Stem Cells and Risks". in K. Hug and G. Hermerén, eds., *Translational Stem Cell Research: Issues Beyond the Debate on the Moral Status of the Embryo* (New York: Springer/Humana Press, 2010), pp. 421-429 and N-E Sahlin, "Kunskapsluckor och riskhantering", in Göran Stålbom och Birgitta Johansson, eds., *Människan inomhus: Perspektiv på vår tids inneliv*, (Stockholm: Formas 2003), pp. 307-26.

A. Value framing When decisions are made, and values and information about intentions and consequences are taken into account, this never takes place in a vacuum. There is always a context, a background, and several anticipated future scenarios, and these provide the frame of the decision. Depending on how this frame is specified, it may or may not generate value uncertainty and instability.

Let us return to the case of the child with high-risk neuroblastoma. Which values are decisive in this case? Uncertainty about this may reflect epistemic uncertainty, although it does not have to do so. What are the odds that a haematopoietic stem cell transplantation that failed to succeed the first time will work at the second, or the third, or fourth attempt? With the number of refractory episodes, the relevant probabilities become harder and harder, if not impossible, to estimate. As our epistemic status deteriorates, our preferences, desires and values become more and more uncertain, and this value uncertainty may induce value instability. What people see as the 'right' decision may change from day to day, and sometimes even from one hour to the next, although nothing in the situation, or in their information about the situation, has changed.

In this context it is the deterioration of our values that is of particular interest. With each refractory episode it becomes harder to frame the relevant values, both for the patients, the parents and the physicians. There is no familiar structure to rely on – no comforting, mundane fabric of values. Uncertainty about the value structure (the ranking of the values, and/or the distances between them) is a realistic possibility.

This example combines maximal epistemic and value uncertainty (the combinations will be discussed in more detail later). The following reflections on state-dependent preferences/values therefore seem apt. Mark Schervish and his colleagues have shown that all of the classical theories of decision-making have a problem with state-dependent utilities.¹² Theories using (horse) lotteries and prizes to derive probabilities cannot guarantee the existence of unique probabilities. The problem is that the utility of a prize is the utility of that prize *given* a particular state of nature. And even 'constant' prizes might have a different value in different states of nature, which means that the subject's preferences can be represented by far too many utility functions. (Underdetermination may play an important role here.) As a consequence there is no unique subjective probability distribution over states of nature. In the present

¹² Schervish, M., Seidenfeld J., and Kadane, T., "State-dependent utilities", *Journal of the American Statistical Association*, Vol. 85, No. 411 (1990): 840-7.

context, this may seem to be an unnecessary theoretical detour, a superfluous ornament, but it is not. The result tells us something important about the relation between values (and, indirectly, uncertain values) and partial beliefs (expressed as subjective probabilities).

Here we need to distinguish different kinds of situation. On the one hand, we have the ideal decision-maker, who is thoroughly rational and has complete information about all relevant aspects of the situation. On the other, we have various kinds of deviation from this ideal. In the latter cases, the actual situation of the decision-makers and stakeholders – the parents, the doctors, the child – may play a very important role. Do the parents have other children? How old are they? What are the chances that they can conceive another child? What is the previous experience of the doctors? What happens to be the social and political situation in the country where they live (economic recession, war or peace)? Such factors can have an impact on value certainty.

There are several subcategories of value framing. For instance, we can distinguish between value-loaded and selective descriptions. It is possible to be misled by value-laden words referring to values. If the terms used are positively value-loaded, a person may be more inclined to accept the values referred to than he or she would be if they were described less optimistically. Uncertainty can be created by exploiting, or not seeing through, this mechanism.

Certain cases can be interpreted as demonstrating either value uncertainty or value instability, depending on how they are understood. This makes them especially interesting. Consider, for instance, the slogan: 'Yes to Life'. Who would be against life? But those who embrace 'Yes to Life' may not always realize what it means for women's health and quality of life, or for the quality of life of prematurely born children with grave, multiple handicap, or for society as a whole.

This case can be interpreted as one in which the expression 'Yes to life' is simply vague. Those who assert it do not really know what they mean, or are saying, when they do so, with the result that the phrase has different meanings in different scenarios within the same context or at the same time. Analysing the value indicated by the phrase relative to distinct scenarios and a single time/context (one and the same evaluation process) is, it seems, a matter of conceptual clarification. This interpretation, then, represents the case as one of value uncertainty, as a case illustrating the way lack of clarity can give rise to value uncertainty.

However, it seems the case can equally well be interpreted as saying that the meaning of the phrase 'Yes to life' cannot be determined because no fact

of the matter tells us what it means to say yes to life, or how this might be settled. When this is the reason for interpreting the slogan differently in distinct contexts, and so making different decisions about the same issue, we have a case of value instability.

B. Ambivalence Returning again to the three year-old with high-risk neuroblastoma, the serious doubts that this type of situation triggers may lead to value ambivalence: “Are we prepared to put our child through all the suffering once again? Is death after all a better option?” Value uncertainty can trigger ambivalence, but it can also be triggered by it.

Within the phenomenon of ambivalence we can distinguish two kinds of case. In one something can be ‘viewed’ in more than one way: examples are Wittgenstein’s duck-rabbit and (in a rather different way) a jungle location where nothing grows which is regarded as an indication of divine intervention or the result of a chemical accident. The other kind of case is that of ambivalence experiences and insights.

In the first case ambivalence is related to aspect-seeing. In the second case, the experience can be interpreted in more than one way – for example, as the result of haste, or incompetence, or maliciousness. It is possible to realize something without experiencing it, and to experience something without realizing it, so these aspects may need to be separated.

It is not difficult to imagine that certain information given by test results in the case of the three year-old child with high-risk neuroblastoma could be ambiguous, or that the information provided by doctors can be put in different perspectives, making the picture they provide ambiguous in the Wittgensteinian duck-rabbit sense.

C. Lack of self-knowledge (and knowledge of others) Lack of self-knowledge can be exemplified in various ways. It raises questions about the extent to which decision-makers track their own mental states, can influence them (the so-called ‘weakness of the will’ problem), and can predict their own behaviour and preferences. Lack of self-knowledge may well deepen value uncertainty – something that is also illustrated by the case of the child with high-risk neuroblastoma. But insensitivity to the feelings of other people and lack of first-hand experience can also play an important role.

D. Insensitivity Insensitivity to the suffering of others can be due to limited personal experience. It may be attributable to selective description, however. It may be that when others' sufferings are described in one way, many people are inclined to order their values thus and so, but that when the sufferings are described differently that ordering comes to seem incorrect. Perhaps, when we do not see the face of the other, to use an expression made famous by Emmanuel Levinas, our imagination fails to show us the implications of the way in which we order our values.¹³

Limitations experience can also affect our appreciation of material features of a situation (e.g. economic, socio-cultural, and technological features). Ingar Brinck explains the negative influence of this lack of first-hand experience on decision-making in foreign aid, when ill-judged decisions are made as to how one country should contribute to the improvement of another's agriculture or environmental sustainability.¹⁴

Suppose you have not seen the suffering and dying people in Darfur: they are just abstract numbers and not quite real. At a general level, all humans are equal, but you know about the fate of these people only via brief notes in the media. Here the tension between abstract principles and lack of first-hand knowledge can help to create value uncertainty. Of course, this is different from having seen the suffering people without being moved to act: a person totally lacking in empathy could not care less.

What do I want to achieve? To avoid? How are my preferences ordered? An individual is not always able to see through his own motives and know what he really wants. 'Know thyself' said the Greeks, and this maxim is as valid today as it was then. Freudian defence mechanisms, active forgetfulness, or bad memory can distort a person's picture of what he or she desires.

Once again, the case of the child with high-risk neuroblastoma is illustrative. To what extent do the parents grasp their own deeper motivations? And what do the doctors know about their own values? The case raises issues of intersubjectivity and our knowledge of other minds. What do doctors know about the needs and wants of the parents? What do parents and doctors know about the preferences of the child? These issues cannot be discussed here, however. They deserve separate treatment.

¹³ For an analysis of different kinds of intersubjectivity, and the way these influence our capacity for nonverbal and verbal communication, see Ingar Brinck, "The role of intersubjectivity for the development of intentional communication." In J. Zlatev, T. Racine, C. Sinha, & E. Itkonen, eds., *The Shared Mind: Perspectives on Intersubjectivity* (Amsterdam: John Benjamins Publ. 2008).

¹⁴ Ingar Brinck, "Om riskkommunikation: kartor, klyftor och mål". In I. Brinck, S. Halldén, A.-S. Maurin, & J. Persson, eds., *Risk och det levande mänskliga*, (Nora: Nya Doxa, 2005), pp. 45-78.

What can be done to counter an inability to live in accordance with one's deeper wishes? Sören Halldén discusses what can be done in practice, using a stout man who wants to become slim as an example.¹⁵ Someone with this aim may turn to a psychotherapist for help, expecting to receive moral advice. But as a rule the psychotherapist will decline; his job is to help the person find himself. His task is to be, as Halldén puts it, "a midwife in the moral field". The name of Socrates comes to mind, as do the names of a number of psychologists in the Freudian tradition, like Erich Fromm and Karen Horney.

5. Utilities and value uncertainty: further analysis

Let us now move on and consider preferences, utilities and value uncertainty at the level of the individual. Suppose you prefer vegetarian pizza to beef-steak. But do you prefer fermented Baltic herring to pizza? Or do you prefer steak to herring? Are you indifferent? Do you prefer a completely new type of stem-cell transplantation based on iPS-cells to fermented Baltic herring?

The traditional theory of conjoint measurement assumes a weak ordering of our preferences, i.e. transitivity and totality. If our preferences are weakly ordered and fulfil some other axioms, such as cancellation, it is possible to prove that they can be represented by a utility (or value) function determined up to a positive affine transformation.

Totality means all options are comparable. However, it seems it would be hard to compare something we have not, or have almost never, experienced (how many times have you had fermented Baltic herring?) with something we experience every day, such as a cup of coffee or a mug of tea. Unclear preferences induce value uncertainty – and not in the trivial way implying that we only have utilities (values) determined up to an affine transformation, but in a more serious way: we cannot say whether A is preferred to B or the other way around.

When things are difficult to compare we might have to work with sets of preference orderings. But what do we do when we cannot compare the options? Can a cup of coffee be compared to a stem-cell transplantation? People tend to have very different intuitions here, depending on their circumstances. For parents with a child needing stem cell transplantation, the choice is simple; for others, the very idea that the options are capable of comparison may be alien.

¹⁵ Sören Halldén, *A Socratic Approach to Morality* (Lund: Library of Theoria, vol, 20, 1995), pp. 109 ff.

Is there any total ordering to be found? In this case we seem to have a form of value uncertainty induced, not by lack of experience, but by something slightly more fundamental.

Again, let us assume you prefer coffee to tea, but also prefer a bad red wine to castor oil or cicutoxin. Is the value difference between the first two options greater or less than that between the second two? Tea is almost as good as coffee. The distance between them is almost negligible. But how big is the value distance between bad red wine and castor oil? It depends on how bad the wine is and how keen we are to avoid nausea and emesis.

Are wine and cicutoxin really comparable? They are clearly located on very different scales and in very different contexts: there is quite a contrast between the choice to live or die and the choice to drink tea or coffee. Or we could clarify the situation by specifying the preferences in more detail: I prefer castor oil to red wine for lubrication, even if the wine is bad; but I prefer bad red wine to cicutoxin as a drink.

We can, in other words, feel uncertain about our preferences, but also about the value distances between them. And this second type of doubt too induces value instability. It has been argued that higher-order preferences reveal value distances. If it is better to prefer bad red wine to castor oil than to prefer coffee to tea, the value difference between the first two options is the greater one. This truism means that uncertain second-order preferences induce value instability – unstable value distances.

6. Value uncertainty in decision-making

In this last section we consider the role specifically of value uncertainty in decision-making. Clearly, in each particular case, when there is value uncertainty, we need to investigate the factors producing it – and see what could be done in practice to eliminate, reduce or circumvent it.

The impact of value uncertainty in the decision-process is also modulated by the assumed value of value certainty. Certainty about this value will simplify the process and enable traditional theories of rationality to be applied, which obviously may be a good thing. But the tacit assumption that value certainty is always intrinsically or instrumentally good is neither self-evidently correct nor without danger.

There are situations in which value uncertainty can improve the quality of the decision-making. It can help us avoid pitfalls or serious mistakes. To return to the examples given in Section 3 above, if there is value certainty in

controversies over the closing down of a nuclear power plant or the active treatment of prematurely born infants, serious mistakes can be made which will later be regretted by the stakeholders. In genuinely difficult situations, to proceed as if all stakeholders were certain about their values may be to present a false picture.

Let us pursue this. If the value uncertainty is due to a lack of familiarity with the outcomes of our choices, the obvious strategy is to carry out more research. But if it arises as a result of our being deceived by the nearness of certain outcomes, and because we are insufficiently sensitive to more distant ones (e.g. events in Africa), we may need to go to the relevant places, read books, study movies, and see for ourselves how and why people are starving and dying in camps. Again, if the value uncertainty is attributable to inconsistent value premises, the inconsistencies have to be made explicit. The agent will have to decide which values are more important.

7. Concluding Remarks

What have we achieved here, and what remains to be done? Two tentative definitions of value uncertainty and value instability have been introduced and tested against examples. Moral uncertainty has been contrasted with value uncertainty. Several types of uncertainty and instability have been distinguished. We have seen that various combinations of the types and versions are possible.

Further conceptual clarification is possible, but for the time being we do not see any need to introduce a set of partially overlapping definitions. For the purposes of the present paper the umbrella definitions proposed here seem to be sufficient.

Various factors which produce or modify value uncertainty and value instability have been highlighted and discussed in this paper. An improved understanding of such factors, and of the relations between them, could be important, even for those who have no wish to replace value instability and uncertainty with their opposites. Knowledge of such factors is essential if one is to get to grips with the situation of decision-making.

Where value *uncertainty* is encountered, what can be done? In Section 4 we recommended further research and more time for reflection. Ideally this ought to improve self-knowledge, identify ambivalence, and clarify the situation and the role of value framing. The prospects for a remedy in the case of value *instability* seem less obvious, since the problem appears to be struc-

turally connected with the decision-making situation and has an ontological basis.

It remains to be said only that we now look forward to research in several areas: the implications of the various definitions proposed here, empirical aspects of the characteristics of decision-makers, the role of value uncertainty and instability in actual decision-making, and the precise consequences of various normative positions.