

**EC Project:
The Landscape and Isobars of European Values in
Relation to Science and New Technology
(Value Isobars)**

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**Towards a pragmatically justified theory of
values for governance**

Work package 1

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1 Executive Summary

1.1 Values: Basic orientation, open to different interpretations and ensuing actions

A philosophical analysis of values contributes much to a (more) proper understanding of the normative and evaluative basis for European citizens as well as stakeholders with regard to science and technology (S&T) and its governance. *Values are reference points of evaluations which are rationally and emotionally binding, giving long-term orientation and motivation for action.* Values result from valuation processes and vice versa, hence they ‘originate’ in a dynamic dialectic. It is important not to confuse values with attitudes or preferences because in the above mentioned sense, values are more basic. At the same time, values do not directly lead to specific action-commanding norms and regulations. Individuals and social groups feel bound to their values. Acting in accordance with their values they behave in consonance with their own self-conception, in a way they want to see themselves. Values are therefore strong intrinsic motivators. In contrast, as norms have an obligatory character they do not presuppose an inner commitment: The addressees of a norm have to comply whether or not they like it. Therefore, one has to proceed carefully when translating a value into a norm. This means that values and also value governance open a dynamic, pluralistic as well as somewhat opaque and conflicting space of possible rules and norms for action.

1.2 Values and (normative) Ethics: Necessary relation, strategic differences

With regard to values in S&T, we advanced the hypothesis that in EC and its S&T governance the shift to concepts of enabling and values is accompanied by a side-lining of ‘ethics’ in a specific sense. Norm-providing ethics is conceived of – and at least in part falsely so – as a restrictive block and permanent trouble-maker. As scholarly ethics, amongst other things, is about analysing and criticising actions and institutions with regard to their moral rightness or goodness, its judgements can indeed restrict and limit the range of possible actions – but it can also open new perspectives and horizons. With regard to the specific understanding of ethics as an alleged ‘troublemaker’, the reference to values seems more promising. Against this background, it seemed very plausible that governance approaches refer to values rather than to ‘ethics’. Values make actions possible; one can relate to them without feeling an urgent need to do or leave anything specific. Ethics, on the contrary, might interfere with the help of norms that could regulate or limit various sectoral or policy-related interaction processes. However, also value-based governance cannot overcome or bypass the need to set up (ethical as well as soft and hard law) norms and regulations. But in a complex policy situation with reduced effectiveness of old hierarchical modes of governing, including the dimension of values allows to address citizens in a more appropriate way. Ultimately Europe will have to approach their citizens which have to – and want to – understand, support, endure and participate consciously and deliberately in the governance of S&T.

1.3 Toward a value-based governance: More than good governance

Preparing for a pragmatically justified theory of values, we have investigated the differences and relationship between concepts of “good governance” on the one hand and “value-informed governance” on the other. On the surface, both concepts might appear identical; instead, we argue that their existing normative differences should be considered in the context of S&T governance. The term “governance” is often used in a normative way as signalling a concern with “good governance”. The idea of good governance first evolved within the (value) context of the World Bank which wanted to develop principles that could determine the allocation of loans to developing countries and that had a strong anti-corruption bias. The genesis of good governance conceptions in the context of an international economic institution does not delegitimise the concept as such. The concept of “good governance” is loaded with multiple meanings, but most often it includes the ideas of i) “inclusive governance”, ii) “democratic governance” and iii) “public engagement”. The White Paper on European Governance, for example, explicitly affirms “good governance” by elaborating the *five principles* of openness, participation, accountability, effectiveness, coherence (EC Commission 2009: 8/9). It was agreed that norms such as openness or participation are central cornerstones for a more legitimate and just (“good”) governance. *While the concept of good governance is mainly concerned with norms that are meant to guide governance processes, it is unclear and merely implicit which values are included.*

This observation leads to two main further questions to be addressed in the processes of S&T governance: 1) Which values guide good governance? Here, it was asked which values form the basis of normative statements about how good governance should be. 2) Whose values are meant to guide governance? *Value-informed governance (i.) makes explicit underlying values of good governance principles, whose values formed their basis and the processes by which they became guiding principles and (ii.) offers solutions that open, transparent and more inclusive governance not only allows more social actors to express their values but also ensures that those values can be translated into policy programs.* In contrast to the broad concept of “good governance”, the concept of “value-informed governance” stresses the point of sensitivity in regard to the values of participants in governance processes. Ensuring that the values of all stakeholders and other citizens (organised and unorganised) might be voiced and heard within governance process does not say anything about how to deal with values, let alone value conflicts. It even might appear that good governance leads to more value dissent as more stakeholders are involved.

Consequently, this results in a dual focus with regard to S&T. What are the values that guide good governance of S&T? S&T is a highly self-regulating social system. However, politics and business play an important role in shaping S&T. Both spheres interact. A value-based governance of S&T opens up dialogue on underlying values. At the same time, S&T take part in solving social problems and are therefore players in governance processes. While traditionally the sciences have been assigned with the role of contributing a standing knowledge to deal with concrete problems, this (self-) perception changed. Fixed all-cure solutions failed in concrete social contexts because governance processes overlooked value dimensions of people affected by political and technical solutions. In value-informed governance, S&T does not contribute to societal requests by providing fixed knowledge but by developing specific solutions to problems with a specific time-space dimension. This requires an understanding of values involved and suggestions how to deal with value conflicts

in two respects: conflicting different values as well as conflicting understanding of (seemingly) the same value. In that sense, value-based governance needs, among others, conceptual and philosophical clarification of values, a careful and open value dialogue as well as further extensive deliberation on the ethical norms and decisions eventually to be made in S&T governance.

2 Introduction

2.1 General considerations on the context and the project

It can be safely stated that values are recognized as important drivers of people's attitudes towards science and technology (S&T). For instance, in 2005 a Report of the *Science Policy Research Group* to the *European Commission* expressed “that values are one of the key and unexplored parameters responsible for changing attitudes on science and technology. Values provide common identity and visions, they stimulate positive or negative attitudes, and their conflict is experienced as major obstacle to action.” (CEC 2005, 5) What Europeans hope or fear from S&T and how they perceive scientific and technological innovations depend on their basic values. On the one hand, there are fears that innovations could endanger values such as autonomy or privacy, while on the other hand there are hopes that science and technologies would contribute to realise values such as security or health. More often than not, these different valuations do not result in simple pro-contra camps, since individuals and groups themselves might hold different, sometimes conflicting values at the same time. As the acceptance of S&T strongly depends on value-based attitudes, values need to be addressed in European policy making and should be integrated into a deliberative democratic culture. The Eurobarometer report *Social Values, Science and Technology* concluded that the “challenge of science and technology decision-makers is to pursue the pace of developments made while accounting for the ethical aspects which Europeans feel so strongly attached to” (2005, 99). As social values play an important role in people’s view of S&T, European policy-makers, e.g. the European Commission, consider it necessary to bring S&T policies more in line with the values of European citizens in order to increase public acceptance of policy decisions.

Presently, in European governance of S&T there is a tension between the importance of people's values for their attitudes to S&T and the small amount of knowledge about concepts and contents of (social) values on the other side. The broad attention to social values in public, political and academic debates is thwarted by the substantive amount of conceptual and methodological ignorance to understand what values are; how strongly they are embedded within social identities; how they relate to overt attitudes to S&T; how changes of values come about or how policy can address them (Value Isobars project description, 7).

The project *Value Isobars*, therefore, intends to provide EU policy-makers with tools to identify those values that crucially inform people's attitudes to science and technology and to introduce them in the governance of S&T. The overall goal of the Value Isobars project is to sketch a blueprint of a more coherent, flexible and dynamic conception of a value-based and value-informed governance of S&T. The project as a whole identifies necessary research tasks in order to move from a generic understanding of value-based governance to more specific mechanisms of governance that improve current practice. Emerging biotechnologies with dual use problematic and security technologies (biometrics) serve as pilots to test the validity of the framework. The project’s key research challenges are (1) understanding the very concept(s) of values in both socio-political and philosophical respect, (2) improving the methodology for the study of values, (3) identifying innovative mechanisms of platforms for value-based dialogue in civil society and citizen consultation, and (4) assessing the potential of legal and regulatory instruments to provide value-oriented framework orientation for scientific and technological development.

Within that framework, the International Centre for Ethics in the Sciences and Humanities (Eberhard Karls Universität Tübingen, EKUT-IZEW) investigates the question of value concepts in Work Package 1 (WP 1). Although values are seen as central drivers for people's attitudes to S&T, the basic concepts of values and the significance of these different concepts for a better, more acceptable and accepted research policy are still not completely understood. Thus, WP 1 mainly explores and reviews conceptual issues concerning the notion of values in general and with regard to the field of S&T based on scholarly literature and public documents (governments, NGOs etc.). The work assimilates and summarises important developments and theorising within such diverse fields as philosophy, law, sociology, theology, economics and psychology. The historical roots and major contributions towards theories of values are explored and analysed with an additional focus on the notion of 'European' values. The diverse approaches shall be contrasted and analysed in regard to problematic presuppositions and constraints with a focus on values *in, of* and *with regard to* S&T, among others taking into account ethical vs. political/policy theories with regard to the governance of S&T and values.

The question will be asked how these theories relate to a general understanding of human action and attitude. In particular, the analytic differences between values on the one hand and rules (norms, institutions, and principles), propositional attitudes (preferences, wishes, desires) and virtues on the other hand will be a focus of attention. The translation of values into rules and laws is of special interest. Questions of what distinguishes moral values from other values such as social, theoretical or aesthetical values, and how this relates to ethical theory and practical ethics will be pursued. An overview of value concepts and the main parameters of value relationship shall be provided in order to handle questions like: What can we do in the case of conflicting values? Are there values which are mutually exclusive? The possible interaction of values with emerging, more permanent attitudes, in regard to governance of S&T, will be explored. A preliminary, policy-oriented generic framework for a comprehensive value theory is the overall goal of this work package. It shall comprise the overview of value concepts, of parameters and their interdependence, an identification of main field of value-conflicts and of shared values with regard to S&T and ideas of (a) understanding, (b) communicating, and (c) handling these diverse "landscapes" of values.

Besides focussing on conceptual questions, WP 1 also suggests new framings of values in S&T, tentatively clarifies the role of values in governance generally and contributes to the issue of value landscapes. In this respect, it articulates the self-conception of scholarly ethics as an endeavour which aims at normative statements of morally acceptable and unacceptable actions. In contrast to the commonly misunderstanding of ethics as a restrictive and permanent trouble-maker the ethics of values opens new perspectives and horizons. The reference to attractive values seems a promising approach for introducing morally acceptable actions into S&T governance. In regard to the criticism of the CEC 2007 against the way the EU has institutionalized ethics in governance, the project's underlying ethics approach is not the establishment of a top-down ethical assessment by dominant experts. As it is stated in the project description (11), "none of the involved actors (groups, stakeholders etc) can claim any privileged access to, supremacy over, or special insight into these values in these settings." Hence ethics is to be understood as an academic support and voice within open and democratic public value deliberation processes. Contributing to a pragmatically justified theory of values for governance is an interdisciplinary task in a transdisciplinary setting. However, the starting point here is practical philosophy, i.e. moral and political philosophy.

2.2 European Commission's statements about value-based governance

In 2009, the President of the European Commission Manuel Jose Barroso stated that the Commission

[...] has faced some of the most challenging times the European Union has ever experienced, at a time of huge economic and social change. Our record shows that we have held fast to the core values and core goals that have made the Union so successful, and will leave a powerful contribution to the future development of the European project. I am particularly proud of our response to the economic and financial crisis, our ambitious agenda to fight climate change and the creation of a real European energy policy. The European Union is now taking the lead in shaping globalisation with European values and in promoting the European interest worldwide (European Commission 2009a).

The European Union was told to have been able, on the basis of certain values, to withstand successfully a whole range of major challenges. In the Commission's self-perception, it steered the EU through stormy times by imperturbably using core values as landmarks. Even more, it tries to influence the general weather situation (globalisation) with European values. Apparently, values not only allow orientation, but also enable – and sometimes demand – action. Interestingly, even in the face of social change, when one would expect value change, the Commission seemed able to hold on to these 'traditional' values.

At this point, one can raise several questions. Values influence the action and the course of action of individuals, government and communities – but how do they do that? Are there values that endure even if society changes? What are these European values? How do they differ from and relate to non-European ones? These are serious questions, as European values are meant to shape a process that affects individuals and states on a global scale.

At the 10th South East Europe Cooperation Process Meeting in Zagreb in 2007, President Barroso spoke to the representatives of states that do not belong to the EU such as Turkey, Croatia, or Albania:

This year we celebrate the 50th anniversary of the European Union. We are proud of this achievement, which has brought peace, prosperity and solidarity to a continent wracked by war. [...] we reaffirmed our shared values, like freedom, democracy, the rule of law, tolerance and mutual respect. We made clear our determination to preserve these values and use them to shape our fast-changing world, by continuing to work closely together. Those values formed the very foundations of the European Union. They remain at the core of our activities today. Successive waves of enlargement mean that millions more benefit from these values, who previously languished under the dead hand of dictatorship. You, the countries of the Balkans, have made difficult and often courageous decisions to help those values take root here. You can rest assured that the European Union will always be at your side to assist you in this endeavour. But the desire to continue consolidating those values must be yours. No-one can impose them from outside, and certainly not the EU (Barroso 2007).

Again, Barroso refers to shared values of and for the union as a community and to the guiding function of these values in difficult times. On behalf of an important political institution, he emphasises the commitment to these values and their importance for political action. Political action guided by values would already benefit the people of the EU accession states. But what about their value commitment? Accession of a state to a community of values does not entail that its citizens also share those values. Barroso hints that also individual people have to commit themselves and he seems to believe that good political institutions play their part. This aspect directly aims at the crucial questions of what values are and where they come from. To return to the matter of European values, if they are basically open to be shared by all people the question arises how exclusively European are they in the end.

The last aspect refers to a conceptual problem. Barroso lists some European values: freedom, democracy, the rule of law, tolerance and mutual respect. On other occasions, he also mentioned democracy and peace (Barroso 2009a, 2008, 2007). This however raises the question, what values actually are: democracy is an institution or a state order, the rule of law can be considered as a constitutional principle or a procedure, freedom is an ideal, and mutual respect can also be described as a virtue. Can they all be (also) values? This consideration does not want to suggest that the European Commission holds an under-complex view of values; on the contrary: the concept of value is in fact a very complex one and in political, social and other common usage it has many different facets.

For our project, it is therefore even more necessary that some conceptual groundwork is laid on the different notions of value. The following chapter first goes into conceptual and terminological investigations where the meaning of values compared to related concepts is considered. It gives a short introduction into the term's history and subsequently displays dimensions of value concepts eventually employed by moral philosophy. This is conceptual groundwork in order to provide a pragmatically justified theory of values in the subsequent chapters.

3 Philosophical value concepts and their implications

3.1 Short history of the value concept

The literature appears rather unanimous in that the term 'value' is a comparatively new scholarly term (cf. especially Joas 2000, p 20/21; Kuhn 1975; Schnädelbach 1983), which originated in the late 17th century economy and migrated via philosophy in the 19th century to the social sciences and the ordinary language in the 20th century.

In modern economic theories values were classified in subjective utilisation values and objective exchange values of economic goods (products or services) (Lichtblau 2005). Former were defined by the factors necessity, utility and rarity, while objective values were traced back to the amount of work, cost of production etc. In both meanings, economic theorists regarded values as quantifiable and calculable units that can be related to prices. Main reflections concentrated on the relation between values and prices. As actual prices themselves are generated on the relation between supply and demand, economic theories put the claim that prices should correspond with the proper value of goods. For instance, David Ricardo developed a value theory of objective labour value (*Arbeitswert*). Values should not be reduced to fluctuating products' prices; instead human labour time being necessary for production is the main source of economic value. Ricardo's doctrine of labour value was adapted by many socialist theorists in the 19th century. Karl Marx' theses on exploitation of the labourer is based, among others, on the central conception of an added value (*Mehrwert*) generated by labour.

As the value concept migrated into philosophy, it does not come as a surprise that philosophical concepts of values in the first place were advanced in utilitarian ethics which itself has strong links to classical economic theory (e.g. Adam Smith *ref.*). Even today, "value" and "value theory" are sometimes used in a narrow sense for the normative ethical theory of consequentialism (Schroeder 2008). The utilitarian thought of the greatest happiness for the greatest number of people presupposes that there is something like a subjective value function ("utility") among the people that can be maximized. Utilitarians and along with them

many economic theorists, tend to identify subjective values with preferences or desires a person has that are related to goods (i.e. knowledge, beauty etc.). In this sense, values are crucial to a variety of moral judgments. Although utilitarian value theories presuppose the possibility to calculate the value amounts of value bearers, they have to admit difficulties in comparing value amounts. For instance, John Stuart Mill's idea of higher and lower pleasures (Mill, 2002, 241) addresses that problem: higher pleasures of the intellect can – and should – outweigh lower pleasures of the body regardless of the quantity of the latter. This leads to the issue that the value of higher and lower pleasures is measured on different scales: “The distinction between higher and lower pleasures allows us to say that no amount of lower pleasures can outweigh some amount of higher pleasures. As Mill puts it, it is better to be an unhappy human being than a happy pig.” (Mason 2011)

In contrast to economic theory and Utilitarianism, Immanuel Kant spoke about the “absolute value” of rational, reasonable beings who are withdrawn from relative evaluations in the sense of subjective utility. Such beings are “ends in themselves” that have an infinite value (“dignity”) that is “above all price”. In addition to the moral philosophical reinterpretation of values, it was his influential *Critique of Pure Reason* that mainly undermined the hitherto metaphysical unity between the ‘Good’ and the real world, between validity and facticity. The real world was reduced to mere facts that could not any longer provide orientation. Progressively, in the mid-19th century the concept of value substituted the metaphysical ‘Good’, the latter having had a long philosophical standing (Hügli 2005). As the ‘Good’ existed objectively in and was part of the real world, it was possible to ascertain it by rational contemplation or divine revelation. Scholasticism spoke of “*ens et bonum convertuntur*” („Being and good are interchangeable”). Inseparably connected to the ontological status of being, it was useless to ask where the ‘Good’ came from in the empirical world; one could ask how to recognize it (contemplation, perception, revelation) but one would not ask for its origins.

Being confronted with the loss of orientation provided by the empirical world and the “shift towards subjectivity” (Joas 2000, 20-23), Value Philosophy emerged in the 19th century as a reaction to that development. With Hermann Lotze as the key figure, elaborated concepts of values were established. In contrast to positivistic and nihilistic interpretations of post-metaphysic reality, value philosophers asserted an irreducible sphere of values in contrast to the sphere of facts. However, charges of subjectivity and contingency of values had to be dealt with and resulted in two schools of value philosophy. *Formal Value Ethics* mainly was represented by the Neo-Kantians philosophers of the Southwest German School, Wilhelm Windelband, Heinrich Rickert and Ernst Troeltsch, *Material Value Ethics* by Max Scheler and Nicolai Hartmann (cf. Bohlken 2006). Especially Formal Value Ethicists accepted the subjective status of value sentiment – they are by necessity attached to a subject performing an evaluation – but aimed at defending the objective validity of value judgements:

Neo-Kantian philosophers of value [... believed] that the only thing that could prevent the fall into bottomless value relativism was their project of a philosophy of values and their conception of philosophy in general as theory of validation. For them [...] the ideal realm of valid values could not originate in human action or experience; rather, this realm belonged to another mode of being and, for this reason, subjects could only embody and discover values, not produce them (Joas 2000, 22).

Hence, their program was based on the ontological difference between subjective value estimations (and commitments) vs. objective validity of values. Values are validities which can be recognized by philosophical reflection and terminological reconstruction. Regarding an

own sphere of values Material Value Ethicists went most far when asserting values as ideal, hierarchically structured objects (or their qualities). As material entities they are graspable by intuitive perception (*Wesensschau*). In sum, values are seen as absolute and objective reference points of human thinking and action (Krijnen 2006, p 548-49). But today, the conceptual renewing of values by Material Value Ethicists is rejected as “Platonism with unacceptable ontological presuppositions” (Siep 2004, 124).

At the same time in the 19th century, it was Friedrich Nietzsche’s contribution to the debate to postulate not only the subjectivity, but also the “historical contingency of values” (Joas 2000, p 20-23). For Nietzsche the emergence of specific values is not necessary and can therefore not be expected. Investigating the origin of values he is preparing a fundamental critique of values, especially values of Christian morality, condensed in his phrase “revaluation of all values”. Besides qualified critique on his polarising value theory, Nietzsche can be appreciated as a preceding philosopher who struggled for a subjective-centred concept of values which are complied autonomously (Gerhardt, 1996, 203). On the other hand his value philosophy was – and still is regarded – as a kind of value decisionism and value relativism, which has to be rejected.

Other important impulses for the understanding of values came from American Pragmatism (Rust 2005). Although being divided into nameless subclasses pragmatism is united by the main assumption that values are neither subjectively estimated nor objectively discovered. The subject-object-dichotomy itself does not make sense for pragmatists as well as the battlefield between realistic or anti-realistic approaches to reality. What we accept as reality arises from a connection between thinking, perception and action. Thought and conceptual differentiation are fundamentally bound to action: “[W]e come down to what is tangible and practical, as the root of every real distinction of thought, no matter how subtle it may be; and there is no distinction of meaning so fine as to consist in anything but a possible difference of practice.” (Peirce 1878) According to this assertion of Charles S. Peirce, human beings can only think about entities, which are related to perceptions and actions. Pragmatists regard beliefs, concepts and hypothesis as habits of action. If we attain a certain belief, we acquire a disposition to act in some distinctive way. Doubt arises if certain dispositions and habits of action are challenged by problems and conflicts (“outward clash”). Then, the contents of beliefs, concepts and hypothesis should be clarified and approved by their “practical consequences”– so the “pragmatist maxim” suggested by Peirce: “Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of those effects is the whole of our conception of the object.” (1992, 132). The pragmatist’s maxim demands that our concepts and hypotheses should be tested by certain patterns of our action. According to Hookway (2010) the methodological maxim of Pragmatism “shows us how we test theories by carrying out experiments (performing rational actions) in the expectation that if the hypothesis is not true, then the experiment will fail to have some predetermined sensible effect.” The validity of a concept about an object or state of affair is proven by the usage of them, if they show anticipated consequences.

Following the idea of Peirce, John Dewey ennobles the “pattern of inquiry”, common to practical problem solving and scientific inquiry, as the criterion for the validity of beliefs and guiding rules (1999, p 169-79). Breaking down the common dichotomy between theoretical beliefs and practical deliberations, Dewey regards both as instruments (tools) that help us to

resolve our “theoretical” and practical problems.¹ For him, ethical inquiry is part of empirical inquiry in a general sense. As the world is constantly changing, descriptive and normative solutions of problems are changing as well. Instead of identifying an ultimate principle for ethical evaluation Dewey developed a methodology for improving our “value judgement” (Anderson 2010): They have an essential function for guiding “conduct”, under which impulses, habits (e.g. values and norms) and reflective actions are subsumed. Each conduct is inevitably based on primitive “valuings”. In contrast, value judgements are reflective evaluations of valuings, in order to alter them, when normal course of activity on them is not possible or yields unsatisfactory consequences (Dewey 1939, p 221-222). Making a value judgment is the necessary means to decide on a new course of action that will solve the problem (Dewey 1915, p 14-16). As the function of value judgments is to constitute new valuings that solve the individual’s problems, they can be assessed instrumentally, in terms of how well they perform that function. Value judgements are regarded as means in relation to consequences, having the form: If someone acted or valued an object in a particular way in order to solve a problem, then certain consequences would follow; these consequences themselves are reflected and valued in a wider context (Dewey 1915, p 16-17; 1939, p 209-213; Anderson 2010). Since they involve empirical claims about causation, value judgements (like scientific hypothesis) are subject to empirical examination and verification:

“It is the use of reflective intelligence to revise one's judgments in light of the consequences of acting on them. Value judgments are tools for enabling the satisfactory redirection of conduct when habit no longer suffices to direct it. As tools, they can be evaluated instrumentally, in terms of their success in guiding conduct. We test our value judgments by putting them into practice and seeing whether the results are satisfactory – whether they solve the problems they were designed to solve, whether we find their consequences acceptable, whether they enable successful responses to novel problems, whether living in accordance with alternative value judgments yields more satisfactory results. We achieve moral progress and maturity to the extent that we adopt habits of reflectively revising our value judgments in response to the widest consequences for everyone of living them out.” (Anderson 2010)

Value criticism by contextual “operational thinking” has the aim to identify what is valued reflectively as an object of intelligent desire. The pragmatic approach requires “that we locate the conditions of warrant for our value judgments in human conduct itself, not in any *a priori* fixed reference point outside of conduct, such as in God's commands, Platonic Forms, pure reason, or ‘nature’” (Anderson 2010). Even if traditional ethical approaches make certain value judgments plausible, their arguments should be tested as hypotheses; it should be checked, how one values the actual results of putting them into practice. If contextual circumstances change, thereby modifying the consequences of acting on particular evaluations, other values would come to the fore. Hence, he described values “as unstable as the forms of clouds” (Dewey 1925, 298) With growing knowledge about value bearers value judgements can change dramatically: “Judgements about values are judgements about the conditions and the results of experienced objects; judgements about that which should regulate the formation of our desires, affections and enjoyments. For whatever decides their formation will determine the main course of our conduct, personal and social” (ibid.) Thus, it is a mistake to seek or offer a timeless list of values. Dewey rejected any conception of intrinsic value being bound to some kind of existence or property that an object has. In a world of plural values that might conflict no fixed ends or moral rules could be adequate. Resolution of conflicts depends on the context in which they arise. Nevertheless, some problems and their solutions are encountered in many situations. Hence, there is an amount of

¹ A line of thought that resonates with the idea of a pragmatically justified approach to governance of science and technology, but not implying an overall pragmatist (ethics) approach for the whole deliverable presented here.

“universal” value judgements that are based on general benefits for orientating human beings in certain contexts (Dewey 1939, 230). In reply to the standard objection, Dewey refuses to fix a standard (intrinsic values, final ends) against which the value of acts as means can be judged, he argued that means and ends are determined reciprocally in the course of action; our value judgments of an end depend on the costs and benefits of the means and consequences and vice versa (Dewey 1939, 210-219).

Further pragmatic developments, suggested by G.H. Mead, brought that beliefs, concepts and hypothesis are not only challenged by practical use; their validity is mainly dependent from intersubjective “symbolic interactions”. Accordingly, values result from evaluation acts influenced by social interactions. To sum up, the main pragmatic motifs of action are not the realization of given ends or social norms, but problems and conflicts that have to be solved by an experimental course of action. Like the meanings of objects and states of affairs are defined by the actors in the situation of their use, the value of things is not estimated subjectively or discovered objectively within them; “objectivity” of value judgements is the result of discourses (Schubert et al. 2010, p 9-10).

The vivid academic discourse about values with impressive influences on the contemporary meaning of ‘value’ ran dry in the 1930s when various other research tasks in ethics became dominant (Joas 1999, 196): Naturalists reduced values to subjective emotions; Kantian ethicists focused on the justification of the sphere of “ought” by neglecting an equal value theory; metaethical analysis of normative statements was undertaken with the ideal of value freedom of inquiry in moral philosophy. Nevertheless, the development of application-oriented ethics from the 1970’s has led to a re-discovery of “values” in both scholarly discourses and public debates. A reflection of what values are might help to understand the rambling speech about the “change of values”, “value pluralism” and the “loss of values” in the western world.

3.2 The ontological and epistemological status of values

The philosophical history of value conceptualisation can be divided in two eras. Before the twentieth century, most moral philosophers presupposed that a value is a objective, genuine property of something, no less real than other properties. Hence, an entity is valuable regardless the active acceptance of a valuing person. Today it is highly accepted that values are “supervenient” on certain non-evaluative features of things that have to be acknowledged actively by valuing persons (or other entities). Something is valuable or has value for a valuing person. As values are related to valuing persons (or collectives) who accept values as values, they are historically and culturally contingent, with consequences for their meaning and content. However, with this approach, the ontological question about the reality of values is not answered sufficiently: Although values are accepted and interpreted contingently, it is not necessary that they are generated by persons or collectives. Epistemologically it is possible that values exist independently from value acceptors, who assess and (re-)discover values merely under special circumstances. According to Raz (1999, 150) contingent cultural evaluations, which originate in certain interests of social groups, can make values accessible without creating them. Siep (2004, 141-142; 152), for instance, differs in reference to Raz (1999) between “objective” values, which are irreversibly realized in many societies (e.g. development and welfare of animate beings; basic needs, health, performance, autonomy and equity of human beings), and particular values that are realized only temporarily and

dependently from contingent social acts (e.g. fashions, acts of courtesy, ceremonies, honour). “Stability and consensus belong to certain areas of valuing like change and divergency to others.” (Siep 2004, 158)

If values are related to value acceptors, two epistemological attitudes towards values are possible (Kuhlmann 2002, Zimmerman 2010): *Cognitivists* hold that our ascriptions of value constitute statements that are able to be decided as (un)true or right(false); with evaluation statements agents make claims of validity that can be redeemed in rational discourses. This is denied by *non-cognitivists* who hold that value ascriptions are expressions of subjective states (e.g. emotions). Since they cannot be connected with validity claims, evaluations – like other prescriptive sentences (e.g. norms, obligations and prohibitions) – are no possible objects of justification. Nonetheless, in both cases mistakes and self-deception about valuable features and values are observable in countless examples of value history.

Analysing the main historical approaches on values, Schnädelbach (1983) identifies four ontological and epistemological dimensions that can be regarded as a fundamental matrix for a philosophical concept of values. As it can be seen in chart 1 the four dimensions describe conceptual pairs in the sense of opposite positions: factuality/facticity (‘Sein’) and validity (‘Geltung’), intellectual and intuitive, real and ideal, subjective and objective.

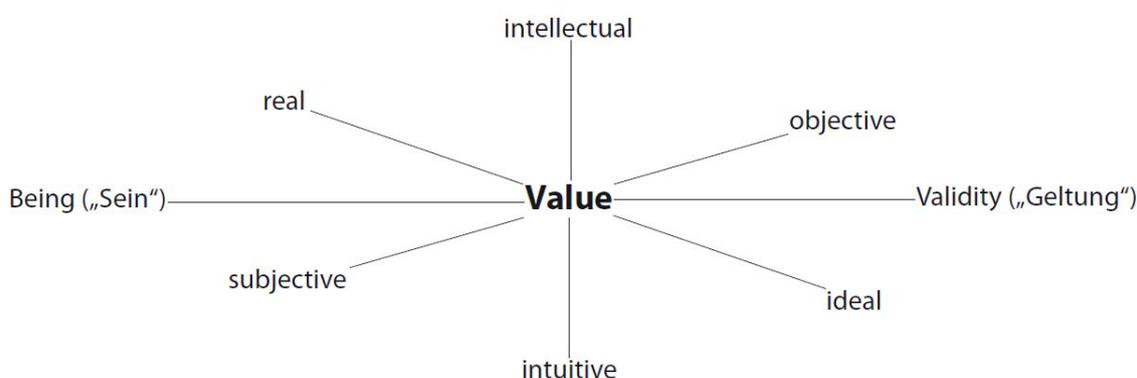


Chart 1: Dimensions of value concepts (Schnädelbach 1983, 206, translated by the authors)

- The distinction *factuality/facticity* – *validity* describes two different modes of values in the two German Value Ethics schools: Formal Value Ethicists claim that values are only non-empirically valid, whereas Material Value Ethics hold their real existence in the empirical world. In the sphere of facticity we distinguish between existing or non-existing; the sphere of validity consists of the valid-invalid-difference in regard to evaluating the existing world.
- The pair *intellectual* – *intuitive* refers to the way values are recognised. Do we realise values by means of intellectual reflection on a value’s validity (‘Wertreflexion’), or do we feel or sense values intuitively (‘Wertschau’)?
- *Value realism* claims that values exist independently of a subject (conscious mind) grasping values. They are qualities of entities and can be perceived psychophysically by the senses. In contrast, *value idealism* locates values in an ideal world; they appear only in a conscious mind.

- The difference *subjective – objective* asks whether values are valid over time and space or not. According to value relativists values are historically and culturally contingent as they emerge in specific situations and contexts: they are subjectively accepted because they are proven as conducive. In contrast, value objectivists stress their anthropological constancy and attribute validity to them independent of the conditions of their emergence.

However, it should be stressed that one should not confound the pairs of real – ideal and subjective – objective. According to Schnädelbach (1983, 205), objective value idealism is as imaginable as a subjective value realism claiming that values really exist but their nature and intensity depends on a validating (valuing) subject.

To sum up, it is still an open question, whether values are – in the sense of the four dimensions – at least in some respect objectively graspable or whether they are merely determined by subjective or intersubjective factors (private desires, collective acceptance).

4 Basic systematic considerations about values

4.1 Types of values

In general, value can be regarded as an umbrella term encompassing fundamental objectives, orientating standards and qualities that are really strived for and desired by individuals and collectives (Wildfeuer 2003). Although the concept of value is mainly considered as an ethical problem in the field of human action, it is necessary to address the distinction between different kinds of values, each with own references in a means-ends-relationship (Krijnen 2006, 548-49, Wildfeuer 2003): For instance, *theoretical* values refer to the concept of truth, *aesthetical* values to the concept of beauty, *economic* values to the concept of a long-term equilibrium price and *moral* values to a concept of the good or the right. While theoretical, aesthetical, economic and moral values have a content-related reference point, *social* values are characterised by their relation to a specific social group. According to Schlotter (2004), *religious* values have a particular position; they may refer to the concept of the holy but this does not add to the other values but includes them insofar as they are related to a transcendent reality (Schnädelbach 1983, 201, Schlotter 2004, 560/1). To some degree, this is comparable to social values, if we see people of a certain faith as a social group. They do not point to a highest value (beauty, truth, good) but include all values that are shared in a specific social group. In sociological surveys a mixture of these different value types is measured (see, among others, the various Eurobarometer Studies and values; EC 2005, 2008). What unites all different types of values is the character of being orientating directives for human thinking and action (Krijnen 2006, 548-49). As we are interested in values directing our behaviour and action the concept of moral value is focused in the following.

4.2 Axiology of values

Traditionally, values are ordered in a formal hierarchical value system named axiology (Schroeder 2008; Zimmerman 2010). Basically, within the value system, intrinsic values are ranked on a higher position than extrinsic values, final values are ranked above instrumental values. To distinguish between these two pairs (Korsgaard 1983), *intrinsic values* refer to properties that something has in itself; it is valuable in virtue of its intrinsic, non-relational properties; *extrinsic values* are values that something has in virtue of its extrinsic, relational

properties. With *final values* is meant that something has as an end for its own sake, whereas *instrumental values* refer to values that something has in virtue of being means to an end. Intrinsic respectively final values are regarded as values, which are not related to superior values or deduced from an overarching principle of action; as non-derived values they serve as last reference points for evaluating value bearers (e.g. objects and their properties, state of affairs, facts). Whereas in Utilitarianism happiness respectively pleasure are seen as intrinsic values, in a Kantian perspective, only persons are absolutely valuable as they are “ends in themselves”. These two ethical theories are usually regarded as examples for *value monism*. Value monists claim that all other putative values (such as knowledge, beauty etc.) are only extrinsic or instrumental values. In a stricter sense, they are valuable in so far as they contribute to the realization of the intrinsic value. Only if they lead to what is of intrinsic value they can be declared as instrumental values. To avoid misunderstanding, Mason (2011) prefers speaking about “intermediate sources of values” instead of instrumental values. In a broader sense, instrumental values are indispensable means for the achievement of a given ends (e.g. health and education for the success of life). *Value pluralists* (e.g. Bernard Williams, Michael Stocker, Charles Taylor) hold that there are several different intrinsic values at the same time and that these values are not reducible to each other or to a ‘super value’. For instance, knowledge and beauty are not valuable because of their relation to something else, but because of their status being valuable in themselves. Whereas value monists need to choose one intrinsic value on which instrumental values are related to, value pluralists tend to identify such instrumental values as own intrinsic values and add them to a list of values. One comprehensive list of (intrinsic and) pluralistic values was given by William Frankena (1973); his list includes life, consciousness, and activity; health and strength; pleasures and satisfactions; truth and knowledge; aesthetic experience; morally good dispositions or virtues; love, friendship and cooperation; just distribution of goods and evils; harmony and proportion in one's own life; power and experiences of achievement; self-expression; freedom, peace and security; adventure and novelty; good reputation, honor, esteem, etc. Although almost any intrinsic value being discussed in moral philosophy is represented in the list, for example the omission of certain environmental entities or qualities was criticised (Zimmerman 2010).

To continue comparing value monism und pluralism (Mason 2011), the first has the advantage of relative simplicity. All moral considerations are based on the presupposition of one absolute value and even other instrumental values being involved are interpreted in this light. The latter are regarded as easily comparable using the absolute value as reference. But the price for the simplicity of monism is its deficiency to encompass experiences of morally relevant situations. In contrast, pluralism is able to explain the complexity of moral choices, in which different values are at stake at the same time. Though, certain complications must be immediately acknowledged: First, the question arises whether and how different abstract values (for instance liberty or equality) relate to each other and can be compared within quantitative computations or quantitative tradeoffs. Secondly, it is difficult to define which of two (or more) concrete bearers of value (states of affair etc.) containing different values is more valuable. To relate different values a measurement of values must be conceivable, while different dimensions are discussed: generality, reflexivity or centrality within a value system (Siep 2004, 132). Many value pluralists hold that abstract values are incommensurable like concrete bearers of values are incomparable; they lack a common measure in the situation of choice or conflict (Hsieh 2008). At least in regard to the action guiding element of morality incommensurability among moral values is worrying: “[I]f values are incommensurable, then

either we are forced into an ad hoc ranking, or we cannot rank the values at all. Neither of these are very appealing options.” (Mason 2011)

There are different possibilities to get along with value incommensurability (Hsieh 2008, Mason 2011): Some value pluralists follow the idea that incommensurability is constitutive for certain values (e.g. friendship). Consequently, they simply accept the situation that there are at least in certain cases rationally irresolvable conflicts between values due to their plural nature (e.g. Williams, Wiggins, Raz, Richardson). For them, accepting the inevitability of value conflicts does not result in a breakdown of moral argument, but the reverse. Others deny the incommensurability of plural values; instead they develop different strategies to show that making rational choices between plural values is possible. Apparently incommensurable values or incomparable value bearers are, in fact, comparable even though difficult: One famous approach is the appeal to practical wisdom – a faculty of judgement, which is able to make choices (e.g. McDowell, Nagel). Like a wise person can see that one course of action should be taken rather than another one, practical wisdom refers to the ability to choose between conflicting values without making any quantitative judgment. But as the faculty of practical wisdom remains mysterious or at least unclear, the problem seems to be shifted to another level. A second possibility starts with the assumption that there is an available “super scale” on which values can be ranked (e.g. Griffin, Stocker, Taylor). This scale is not based on an attribute that the values have in common – otherwise these plural would be reducible to a monistic value. It is based on something above the values, which is not itself a super value, but allows for ranking pluralistic values. Whereas Griffin presupposes that in situations of value conflict “quantitative differences are defined on qualitative ones” (1986, 90), Stocker suggests that these comparisons on a “higher level synthesizing category” are not quantitative, but evaluative: “Even if it seems a mystery how we might ‘directly’ compare lying on the beach and discussing philosophy, it is a commonplace that we do compare them, e.g. in regard to their contribution to a pleasing day.” (1990, 72) According to Stocker (1997) alternatives are rarely considered in the abstract, but in concrete ways. Considered in such concrete contexts, he holds that there are considerations according to which alternatives can be evaluated for purposes of justified choice. Actually, there are own problems of ranking values on such “super scales”: If super scales are available, some value philosophers argue, that there is no incommensurability of values at all; values are only incommensurable if an overall ranking is impossible (Wiggins 1997, 59). Despite oppositional assertions these concepts tend to require and presuppose a single value (or end) serving as a common measure on which comparison between conflicting values is possible; these concepts tend to solve problems of incommensurability by introducing a monistic value theory. Instead, Henry Richardson (1994, 14) is referring to final ends of actions; choices between conflicting values could be made rationally if the involved values are expressed in terms of their contribution to furthering the common end. But the question arises, on which these ends can be evaluated: on principles or on values?

4.3 Values and related concepts

According to a broad definition, values are “conscious or unconscious orientating standards [...] that lead individual’s or collective’s action decisions” (Horn 2002). As the term “value” mostly is characterized as “an ambiguous concept that governs human behaviour” (wikipedia.org), it has to be distinguished from other related terms which are used sometimes even synonymously in the same context. Here, three groups of terms can be identified:

propositional attitudes (preferences, interests, desires), *rules* (principles, norms), and *virtues*. The discussion of these terms helps to sharpen the meaning of the concept of ‘value’ but at the same time emphasises the connections to related terms that are of importance for further discussions, not least with regard to governance of science and technology.

4.3.1 Values and propositional attitudes

The baseline definitions of values as governing factors of human behaviour relate to personal and collective attitudes and preferences. From a philosophical perspective analysing the relationship of values and propositional attitudes is a challenging business, because both form part of different language-games; both can be false friends in different scientific languages.² If we start with the general term “attitude”, it originates from social psychology and does not have a tradition and strong standing in philosophy and ethics (Strohal 1972, col. 417).

Although there is a multitude of different definitions in academic literature, attitude is consistently used to describe, explain and predict behaviour. An influential definition understands attitude as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly/Chaiken 2005, 745). Haddock/Maio (2007, 190) understand by attitude the “overall evaluation of a stimulus object”. A stimulus object can be “anything a person may hold in mind, ranging from the mundane to the abstract, including things, people, groups, and ideas” (Bohner/Dickel 2011, 392). Therefore, stimulus objects can be abstract objects such as S&T or concrete objects such as CCTV cameras. Persons can have an attitude to themselves (self-esteem or self-hatred), to other people such as scientists, to groups of people such as politicians or to socio-political questions such as pathogen research. What unites all current definitions is that attitudes are in one way or another related to evaluations (Banaji/Heiphetz 2010, 351; Haddock/Maio 2007, 200). Within this relation Eagly/Chaiken (2007, 745) stress that evaluations are “not synonymous with attitude itself. Attitude is a tendency or latent property of the person that gives rise to judgements and categorizations, as well as many other types of responses such as emotions and overt behaviors”. Attitudes are the tendency to evaluate, not the evaluation itself. As mental sets, attitudes determine the way people evaluate a stimulus object. They can be spontaneous evaluating reactions to stimuli which express the present situation but they also can be acquired over a long period of time through reflexive processes.

Attitude research deals with the question why people built attitudes at all. For Eagly/Chaiken (2007, 745) attitudes are “the evaluative residue of past experience” and originate “on the basis of some transactions with the environment”. According to Banaji/Heiphetz (2010, 366) attitudes “derive from different parts of the social world, from the words and behaviors of other beings, and from the events that unfold in the world”. An individual needs to encounter an attitude object and to distinguish it as a discernable entity in order to build an attitude. This can happen with or without conscious awareness. While encountering an attitude object the individual responds to it on an explicit or implicit basis. This response leaves a mental residue in the individual that predisposes him or her to an (un-)favourable on subsequent encounters (Eagly/Chaiken 2007, 745). This residue is “an intervening state that hypothetically accounts for the co-variation between stimuli relevant to the attitude object and the evaluative responses elicited by these stimuli” (ibid.). We will not discuss different models of *attitude function* e.g. by Smith et al. (1956) or Katz (1960) but just present the different functions Katz

² We thank our colleague Ralf Lutz (Tübingen) for this insight.

proposed as they still seem have some appeal in social psychology today (Banaji/Heiphetz 2010, 351):

- *Utilitarian* attitudes “help individuals obtain rewards and avoid punishments”.
- *Knowledge* attitudes “allow an understanding of the situations in which one finds oneself”.
- *Ego-defensive* attitudes “protect the individual from psychic threats”. Related expressions can be prejudices or self-esteem.
- *Value-expressive* attitudes “help individuals express their core values or foundational aspects of themselves [...] These attitudes may be inherently rewarding insofar as expressing one's core values is gratifying. Just such a process may be at work in the process of self-affirmation, which among other consequences demonstrates the power of value-expression to diminish feelings of self-threat [...]. Value-expressive attitudes are privileged in other ways as well; research has shown that such attitudes are particularly resistant to change [...] and promote commitment to relevant behaviors“.

Haddock/Maio (2007, 200-202) suggest organising the academic literature on attitude functions along two lines: object appraisal (1) and distinction between instrumental and value-expressive attitudes (2). (1) They first conclude that all attitudes serve the function of object evaluation. This function encompasses Katz's utilitarian and knowledge function. Individuals would hence classify stimulus objects in order to be able to act. The evaluation function helps to accelerate and facilitates the performance of attitude-relevant evaluations. Allport (1935, 806), one of the founding fathers of attitude research, called attitudes “our methods for finding our way about in an ambiguous universe”. (2) Haddock/Maio also advocate the distinction between instrumental and value-expressive attitudes. The first ones serve an instrumental function in the sense that stimulus objects are classified whether or not they further individual interests. Value-expressive functions become visible when one's own self-conception or values are at stake. Research on these two functions revealed that, first, stimuli objects induce attitudes related primarily to either the instrumental or the value-expressive function and that, second, people get convinced by arguments that conform with this primary function.

With regard to the content and structure of attitudes, the “multicomponent model of attitude” has been an influential way of thinking (Banaji/Heiphetz 2010, 350; Haddock/Maio 2007, 190). This model “conceptualizes attitudes as summary evaluations that have affective, cognitive and behavioural components” (Haddock/Maio 2007, 190-193).

- The affective component encompasses the “feelings or emotions associated with an attitude object“.
- The cognitive component contains “thoughts, beliefs and attributes associated with an attitude object”.
- The behavioural component includes “past behaviours associated with an attitude object”.

Eagly/Chaiken (2007, 745) argue that “attitudes can be formed through cognitive, affective, and behavioral processes and expressed through cognitive, affective, and behavioral responses”. Formation and expression of attitudes are hence influenced by affections, cognitions and behaviour. Actually, one possible influence on forming or expressing attitudes can be values, in regard to *value-expressive attitudes*. Without exploring the three components of values in detail, there are two related aspects, however, we would like to highlight. It has

been mentioned, that cognitions, i.e. what we think or believe about the state of the world, influence our attitudes. For their formation only those cognitions are relevant that are consciously accessible to an individual. This “property of stimuli in relation to perceivers that causes them to attract attention” (Haddock/Maio 2007, 193) is called *salience*. When it comes to intra-attitudinal structure, this aspect will be important. Another relevant aspect is the *self-perception theory* that “assumes that individuals often do not know their own attitudes and, like outside observers, have to engage in attributional reasoning [i.e. giving reasons for own’s own behaviour] to infer their attitudes from their own behaviour” (ibid.). We have to assess in what way this theory can be made productive for an ethics of values that amongst others aims for a linguistic articulation of experience-based, but implicit and emotionally integrated value contents.

Social psychological research does not only deal with the question of different attitude components but also with their mutual relationship (Haddock/Maio 2007, 195). It is about how positive and negative evaluations are organised within and between the affective, cognitive and behavioural components. How do positive and negative evaluation relate to each other? Do they exclude each other? An exclusion would presuppose the *one-dimensional perspective of attitudes*, “that perceives positive and negative elements as stored along a single dimension“ (ibid). Let’s imagine that we ask people for their attitudes to e.g. pathogen research and to indicate it on a scale from 1 (extremely negative) to 9 (extremely positive). 5 would be neutral (neither positive nor negative) and a compromise between the two extremes. This middle position could be interpreted that people have many positive and negative cognitions, affects, and behaviours with regard to pathogen research or that they have none because they did not have any experience with it. The *two-dimensional perspective*, on the other hand, “perceives positive and negative elements as stored along separate dimensions” (ibid.). The first dimension expresses if and to what extend there are positive elements, while the second one shows the same with negative elements. In contrast to the one-dimensional perspective, this perspective highlights that attitudes can encompass many positive and negative elements on the same stimulus object. This can lead to *attitudinal ambivalence* that is “an instance where an individual both likes and dislikes an attitude object” (ibid). The two-dimensional perspective seems more appropriate to deal with ambivalence and to explain behaviour that on the surface appears strange and contradictory (Haddock/Maio 2007, 196-8).

For empirical attitude research, this is an important insight as it allows predicting many different types of behaviour. Individuals that are ambivalent to an attitude object will be influenced more likely by salient positive or negative attributes than non-ambivalent individuals (*attribute polarisation*). Research also showed that attitudes can be “unfrozen” via self-reflection without resulting in attribute polarisation (Wilson 1990, 63): “People adopt a new attitude based on a set of criteria that become salient when they analyze reasons [...]” (ibid, 62). It was also shown that experiments based on theoretical assumptions which view individuals as “rational compilers of information” led to undesired consequences (lowered attitude-behaviour-consistency, reduced post-choice satisfaction) as they ignored that attitudes are also influenced by factors such as core values or past behaviour (Wilson 1990, 62).

For the Value Isobars project, the question of attitude ambivalence is of great interest, because it started off with an observation of ambivalence (Value Isobars 2009, 5):

“Attitudes among European citizens to new science and technology are typically ambivalent. On the one hand, there is evidence of a fundamentally positive attitude to knowledge and technological innovation,

while on the other hand there is equally strong evidence that many current developments raise serious concerns and doubts.”

For governance of science and technology, this should be regarded of high significance since it would blur all too easy views of homogenous binary pro and contra camps. It is to be investigated further where this ambivalence stems from. If people react ambiguously to, say, pathogen research, is it because they have many positive or negative cognitions, emotions and behaviours with this kind of research or related fields of research or because they have none? We also have to bear in mind that some people might have primarily either instrumental or value-expressive attitudes with regard to S&T. Can we interpret that as ambivalence or is it a regular, even harmless statistical distribution within a society? With regard to a value dialogue, this might imply different ways of persuasion. Attitude research showed that attitudes are influenced by diverse factors such as past behaviours, reasons etc. In order to understand basic concepts, we have to consider the relationship of values to these attitudes' factors. An ethics of values and value dialogues might not be restricted solely to philosophical disambiguation and rational argumentation; it also has to deal with emotions, cognitions and behaviours.

Like the generic term attitude, concepts of preferences (a), interests (b) and desires (c) are related to evaluations.

(a) *Preferences* can be described as evaluations in the light of possible alternatives (Jung 2007, 71). To contrast attitudes and preferences, academic literature distinguishes two categories of evaluative judgements (Grüne-Yanoff; Hansson 2009, 160f., Schnädelbach 2000/1, 158-162): a classificatory concept that evaluates a single action, object etc. (e.g. “A is good/ bad.”) and a comparative concept that compares two objects according to some value (e.g. “A is least as good/ bad as B.” or “A is better than B.”). According to Grüne-Yanoff/Hansson (2009b, 8/9), a preference

“expresses a relational value judgement. It is relational in the sense that it connects two or more relata. These relata may be propositions expressing states of affairs, events, etc. or they may be bundles of goods. Preference is a value judgement in the sense that it compares relata with respect to (some aspect of) their value. There are two fundamental comparative value concepts, namely “better” (strict preference) and “equal in value to” (indifference).“

Predominantly in economics, subjective preferences play an important role to explain human behaviour in the sense of economic rationality. According to the well-known critique of Amartya Sen (1987) the traditional picture of economists (and utilitarians) – that economic actors are typically motivated by self-interest in realizing their subjective preferences – cannot be convincingly hold. He argues that people indeed are motivated by a great variety of non-self-interested motives, and some of them could be characterized as ethical motives. Hence, for empirical research, Fritz W. Scharpf suggests dividing preference into four components: basic self-interest, normative role orientations, identity, and interaction orientation. These four preference components play an important role in the strategic action of rational actors by calculating their gains and losses within an institutional framework that influences their choices. He understands the first two components in a quasi objective way. By *basic self-interest*, he means “the basic preference of actors for self-preservation, autonomy, and growth” (Scharpf, 64) and by *normative role orientation* the “normative expectations addressed to the occupants of given social functions” (ibid.). With regard to *identity*, Scharpf (1997, 65) states that actors

“have the possibility of defining specific interests and norms for themselves, and [...] they may selectively emphasize certain aspects of self-interest as well as certain rules and normative purposes from among those that generally apply to individuals or organizations of their type. In other words, actors have

the possibility of defining a specific identity, which, if adhered to, will simplify their own choices and which, when communicated and believed, reduces uncertainty for other actors (and for researchers as well)”.

Finally, with *interaction orientations* he pays tribute to the fact that there are preferences which are defined relationally, i.e. paying attention to the relationship actors have with their fellow actors and that determine their choices. It is interesting for the course of our investigations, that with evaluations we have to consider contextual parameters.

(b) *Interests* are any form of concern that is directed to an object, action or other creature. In a subjective understanding, interests can be described as the value that an object, action or other creature has for a person and includes the pursuit of this value (Schmücker 2003, 308; Mieth 2007, 23). If interests are considered necessary for the happiness of individuals, it is not possible to determine objective interests. However, there is also a social side to the meaning of interest. Persons, understood as individuals that balance benefits and losses according to their internal preference lists, have to satisfy their interests in interaction with other individuals. Resulting conflicts have to be regulated by morals and law.

(c) *Desires* contain what individuals actually want before being realised. There is the view that values are reducible to preferences or desire satisfactions. Pleasure, knowledge etc. are valuable because they are desired, and if they are not desired anymore they are not valuable anymore. If the status of being valuable is wholly determined by an unreflected motivational force and a subjective feeling to strive for something, there would be no stable system or ranking of values (Mason 2011). Obviously, this desire-dependent understanding of values does not fit with the everyday concept of value as even bad things that are desired would have been qualified as values. Instead, values express ideas of what is worth desiring. They imply the idea of constraining desires (Joas 2005, 15).

Similarly to propositional attitudes, values are interrelated to evaluations. *On the one hand*, values arise from indirect or direct evaluations (or “valuings”; see the second-next paragraph for the opposing part). Whereas *indirect* evaluations are unreflected acts of exploration, joy, avoidance, perception etc., *direct* evaluations have the explicit form of value judgements (Siep 2004, 127-128, 132-133). The following genesis of values is regarded as plausible (Joas 1999/2000): Individuals evaluate directly or indirectly the feature of value bearers (e.g. objects and their properties, state of affairs, facts) as valuable; connected to their rational and emotional situation they make individual experiences, which they value. There are active and passive experiences that can be evaluated: An agent makes choices, but is also confronted with unexpected incidents. To become values these single and individual evaluations have to be articulated and accepted by others. The permanent interaction between individuals and groups results in socially intermediated reflective standards of values (Jung 2007, 71; Taylor 1985, 18-21). In this regard, all kinds of values are traced back to valuing subjects; thus, the differentiation between intrinsic and extrinsic values does not make sense (in contrast to Siep 2004, 128, who claims that intrinsic values are related to valuing subjects). As we can see on aesthetical or practical experiences, evaluations that might become values are not reducible to subjective desires, needs and appetites. Although the commitment to a value is not external, we do not simply change our values because of preachments or rational objections. Accordingly, values have a passive and enduring element (Joas 2008): It is not a question of choice or decision as in the case of interests, we feel bound by values by some mixture of implicit and explicit, personal and social influences. Our binding to values originates in experiences we made that something is good or bad. In this way, we are deeply moved by a value. Joas compares this to being in love. In the same way as people can not actively fall in

love, they can not actively bind themselves to values. The binding to values emerges in an experience-based process and not as a result of calculation or preaching. Therefore, values are neither identical with “enduring beliefs” (Rokeach 1989, 5f.), nor with subjective attitudes or preferences (Ott 2001, 39).

Although values arise from certain acts of evaluation, in everyday parlance they are often described with nouns or nominalisations as being general or abstract things like democracy, welfare, wealth or family.³ In their formation, values originate from single evaluations, become detached and grammatically condensed in nouns. In the scientific literature, this nominal use has been criticised – although it is acknowledged that nominalisation is to a certain degree unavoidable, because it is a result of how Indo-European languages work (Schnädelbach 2008). Mandry (2009, 168-176) summarises the critique of the nominal use of values as follows: *First*, there is the problem of pseudo-objectivity. This aspect refers to the question of subjectivity because grammatically, values and validity remind of the subjective nature of values: something is valid *for someone*. Values are reference points for individual assessment of actions as good, bad, coward, brave etc. This connection gets blurred by the nominal use of values. Nominalisation suggests objectivity and therefore an obligatory nature of value that is, however, both inappropriate and not justified. *Secondly*, values are in constant danger of becoming ideology when insisted upon dogmatically. This criticism goes back to Carl Schmitt (cf. Schmitt, Jüngel, Schelz 1979, 33) According to him, those who claim the validity of a value have to enforce them – in the end by every means as he demonstrated using the example of the French Revolution. One does not have to support Schmitt’s view to agree that speaking about values has to be argumentative and open to critiques. While this detachment from single evaluations and the conversion to nouns allow for disambiguation and abstraction, the generality of values results in a relative distance from experience and content-related vagueness or ambiguity. These abstracted values can travel to different contexts. However, they can also become contested because we do not always know what they mean in specific situations (Mandry 2009, p 158-9). It is the task of value discourses to clarify these situations.

On the other hand, values are seen as (ultimate) reference points of single evaluations and serve as justifiable criteria for evaluations (Joas 2000, Mandry 2009 and Schnädelbach 2001-2). If evaluations are condensed to intersubjectively accepted values the latter are used to evaluate the former. From this point of view, evaluations are not identical with values but build on and point to them. Single evaluations relate to values in a way that they are referred to as criteria, ideals and moral standards. As last reference points, values are valuable not because they could be traced back to principles or norms. Values are valuable because we accept them “on their own”; for instance, human life is esteemed as a value immediately, which might not follow from reasons. Hence, Siep (2004, 182) holds the opinion that values give reasons for practical decisions instead of being justified by reasons. In contrast, although values are acknowledged on their own we argue that values can be justified: We might have good reasons for their acceptance – not in the sense of “ultimate justification” (“Letztbegründung”) but in the sense of reason giving and reason taking plausibility in a rational discourse.

³ Schnädelbach calls them *pseudo-things* (2001-2, 160) and caricatures them as “light bulbs in the platonic sky of ideas” (Schnädelbach 2006): After the sun which represented the ‘Good’ in metaphysical philosophy went out, it was replaced by values that like light bulbs could be screwed into the sky of ideas to give (moral) orientation.

Understood as something people submit to as determining concepts of their lives values are articulated independently from single evaluations (Mandry 2009, p 162-164). Being objects or criteria of evaluations, they give orientation. Values can be thought of as 'organising principles' structuring various evaluations that might lead to certain propositional attitudes (desires, preferences or interests). Values are seen as stable and fundamental whereas propositional attitudes can be spontaneous, non-reflective reactions that can be influenced and changed frequently. Although the concept of attitude – influencing and structuring actions in concrete situations – is normatively undetermined, it is based on implicit normative criteria referring to values, for instance. To illustrate it with preferences, they are part of a comparative concept that compares objects according to some value. Therefore, they need one or more values as criteria to build preference lists. As we evaluate propositional attitudes on the basis of values, both cannot be used synonymously. Without being reduced to simply rational and justifiable ideas, values undoubtedly also have a very strong emotional element. Joas (2005, 15) defines values as emotionally connoted conceptions. If we witness the violation of a value, we do not simply state this violation soberly, but we are (also) outraged or ashamed.

The systematic difference between values, attitudes and preferences reflects their origin in different academic language games as mentioned above: Sociological research asks e.g. for the valence, strength or stability of attitudes (preferences, interests, desires) in order to explain and predict individual behaviour or action regardless of their moral justification. Out of attention, values are either treated as long-term attitudes or exogenous objects simply presupposed. The stated systematic focus has caused great problems for sociological theories to analyse the genesis of values (Joas 1999, 27-29; Joas 2000, 12-19): Adherents of Utilitarianism (e.g. Coleman, Hechter) reduce values to self-evident subjectively desirable goods compatible without explaining, where our values originate. As people are motivated by a great variety of non-self-interested, ethical motives (Sen 1987), the answers are not convincing. Common qualitative differences between attitudes and values are not grasped. Normativist-orientated social scientists (e.g. Durkheim, Parsons) take a step forward regarding values as cognitive scripts and moral templates for human action that were internalised in socialisation processes. Although clearly distinguishing between attitudes, norms and values it remains unclear how values are applied in concrete situations and how individuals refer to them actively and reactively when faced with new situations (Joas 2005, Hall/Taylor 1996, 946-950). Philosophical considerations on values ask whether they themselves are acceptable in the light of the moral good or the normative right (regardless of the explanatory or predictive power) and whether actions conform to values. As a latent dimension underlying attitudes, values in normative ethics justify and give reason for them. Admittedly, one might be faced with both sides. A researcher who investigates attitudes that support racist prejudices might hold the opinion that those attitudes are morally wrong and contradictory to values such as equality or tolerance. In this example, the researcher deals with evaluations expressed by others in attitudes to people of another race as well as those expressed by himself in evaluating the moral rightness or goodness of the investigated attitudes. But s/he does so in different ways (empirically vs. normatively) and with different aims (explain and predict vs. evaluate, criticise or justify). This has to be borne in mind in order to avoid confusion that can be fuelled by the academic literature on attitudes. While earlier scholarly works such as that of Milton Rokeach or Daniel Katz explicitly dealt with attitudes and their relationship to values, more recent works seem to have lost this from sight.

Latter focus mainly on the relationship of attitudes to beliefs, behaviour, and affect (cf. Albarracin/ Johnson/ Zanna 2005, Jonas/ Stroebe/ Hewstone 2007).

4.3.2 Values and norms

In public debates, values and norms are very often used as a pair, because both are orientating directives for human action; both are normative criteria for justifying and evaluating human action. However, there is an important difference between both:

Norms are more or less generalised rules or instructions with respect to expected actions of defined groups of social actors or to the expected performances of a specific activity (Ott 2006, 474; Streeck/ Thelen 2005, 9). Typically, norms can be analysed with regard to its components (von Wright 1963; Ott 2006, 475-80): According to the *type of norms* they can be classified as technical, epistemic, conventional, legal and moral norms that in everyday life are found in the form of technological standards, customs, laws, and commandments. For the context of governance of S&T there is special interest in legal (“hard and soft law”) and moral norms. The *character of norms* refers to their content which arises from the combination of behavioural modes with a so called *deontic operator*. The deontic operator is based on moral basic modalities: allow, forbid, have a right, ought to. Norms are directed to different social groups (*norm addressees*): Who is supposed to follow or enact the rule (moral agents)? Who are the people addressed and affected by the instructed action (moral patients)? Some strict moral commitments are universal commitments for all members of a moral community, whereas some norms refer to specific social roles (physicians, lawyers etc.), goods (nature, security) or contexts (sport, politics etc.) (*specification of a norm*). Hence, there are different possibilities of how specific or universal norms can be formulated, interpreted and put into practice (Düwell, Hübenthal, Werner 2006, 15; Ott 1998, 348).

Norms are both obligatory without regard to a specific person and restrictive, as they might rule out courses and aims of action. Norms tell how to act in a certain context, so that we are instructed for certain action. Values on the contrary are rather general and they lack the specific deontic operator to regulate behaviour immediately and effectively, i.e. to directly command a course of action. Values do not tell us what to do in a specific situation. Thus, Grüne-Yanoff/Hansson (2009, 162) emphasise that “[...] norms are directly action-guiding whereas values are not”. From a different perspective, according to Joas (2000; 2005, p 14/15) norms are restrictive, while values are attractive: Norms exclude objectives and/or means of action as morally or legally unacceptable; values do not limit a range of action but make action possible in the first place. Although Joas’ confrontation of norms and values is too strong – depending on the specific deontic operator norms do not solely exclude action, and values of course also limit the range of action – it illustrates very well their different action-guiding qualities: Values give us an impression of what we want. Thus, they provide orientation and motivation for action. Individuals and social groups feel bound to their values. Acting in accordance with their values they behave in consonance with their own self-conception, in a way they want to see themselves. As values are connected to subjective value judgements they are strong intrinsic motivators (Hare 1987). In contrast, as norms have an obligatory character they do not – apart from a strict Kantian or ideal discourse ethics model of morals – presuppose an inner commitment: The addressees of a norm have to comply whether or not they like it.

In practical meaning values and norms enforce each other: Enabling action without demanding a specific (course of) action (Bockrath 1998, 380), values need, and are linked to, norms for a personal and situational application. Conversely, norms can not work effectively when their specific value was not made binding in the socialisation process (Schäfers 2008, 37; Schnädelbach 1983, 201).

4.3.3 Values and virtues

Schnädelbach (2001-02, 151) points to the fact that very often discipline, tolerance, respect or helpfulness are considered to be “personal values”, while in classic moral philosophy they are understood as virtues. Very generally speaking, virtues are positive, desirable character traits of individuals. According to Wils (2006, 534), virtues are the attitudes of a moral agent that enables him to act freely, appropriately and pertinaciously according to his moral convictions. Mieth (2007, 24) accentuates human action when he defines virtue as the attitude to values as moral criteria that is expressed in action. Therefore, virtues can be seen as a link between values and action. We do not only need an understanding of what is morally good or right but also an inner standing (attitude) to act accordingly. This attitude can be seen as something valuable in itself – hence a genuine moral trait. Some value ethical approaches viewed these character traits as person values (Mieth 2007; Schnädelbach 2001-02, 151).

4.4 Working definition of values

Based on the literature discussed, we suggest the following definition of values:

Values are reference points of evaluations and vice versa result from evaluations in a dialectical process; they are rationally and emotionally binding, giving long-term orientation and motivation for our action.

As all working definitions this working definition of values needs further explanation, specification and distinctions from related terms.

- **Agents:** This definition of values applies to both the individual and collective level of human agency.
- **Values and Value Sets:** An agent usually holds and affirms not only a single value, but a “set of values” that relate an agent's values to each other. The same value, e.g. “autonomy”, can occur in different value sets and thus take on different weight and meaning in relation to other values such as “freedom” or “security”.
- **Connection to Identities and Practices:** Values and value sets are closely connected to the agents’ identity. By seeing something as an ‘own’ value, the person imbues it with meaning and importance. At the same time different roles and practices are related to certain values and value sets. For example, the sciences stress other values and different prioritizations between values, than religious practices or family life. Thus we can talk about “scientific values”, “religious values”, “family values”, “political values”, etc. A person or a group has several roles and value sets. Different contexts may trigger the importance of a particular value set for the person or the group.
- **Rational and Emotional Dimension:** By affirming something as a value, an agent is inclined to think that others should value it too. Reference to values allows for ethical

consideration such as argumentation, reflectivity and eventually justification, so that a subject expressing a value can give reasons for being bound to this certain value or value set. On the other hand and at the same time there is an inevitable emotional component of being bound to values, as can be seen when a value system is challenged by non-complying action.

- **Objects:** Values can be understood as ideals or criteria (i.e. reference points) for evaluating things, actions, persons, institutions, attitudes, norms (i.e. entities) as good or bad, brave or coward etc.
- **Persistency:** As the evaluative framework, values are detached from single evaluations (like preferences or matters of taste). That means values are neither arising ad hoc or spontaneously under request nor fixed sets of entities that could claim an ‘eternal’ existence independent of time and space. As reference points as well as results of evaluation, values are comparatively stable, but changeable over time.
- **Relation to Beliefs:** Beliefs (in a cognition-oriented sense, to be distinguished from faith etc.) answer to descriptive questions about what exist (existence), what can happen (expectancies), and why this happens (cause), probabilities and hypotheses. There is a complicated interdependency of values and beliefs. Changes in an agent's beliefs might also have an effect on his or her value sets – and vice versa: For example, the belief that recording of biomedical information is problematic (there is no complete protection of biometrical information and hence non-intended spread of biometrical information is to be expected) might have influence on his/her concept of e.g. autonomy and privacy.
- **Contrast to Preferences and Attitudes:** Although values, attitudes and preferences are often used synonymously, we emphasise that values are something connected to, but distinct from attitudes and preferences. Values, attitudes and preferences are all related to evaluations but they are situated on different analytical levels. As mental sets, attitudes determine the way people evaluate a stimulus (object). Preferences are part of a comparative value concept that compares objects according to some value. Therefore, they need one or more values as criteria to build preference lists. Both, attitudes and preference can be evaluated on the basis of values. While attitudes and preferences influence and structure actions, the terms themselves are normatively undetermined. Values involve a meaning dimension and hermeneutic framework which mere preferences and attitudes do not have.
- **Contrast to Norms:** Attracting and motivating values enable action without prescribing a specific (course of) action, like norms do. The gap between abstract values and specific action can be and has to be bridged by norms or virtues. This difference is of high importance for debates about science and technology since certain values and value sets do not determine what exactly ought to be done.
- **Expressed Values and Revealed Values:** Methodological difficulties in the study of values have led to a conceptual distinction between “revealed values” and “expressed values”. Expressed values are values that people explicitly claim relevant for their lives. However, such self-reports may involve several forms of bias. Revealed values show (only) in actions and preferences.

5 Towards a pragmatically justified theory of values

It is described in many examples (e.g. GM agri-food) that the European citizens’ acceptance of scientific and technological developments and innovations is not for sure. Peoples’

attitudes toward science & technology (S&T) seem to be highly dependent upon values that are touched by these developments. In other words: Scientific innovations must be compatible with values of those who are potential users in order to be accepted. As the EU is one of the most important financial supporters European S&T, it is advisable to react to these insights if their S&T policies should be supported by the public. From another perspective, the question of good governance has to be considered as an important issue for European politics. If the concept of “good governance” implies the participation in decision making processes of different stakeholders, including the public, their value-driven attitudes play a central role. Hence, values of European citizens need to be addressed explicitly, if there is the attempt to legitimize certain policy projects (e.g. S&T policy) by the support of the citizens.

Value Isobars has identified the need to bring public policy in general and S&T governance in particular more in line with European values (Value Isobars 2009, 4). This goal includes several implications that have to be identified and clarified from a philosophical point of view: First of all, the notion of “European values” is to be clarified if it should be the basis for bringing governance more in line with. The main conceptual work includes explaining implicit presuppositions that are bound to this concept (i). After accomplishing the first task it has to be justified why European values should give prescriptive orientation for political action in particular (ii). A pragmatically justified theory of values is suggested which also attempts to answer the question how a conflict between justifiable values can be solved (iii). Further, a philosophical approach has to consider what it means to bring governance in line with European values (value-norm-translation) (iv). Finally, a theory of value-based governance should be sketched (v).

5.1 Which values can be regarded as “European values”?

First, the question arises what European values are, that governance should be brought more in line with. At least three different meanings of “European values” can be distinguished: values European citizens currently hold, values being derived from a European master narrative, and values in official European documents.

(1) *Values European citizens currently hold*: It would be the task of social psychology and moral sociology to empirically collect the data by surveys or participatory means. This approach must consider several and different problems: European people belong to different social groups that have different value commitments in relation to certain contexts and problems. But what makes values hold by Europeans citizens really “European” if there are considerable overlaps between values hold by European, American, African or Asian citizens. Moreover, in some parts of European countries, ‘ethnic Europeans’ are the minority within multicultural communities with varieties of value sets. Finally, if “European values” should be values expressed by members of the European Union, one has to accept a geographical concept of values. This concept is furthermore challenged by the fact that the European Union is in the state of expansion; are these values hold by new members of the European Union also “European values”?

(2) *Values being derived from a European master narrative*: It would be up on historians, philosophers and other humanities to read the values out of European history and of experiences that constituted a European public. Moral maps would then depict a narrative we tell about ourselves and refer to a history of collective experiences. If we ask for European values we have to ask for historical, political and cultural traditions (Hermerén 2008) and joint experiences (Mieth 2000; Joas 2005). In some public as well as academic debates the impression is created that religion in general and Christianity in particular are the principle

sources of European values. While religion played its part, it is by far not the sole source (Schnädelbach 2006). According to Mieth (2000), European values originate in: *Hellenistic-Roman antiquity* that spread beyond Europe and that represented environment for *Judaism* and *Christianity*; *Islamic influences* that also returned antique heritage in philosophy and gave the impulse for the creation of European universities; *Germanic influences* that are e.g. visible in the tensions between Germanic and Roman law; *Plurality of religious confessions* that led to a definition of basic rights that are independent of religious foundations; *European democracy movements* since 1789 that also resulted in tensions with ethnic, religious and other communities; Future political locations of Europe in times of *globalisation* and *technology-induced change*. Joas/ Wiegandt (2005) also add the estimation of *inwardness* and of *ordinary life* and the experiences with *slavery* and with *totalitarian regimes*. Drawing a map of European values therefore means that we do not only locate topographical features on it and put the names of values on them but also that we have to bear in mind collectively made experiences, many of which have a complex *deep time* dimension. The emergence of European values is constitutively led back to key value experiences that are condensed to a “collective memory” of narratives (Assmann 1998). This approach relates to the insight that societies require a minimal shared set of values which are interpreted in a particular way and have specific contextual ranking orders. These specific sets of basic values, value interpretations and rankings “constitute an important aspect of European identity” respectively what European values are (Hermerén 2008). However, as this common history and tradition always has ‘dark’ moments, alternative versions, and is confronted with new challenges, it is inevitably subject to critical examination and revision by value discourses.

(3) *Values in official European documents*: One simply has to look into those texts that were written and accepted by the elected representatives of the European citizens. In those documents, the democratic sovereign declares how and according to which principles it wants to perceive and constitute itself as a society. The paradigmatic case would be the preamble of the *US constitution*: “We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.” (US Senate) In principle, the same applies to the European treaties. However, the notion of European values is becoming difficult if one compares similarities between value systems mentioned in central European documents and documents of other countries (or the *United Nations’ Declaration of Human Rights*).

Although these different meanings are frequently used, mainly the first meaning fits to our suggested definition: value as action-guiding reference points of evaluation. The two other meanings of values can be regarded as bottom-up derived from the first meaning: By influencing individual attitudes and action, values can sediment abstractly in narratives and documents etc. like value-expressing narratives can have an impact on individual value formation. On the one hand there can be a cross-link between these meanings; on the other hand, there can be a lack between values as individual prescriptives [evaluatives?] and values as sedimented narratives.

In a way, they are all European values – and in the end it remains an empirical question whether or not there are significant differences between. One has to take into consideration that these different meanings are cross-linked: Discussions on European values take place within distinct political cultures and institutions which emerged due to specific value

commitments and conceptions of values. Collective moral maps are rooted in individual moral maps – and vice versa – which always contain ideas of how social life and community, their aims, foundations and institutions should be constructed. Apart from getting – via retrieving or constructing – European values by surveys or narratives, their content remains vague and needs interpretation. By means of value generalisation, we have to make explicit the content of values that are meant to guide politics and policy and to give them the structure of a norm. Things will get more complex, if one also checks whether or not actions of European citizens and of European institutions conform to expressed values or if they are guided by other values. Social psychology differentiates here between expressed values that people explicitly claim relevant for their lives, and revealed values that show in their action.

In all consulted disciplines (philosophy, social sciences, and psychology) the notion of value is quite complex, heterogeneous and problematic. The relationship between philosophical and social values has to be clarified as a philosophical theory of values has to deal with different value types and value traditions.

In contrast to moral values, we suggested an understanding of “social values” as more subjectively considered, rather non-argumentative attributes of individuals and groups. This is not at all to say that social values would be somewhat irrational, but the level of analysis and explicit reflection simply differs from a philosophical discourse where argumentative validity (‘Gültigkeit’) of values is sought, notwithstanding their actual prevalence in society. In that sense, the difference would lie mainly in the methodological perspective between philosophy and social sciences.

One could also say that moral values are treated by moral philosophy for normative ethics whereas social values are treated by the social sciences in forms of sociology of morals. Latter look at values from an descriptive-analytical perspective and ask what are the values held in a certain group, to which degree values are expressed, how values change etc. Yet empirical results are neither unanimous nor undisputed: There is no consensus if values vary among European countries (European Social Survey 2002) or if variability is more on the individual level (within the countries) than at the aggregate level between countries (Ramos 2006). Like value differences and changes are explained by socio-structural conditions, uniformity of values in different social groups is traced back to common cultural traditions, common social and historical reference points, as it is the case across Europe. Since statements about value changes in the last decades (e.g. towards post-materialistic values) are challenged by the sophistic argument that basic (materialistic) values are simply prerequisites (Joas 1999, 13), the door is still open for the empirically observable stability of certain values over time.

The question arises what follows from the fact that some values are declared to be European values? According to Hume’s law (is-ought fallacy) moral claims purely on the basis of descriptive statements are not valid. In any case it would be the task of moral philosophers to argue why politicians should acknowledge these empirically or hermeneutically stated values. European values are more than the landscape of social values (to be) described. Compared to empirical descriptions currently hold values should have a prescriptive function: They are understood as authoritative and binding for EU citizens and policies, even if the content of specific values is somewhat vague and open to different nuances and to ascertainment.

5.2 Pragmatically justified?

We have introduced values as normative standards which are principally justifiable. In general, we regard “justification” (by argumentative reasoning) as the process of reasoning and -taking to accept something as (un)true or right/wrong. In this sense, justifications are different from causal or genetic⁴ explanations developed by cultural or social sciences. In common language use two kinds of entities are the objects of justification: beliefs, judgements and statements on the one side, and choices and actions on the other side. According to Kuhlmann (2002, 313) justifications are based on a five-digit relation: Person A justifies a belief, judgement, choice etc. in regard to a validity claim (truthfulness and rightfulness) by arguments for an addressee B.

Focussing on prescriptive sentences, value judgements, norms etc., all these are accepted on grounds of reasons. In justification processes different argumentation strategies can be used (Kuhlmann, 315-318, Ott 2001), whose acceptance may vary in different moral communities: (a) The *pre-reflexive* type of argumentation refers to moral sentiments, intuitions and beliefs that we hold as true or right. The importance of the pre-theoretical moral consciousness is honoured, when many ethicists attempt to explicate or reconstruct moral principles as its content. But there are several problems: The justification process would be reduced to a more or less systematic description and analysis of a settled moral consciousness. Even if moral consciousness is usually connected to strong validity claims, it is not infallible. We regard it as tentative, criticisable and modifiable. (b) The *standard* case of justification consists in the support of a prescriptive sentence *x* by referring to a second less problematical and accepted normative assumption *y* (e.g. moral principle, value), out of which the former can be derived.⁵ As the validity of *x* depends on the (degree of) reliability of *y* there may be different kinds of strong or weak reasoning. The question arises if such community-dependent justification standards can themselves be subjects of evaluation. If someone gives reasons for a value judgement *x* by drawing on a higher principle *y*, three well-known justification problems arise, which were prominently brought forward by Hans Albert (1968) (“Münchhausen-Trilemma”): Either the higher principle itself has to be justified by referring to just another assumption, so that an infinite regress occurs (i); or the higher principle which requires proof has already been assumed in a premise without proof (*petitio principii*; ii); or the higher principle has to be accepted as a non-justifiable (first or ultimate) principle so that the infinite regress is interrupted dogmatically (iii).⁶ As we regard values as (last) reference points of evaluation the same justification problems apply to them. Hence, the standard case of justification is highly dependent from the acceptance of the presupposed principle. (c) Alternatively, the case of *ultimate* (transcendental-reflexive or transcendental-pragmatic) justification is based on the proof that certain assumptions, beliefs etc. cannot be contested without neglecting the whole procedure of argumentation and being completely self-contradictory. These objections would assault or destroy important presuppositions a person has implicitly to claim, if s/he wants to contribute to a rational discourse. Accordingly, certain principles, norms or values can be revealed as such presuppositions, which have to be

⁴ In the sense of the historical development, not in a biological sense.

⁵ The open notion „derived“ indicates that several forms of deduction, abduction and other forms of inference might be in place.

⁶ It should be noted that this “trilemma” is not at all restricted to moral reasoning, although it is mostly (mis)represented in that way. The three modes exist also in other forms of chains of asking the next level of “and why this?” in reasoning.

accepted coercively, if agents want to participate in a rational discourse. But only few kinds of prescriptive sentences can be justified by this reflexive justification.

According to Tugendhat (1994; fourth lecture), for a long time ethicists have made the mistake to commit themselves either to the possibility of ultimate justification of principles, values etc. or to the impossibility of justification at all. Instead, plausible reasons might be possible, which are not ultimate one the one hand, without leading to a radical scepticism on the other hand. If the end of justification in general is to convince an addressee by arguments, the justification of values can be condensed to a process of rational argumentation; this process has to be adjusted to situational needs and requirements, to the accepted kinds of reasons etc. (Ott 2001, 67f.).

Against this background, we intended to suggest parameters for a *pragmatically justified theory of values* for governance: “While it is not expected that the current project will successfully resolve all conceptual and methodological issues that are prominent in the academic discussions on social values (and the related attitudes to science and technology), it is hoped that the project will manage to summarize and combine important research insights and to draw out a pragmatically justified approach that addresses governance needs.” (Project description, 8) To lay the grounds for a pragmatically justified theory of values, we suggest different criteria that must be satisfied by a philosophical investigation and conceptualization of values:

On the one hand, a pragmatically justified theory of values cannot be developed in a vacuum. It has to take into account that political actors and members of the European community already have concrete and strong beliefs about “values” they feel bound to. Descriptions of a pluralist society with heterogeneous norms and value systems are empirically unrejectable – and broadly accepted. The situation of several and heterogeneous accepted values within a value community should be the *fundamentum inconcussum* of a pragmatically justified theory of values.

As we have already seen (3.2), value pluralism modestly means that there are several distinct values hold by the members of a society, for instance by European citizens. These different values (i.e. freedom, security, friendship etc.) are not reducible to one superior value. Yet the concept of value pluralism has to be distinguished from *political* pluralism (Mason 2011): “Political pluralism usually starts with the observation that there are different value systems in use in the world, and there are various positions that arise out of that observation. Political pluralism is concerned with the question of what sort of restrictions governments can put on people's freedom to act according to their value systems. The strongest version of political pluralism claims that all these value systems are equally true (and thus presumably all ought to be tolerated), a weaker view is that these value systems all ought to be tolerated, and probably the most common version of the view is that some of these systems (the reasonable ones) ought to be tolerated.” If we have a closer look on political plurality descriptions they inevitably imply normative assumptions. According to *The Treaty on European Union* (Art. 2), the Union “is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities. These values are common to the Member States in a society in which pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men prevail.” This European document shows that pluralism is regarded as a central European

value, which includes the several mentioned values. If we take pluralism as a value itself, it is a demanding value including many normative prerequisites: It is based on a strong, not to say absolute value concept that excludes relativism (cf. Squires 1993). Surprisingly, the postmodern and liberalist demand to avoid strong evaluations suppressing our self-concept and basic desires paradoxically implies strong evaluations itself. Pluralism as a value includes a value set of tolerance and respect.

On the other hand, philosophical demands regarding the question of justifying values must be satisfied. A pragmatically justified theory of values taking the plurality of values (*Pluralismus der Werte*) seriously has to consider the following, not least in the context of (value) governance of S&T: It has been pointed out that philosophical value concepts claiming the eternal existence of fixed values independent of time and space are not apt. Such approaches would clash with an empirical investigation of more or less contingent values in and of Europe; they would pose problems because from this perspective the sociological focus on European values would not make any sense. By rejecting radical value objectivist positions as inadequate for the purposes of this investigation, we do not put the case for value relativist or value subjectivist positions either. If we ask for the genesis of European values, approaches that would still repel the idea of contingency are neither convincing nor useful. We want to point out here, however, that also historically contingent values and norms can be employed as valid and binding – not for eternity but for a certain given time or at least for certain societies, states and/or supranational institutions. Hence we have to find a way to deal with a plurality of values in and of Europe on the one hand, and the observation that some consensually or even legally accepted values have a quasi-objective status on the other hand. Instead of avoiding normative assumptions, we shall offer a philosophical value concept that is applicable by persons with different moral background in different contexts. Even if in pluralist backgrounds the general acceptance of certain justification models is not expectable, one must not underestimate the consensual acceptance of basic values (freedom, justice etc.) in European countries.

From contemporary value theories Joas' idea of the pragmatic genesis of values is an interesting and promising approach that integrates a discourse-based, universalistic account of morality. According to this approach values and value commitments “originate in experiences of self-formation and self-transcendence” (Joas 2000, 1). Referring to the fundamental assumptions of G.H. Mead, individuals are conceived as beings developing their understanding of the self in meetings with a larger discourse community. As the process of the self-formation is based on interactions with others, in childhood and adolescence, individuals learn values through dialogical experiences with their social surrounding (e.g. family, groups), and become more and more able to reflect them critically. This constitutes a value system that is not fixed but open to change. This change can occur in experiences of self-transcendence which allows individuals to cross their borders and to make new experiences that lead to new value commitments. Possible experiences of self-transcendence are collective ecstasy, prayers, especially intensive experiences with nature or sexuality but also with agony, fear or violence. According to Joas (2005, 38), values do not constitute exclusive systems by themselves but are believed, held and spread by people. Values are part of a social order that is generated by communication. As values are related to experiences and interpretations, it is possible to combine the particularity of individual experiences with the universality of values. An ethics of values asks for the emotions, experiences and narratives associated with values. However, this is not meant to lead to a compilation of different stories

that stand next to each other unrelatedly. An ethics of values intends to go beyond that by asking how we can introduce values into a value discourse. We think that this can be achieved by what Joas (2007, 2008) called “value generalisation”, a concept that means a process of mutual modification of value traditions (Joas 2007, 33). Building on Parsons, Joas (2008, 94) states that

“different value traditions can indeed produce a more general, mostly also more abstract understanding of their common features *without* losing their roots in the specific traditions and experiences to which actors feel affectually committed. In its current articulation a value maybe the result of a particular cultural tradition – human rights, for example, are claimed to be a result of the Judaeco-Christian tradition or of the Enlightenment – but this does not mean that other cultural and religious traditions cannot be reinterpreted, or rather, cannot reinterpret themselves in view of this articulation of a value so that their own potential to articulate this same value comes to light.”

Joas conceives of his theory as one that integrates a theory of the genesis of values with a universalist account of morality, notably a pragmatist, i.e. discourse-based, theory of ethics. The basic process of the formation of the self is through dialogical experiences. Individuals are conceived of as beings, who in the meeting with the Other develop an understanding of the Self as a part of a larger community. This is seen as a condition for forming relationships both to oneself and to the Others. As Joas says: “Identity, not in the sense of stable features, but of a communicative and constructive relationship of the person to himself and to that which does not belong to the self, is the precondition for creative intercourse with the Other and for an ethos of difference” (Joas 2000, 160). This value generalisation deals with three challenges (Joas 2008, p 90-92). It is first faced with strong emotions that are related to values. Secondly, (some) aspects of values are immune against empirical falsification: “When our basic values are affected, our reaction with regard to doubt or the person articulating this doubt will often not be the modification of our conviction, but a devaluation or derogation of that person.” (Joas 2008, 91) Third, arguing for values requires telling stories and myths about experiences that led to these values. In this context, Joas refers to Putnam, who stressed that values go together to value sets, and adds a temporal, narrative dimension. But, as values are generated in dynamical interactions between individuals and society, the question arises if it is possible to reconstruct a substantial axiology of an individual or a social group. Here we find similarities to the outline of Walzer (1987) who focuses on the existing moral system of a moral community; values and norms are regarded as products of “trial and error” gathered by inter-generational experience.

5.3 Conflicts of values

A philosophical value theory has to deal with is the notion of value conflict. Here we distinguish two phenomena: intra- and inter-value-conflict.

Intra-value-conflict basically describes different understandings of the same value. Take the value of family in the following simplistic, but illustrative example: An urban Dutch lesbian couple and a rural Polish heterosexual couple might both agree that family is an important value but they might both disagree on many content-related aspects, both interpretive factual and evaluative. One can also observe changes over time. In Germany of the 1950s, family meant a heterosexual couple with their biological children. During the last years, however, the concept of family changed and an alternative definition emerged: a family is the place, where children live, regardless of descent and legal and biological parenthood. If family policy is to be thought more value-based, the meanings of certain values play an important role. To make things more complicated, one has to consider linguistic ambiguities connected to the term

“value” as it can refer to one unitary value and a group of values: “For example, we use the term ‘welfare’ as if it refers to one single thing, but it is not hard to see that it may not – ‘welfare’ may be a term that we use to refer to a group of things such as pleasure, health, a sense of achievement and so on.” (Mason 2011). In the latter sense, a certain value term might deal as an umbrella concept referring to different values. Without regard to metaphysical problems – if there are any genuinely unitary values at all – one can easily see that there are many causes for inner value-conflicts.

Inter-value-conflict describes the conflict between two or more values in the situation of moral choice. In public debates, many of those conflicts can be found such as the tension between security and freedom or privacy. Some of these debates refer to value pluralism and the impossibility to reach common grounds that goes beyond a statement or acceptance of differences. For the solution of inter-value-conflicts several tasks are relevant (Mandry 2009, p 179-80; Joas 2007; Mieth 2005, 26-30): (1) The first task would be the identification of consensually accepted values in Europe. As in certain contexts relevant values might clash the identification of value conflicts would be the next step. The idea of a value map gains importance by bringing in this necessary contextual information. (2) It might be possible that different groups of people hold the same value but fill it with different meanings. ‘Applying’ values means that one needs to be informed on the context, interaction, situation etc. those values have to be related to. The closer one gets to contexts the more a value translation will be determined by pragmatic and efficiency reasons. It seems therefore reasonable not to deal with value conflicts in abstract (such as freedom vs. security in general) but look at it in context (freedom vs. security with regard to a specific technology in the EU). Thus, we have to open the black box of values and look at their content in order to clarify their meaning. Understanding the meanings of values creates common ground for all participants in value dialogues. (3) After identifying concrete value conflicts, their solution must be provided by introducing a hierarchical value system. In a way, it is a demanding business to evaluate the worth of a value. One possibility is evaluating values within a value-set by referring to Neo-Aristotelian or deontological ethics. In the first case, it can be asked which of the two (or more) values contributes to a good and successful live and/or political order. In the second case, it would be checked whether or not a value conforms to higher norms or principles such as human dignity. Practically-oriented principles make value-led actions possible. The social ethicist Dietmar Mieth (2005, 26-30), for example, formulated principles along deontological lines that are meant to allow a value-based progress in S&T and economy:

- Act in such a way that you respect the rights and duties of all participants (i.e. yourself and all other) in a context of action.
- Act in such a way that action according to our principles does not overturn these principles.
- Responsibility without ethos is empty; ethos without responsibility is blind for the consequences.
- Do not solve problems in a way that the problems resulting from problem-solving are bigger than the problems that had to be solved.
- If we give an end to our actions and want to be efficient, we have to pay attention that efficiency does not overturn human ends.

These principles do not refer to a specific set of values but allow for ways to deal with value conflicts in a rational way. It is assumed that people have value commitments.

To sum up, value conflicts can be solved by referring to and enacting ethical theories. Contrariwise, a reference to them cannot be presumed for all societies, contexts and agents. As the value system(s) of individuals are based on subjective, social and contextual factors, the generation of an objectively or at least intersubjectively binding value system is the main challenge (Horn 2002).

Hence, in continuation to the pragmatic value approach, a trade-off between conflicting values should be gained. One interesting solution of these problems is offered by Elisabeth Anderson. On the one hand, she holds that there can be good reasons to reject comparing values (Anderson 1997, 91, 100, 103). Anderson points to situations in which “it makes sense to leave room for the free play of nonrational motivations like whims and moods” (91); she takes the example of a choice what to do on Sunday afternoon. Likewise, there are situations in which goods are involved that are not comparable; each good can to be intrinsically valuable and yet valuable in different ways. According to the idea of Pragmatism, if such comparison serves no practical function, then the comparative value judgment has no truth value. In other situations rational choices between conflicting values are possible without ranking them. Using the example of parental love, she argues: “[...] choices concerning those goods or their continued existence do not generally require that we rank their values on a common scale and choose the more valuable good; they require that we give each good its due” (104). If there is a structural similarity between a single individual trying to choose between incommensurable values and the process of incorporating the varied interests and preferences of the members of society into a single decision, she points out that “individuals need to participate actively in democratic institutions to enable them to achieve a rational ordering of their preferences for collective choices” (Pildes and Anderson 1990, 2177).

Another important key to solve value conflicts is provided by Charles Taylor and his idea of a moral map (1985). Taylor uses a spatial metaphor to illustrate how people relate to their values and how they built up to a moral landscape. In it, people find orientation with the help of a moral map located on which are individual value convictions. The idea of moral landscapes builds on the distinction between weak and strong evaluations that Taylor relates to Harry Frankfurt’s system of first- and second-order desires. Second-order desires have the property to influence first-order desires. By evaluating them we can wish to have first-order desires or not. In case of *weak* evaluations, we simply express preferences (e.g. to go swimming instead of playing soccer) and consider how to realise our first-order desires best or most efficiently. In the case of *strong* evaluations, we reflect on first-order desires and ask for the motivation why we satisfy or reject them. Strong evaluations are regarded as something objectively given that can be justified and has to be respected. Hence, the two kinds of evaluations give an answer to the question whether we choose to evaluate our first-order desires on the basis of contingent or categorical reasons (Taylor 1985, 18f.; Joas 2000, 128). Jung (2007, 72) takes a very firm stance by stating that only in the case of strong evaluations, that are related to the self-conception of an evaluator, one can seriously speak of values. According to Taylor strong evaluations refer to “the kind of beings we [...] want to be” (1985, 26); without them, we would not be able to be persons in the full sense. Reflected strong evaluations are articulated in opposite categories such as “good and bad”, “important and unimportant”, “higher or lower”, “brave or coward”, “noble or common”. These pairs constitute a moral space, a net of corresponding situational perceptions, courses of action, emotions and self-conceptions (Rosa 1996, 112-114). Rosa explains that individuals do not only need an intact map but also the ability to locate themselves in it. This location takes the

shape of a narrative reconstruction of their life and alludes to the image of a road of life. A moral map gives information about the self-conception, biography and futures aims and desires of an individual. He or she can ask him- or herself whether that is the life that he or she has always wanted to live. However, a moral map is never prefixed. It develops in the process of orientation and serves as a starting point for new experiences and considerations (Mandry 2009, 147-8). According to Taylor, the ability to articulate strong evaluation plays a crucial role: In moral feelings such as guilt, shame or fulfilment individuals first encounter strong evaluations but in order to reflect them they have to be articulated – even though this articulation will never entirely be conform with the emotions and experiences associated with a value. After articulating strong evaluation-expressing moral feelings they are affirmed, rejected or modified by the reaction of others; even new values might arise. According to Taylor without frequently articulating and re-interpreting those feelings would wither.

As experiences of values in situations of interaction are necessary for value commitments Taylor can be described as a value realist, but without claiming the pre-existence of values. The key concept is the principle of “best account” which means that the individual is seeking to express the best possible articulation of experiences referring to reality (Taylor 1989; Joas 1999, 216f.). As experiences are articulated on the basis of values, after conversion to other values acknowledging new facts or solving contradictions an individual might modify one articulation to a better one. Although human experiences are bound in transcendental preconditions one can strive for best articulation of experiences stepwise. One can say that Taylor supplements Putnam’s “internal realism” with a strong value account. Actually, certain values are essential for the “best account” so that Taylor ascribes the status of reality and universality to them. By differing constitutive goods, life goods and hyper goods he provides a hierarchy of values that are dependent on different extents of articulation.

Taylor (1997, 179-184) argues that practical reason has two sets of resources available to accommodate value incommensurability: First, we can appeal to “constitutive goods that lie behind the life goods”; this sense of accommodating values is conveyed by narratives; it is “fleshed out, and passed on, in a whole range of media: stories, legends, portraits of exemplary figures and their actions and passions, as well as in artistic works, music, dance, ritual, modes of worship, and so on” (1997, 179). Second, we cannot escape the need to live an integrated life (1997, 180). As this life is finite, leading a life involves an articulation of how different goods fit into it relative to one another. More generally, our lives take on a certain “shape” and this shape provides guidance in making choices in the face of value incommensurability (1997, 183). But as the shapes of people’s lives differ, the way in which two individuals resolve the same value conflict may be different (Hsieh 2008).

For our purposes of the investigation, Taylor provides at least four important insights. First, questions about values arising in concrete situations refer to a whole net of values. We can therefore assume that in policy situations we do not have to deal with single values but with clusters of interrelated values. Secondly, there are hierarchies of evaluations and values either. Thirdly, values are part of a narrative: Individuals or groups tell themselves about where they come from, where they want to go to and how their ideal world would look like. Fourthly, strong evaluations have to be linguistically expressed in order to serve as means to evaluate intentions, courses and aims of action. Articulation, furthermore, is the precondition for a successful dialogue on values and their meaning for individuals or groups. As Taylor’s concept of individual values is bound to social value judgements within a certain context, culture,

society and language, there is a strong link to Joas' value theory. A combination of Joas' and Taylor's approaches might connect the aspects of value genesis, value binding and value reflection with some form of value mapping.

If there are diverging individual and collective evaluations of objects, it should be stressed that most of them are not conflicting. For instance, opposing evaluations about clothing habits, professional behaviour etc. can be realized within an established juridical framework at the same time, if there is an overlapping consensus about fundamental values (e.g. autonomy, pluralism). Nonetheless, due to technological developments in modern societies consensus about fundamental values are diminishing and conflicts about values are emerging. To solve these problems a rational discourse about the trade-off between conflicting values should be launched (Siep 2004, 155) aiming a consensus within the participants of the value discourse. We agree with Habermas (1999), who criticizes factual, but arbitrarily reached consensus between participants; instead we suggest aiming a "reasonable" consensus that is reached under formal conditions (e.g. equal opportunities of all participants, force of the better argument).

5.4 Value-Norm-Translation

Value Isobars identifies the need to bring governance and public policy more in line with European values (Value Isobars 2009, 4). This, however, could mean different tasks:

- Rules might be checked whether they are in line with European values (*value-based norms*). The philosophically challenging task is the translating of a plurality of values into norms (*value-norm-translation*).
- Rule-setting might be checked whether it is in line with European values. Here, in difference to a material check, the formal procedure of rule-setting can be looked at whether it conforms to European values (*value-based procedures*). As in pluralistic societies with diverging values, communities will more likely focus on institutions and procedures which guarantee a fair process.

As Value Isobars aims at a more value-based and value-informed governance of S&T, we concentrate on the first challenge: Our main focus in WP1 lays on how we can come from a plurality of values that have to do with the self-conception of individuals and groups to norms that have an obligatory character. In *Value Isobars*, by improving norm-setting in EU governance of S&T we want to come from a plurality of values, held by Europeans of different age, gender, race or class, to norms that are binding to everybody regardless of the individual attitude to them. It is therefore challenging to translate motivating values into restricting norms. In the following, we will first assess the relationship of values and norms. We expect answers to the question how we can universalise values in a dialogue in order to obtain morally and legally binding norms.

In philosophy and political ethics, the relationship of norms and values was widely debated between liberal and communitarian scholars. While the former (most prominently Jürgen Habermas and John Rawls) advocated in a Kantian tradition the normative universalism of the right that is obligatory for all, the latter (such as Charles Taylor or Alisdair MacIntyre) stressed in a Neo-Aristotelian tradition plural value orders of a good life (Jung 2007, 68; there are also suggestions e.g. by Martha Nussbaum). This issue goes into the heart of the discussion how to create value-based governance. We have to find ethical means to deal with

a plurality of values, to check their validity and to translate them into norms – be it hard or soft law – that are binding to all norm addressees. As WP1, we do not repeat the turf battles between liberals and communitarians but follow several suggestions for bridging the two as represented by the later work of Taylor, Joas or Martha Nussbaum, even Habermas now holds a more moderate position (Joas 2000, Jung 2007).

To sum up, we regard values as last normative reference points of evaluation; hence they are on the same systematic level as high methodological or substantial principles (eg. Kant's Categorical Imperative vs. Rawls' Principle of Justice). Accordingly, values as general directives are on a higher level than (more or less) specific norms (Fenner 2008, p 170-171; Ott 2001, p 42-43). Norms themselves (e.g. "you shall not kill") can be traced back to and are justified by certain values (e.g. "life") – not to say that *all* norms are deduced from values as the acceptance of norms is unavoidably based on certain evaluations (Siep 2004, 183-184). If the value concept can be regarded as an epitome for rules which warrant the objective or at least intersubjective validity of human action (Krijnen, 2006, 548-49), then the translation of values into norms can easily be accomplished. The value-norm-relationship can also be seen the other way round. As rules never entirely match all aspects of a value or value sets, one can use this value surplus to check a norm. By locating a norm in a value set one can ask whether it contributes to realise values or rather goes contrary to those values.

However, one has to consider normative differences between *moral* and *legal* norms. As we have seen, moral norms are dependent from the acceptance of actors. We expect that a value-based ethos encompassing moral norms is highly accepted by the members of a value community. Additionally, regarding contextual value conflicts we have suggested a value discourse, in which actors are convinced by reasonable arguments. In contrast, legal norms – established by "soft" or "hard law" – strictly speaking are not established by the acceptance of norm addressees, which can be increased by discourses. Legal norms are passed by the authority, which is in charge to guarantee the effectiveness of legal norms and compliance of norm addressees. Though it is not the place to discuss the relationship between ethics and legislation, legal norms can stabilize value-based moral norms, but not necessarily (Kühl 2002). In this perspective of a philosophy of law, legal norms could work without acceptance of the actors. But of course in the light of political theory of democratic governance, also legal norms need at least some acceptance by the respective actors and stakeholders. In correspondence to our concept of values as inherently motivating standards we prefer the concept of soft law (codes of conduct, guidelines etc.) as it refers to the self-commitment of actors.

5.5 Value-based governance

In the social sciences, the concept of governance is used to deal with an ever growing complexity in political decision-making. Initially, it referred to forms of political guidance or steering. Then, the meaning of the concept of governance changed in two ways. In the *first* place, it "is used to indicate a new mode of governing that is distinct from hierarchical control mode, a more cooperative mode where state and non-state actors participate in mixed public-private networks" (Mayntz 2009, 13). By establishing the concept of governance the two opposites between state and non-state actors and hierarchical and non-hierarchical relationship should be abandoned. A diverse set of actors with an interest in a policy matter are brought together to achieve an intended collective good. Governance in this sense is still

connected to former analytical models of political theory. These models dealt with the conditions of an efficient steering by legitimised actors towards a predefined normative goal that also allowed evaluating the success of a social order retrospectively. In the *second* place, governance means a different mode of coordinating individual actors. In analogy to neo-classical theory in economics, policies are regarded as an emerging social order that does not need government. Social orders emerge incidentally and independently of governments by the interaction of a multitude of individual actors. If we regard social orders or public welfare as the result of emerging processes, we do neither need a government nor a predefined normative goal. In our context, the lack of normativity is of central importance. Governance appears to be a comparatively soft substitute to state and government that somehow leads to welfare and a good order. The proximity to market processes is obvious. In the academic literature, this shift in new governance theories from political steering to emergent processes is criticised for several reasons (cf. Streeck 2009, Offe 2008). For instance, it remains unclear which kind of agency is actually related to governance and how it can be distinguished from both state action in a classical sense and market processes.

If we turn to the first meaning, politics has to cope with a complex situation that reduced the effectivity of hierarchical modes of governing. The success of policies does not only depend on voluntaristic networks but also on participating citizens which have to understand, support and endure consciously and deliberately (Offe 2008, 73). Offe emphasises the importance of good political communication and refers to two possible ways to promote this cooperative and understanding support by citizens: transparent and informative enlightenment on relevant policy facts and problems, but also the reference to norms and values as decisive motives and justifying foundation of political programs. The value maps *Value Isobars* is suggesting can greatly contribute to this good political communication. Among others, governance aims at the regulation of policies by means of certain norms such as hard or soft law. In this respect, Pahl-Wostl/Toonen (2009, 8) provide a useful understanding of governance that they describe as

“setting the stage for management, the process of selecting policy options among competing values, translating them into goals, means and processes to be 'managed', evaluating outcomes and accounting externally, and taking responsibility for choices made along the way”.

An ethics of values can provide the basis for such policy-processes, by showing how values can be applied to contexts of action. As governance also deals with the regulation, development and application of legal norms, standing rules, standards and codes, it might be useful in combining legal aspects and value landscapes in S&T policies (Mayntz 2009b, 10; for further considerations on governance and law cf. Quack 2010 and Socio-Economic Review 2010).

5.6 Closing remarks

Preparing for a pragmatically justified theory of values, we have investigated the differences and relationship between concepts of “good governance” on the one hand and “value-informed governance” on the other. On the surface, both concepts might appear identical; instead, we argue that their existing normative differences should be considered in the context of S&T governance. The term “governance” is often used in a normative way as signalling a concern with “good governance”. The idea of good governance first evolved within the (value) context of the World Bank which wanted to develop principles that could determine the allocation of loans to developing countries and that had a strong anti-corruption bias. The

genesis of good governance conceptions in the context of an international economic institution does not delegitimise the concept as such. The concept of “good governance” is loaded with multiple meanings, but most often it includes the ideas of i) “inclusive governance”, ii) “democratic governance” and iii) “public engagement”. The White Paper on European Governance, for example, explicitly affirms “good governance” by elaborating the *five principles* of openness, participation, accountability, effectiveness, coherence (EC Commission 2009: 8/9). It was agreed that norms such as openness or participation are central cornerstones for a more legitimate and just (“good”) governance. *While the concept of good governance is mainly concerned with norms that are meant to guide governance processes, it is unclear and merely implicit which values are included.*

This observation leads to two main further questions to be addressed in the processes of S&T governance: 1) Which values guide good governance? Here, it was asked which values form the basis of normative statements about how good governance should be. 2) Whose values are meant to guide governance? *Value-informed governance (i.) makes explicit underlying values of good governance principles, whose values formed their basis and the processes by which they became guiding principles and (ii.) offers solutions that open, transparent and more inclusive governance not only allows more social actors to express their values but also ensures that those values can be translated into policy programs.* In contrast to the broad concept of “good governance”, the concept of “value-informed governance” stresses the point of sensitivity in regard to the values of participants in governance processes. Ensuring that the values of all stakeholders and other citizens (organised and unorganised) might be voiced and heard within governance process does not say anything about how to deal with values, let alone value conflicts. It even might appear that good governance leads to more value dissent as more stakeholders are involved.

Consequently, this results in a dual focus with regard to S&T. What are the values that guide good governance of S&T? S&T is a highly self-regulating social system. However, politics and business play an important role in shaping S&T. Both spheres interact. A value-based governance of S&T opens up dialogue on underlying values. At the same time, S&T take part in solving social problems and are therefore players in governance processes. While traditionally the sciences have been assigned with the role of contributing a standing knowledge to deal with concrete problems, this (self-) perception changed. Fixed all-cure solutions failed in concrete social contexts because governance processes overlooked value dimensions of people affected by political and technical solutions. In value-informed governance, S&T does not contribute to societal requests by providing fixed knowledge but by developing specific solutions to problems with a specific time-space dimension. This requires an understanding of values involved and suggestions how to deal with value conflicts in two respects: conflicting different values as well as conflicting understanding of (seemingly) the same value. In that sense, value-based governance needs, among others, conceptual and philosophical clarification of values, a careful and open value dialogue as well as further extensive deliberation on the ethical norms and decisions eventually to be made in S&T governance.

6 Further research needs

6.1 Bringing different value traditions into deliberation

Contemporary philosophical value considerations acknowledge that different values and value systems are in use in European countries, and that they do not fit undisputedly into one overarching philosophical theory or system. The condition of value pluralism means that value discourses are fragmented in different value traditions. For instance, in utilitarian value traditions values are seen as measurable entities that can be set off against each other. In contrast, deontological value traditions hold that general values, respectively bearers of values are incommensurable. Hence, in certain contexts not only values are conflicting but also different value traditions. One of the most important questions at stake is how these traditions can be brought into a productive deliberation, both on the philosophical and the governance level.

Action:

Philosophical research has to focus on developing tools for addressing value conflicts as well as conflicting value traditions in a way that the form of their treatment and possible results that can be accepted by different value traditions.

6.2 Reflexivity on implicit economic value judgements in European S&T governance

In the most important European documents (e.g. the Treaty on European Union) respect for human dignity, freedom, democracy, equality etc. are stated as core values of the European Union. At the same time, the European Union is determined to economic progress, which is more often than not regarded as a value itself. Unavoidably, European governance is exposed to tensions between attending non-economic values and pursuing economic goals. Especially, governance of science and technology (S&T) is ostensibly justified by value orientation although economic factors are dominant.

Action:

Implicit and explicit value judgements in European S&T governance should be made transparent whereby main driving forces of political decisions would become accessible for an open dialogue.

6.3 Relations between values and ethical rules/norms in S&T

In the project, we have elaborated on the different (actual or alleged) views in science and technology on 'values' as domain of positive expressions and productive power on the one hand and 'ethics' as a set of prohibiting and framing rules providing somewhat negative implications. This "Tuebingen hypothesis" on values versus ethics shall be explored further: Will and should ethics be replaced by value deliberations? Could that work in a context of governance of science and technology? What would come as the price of getting rid of 'ethics' in that sense?

Action:

Philosophical and science studies research should focus on the hypothesis that values are conceived of differently than ethics in the sense of a norms/rule system and what implications of the replacement of ethics by value discourse would be.

6.4 Translation of values into governance

In moral philosophy, it is still challenging to translate (partially conflicting) values into norms. The situation is even more complex in governance, where contextual factors (e.g. established power structures) also have to be considered. Therefore, a deeper understanding is to be sought how to amend a variety of existing institutions and procedures in order to allow for value dialogue and the translation into governance norms (be they moral, juridical, political). This is especially true in areas with great uncertainties and diverging values.

Action:

Research has to focus on the working of different political systems on a local, regional, national and global level and on how they can be amended by mechanisms that allow for better value-informed governance.

6.5 Finding policy instruments for value dialogue

S&T governance takes place on different political levels ranging from universities to supranational bodies such as the European Union. Actors involved in policy making and institutions differ respectively. In order to reach value-based governance, different policy tools are needed to address conflicting values on a diverse set of different governance surroundings.

Action:

Social science and ethics research should develop together new policy tools that explicitly focus on dealing with value conflicts and test them in different political settings. Research can build on existing literature on participation and elaborate specific policy tools for value dialogue on different political levels.

6.6 Studying best practice examples of value dialogue

Value conflicts are solved everyday in different social contexts. Decision makers together with stakeholders and scientists have found creative and sustainable solutions to problems where values are disputed and uncertainties are high. However, value weighing and balancing remain very often a black box in these policy processes. Studying these best practice examples can provide insight in successful mechanisms that can be generalised from single cases and employed as a form of governance to deal with value conflicts.

Action:

A systematic study of specific best practice examples on a local, regional and national level with regard to how they solved value conflicts should be undertaken. It can draw on a wide range of literature e.g. from new institutional economics. Research would focus on the way value conflicts are dealt with and make these mechanisms explicit.

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7.2 Further Publications of the authors

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