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„Scientific Pluralism in the Field of Development Studies: Disagreement, Interaction, and Evaluation"

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Abstract

Development Studies (DS) is a highly diverse field. It is characterized by pluralism on the level of disciplines, methods, explanations, ethics, concepts, theories, and aims. This diversity raises central questions: How do scholars in this field handle such a plurality of approaches? What are the major disagreements and how are they being dealt with? In what ways can scholars in DS interact or collaborate with colleagues that pursue different approaches? And how do they evaluate different, and possibly even contradictory, stances?

In this thesis, I seek to shed light on these questions. I aim at contributing to a better understanding of scientific practice in DS, a field that is characterized by a plurality of approaches. To do so, I conducted qualitative semi-structured interviews with DS scholars from the Global North and Global South and drew on literature from the subject of History and Philosophy of Science (HPS), particularly its hotly debated topic of scientific pluralism. Through this approach, I try to show that, although historical case studies are the predominant tool for studying scientific controversies in HPS, qualitative interviews constitute a fruitful alternative. Based on this, I analyze a) central matters of disagreement, b) forms, restrictions, and possibilities of interaction among different approaches, and c) evaluative attitudes of those within a situation of disagreement.

My empirical study highlights that practices and controversies in DS extend beyond disciplinary boundaries as well as beyond the borders of academia – the concept of transdisciplinarity accounts for this transgression of limits. Based on this, I demonstrate that DS scholars need to rely on both pluralism and relativism in order for transdisciplinarity to be operationalized. In this context, I develop two particular forms of pluralism and relativism, the synergy of which is central for transdisciplinary work in practice: "unified believe-value pluralism" and "believe-value relativism".

Abstract

Die Entwicklungsstudien sind ein diverses Feld, welches durch pluralistische Disziplinen, Methoden, Erklärungen, Ethiken, Konzepten, Theorien und Zielen gekennzeichnet ist. Diese Diversität wirft zentrale Fragen auf: Wie gehen ForscherInnen auf diesem Gebiet mit einer solchen Pluralität von Ansätzen um? Was sind die zentralen Meinungsverschiedenheiten und wie werden diese behandelt? In welcher Art und Weise können EntwicklungsforscherInnen mit KollegInnen, die unterschiedliche Ansätze verfolgen, interagieren oder zusammenarbeiten? Und wie bewerten sie unterschiedliche und möglicherweise sogar widersprüchliche Positionen?

In dieser Arbeit möchte ich diese Fragen beleuchten. Mein Ziel ist es, zu einem besseren Verständnis der wissenschaftlichen Praxis im Bereich der Entwicklungsforschung beizutragen, einem Bereich, der durch eine Vielzahl von Ansätzen gekennzeichnet ist. Zu diesem Zweck führte ich qualitative, semi-strukturierte Interviews mit EntwicklungsforscherInnen aus dem Globalen Norden und Globalen Süden durch und stützte mich auf Literatur aus dem Bereich der Wissenschaftsgeschichte und -philosophie, insbesondere dem heiß diskutierten Thema des wissenschaftlichen Pluralismus. Mit diesem Ansatz versuche ich zu zeigen, dass, obwohl historische Fallstudien das vorherrschende Instrument zur Untersuchung wissenschaftlicher Kontroversen im Bereich der Wissenschaftsgeschichte und -philosophie sind, qualitative Interviews eine fruchtbare Alternative darstellen. Darauf aufbauend analysiere ich a) zentrale Gegenstände von Meinungsverschiedenheiten, b) Formen, Einschränkungen und Möglichkeiten der Interaktion zwischen verschiedenen Ansätzen und c) bewertende Einstellungen von Personen, die sich in einer Meinungsverschiedenheit befinden.

Meine empirische Studie zeigt, dass sich Praktiken und Kontroversen in der Entwicklungsforschung über disziplinäre Grenzen sowie über die Grenzen der Wissenschaft hinaus erstrecken – das Konzept der Transdisziplinarität erfasst diese Grenzüberschreitungen. Darauf basierend zeige ich, dass sich EntwicklungsforscherInnen sowohl auf Pluralismus als auch auf Relativismus stützen

müssen, um Transdisziplinarität zu operationalisieren. In diesem Zusammenhang entwickle ich zwei besondere Formen von Pluralismus und Relativismus, deren Synergie für transdisziplinäres Arbeiten in der Praxis von zentraler Bedeutung ist: „vereinter Glauben-Werte Pluralismus" und „Glauben-Werte Relativismus".

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1. Introduction

The field of Development Studies (DS) formed in the 1960s[1] and 70s in several European universities around the common endeavor to contribute to the understanding of domination and inequality on a global scale. A number of prominent DS institutions have also been established in the Global South, mostly taking a more regional focus. Although the term "Global South" (often also referred to as "developing countries" or the "Third World"[2]) has never been precisely defined, it became a "loose grouping of newly independent countries in the 1950s and 1960s which became associated with the 'non-aligned movement' (countries aligned neither to the USA nor the USSR in the Cold War)" (Sumner and Tribe 2008, 16) or with the coalition of nations known as the Group of 77 (G77) which was founded in 1964 within the United Nations Conference on Trade and Development (UNCTAD) (ibid.).

The anti-modernization *Zeitgeist*, i.e. a highly critical attitude towards attempts to "westernize" non-Western nations and its peoples, fostered the formation of DS. Its contributors ranged from representatives of long-established academic disciplines to leftist students and lecturers (Schuurman 2007). The historical context of DS's establishment initiated a sense of intellectual revolution. It occurred, not coincidently, in a time characterized by political action and radical thinking in Europe (including the protests of 1968), the independence of several sub-Saharan African nations from its European colonists, the rise of influential civil-rights movements in the US, as well as the Indo-China experience – not least the Vietnam War (Sumner and Tribe 2008). This revolutionary atmosphere triggered a shift in thinking about development. A paradigm shift was indeed needed in the recently established field bearing in mind its colonial roots (Kothari 2005), with "some of those who worked for the colonial administrations

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[1] The 1960s are also often referred to as the "UN Development Decade" (see Sumner and Tribe 2008). In this period, not only new UN institutions such as UNCTAD were established, but also several already-established UN bodies oriented themselves more towards a developmental role.

[2] These terms are conceived rather critically in DS since they imply inferiority or backwardness and place significance predominately on economic aspects. Additionally, the category 'The Third World' widely disappeared after the End of the Cold War since 'The First World' referred to so-called industrialized nations and 'The Second World' label was used for the communist bloc.

before independence became academics, development researchers and practitioners" (Sumner and Tribe 2008, 33).

While neo-Marxism and non-Marxist structuralism were major strands of DS in the 1960s and 1970s, a diversity and plurality of approaches characterized the *field* (Bernstein 2007) from its very beginning. Schuurman (2007, 46) cut right to the chase of this matter:

> Development Studies has always been the Robin Hood of the social sciences. As a self-proclaimed ally in the emancipatory struggle of the poor, the oppressed, the marginalised, the exploited, the underdeveloped in the Third World, Development Studies took what it needed from 'the rich' social sciences (economy, sociology, anthropology and political science): paradigms, theories, concepts and methodologies. If need be, small marauding bands of Development Studies teachers and students were dropped behind the academic borders of even the technical sciences and departments of law to assemble relevant information.

Since its formation, and particularly since the 1980s, the field of DS has been subject to a process of change. DS departments needed to make concessions with regards to their original and strongly normative mission statements. This was almost a survival strategy in an academic environment invaded by the logic of the market and neoliberal thinking (Schuurman 2007). In terms of goals, instrumental research, seeking to inform policy rather than accentuating high theory, has gained prominence (Sumner and Tribe 2008) but is still contested. While some DS scholars stress the commitment "to improvement" and that "knowledge generation is not an end in itself" (Molteberg and Bergstrøm 2000, 7), others are highly critical of this orientation. Rahnema (1997, 395), for example, asks: "Who are we – who am I to intervene in other people's lives when we know so little about any life, including our own?" This contestation draws attention to fundamental ethical disputes in DS about what it means to be a development researcher and in how far – bearing one's positionality in mind – interventions in other peoples' lives are legitimate or can be permissible at all.

Normatively, the field has undergone a shift from a structural analysis of their core concepts of poverty, development, emancipation, inequality, empowerment, and

injustice towards an evaluation of the efficiency and impact of development projects (Harriss 2002). In terms of collaboration, interdisciplinarity (i.e. the combination of different approaches) increasingly gave way to multidisciplinarity (i.e. studying an object from different perspectives without combing different approaches), and, methodologically, actor-oriented micro-approaches have gradually replaced multi-level analysis (Schuurman 2007). Additionally, three further developments have been observed. First, a depoliticization of development research (Kothari 2007), which is accompanied by the idea of "win-win-solutions" – solutions that are unattainable in a world of fierce contradictions (Bernstein 2007). Secondly, most development research is still based in the Western hemisphere and, thus, reproduces power inequalities and asymmetries (Olukoshi and Nyamnjoh 2007; Kothari 2007) as well as its colonial past. Lastly, the field has become increasingly dominated by neoclassical economics (Bernstein 2007).

Today, three features characterize the field of DS (Sumner and Tribe 2008). First, DS is about development, however defined. It ranges from arguably value-free notions of development, namely development as change, to explicitly value-laden conceptions that consider development a policy-related evaluative outcome. Second, DS engages in cross-disciplinary collaboration seeking to produce insights that go beyond the border of a single discipline (this commitment ranges from multi-, inter-, to trans-disciplinary approaches). Finally, DS, as has already been mentioned, tends towards applied or instrumental forms of research – but also this commitment can only be understood as a continuum reaching from theory-centered abstracted research to action-based approaches.

Of course, this brief description of significant developments and characteristics of DS cannot be expected to fully reprocess its rich history and the diverse socio-political and scientific (two components that belong closely together) developments that constituted the field. Others have done so in far more detail (see for example Kothari 2005; Rist 2014; Loxley 2004; Sylvester 1999). My focus lies somewhere else. DS is a field of tension – not only in view of the above-described developments that tend to counteract its founding ideas in the 1960s and 1970s but also regarding its diverse disciplinary influences. It may not be too far-fetched to argue that DS is among the most diverse academic fields. This raises central questions: How do scholars in this

field handle such a plurality of approaches? What are the major disagreements and how are they being dealt with? In what ways can scholars in DS interact or collaborate with colleagues that pursue different approaches? And how do they evaluate different, and possibly even contradictory, stances?

This thesis seeks to shed light on these questions. I aim at contributing to a better understanding of scientific practice in DS, a field that is *prima facie* characterized by a plurality of approaches. To do so, I will draw on literature from the subject of History and Philosophy of Science (HPS) and particularly its hotly debated topic of scientific pluralism. I will analyze and highlight a) central matters of disagreement, b) forms, restrictions, and possibilities of interaction among different approaches, and c) evaluative attitudes of those within a situation of disagreement.

In terms of structure, after having introduced the field of DS briefly in *Section 1*, *Section 2* focuses on methodological and methodical issues of my empirical study (i.e. qualitative interviews). In order for the reader to get a sense of the people working in DS, *Section 3* introduces my interview partners. Here, I only focus on some major characteristics of each interviewee in order to maintain their anonymity. *Section 4* highlights central topics of contestation in the field of DS as being discussed during the interviews. In this connection, we will see that the concept of pluralism in DS needs to be extended beyond disciplinary boundaries as well as beyond the borders of academia. Thus, *Sub-Section 4.1.* deals with the relation of pluralism and transdisciplinarity. *Section 5* concerns questions regarding the possibilities and limits of interaction among different approaches in DS. In this context, situated judgments will play a major role with regards to the justification of differing stances. The term "situated judgment" implies that judgments always evolve in a particular context or community. Different – and even contradictory – judgments can, thus, be justified in light of these different contexts, i.e. a person's or collective's situatedness. Relatedly, *Section 5.1.* argues that the pluralism in question is an epistemic rather than ontological pluralism. Subsequently, *Section 6* turns to matters of evaluation, i.e. the scholars' deliberations for accepting or rejecting particular approaches. On a related note, *Sub-Section 6.1.* elaborates on the affiliation and differences between pluralism and relativism. Finally, *Section 7* concludes my thesis.

2. Reconstructing Situations of Disagreement

My approach in this thesis seeks to empirically re-construct situations of disagreement in order to learn about the specific deliberations made and decisions taken by scientists in such situations. To do so, I conducted non-standardized/semi-structured guideline-based expert interviews (see Gläser and Laudel 2010) with seven scholars from the field of DS. Three interviewees (one female, two males) are employed in universities in the Global South (Thailand), while four interviewees (two females, two males) work in Western universities (Austria and Germany). Their disciplinary backgrounds range from sociology, ethnology, anthropology, and political science (comparative politics and political ecology) to global history. The interviews were conducted in English and German during the summer 2018 and lasted around 60 minutes each. They were recorded and fully transcribed. Informed consent was obtained prior to each interview and assured the interviewees of anonymity. Hence, any details that might make a person recognizable, such as names, universities, or specific research sites, will be anonymized in this analysis.

Before conducting the interviews, I asked the interviewees to imagine, describe, and prepare a familiar situation, a situation that reflects their everyday practice as researchers. This situation focused on a scientific disagreement with a colleague (within the interviewee's field of expertise), whom the interviewee roughly considers as well-informed and professional as him- or herself. Such simulations are particularly useful when an interview's central questions prove difficult to answer directly or explicitly (Patton 1990 and 2002). The interview guideline, as well as the communication prior to the interviews, can be found in Appendix 1 (in English) and Appendix 2 (in German).

For the analysis of the material, a qualitative content analysis was applied. I followed Gläser's and Laudel's (2010) approach, which I deem particularly suitable since it is more open for new information than other similar methods (such as Mayring's qualitative content analysis; see Mayring 2015, Mayring and Gläser-Zikuda 2008). Theoretical pre-considerations take a central role in both guideline-based interviews as well as qualitative content analysis. They draw attention to empirical issues that,

from a theoretical point of view, can be considered important in answering the research question; they are crucial for both data collection and interpretation (while still allowing for empirical surprises). Hence, theoretically, I engaged with central debates on the topic of scientific pluralism in HPS. Studying and comparing major discussions in the literature on scientific pluralism served the purpose of a preliminary mapping process, indicating particular areas that guide my interviews as well as the final interpretation while remaining open for adaptation. Additionally, a proto-interview was conducted. This interview did not feature in the actual analysis but was used for a final adaption of the guiding questions before collecting empirical data (i.e. conducting the expert interviews).

Historically, the topic of scientific pluralism in HPS has gained momentum in the 1970s, with Patrick Suppes' (1978) essay "The Plurality of Science." He argued against a unity of science movement – among others, advanced by Otto Neurath and Rudolf Carnap – which he saw as a no-longer-required "rallying cry of philosophers trying to overcome the heavy weight of 19th-century German idealism" (Suppes 1978, 48). Neurath (1938, 1), in his introductory essay for the *International Encyclopedia of Unified Science*, characterized the unity of science movement as a joint endeavor of scientists who have recognized "the importance of a universal scientific attitude." Such endeavor was not least motivated by a synthesis of "empiricalization" and "logicalization" (i.e. the logico-empirical analysis). Suppes criticized this view on several levels and, as we will see in the course of this thesis, many of his points are still at the core of contemporary discussions on scientific pluralism. First, he opposed the possibility of a reduction of language[3], the subject matter[4], and methods[5]. Second, Suppes stressed the failure of a search for theoretical completeness in logic and mathematics (e.g. in arithmetic, geometric constructions, set theory, theories formalized with first-order logic), in Kantian metaphysical foundations, and in unified field theories (e.g. in Einstein's general theory of relativity). Unity, certainty, and

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[3] "Part of my thesis about the plurality of science is that the languages of the different branches of science are diverging rather than converging as they become increasingly technical" (Suppes 1978, 44).

[4] Where a reduction is "not only practically impossible but theoretically so as well" (Suppes 1978, 47).

[5] Where we see "great variations" not only among, but also within disciplines (Suppes 1978, 47f).

completeness in science should be recognized for what they are, "delightful philosophical fantasies" (Suppes 1978, 50). Suppes further underlines his normative stance towards "the irreducible pluralism of languages of science [which is] as desirable a feature as is irreducible plurality of political views in a democracy" (45). He concludes:

> Like our own lives and endeavors, scientific theories are local and are designed to meet a given set of problems. (...) Again this conception of science does not mean that there cannot be continued correction in a sequence of theories meeting a particular sequence of problems; but it does urge that the sequence does not necessarily converge. (...) Scientific knowledge, like the rest of our knowledge, will forever remain pluralistic and highly schematic in character. (54)

Similar to its predecessors, current debates on scientific pluralism deal almost exclusively with the natural sciences[6]. In this thesis, I seek to overcome this analytical asymmetry by focusing on the social sciences, in particular on DS. Additionally, current debates in HPS predominantly focus on different approaches *within the same discipline* (e.g. among physicists[7], behavioral scientists[8], chemists[9], biologists[10] or historians[11]). While my initial intention was a reconstruction of a similar situation (e.g. a sociologist in DS debates with another sociologist), the actual interviews made clear that such a situation in the field of DS would be completely artificial. Due to the multiplicity of disciplinary influences in the field, disagreement or debates in DS are rarely restricted to a specific discipline. Thus, DS's cross-disciplinary commitment precluded the reconstruction of such a situation. Nevertheless, the insights from the debate in HPS on scientific pluralism still proved very useful for understanding situations in which different approaches – even though they mostly have *differing disciplinary backgrounds* – encounter each other.

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[6] A notable exception is economics (see for example Sent 2006; Van Bouwel 2005; Norgaard 1989).

[7] See for example Kinzel and Kusch 2018.

[8] See for example Longino 2006.

[9] See for example Chang 2012 and 2015; Kusch 2015; Klein 2015.

[10] See for example Mitchell 2003.

[11] See for example Kinzel 2016.

3. The Actors in the Field

My interview partners' academic backgrounds and interests echo the disciplinary diversity in the field of DS. Thus, in order for the reader to get a better sense of the field, a small group of actors (and their fields of study) will be introduced here. My role in this section is limited to filtering the information about these scholars to guarantee their anonymity. Hence, I will anonymize names, institutional affiliations, and specific research sites. As has already been mentioned, I interviewed seven DS scholars, one female and two males from the Global South (Thailand) and two females and two males from the Global North (Austria and Germany). In terms of anonymity, I will use abbreviations for each interviewee: Fe/Ma refers to sex, Eur/SEA refers to the region (Europe or South-East Asia), and the numbers refer to the sequence of interviews taken.

3.1. FeEur1: The Interface between the Sociology of the Body and the Sociology of Food

FeEur1 has a background in sociology and has done her doctorate in Development Studies. Her current area of interest concerns the interface between the Sociology of the Body and the Sociology of Food. In this context, she currently focuses on questions of body-politics of food:

> It's about working out the connection between the body and food. Our case study is in [the Global South]. And I find this connection very important because it is actually relatively little-discussed. The Sociology of Food arose relatively late because one has always assumed that food and eating is something so banal. Everybody does it, and so it is not worthy of research. But since the 1960s and 1970s, the Sociology of Food has become quite a strong and diverse field. But, in my opinion, relatively body-blind. So, the body is hardly involved. Often, so to speak, the question stops, as we always say, on the plate. It does not go beyond that. So, the questions of what happens when I incorporate food – symbolically, materialistically, and so on – is relatively underexposed. Also, in the Sociology of the Body, so that's the other corner I would focus on so to speak, nutrition plays a relatively minor role. And I find that questionable. It is relatively vigorously discussed with regards to sexuality. But nutrition and food – as a further phenomenon

that very strongly exceeds different boundaries between body, self, society, and so on –
is not discussed much there. And that's what we do in this project. (Translated from
German)

In terms of belonging, the Sociology of Food is part of the "very large interdisciplinary
pot of Food Studies," which is predominantly characterized by two tendencies:

It can be observed that [in the area of Food Studies] one refers either to the production-
side or the consumption-side. This is very much divided into different scholarships. It is
very body-blind. Both, in the Sociology of Food and Food Studies. Bodies, ontologically,
appear very little, so to speak. That's significant. And in the Sociology of the Body as well
as in the Sociology of Food you have (…) somehow a certain object with which you
occupy yourself, but the sociological traditions are also so differentiated, depending on
which school you come from. And then, it is often difficult to come to an understanding
of the definition of what a body actually is. (…) [There are] post-structuralist approaches.
Feminist approaches. And on the other side, there are phenomenological approaches. It
already becomes obvious in the terminology. If one speaks of the social body and of the
Leib as the subjective body. Or does one rather take a phenomenological approach,
which proceeds very strongly from the subject? Here, body means the objective material
body and *Leib* is, so to speak, the inside feel. So, you work with different body definitions
and with the same word you often mean completely different levels. Similarly, in the
Sociology of Food you have the functionalists, the phenomenologists, so everything that
exists in sociology is then also in the subject of food. (Translated from German)

While being part of the larger pot of Food Studies, the Sociology of Food also differs
from its umbrella field in some respects:

A difference between problem-oriented research or perhaps application-oriented
research and more basic research is very strong in food studies. I would say in food
studies it is much stronger than in the Sociology of Food. There, this distinction is not so
strong. (Translated from German)

Overall, however, it is not an easy task to define FeEur1's specific field of study:

It is difficult to say what my field is. I have mentioned the Sociology of Food, the Sociology
of the Body. But Development Studies, of course, also plays a central role in there. Then,

Food Studies, this amoeba, floats around. There are so many different influences. (Translated from German)

3.2. FeEur2: Global History

FeEur2 has a background in history, but she also studied economics and did her doctorate in English. She focuses on the historical investigation of global relations and interconnections, an area in history that has evolved in "the last twenty to thirty years under the name of Global History or Global Studies," in which many different disciplines cooperate.

> [Global History] is relatively new. It is also not entirely uncontested by historians, because, so to speak, of the sources that play a major role in history. These are archival sources, sources that are written and are not always available for such questions. But global history tries to balance these things through cooperation with other disciplines. [This cooperation] seeks to extend the corpus of sources. It seeks to extend the access via diverse concepts that are not so source-dependent and tries to examine their capacities. (Translated from German)

Thus, Global History aims at linking a variety of different disciplines and approaches:

> These [approaches include] area studies. On the other hand, there are the systematic social sciences such as political science, sociology, but above all ethnology. There are undoubtedly also methodological influences from various other fields such as inter-cultural philosophy. (Translated from German)

The field of Global History has made the historians' classical self-conception problematic:

> History, at least in the last sixty years, is a relatively split discipline, because, on the one hand, it has this fairly long-term basis in its text sources. So, it is an archival science. On the other hand, since the 1960s, and even earlier, it has moved closer towards the systematic social sciences. There was a great deal of debate in the 1960s and 1970s, which also sparked at issues such as the modernization theory, which has been strongly represented by the social sciences at that time. Here, historical approaches, both

traditional and new, have immediately come into conflict, because this narrative of progress in the context of history immediately encounters contradictions. (…) Above all, economics or economic history, as a very important field, has drawn into question the traditional dominance of political history[12]. (…) And the fact is that many of the social sciences have taken up genuinely historical fields and worked on them in a way that the historians noticed, or noticed critically. First, other disciplines occupy areas that are genuinely understood as historical science. This is very clear in political science, which almost always works with historical sources, but which accesses them very differently. And there it is, so to speak, relatively easy to see that one can bring a historical contribution, from the point of view of history, too. (Translated from German)

This process of opening history to new disciplinary influences also changed methodical and methodological procedures:

In the traditional historical self-understanding, hermeneutics is the cornerstone. Especially, in political history. (…) On the other hand, history has always, but only more rigorously over time, been reflexive and other methods have been adopted. An example of this is that in the 1950s and 1960s new mass data were accepted in history. Census data are an example. And when dealing with this data, you can do very little with 'understanding', so with genuinely hermeneutic approaches. And then there is, so to speak, an eclecticism of methods that is strongly taken up. To describe this not only with regards to recent times and mass data, there are, for example, in the French 1920s, very strong points of contact with ethnology (…) which clearly led to an expansion of the methodological spectrum, but which has only gradually been accepted in the core of state historians. (Translated from German)

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[12] At a later point, FeEur2 described this development in more detail: "So historiography, at least in Europe and in the USA, in the Global North, is undoubtedly one of the components constituting the nation state. These sciences establish themselves as supporters of the emerging nation state. And it's about political decisions, political actors, political developments, political ideologies, and stuff like that. Of course, the fact that economics plays a role also comes into the historical sciences via Marxism relatively quickly. But actually, it remains in the background. However, then there are developments – and in some cases, it begins already in the late 19th century – in established historical science, which stresses that the economic conditions, the economic decisions, the economic non-decisions, so to speak, the world spirit, have a great influence on these political decisions and, thus, economic approaches are becoming more important." (Translated from German)

A central discussion in Global History – and here we see its relevance for the field of DS particularly – is the debate on "the great divergence and the role of diverse world regions over the last 500 years":

> It's essentially about whether the rise of the Global North, as we know it today or knew it twenty years ago, is unique, whether it is a historical coincidence, a historical interlude. (...) Whether the European rise since 1500 is more or less a one-time development that now lasts in the long term. (...) [This debate] is also very strongly politico-ideologically underpinned. (Translated from German)

3.3. FeSEA3: Comparative Politics

FeSEA3 is a political scientist by training. She did her doctorate in Political Science in the UK and, after its completion, returned to Thailand to work in the field of International Development Studies. Geographically, FeSEA3 focuses on Thailand and its neighboring countries. Her thematic priorities concern comparative politics:

> But comparative politics in a sense that is not focused on the institution, but on comparative social movements, looking into the field of non-state actors, (…) comparing different movements. Here, I also compare the different power relations of the agency factor. So, in that case, if we are talking about what is my field of study, I might say politics and international study. But my focus is on national study, it is more on the mainland of South-East Asia, and I am interested in the agency factor. So basically, I am interested in the human being and the ways and kinds of movements and collective action that people do. Right now, I am also teaching migration. So, for us, migration and refugees are development issues. So, for us, the issue of development studies is different. Development studies, for me, is more a political study, a political project. We didn't think that it is only going to be one paradigm. I consider myself, for example, a neo-Marxist. Or having at least some kind of relation with Marxism, but being more interested in the superstructure, the ideology and the way that people think, and interpret, and see things.

She goes on to characterize her field of research in the following way:

First, I think it allows for different perspectives. I mean political science in the past was meant to be a training to create a government officer. So, if you are a member of the state officers, you are the one who has to control others. But for me, I would say, that with new perspectives, such as with a political economy approach or a political ecology approach, it makes the political side more open in that sense. The value of it is that it (…) allows for changing power relations that exist in the society. And in that case, we may use the word political communication with the idea of the public sphere, and political communicative action. Like Habermas thinks. But for me, as an individual, I am not so interested in the political communicative action of individuals, but I am more interested in movements and collective groups. How they work, how they are present and represented.

With regards to her embeddedness in the field of DS, FeSEA3 has a clear notion of what development studies means to her:

For us, development studies take a political angle, it is a political perspective because we see development as kind of a public policy. And for us, public policy is a political decision. Because the public officer, or the government, or the state have to make decisions about who will get a benefit and who will not get a benefit. So, it is a political decision.

3.4. MaSEA4: Politics of the Environment

MaSEA4 has a background in civil engineering, environmental engineering, and environmental chemistry with a particular focus on groundwater pollution. He also worked at the interface between local NGOs, local governments, and universities, where he studied pesticide pollutions:

The idea was to study this pollution using scientific methods, but then to share that data and knowledge within our network. That led to working more with civil society groups and advocacy groups for about six years and then I ended up working [at a university in Thailand in the field of DS].

His current field of study can be described as politics of the environment, often also referred to as political ecology:

Mostly I work on politics of energy and politics of water and their interaction. I take a political ecology lens and mostly I'm sort of looking at cross-border or transnational scales of interaction. In the end, looking at impacts on a local level, but I'm kind of interested in how resources flow across borders and the implications of that. (…) I think I'm very interested in issues of environmental justice and so inclusions and exclusions. I am interested in resource degradation, resource grabbing, the power relations inherent to that. So, winners and losers – mostly within environmental politics, but also more broadly to international development studies. So how, why, and through which processes marginalization occurs. What then happens to those groups.

He goes on to describe different approaches within the field of politics of the environment:

I mean broadly speaking, I think there are relatively expert-driven approaches that draw upon claims from neutral science and then others that kind of more explicitly draw out the politics of knowledge production and so the politics of knowledge and how that shapes the way that decisions are taken. (…) I think most of the people within my faculty that work on environmental politics are actually already quite sensitized and aligned with the idea that the environment is political. But there are not that many people working on environmental politics in our faculty. I think within the networks that I work in more broadly, there is a sort of range of positions, you can see more clearly, between inclusive but expert-driven science and also locally rooted knowledge production. I guess there are different ways of thinking about which knowledge counts.

3.5. MaEur5: Political Ecology and Nature-Society Relations

MaEur5 has a background in forestry science with a particular focus on tropical forestry. He did his dissertation on forestry politics in a country in the Global South, where he analyzed successful peasant movements that revolted against a big resettlement project. This research also brought him into his current field: political ecology and social movements in the area of South-East Asian Studies.

He characterizes his field of scholarship in the following way:

First, I have to say that I work at a university in Germany. That is, it is characterized by instrumental knowledge production. Where it is basically a contested field between *Herrschaftswissen* and emancipatory knowledge. Where the dominance or the focus, through the intertwining with capitalistic structures, is on *Herrschaftswissen*. But there are also spaces to question that, fundamentally. (...) If you look at South-East Asia Studies (or Development Studies, my comment) as an area, then, of course, it has a colonial-imperial background. In Europe, the colonial powers have basically developed geopolitical research areas. And in that way, you can also classify tropical forestry. So, that's basically what emerged from the development of colonial forestry, in India, Myanmar, Thailand, Indonesia. So basically, this whole history resonates. And even as a critical scientist, you are in such a structure, even if you want to do something different. Structurally, of course, it's the case that we as scientists go there and look what's going on there (in the Global South, my comment). And there is little movement in the other direction. So, a clear power-drenched knowledge structure. (Translated from German)

Furthermore, MaEur5 continues to sketch major differences with regards to approaches in his particular field:

I would characterize Southeast-Asian Studies as follows: a large part is still basically in this Orientalism thing. A bit essentialist, cultural relativistic. So, you look, so to speak, what is the difference, what is different in these societies you are studying. Because that's interesting, from the perspective of a Western scientist. So, for example, there was the debate about Asian values. It can be described as follows: yes okay, people in Asia are just like that. In Thailand, for example, they look for harmony, there are patronage-client stories, and so on. You are basically trying to sort of think about the difference, about the exotic, basically seeing these societies as something completely different. And the counter-positions that I come from are more of a universalistic approach that looks at a common and differentiated history. In other words, I and the people I work with would assume that there is a lot in common, especially if you look from the perspective of emancipatory politics and social movements. There can be a fundamental connection and in principle, there can be communication. One can learn from each other. (Translated from German)

These differences also influence development cooperation – and thus DS – in fundamental ways:

When cultural differences, as given ethnic or national ascriptions so to speak, are simply taken for granted, then they are continuously used to explain why certain things happen as they happen. For example, there is always the debate about democracy. Is this a western concept? That's why it does not work, because it's just a Western concept that is imposed on other countries. And I think these arguments mix up different things. What you can say, what is true, is that a certain notion of bourgeois parliamentary democracy, which was dominant at a certain stage in Europe, not for a very long time, is considered a normative goal and is being enforced via foreign influence, development cooperation, etc. This is part of 'good governance', of a neoliberal regime, where imperial powers try to enforce social structures. The criticism is important. But what the essentialists then do is to say: yes, that does not work, because it does not fit the culture of those who are not democratic. (...) And more universally, one would rather say that looking at the history of national liberation movements in Southeast Asia, democracy was just a concept developed and enforced against the colonial powers. In other words, one cannot really say that one is more Western than the other, but that it needed to prevail against strong European colonial powers in the first place. (…) And that these movements, if you look at Viet Minh or the national liberation movement in Indonesia for example, are of course in comparison and in interaction with movements in the states of the colonial powers, perhaps socialist movements in Europe. There was a connection. Basically, a kind of transnational counter-concept to the imperial order only arose through this exchange. (Translated from German)

3.6. MaEur6: Ethnology

MaEur6 has a background in natural sciences, namely geology and paleontology, which he considers "special" since they are "historical natural sciences." At the same time, he took classes in ethnology and, after finishing geology, moved towards that area. Now, he considers himself an ethnologist. Empirically, he worked in Turkey, Ghana, Nepal, and Indonesia. His current field of scholarship is part of South-East Asian Studies, "a rather young field in Germany":

This you can tell by the fact that all the people teaching there grew up with some other disciplines. For me ethnology, with colleagues next door, who may be a sociologist or a development sociologist. Others come from literature or media sciences. (…) This area is actually a mixed-field. (…) There is no very clear, unambiguous theory orientation or

set of methods. I'll give you an example of two pretty obvious directions. There are those, who are more sociologically oriented and there are those, who are more ethnologically oriented. I come from the more ethnological side. I focus, in terms of methods and theories, rather on small sections of human reality. Cultural groups, networks, social fields that can be explored with experiential research, what we call field research. While more sociological approaches, which sometimes use something like that – also micro-oriented, very qualitative methods – but they also use a lot of quantitative methods and are sometimes oriented more on meso- or macro-scales. They also make some statements about, say, the society of Thailand or the society of Indonesia, what most ethnologists would avoid like the devil would avoid the holy water. (Translated from German)

3.7. MaSEA7: Anthropology

MaSEA7 pursued a doctorate in the sphere of Development Studies with a concentration in anthropology. He was trained in the US and returned to Thailand, where he was "exposed to a kind of sociological, anthropological research among the farmers and the peasants. (…) At that time, there was a peasant movement, also with NGOs involved. We served as advisers, sometimes trainers for them. Through that we brought new information or experiences of local people, who have experienced a transformation, into our classrooms."

He characterizes his particular field of scholarship in the following way:

In comparison to other universities, [my university] has a strong faculty of social sciences. (...) Anthropologists or anthropology was, and maybe still is, very strong in comparison to other universities. (…). So, [we have] more tools than, [other] universities in this particular area of study. On top of that, [we have] an advantage in that [our university] is surrounded by ethnic communities. So, if you walk out here, you can go for 15 kilometers, and you meet the ethnic villages. That was convenient for anthropologists to carry out their field work here. And for this reason, we also have many foreign anthropologists, who carry out their fieldwork in different places. And more than that, my colleagues, two of them died at the beginning of this year, and myself were the ones who worked with the local NGOs in the late 1980s, early 1990s. So, in a way, yes, we follow some

concepts from the West – such as, for example, class or [the Western] concept of community or inequality – but we also try to find empirical evidence from this area.

Mainly at the beginning anthropologists here were trained from the American anthropological school. American Anthropology. Most of us were trained in the US. But the younger generation tends to be trained in Europe. So, the older generation mostly was trained in cultural anthropology. Sometimes the division is quite blurred between cultural anthropology and structural anthropology. Sometimes it's not clear. But lately, when we work in the field of development anthropology, then this does not matter that much. So, most people – either they are trained in Europe, in America, in Japan – would try to do development studies from an anthropological point of view. (…) The Japanese, for example, are very interested in doing very intensive fieldwork, detailed data collection. But in terms of concepts, they are still within this kind of old structural functionalism. Not so much into the modern, or better postmodern. And for the rest of us, I think we are, as I said, influenced by American anthropologists, but turned ourselves towards development studies or development anthropology let's say.

Finally, he continues sketching out differences between the anthropological approaches at his university in comparison with other institutions in Thailand:

Maybe in the last five or ten years, I can see that [other universities] are much more into cultural studies and also into a post-modernism. So, their interest would be, for example, on contemporary cultural study. They are interested in identity, consumption behavior, restaurants, Jazz. But, of course, some of them are also interested in ethnic issues. But in comparison to us here, only few anthropologists drift towards cultural studies. For example, some study football, sports, or gambling. But the majority is still focusing on development studies.

4. Central Disagreements and Conflicts: Diverging Framings in the Global North and South and the Need to Extend the Concept of Pluralism

After having provided the reader with a first grasp of the actors in DS, I will now turn to central debates in the field. The strategy upon which I base my discussion on pluralism in DS is a reconstruction of major disagreements in the field in order to go

more deeply into the various nuances of such controversies including matters of interaction and evaluation (see Section 5 and 6). I granted the interviewees complete freedom to choose a situation of disagreement within their field of expertise. The only guideline I provided was that such disagreements should be between scientific peers and that they should not only concern philosophical or theoretical questions but include empirical points of contention. These reconstructions enabled two major insights. First, it reconfirmed the central points of contestation in DS that can be found in the literature and have been discussed in Section 1. Secondly, and more interestingly, it hinted to the fact that these contestations (as found in the literature) are predominantly reconstructed from a Western point of view. I will deal with these two points successively.

Most of the interviewees discussed and reconstructed more than one issue of disagreement during the interviews. Overall, six major topics emerged from the conversations. First, there are vivid discussions with regards to the fact that most development research is based in the Global North and whether at all or under which circumstances it is possible for scholars in DS to conduct research under these conditions. A European female researcher summarizes the major discussion points aptly:

> Is it possible to do empirical research at all? In principle. And above all, is it possible to do empirical research in the Global South? (…) What does it mean that we as Westernized researchers have the opportunity to go to [the Global South] and do our research? And what does it actually mean that it's hardly the other way around? (…) That's a fundamental question in DS: in how far are we allowed to do that? (…) Research has always to do with interpretation. And how much more difficult, or how much more impossible perhaps, is such an interpretation if one faces a different cultural context, if one faces a language problem? How can interpretation actually happen at all? How many steps are you actually removed from what was told? (FeEur1 translated from German)

Second, and very relatedly, was the question regarding the usefulness of practical interventions. To what extent should scholars in DS intervene (e.g. politically) into the subject-matter of their research and to what extent – considering different contexts –

are they able to do so at all? While some interviewees (all scholars from the Global South and one scholar from the Global North) identify themselves explicitly as "academic activists," others express skepticism in this regard:

> We clearly have different positions [in the department]. For example, my colleague has a leftist and at the same time a strong activist position. While I would also consider myself left, overall, but much less in terms of the general habitus. And I think that too activist positions are problematic, because they conflict with the scientific attitudes that try to be rather detached, not from social reality, but from the impact on social reality, from politics. (MaEur6 translated from German)

Third, methodical disagreements epitomize the development (as mentioned earlier) from multi-level analysis towards more actor-oriented approaches. To be more precise, the interviews do not suggest a significant decrease of structural theories (which does not mean that this is in fact not the case), but instead express the conflict between structure- and agency-oriented approaches; hence, predominantly, these two different levels are seen as competing with each other instead of being integrated into a multi-level analysis:

> Many theories will believe that you might have to depend upon what the structural conditions force upon you. But for me, the agency has the power to change the phenomena around you. (FeSEA3)

> Well, some approaches focus more on structural conditions (…). You have regulation theorists. You have Marxist critical approaches (…). So, starting from the structural level. And then you have approaches that are much more actor-centered, much more subjectivist. (…) And it is precisely this connection – to look at this structural level but also, so to speak, informed by the actor level – that would be something that is complementary to think. And this is done too little. (FeEur1 translated from German)

Fourth, many interviewees mentioned communication difficulties with regards to basic definitions and concepts – such as the body, the self, structure, agent, power, culture, or society – due to the broad variety of disciplinary influences in DS:

For example, a sociologically-oriented (…) and an ethno-oriented researcher, two subjects that are very close to each other. Even those have problems if they talk about basic concepts such as society and culture, the basic concepts of their subjects. If I talk about culture, sociologists mean something significantly different than ethnologists. (MaEur6 translated from German)

Fifth, philosophical disagreements came to the fore. These conflicts concerned predominantly "essentialist" or "exoticist" versus "universalist positions" (MaEur5 and MaEur6). The former is grounded in "orientalism" and stresses the differences between cultures and regions by taking these differences as given. The latter, in contrast, seeks to highlight similarities between cultures and peoples, sometimes influenced by Marxist internationalist ideas. Lastly, a major reconstructed conflict during the interviews was the question to what extent different disciplines can work together and incorporate insights from others. The increasing dominance of neoclassical economic thinking in DS was the predominant issue of concern. Many interviewees (FeEur2, FeSEA3, MaSEA4) stressed that neoclassical economics have occupied a hegemonic position in the field, which makes it difficult (if not impossible) to enter into processes of collaboration with them.

Hence, after having suggested a *prima facie* pluralism in the field of DS in Section 1, the empirical data substantiates this claim. Of course, the list of conflicts described is non-exhaustive. Rather, following Section 3, they should be understood as vignettes, i.e. short impressionistic scenes that provide a trenchant impression about the atmosphere in DS; an atmosphere that is pluralistic on several levels. To mention only some, Section 1 and 3 suggest a pluralism on the level of disciplines, methods (e.g. micro- versus macro-approaches), explanations (e.g. structural causes versus efficiency of development projects), ethics (e.g. in how far can scholars conduct research in the Global South?), concepts (e.g. what is development?), theories (e.g. neoclassical economics versus heterodox approaches), and aims (e.g. instrumental research versus a more critical attitude towards interventionism).

Although these issues of contestation reflect the literature on DS's major characteristics, controversies, and developments quite well, the interviews revealed a striking difference regarding the framings of situations of disagreement. This aspect is

widely neglected in the literature. It is interesting to note that during my interviews with scholars from the Global South, I could hardly reconstruct a situation of scientific disagreement between academic colleagues (which was no problem during my interviews with scholars from the Global North). A statement by a male professor from Thailand exemplifies this problem well:

> I have this problem of understanding. What do you mean by scientific? But I think, by giving you an example, and then you can treat it as scientific or not. (MaSEA7)

The central topic of discussion during my interviews with scholars from Thailand were reconstructed controversies with policy-makers or with other non-scientific actors, which dealt particularly with economic-oriented approaches (which are in line with national development agendas promoting almost exclusively technological-fix solutions) and other, often local, imaginings of development, well-being, and livelihood. Although I do not preclude the possibility that my questions were simply not understood in the way that I intended them to be, I think that a very plausible explanation are fundamental structural and institutional differences between academic institutions in Austria/Germany and Thailand as well as different socio-political contexts. The interviews substantiate this explanation[13].

The interviewees from the Global South highlighted the entanglement of their academic lives and the prevalent political situation in Thailand frequently. All of them explicitly mentioned (while none of the Western scientists did) that their academic career cannot be understood without considering the political developments in their country:

> I might say that I am not the one who intended to be academic, but because of the political situation in Thailand being academic is quite the best for me, because (…) it gives me enough freedom, academic freedom. (…) I think being academic is a kind of luxury because people tend to listen to you. So, being an academic means that you can

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[13] My mode of reasoning here is abductive, i.e. it is an inference to the best explanation. The rather small number of interviews conducted, however, does only allow me to suggest a probable explanation. Further research would be needed in order to make more robust claims in these regards.

talk. (…) And since my personal background is involved with social activities and political activism, I intend to give more voice to those who are not heard. (FeSEA3)

I see myself as a kind of academic activist. A kind of a hybrid. And this identity has been shaped by the social reality when I came back from my training in the United States. We had to work with local people. In that time there was a peasant movement, also with NGOs involved. So, we served as advisers, sometimes trainers for them. (MaSEA7)

The close collaboration between scientists and non-scientific actors in the field of DS is, of course, not restricted to scholars in the Global South. Transdisciplinary research, i.e. the transgressing of disciplinary boundaries and the inclusion of non-scientific actors in the process of knowledge production, has become a buzzword in many European research projects. It is, nevertheless, notable *how* the nature and utilization of participatory approaches are often conceived in a Western context.

In their chapter on *Participatory approaches and sustainable livelihoods*, Sumner and Tribe (2008, 142) stress that the involvement of non-academic actors "can be applied at a number of stages of the policy cycle – particularly the data gathering, preparation, implementation and monitoring/evaluation stages." Thus, while acknowledging participatory action with regards to *problem solutions*, they neglect the central role of *problem choice* (see also Klein 2004). Often, issues that are up for discussion are strongly pre-framed and non-academic actors are, thus, excluded from processes of problem definitions. Hence, "despite the strong discourse of opening-up towards societal actors, we observed an equally strong tendency within mainstream academic culture to perform boundary work toward extra-scientific rationales. (…) The ideal of collective experimentation to find innovative solution is thus often reduced to more ritualized information and communication events" (Felt at al 2016, 754f).

Strikingly, although participatory approaches – often far more rigorous compared to the limited understanding discussed above – have been conducted in Thailand already for a long time (although they did not term them "transdisciplinary;" see for example *Thai Baan research*), the discussion of transdisciplinary research is predominantly

located in the Global North[14]. Indeed, while demanding authority on the discourse on transdisciplinarity, the West seems to be a late-comer.

Additionally, global inequalities bring about the fact that central societal and environmental problems are "still much more burning here," as a scholar from Thailand (MaSEA7) mentions.

> And here I should add that it is unlike in the United States or in Europe. (…) In the developing countries like Thailand, it is very difficult to separate between theoretical and applied anthropology. We cannot just study the culture, study social relations and then just write our articles, papers, and go to conferences. But we also have to use the anthropological understanding to help us to better understand the transformation that takes place among the underprivileged people here. (MaSEA7)

I am not suggesting that Western scholars are indifferent about their impact on major societal challenges. In fact, Sumner and Tribe (2008, 3) highlight that a significant characteristic and strength of DS is "the inclusion of non-academicians (…) in terms of getting research into practice." Nor am I suggesting that there are no burning issues in the Western hemisphere. The central point that I seek to get across is that institutional capacities and structures vary distinctly between universities in Austria/Germany[15] and Thailand, and so does one's scientific identity.

Identity creation – and, thus, also scientific identity – is always linked to particular practices. We constitute ourselves as subjects through and, at the same time, reproduce practices. Practices are, therefore, *incorporated* (Reckwitz 2002). Thus, the focal point of identity creation is not the individual, but practice. This

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[14] The European commission and other supra-national as well as national agents have increasingly established specific funding schemes to encourage the inclusion of non-academics in research processes (see also Felt et al. 2006).

[15] Many studies underpin this claim. In the context of transdisciplinarity, Spangenberg (2011), Felt et al. (2013), and Schmidt and Pröpper (2017), for example, argue that the existing reward systems in science are hostile to transdisciplinary research since the pressure to "publish or perish" encourages scholars to focus on their disciplinary competences and, thus, to experience transdisciplinary research as an extra burden.

understanding stresses the necessity to investigate "the events that have led us to constitute ourselves and recognize ourselves as subjects of what we are doing, thinking, saying" (Foucault 1984, 42). The synchronicity of *doing* (i.e. practice) and *identity* (i.e. self-constitution) unfolds the Foucauldian argument: recognizing diverging scientific practices in Thailand and Austria/Germany facilitates the understanding of ourselves.

While being a "good" researcher in the Global North is increasingly measured against the number of publications in highly-ranked journals and the accompanying citations, the construction of scientific identity seems to follow other paths in Thailand. A lack of English language skills prevents many Thai social scientists from publishing in international (highly-ranked) journals and, thus, teaching as well as research in collaboration with local non-scientific actors have priority. In this context, the Thai scientific-self (in DS) seems to be much less constituted by producing outcomes for their scientific peers than by triggering local societal and political change via the interaction with non-academics. Different practices and related skills are, therefore, necessary. For example, when being asked about his academic career, one interviewee (MaSEA4) remarks that he "had a very steep learning curve working with an international NGO in terms of building campaign and communications skills."

Additionally, with regards to institutional capacities, a Thai scholar (MaSEA7) stresses that the Social Science Association in Thailand "was only established in 1968. (…) But still, until now there is no real Thai journal, in Thai language." In their book on International DS, Sumner and Tribe (2008, 33) provide a list of selected DS journals. Although they state that the list is not exhaustive and that there are a number of regional and disciplinary journals related to development, it is striking that among the fourteen journals listed, there is not a single journal located in the Global South (eight in the UK, two in the US and Canada, and one in the Netherlands and Norway). Such uneven institutional geographies undoubtedly shape the contextualities of academic lives:

> Well, again, when you have to work on both teaching and research for these kind of KPIs, but then you also have to work on local issues with the local civil society, it is difficult to

sort of catch up with the modern or contemporary cutting-edge theories as American or European anthropologists do. We sometimes don't even have access to journals. We do not have enough time to write articles, to publish. Unlike, for example, maybe Malaysian or Singaporean scholars or those from the Philippines, they are quite sort of equipped with their language skills in writing or in speaking. Thai anthropologists are less trained in the use of English. So, you do not see so many publications by Thai anthropologists as compared to maybe Singaporeans, or the US, or Taiwanese, or Indian. (MaSEA7)

To sum up, as has already been discussed, while the literature on scientific pluralism in HPS deals predominantly with controversies or different approaches *within the same discipline*, the interview situations with scholars from the field of DS suggest that the definition of pluralism needs to be extended in this context. The diverse approaches and disciplinary influences in this field preclude a definition of pluralism within disciplinary boundaries. While such an understanding seems to accurately reflect the DS discourse in the Global North, the interviews with scholars from the Global South highlighted that such an understanding may still be too limited and narrow. In this context, pluralism does include not only scientific knowledge, but also other forms of knowledge such as those of local communities, but also national authorities.

4.1. Transdisciplinarity and its Relation to Pluralism

Section 1 to 3 outlined DS's cross-disciplinary commitment. Kellert (2006, 215), more broadly, refers to such cross-disciplinary processes as the "phenomenon of 'borrowed knowledge.'" It is a phenomenon that is deeply characteristic of DS. During my interview with FeEur2, she referred explicitly to the idea of "borrowed knowledge" in the area of Global History where genuine historical disciplines borrow knowledge from the social sciences:

Information and the acquisition of knowledge are not limited to a discipline. There are core areas, but scientists will go beyond that and also acquire knowledge from other areas. They borrow not only information but also knowledge. So, the question is how to deal with such acquisitions in the respective fields. (…) It's not just about borrowing methods, but about utilizing different realms of experience of diverse disciplines. (…) Although knowledge is strongly related to methods, it is also something more difficult

to grasp since it also contains realms of experience, which look different in the individual disciplines. (Translated from German)

Different realms of experience also exist in DS. It is no coincidence that Bernstein (2007) considers DS a *field*, not a discipline. Such a field always implies certain forms of interaction and integrative endeavors among a variety of disciplines. In Section 4, however, we have seen that pluralism in DS is not restricted to scientific disciplines, but goes beyond these boundaries including other forms of knowledge. Neither interdisciplinarity (which involves disciplines, but only disciplines), nor multidisciplinarity (where each discipline works in a self-contained manner) accurately reflect such understanding. Transdisciplinarity, on the contrary, implies the transgressing of disciplinary and academic boundaries including non-scientific actors in the process of knowledge production. It is considered a fusion of different disciplines instead of a mixing. The prefix "trans" implies that knowledge does not respect boundaries.

The term "fusion" hints at the merging of different disciplines. A process that, *prima facie*, seems to be closely related to a "unity of science" movement. In this spirit, Choi and Pak (2006, 355f) define transdisciplinarity as the collaboration of different disciplines using a shared conceptual framework – it is an endeavor that is through and through "collaborative." Transdisciplinarity is, thus, characterized by "integration, assimilation, incorporation, unification and harmony of disciplines, views and approaches" (Choi and Pak 2006, 356). In a similar manner, Piaget (1972, 138) defines transdisciplinarity as "scholarship that would not only cover interactions or reciprocities between specialized research projects, but would place these relationships within a total system without any firm boundaries between disciplines." Thus, an apparent question emerges: is transdisciplinarity hostile to pluralism? Or, to put it in more neutral terms: what does transdisciplinarity imply for pluralism? To answer this question, we need to go more deeply into the central characteristics of transdisciplinarity. Transdisciplinarity is a *new framework for organizing knowledge* and modes of thinking. It is *solution-oriented* and *place-based*. It is a *context-specific negotiation of knowledge* (Klein 2004). In this process of negotiation, a synthesis or *unity of knowledge* among different disciplines and non-academic actors is sought. *Collaboration* takes a central role.

In what follows, I will discuss a paper by Breitenbach and Choi (2017, 395), who outline a "conception of the unity of science, one that builds on several pluralist arguments." In so doing, they initially develop a thin conception of *procedural* unity: unified pluralism. In a second step, they extend this idea to a thick conception: a pluralist unity of science. I will argue that transdisciplinarity embraces unified pluralism, but renounces a pluralist unity of science.

Breitenbach and Choi (2017, 395) start by defending pluralism to support what they call a "unified pluralism." Unified pluralism "embraces pluralism but adds a unity requirement" in order to "make an epistemic virtue out of proceeding pluralistically." It is helpful to quote their argument for a unified pluralism at length here:

> It seems that the right response to a clear-eyed recognition of our epistemic situation is to engage in the active pursuit of many different kinds of inquiry and the active recruitment of many different inquirers. We thereby maximize the use of our cognitive capacities; we thereby also provide checks and correctives for ourselves, since others can compensate for the natural blindspot that makes it harder for us to spy out weaknesses in our own views. Thus we agree with pluralists who urge that we have epistemic reason to adopt a range of methodological approaches, be ecumenical about scientific explanations, support the development of a wide variety of competing theories, and embrace multiple conceptual schemes and classificatory systems. But we think it is not enough just to advocate pluralism. We cannot stop there. (…) For if the individuals are not aware of each other, or if they are uncommunicative or uncooperative with each other, there is no benefit to be gained at all from adopting different approaches. Adopting different approaches is beneficial only if the individuals are communicating and cooperating enough that it can be said that they are together trying to solve the problem using a *plurality* of approaches. (Breitenbach and Choi 2017, 396)

This conception of pluralism aptly reflects the central role of collaboration in transdisciplinarity. Transdisciplinary approaches are, by definition, collaborative endeavors. At the same time, unified pluralism also respects transdisciplinarity's context-sensitivity; it does not imply any global demands on unification. All transdisciplinary endeavors are place-based and context-specific. Any unity of

knowledge is, thus, a *pragmatic* unity in a specific situation, formed in order to solve a particular problem. Each unification dissolves with a new context since integration is always ad-hoc, i.e. done for a particular purpose. The questions of which disciplines to involve and which specific scientists and non-academic actors to cooperate with depends on several contextual factors such as the phenomenon in question, the specific geographical or cultural region, or the political context. Such a contextualization of the research is central to the transdisciplinary goal of addressing concrete challenges, providing results for non-academics, and producing place-based knowledge (Darian-Smith and McCarthy 2016). Hence, questions such as which theories fit the respective problem, which time-frames are available to researchers, or which interests, needs, wishes, and fears actors have, change with a specific research context. The complex interaction of central facets of a phenomenon (e.g. multiple actors, conflicting laws, rules, expectations, and cultural norms) differ in each respective case, as do the interactions studied (e.g. political, economic, social-cultural dimensions). The establishment of collaborative research teams and the design of strategies for collaborative knowledge production are, thus, predominantly pragmatic decisions depending on specific contexts and the given circumstances. As Dewey reminds us, "every sort of judgment has its own end to reach; and the instrumentalities (the categories and methods used) must vary as the end varies" (Dewey 1909, 20f). Each attempted unity is pragmatic, place-based, and contingent.

Breitenbach and Choi, however, want more. In a second step, they seek to extend their concept of unified pluralism to an ideal of a pluralist unity of science, which "would make the world understandable to us as *a whole*" (Breitenbach and Choi 2017, 398, emphasis added). They argue:

> Recall that unified pluralism demands that each scientist proceed in a way that preserves the ongoing possibility of science as a collective endeavor. Aiming at the ideal pluralist unity of science generates further specific demands that outstrip the more minimalist requirements of unified pluralism. As we suggested, the pluralist unity of science is the ideal science that would emerge by integrating the plurality of theories generated by *the scientific community as a whole*." (Breitenbach and Choi 2017, 399, emphasis added)

Integration, thus, should not stop at the local level, it should be global. Besides the fact that both of their concepts (i.e. unified pluralism and pluralist unity of science) are again restricted to the realm of scientific disciplines, their global thesis of a pluralist unity of science runs contrary to transdisciplinary endeavors. It neglects the pragmatic and context-dependent character of unification, which seeks to address concrete problems via the integration of multiple perspectives *based on feasibility in the given circumstances*. Transdisciplinarity does not aim at a "maximally complete and fully integrated unity" (Breitenbach and Choi 2017, 398) irrespective of context, but, on the contrary, seeks to find strategies of productive forms of integration locally and on an ad-hoc basis. Unity is a pragmatic choice in order to trigger real-world change and provide viable policy recommendations; it is, thus, a central pillar of transdisciplinarity's solution-orientation. How should change in a specific context be feasibly achieved and how should decision makers handle policy recommendations if research on a place-based phenomenon offers multiple, even contradictory, solutions formulated in discipline-specific languages? Such ambiguity would severely weaken the bargaining power of such endeavors in terms of implementation. Unity, then, is vital for transdisciplinary research to establish a position of power upon which recommendations tend to be realized in reality – it gives power and political weight to it *in particular situations*.

In this sense, unity does not mean that all disciplines and theories, all scientists and other actors, with all their realms of experience, expectations, goals, fears, and so on, could be unified in a harmonious whole without concessions from all sides. Instead, unity reflects harmony in terms of contextual negotiations in which all relevant (relevance, here, is again a pragmatic decision) actors (both scientific and non-scientific) are involved. All participants need to have the *right* to equal participation and the *right* to equal power to determine the outcome (see Pateman 1970). At the same time, acknowledging different and often contradictory realms of experience (with different interests, goals, perceptions, etc.), all participants also have an *obligation* to make concessions – a prerequisite for achieving the two rights mentioned above.

To sum up and return to the question raised at the beginning of this section, transdisciplinarity is not hostile to pluralism. On the contrary, it needs and encourages pluralism. It borrows knowledge not only from various disciplines but also from other

sources outside academia. Such plurality of knowledge is the foundation (or pool) for contextual negotiations of unity. Unity, in a transdisciplinary sense, does not mean that we can in principle achieve a context-independent "complete and fully integrated unity" (Breitenbach and Choi 2017, 398), but that unity is important in order to gain the bargaining power needed for recommendations to be implemented in practice. Transdisciplinarity bundles plural approaches in order to be practically relevant.

Unity, thus, is not a theoretical or philosophical concern, but through and through practical and instrumental. The choice of positions and approaches that are (and can be) merged together is based on their *pursuit worthiness* in a specific situation. Pursuit worthiness, as opposed to other (often stronger) forms of acceptance, does not concern a retrospective assessment of truth-conduciveness (similar to the traditional idea of theory confirmation) but is an appraisal of heuristic or pragmatic deliberations with regards to a research direction's fruitfulness (Šešelja 2017; Nickles 2006 and 2009)[16]. Unity, thus, is partial and context-sensitive. It is always relative. The form of unity that is adopted in one context will fundamentally differ from the form of unity in another. Each form of unity is contingent. Each form is pragmatic.

The idea of an all-pervasive global unity of science that claims to speak for everyone must, therefore, be abandoned. Unity in DS implies negotiation and subsequent choices (more on that in Section 6.1.). Thus, I suggest that the conception of unity in transdisciplinary research is widely misunderstood in the literature since the majority of scholars concerned with transdisciplinarity (see for example Klein 1990; Kockelmans 1979; Kellert 2006) define the unity requirement in its most comprehensive sense, "looking for unity in an overarching synthesis in the grand and sweeping manner of Marxism, systems theory, sociobiology, and so on" (Kellert 2006, 219). In so doing, they underestimate the radically contextual nature of transdisciplinarity and the centrality of pragmatism to ensure usefulness. Similarly, Dupré (1995) – a major advocate of pluralism (although on a metaphysical level) –

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[16] The importance to distinguish between several forms of acceptance (e.g. in a weak sense, in a strong sense, in terms of pursuit worthiness) is widely discussed in the literature (see for example McMullin 1976; Laudan 1977; Whitt 1992; McKaughan 2008; Nickles 2009; Šešelja et al. 2012; Šešelja and Straßer 2014).

argues that questions of homogeneity (i.e. specific forms of unity) always 1) vary from context to context, 2) are an entirely empirical matter, and 3) depend on the interests involved. Three claims that are entirely in line with transdisciplinary endeavors.

5. Interaction Among Different Approaches: Common Desiderata, Situated Judgments, and Inclusiveness

In his controversial book *Is Water H2O? Evidence, Realism and Pluralism*, Hasok Chang (2012) stresses that pluralism in science has the possibility to provide two kinds of benefits, namely benefits of toleration (i.e. hedging the bet, division of the domain, a satisfaction of different aims, and multiple satisfaction) as well as benefits of interaction (i.e. ad-hoc integration, co-optation, and competition). For Chang, it would be a wasted opportunity if the latter benefits would not be reaped. With their (thin) conception of procedural unity (i.e. unified pluralism), Breitenbach and Choi (2017) put this claim in even more radical terms, emphasizing interaction and its benefits particularly. In fact, they seem to go beyond Chang's claim that mere toleration can exist next to interaction. They argue that interaction among different positions constitutes the limiting constraint within which pluralist accounts are justified:

> Unified pluralism insists that participants are together, collectively engaged in an activity. (...) Unified pluralism embraces a wide range of pluralisms but imposes one important, governing limitation: it rules out ways of proceeding that undermine the continued cooperation and collaboration necessary to make a virtue out of pluralism. Unified pluralism thus excludes only but all exclusionary projects. (Breitenbach and Choi 2017, 397)

In this spirit, this section deals with central issues of interaction in the field of DS. Its importance has frequently been stressed during the interviews – all interviewees embraced critical interaction among different approaches and stressed the necessity of fostering it in practice. Interaction, thus, represents their normative goal. Similar to the previous section, however, differences between German/Austrian and Thai scholars came to the fore. While the former stressed interaction with their academic peers, the latter mainly focused on interaction with policy-makers and other non-academic actors. The juxtaposition of two statements (the first by a Thai scholar and

the second by a European one) when the interview turned to ideal forms of interaction exemplifies this difference:

> I mean, I mentioned that I have a background between civil society and academia. And so, I am interested in engaging in these sorts of debates not just commenting on them. (MaSEA4)

> I know that there are few magazines that allow for a detailed discussion. For example, an author writes an article, then 20 people are invited to comment, and then you can make a replica on it again. In such processes, one can learn a lot. (MaEur6 translated from German)

These statements underpin my arguments in the previous section concerning university systems' institutional differences and diverging forms of academic self-understanding.

I will now, however, turn to a – if not the – fundamental question with regards to interaction: what are the preconditions for interaction to be possible? Is there a common basis upon which the interactors need to agree? The interviews provided two insights. First, a common basis needs to exist. Second, such a basis is not merely epistemic. The examples, which the interviewees provided when being asked about aspects that possible interactors would need to agree upon, include ethical working procedures (FeEur1), the rejection of inhuman or racist attitudes (FeEur2), the goal of emancipation (MaEur5), the rejection of approaches that would justify physical, structural, or cultural violence (FeSEA3) as well as common visions such as "for the good of the society", "for the good of the department" (FeSEA3), "for the well-being of the people", or "for a sustainable and inclusive use of resources" (MaSEA4). Some interviewees (FeEur1, MaSEA4, MaEur6) also mentioned that sometimes ontological assumptions or worldviews are so different from each other that interaction is hardly possible. In terms of epistemic criteria, almost all interviewees stressed the precondition that approaches with which they could imagine interacting need to be open for empirical surprises, i.e. theoretical pre-considerations should never *determine* the outcome of the research. Additionally, internal coherence (FeEur1), the traceability or transparency of methodical procedures (MaSEA4), as well as the

requirement of not distorting other positions that one seeks to attack or engage with (MaEur6) have been highlighted. These statements allow for a first conclusion.

What characterizes pluralism is – in a very broad sense – the existence of different systems (that interact). Roughly speaking, these systems have two characteristics. On the one hand, they are characterized by similarity: practices and attitudes are similar enough to belong to the same system. On the other, they are characterized by dissimilarity: this is what distinguishes one system from another. Thus, we need to ask about the nature of these systems. Within the HPS debate on scientific pluralism, there seem to be two views regarding this question. While Chang (2012) tends towards epistemic definitions of these systems[17] (which does not live up to the empirical data of my analysis), Kinzel and Kusch (2018) as well as Longino (2006; 2002)[18] rather stress that such systems are never merely epistemic.

When reconstructing the historical conflict between Robert Boyle and Thomas Hobbes, Kinzel and Kusch (2018) argue that this controversy concerned a range of inextricably linked questions including metaphysics, engineering, credibility, epistemology, aims, politics, and topics. "For both Boyle and Hobbes, their respective beliefs in these different realms were closely intertwined and formed coherent sets in their respective minds" (Kinzel and Kusch 2018, 54). Although Boyle and Hobbes agreed upon several principles or desiderata (e.g. natural philosophy ought to be mechanical; philosophy ought to be public), those were too abstract to reach the same conclusions, and both interpreted them differently (e.g. Hobbes claimed that Boyle's "spring of air" was not a mechanical concept while Boyle claimed the same for Hobbes' naturally moving corpuscles; Hobbes disagreed with Boyle's presentation of the laboratory as a public space). Hence, the abstract principles or desiderata only acquired determinate content after Hobbes' and Boyles' situated judgments, i.e. their particular language games. In a similar vein, Kusch (2017a, 18) argues that irresolvable disagreement:

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[17] Chang (2012, 16) argues that different systems pursue "a coherent set of epistemic activities".

[18] Longino (2002, 575) stresses "the possibility of different equally defensible background assumptions", which include practical interests and are not exclusively of epistemic nature (e.g. questions of political correctness in behavior studies) (Longino 2006).

can exist between two communities that both give great value to reliability as the central epistemic desideratum in a given domain. And yet, one community might favor reliability of predictions that allow us to minimize false positives, while another community might favor reliability of predictions that enable us to minimize false negatives.[19]

Likewise, Dickson (2006), Hellman and Bell (2006), and Wade Savage (2006) suggest such a weakness of principles. Dickson argues that quantum theory needs to be complemented by dynamical principles, but that the mathematical constraints (i.e. the common principles) vastly underdetermine the choice of which of the several dynamics to pick out. Hellman and Bell stress that the basic logical requirement of consistency in mathematics is insufficient to decide between classical and intuitionist logics since both of them satisfy this basic principle. In the context of neuroscience, Wade Savage argues that although physicalists and dualists use the same epistemic desideratum regarding experimental and theoretical confirmation, they still reach different factual claims (i.e. mind and body are identical versus mind and body a merely correlated). This disagreement, as Wade Savage suggests, results from two different forms of methodological interpretation. Dualists favor questions of logical identity (which they, correctly, reject) and physicalists favor questions of empirical identity (which they, correctly, accept).

The abstract nature of the shared principles or desiderata in DS are quite obvious: ethical working procedures, openness to empirical surprises, coherence, transparency, non-distortion, a non-racist attitude, emancipation, non-violence as well as broad common visions can be interpreted in very different, often even contradictory, ways. One scholar comes straight to the point,

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[19] As Douglas (2000) has convincingly argued, the decision between false positives and false negatives always includes non-epistemic values as one cannot lower both types of error at the same time. Increasing the level of significance brings about a higher number of false negatives, which may result, for example, in a situation of under-regulation of chemicals. Conversely, decreasing the level of significance brings about a greater number of false positives, and this may consequently lead to over-regulation. Thus, "finding the balance requires, among other things, weighing the non-epistemic valuations of the potential consequences" (568).

[A common basis would be], well, something like well-being or that people's well-being is important. That would be a shared view. But how to achieve this I think is quite diverse by the interpreters. (…) I think most interventions would say that "we are doing this for the good of the people" but that could range from very local civil society groups working with individual groups and communities that say "well, we're working with the community to protect the way that things are because that's mostly in their interests" all the way to "we need economic growth in order to improve material well-being, and that's for the good of the country." (MaSEA4)

Thus, shared principles such as well-being allow for a variety of different (and even contradictory) approaches since their content only becomes determined after situated judgments. Put differently, these local (i.e. in the field of DS), abstract, and weak meta-standards leave plenty of room for scientific pluralism – a pluralism among different *belief-value systems* rather than merely epistemic ones.

It is, however, crucial for pluralism that different situated judgments can be expressed and are mutually acknowledged (which does not mean that they need to be shared). Only then are critical interaction and learning possible. Kusch (2017b, 4694), for example, draws an analogy to morality and argues that "seeing one's own morality as one of many can be a way to prepare oneself for learning from other systems of morality." This is precisely a case of critical interaction that would *at least*, as Longino (2006, 127) highlights, 1) sharpen each approach "as a response to challenge and criticism" and 2) make the limitations of each approach evident "by the articulation of questions that they are not designed to answer." Hence, if such mutual recognition is absent, research cannot be conducted productively (especially in terms of transdisciplinarity's focus on solution-orientation). FeSEA3 exemplifies this problem:

Actually, in my faculty, we started a faculty of political science first, and from that faculty, you also have a department of economics and of law. And finally, they think that they are bigger than us. They think we are not as scientific as economics, so they left us. And for the law, they think that they are *the* pillar of society. So, they left us.

This brings us back to Breitenbach and Choi (2017, 397), who argue that their concept of "unified pluralism" "excludes only but all exclusionary projects." Hence, it is not enough to agree on shared abstract principles, but concrete situated judgments must

be acknowledged in order to make interaction and collaboration possible. All interviewees stressed this precondition, although in different terms. MaEur5 differentiates between knowledge for the sake of action or control (i.e. "Herrschaftswissen") and emancipatory research. Interaction and collaboration would only be possible within the limits of the latter since the former excludes other approaches by definition and thus contradicts emancipatory research. FeEur1 makes similar remarks with regards to an academic hegemonism of the Global North. FeEur2 highlights that interaction is impossible when the counterpart expresses a kind of "religious belief" in his or her approach. She further argues that for a fruitful interaction to be possible one needs to have particular "constellations of power (…) in which a confrontation can be carried out and taken up by both sides in a way that yields fruitful results" (translated from German). Similarly, MaEur6 highlights that interaction can only work if the opponent takes up your arguments and criticism instead of blindly holding on to his or her research. FeSEA3 vividly discusses the problem of power hierarchies in which colleagues "look down" to you, "do not listen," and "only stick with their own idea":

> We might still be friends and talk about, you know, "how are you doing," "do you have food," "what was your breakfast in the morning," but we will not debate about our perspectives anymore, because we know that we are different. (…) And in that case, we just say, well, we can be colleagues, but not a peer in a scientific way.

MaSEA7 stresses a very similar dilemma, which, at least, makes interaction difficult. He explains the problematic power asymmetries between engineering and the social sciences in many research projects: "usually the authority would give priority to scientific engineering and technological research." This pushes the social science into a sub-role within projects, fulfilling tasks of "lip service" or merely "helping them." Lastly, MaSEA4 mentions problematic hierarchies of ontologies or worldviews in which marginalized voices do not get heard while an economic growth paradigm is privileged. Hence, although in different forms, all interviewees express the necessity of a level playing field for interaction to be possible. Pluralism cannot allow for exclusionary projects.

This inclusiveness criterion, however, does not imply that conflicts dissolve or that the *outcome* of a disagreement needs to be entirely harmonious. Any form of harmony (in transdisciplinary research) is contextual and pragmatic; it balances multiple interests and situated judgments against each other in a specific situation to offer feasible solutions that have the potential to trigger real-world change. In this context, FeEur1, FeEur2, and MaSEA4 explicitly stress that harmony or the dissolution of *all* diverging approaches into one whole is neither possible nor desired. "Science, like life, is mostly characterized by conflict" (FeEur2, translated from German). While the pragmatic nature of contextual unity in transdisciplinary research acknowledges these conflicts, it also recognizes the necessity of choices in order for the research to be relevant in practice. As Schmidt and Pröpper (2017, 377) put it, "Being realistic about transdisciplinarity requires acknowledging that the (almost romanticised) image of a mutual and equal knowledge co-production is hardly attainable, and indeed, blanks out existing hierarchies, spheres of interest, and power structures." Some interests or situated judgments will always need to be sacrificed for others.

Transdisciplinarity does not reject this instrumental necessity, but, keeping in mind that solution-orientation also means to inform policy- and decision makers, is all the more reflective about questions of representation (whose voices, knowledge, and expertise count) as well as impact (who owns the research output, what impact does it make, and who will benefit from it). In this sense, it counteracts the tendency of a de-politicization of research that often comes along with promises of unification. MaSEA4, for example, highlights that attempts of technocratization exemplify such a problematic form of unification since they explicitly follow an ideal of a-politicized science, thus pursuing an illusion of universalized knowledge. There will always be conflicts because there will always be different perspectives and differently situated groups or actors that need to be acknowledged (FeSEA3 and MaSEA4).

This is why pluralism is so essential for transdisciplinary research. It is founded on multiple situated judgments, which are ultimately being *compressed* into a common contextual strategy. Such compression, of course, is always partial[20]. While MaEur5

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[20] I suggest that the idea of "compression," i.e. the establishment of a pragmatic unity in a specific situation, is a scientific practice in DS (specifically, in transdisciplinary research) that is highly related to

expresses a preference for a combination of different approaches into a more comprehensive totality, he also admits that some degree of pluralism within the framework of emancipatory research is not a bad thing, especially if it helps to sharpen one's own approach. To sum up, all the inclusiveness criterion requires is that space is given to different situated judgments to be expressed, recognized, and taken seriously. Conflict is still a possibility and the rejection of positions within this space is still an option. I will turn to this topic in Section 6.

Before doing so, I will end the theme of interaction in more practical terms. Since interaction seems to be not only vital for a critical pluralism in science, but also a normative goal of scholars in DS, we need to ask how such interaction could be enabled, enhanced, and intensified in practice. In fact, the interviews revealed many possibilities, all of which need to occur in *institutionalized* frameworks. Three main components were discussed. First, joint research projects across disciplines and regions jointly addressing one phenomenon and also including non-academic actors (which refers to the broader understanding of pluralism discussed in Section 4) are highly beneficial for critical interaction. Crucially, much more financial support must be given to researchers in the Global South to conduct and lead such research projects in the Global North (see above with regards to academic hegemonies, which restrict interaction). Secondly, the work with students was highlighted as a central opportunity; this may include joint curricula and co-teaching of classes in which different approaches work together towards a common goal, namely a productive and fruitful work with students. Lastly, the problem of current conference settings was discussed. Huge conferences, often with several parallel panels, predominantly preclude possibilities for real critical interaction. Small workshops (as well as small reading

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three interlinked statements that have been expressed by Dupré (1995). First, scientific criteria to distinguish certain parts of reality are "chosen in part for anthropocentric reasons such as ease of human application" (36). Second, "epistemological standards for science" are at least partly normative (243) meaning that scientists' epistemic practices are in some respect influenced or constituted by non-epistemic values. Lastly, and in line with the two former arguments, aiming at universally unified sciences, at one Scientific Enterprise regardless of its local context, would require "a society with absolutely homogeneous, or at least hegemonic, political commitments and shared assumptions (...). [Universally] unified science, we might conclude, would require Utopia or totalitarianism" (261).

groups within or among departments) were mentioned as significantly more productive.

5.1. Belief-Value Pluralism versus Ontological Pluralism

Section 5 ascribed a central role to situated judgements. Such judgments are the very fabric through which pluralism in DS thrives. In this sub-section, I will elaborate on the idea of situated judgments in more detail. Subsequently, I will argue that the focus on situated judgments implies an epistemic rather than an ontological form of pluralism. At the same time, I will relativize this understanding since pluralism is, as we have seen, not merely epistemic, but always implies non-epistemic values. *Believe-value pluralism* may, therefore, be a more accurate term. Finally, I will hint at some consequences of such an understanding.

The term "situated judgment" implies that an evaluator is always situated in a specific context. But what kind of context is that? Fleck's ([1935] 2012) notion of "thought collectives" may be useful in understanding a person's situatedness. Fleck strongly opposes the idea of the lone genius discovering nature or society and instead argues that the creation of knowledge, or in Fleck's terminology the "recognition" of phenomena, is an inherently social process because it may only be understood in relation to the specific societal and scientific knowledge at a given historical moment. It is a process in which ideas emerge in a collective of people, even if, in the end, credit may be attributed to just one central hero. His notion of "proto-ideas" highlights that scientific creativity and innovation are based on pre-existing societal knowledge and ideas. Such proto-ideas affect particular "thought styles." A thought style depicts "the entirety of intellectual preparedness or readiness for one particular way of seeing and acting and no other" (Fleck [1935] 2012, 64). It both constrains and enables thinking. Thus, what and how we see and what and how we think depends on a collectively created thought style, which is assimilated through sustained interaction with others.

Fleck's idea of "thought styles" is different from Kuhn's (1962) "paradigms" in the sense that thought styles are not unique to science. Also, extra-scientific groups, even entire societies, may share certain ways of thinking. Hence, keeping DS's transdisciplinary

nature in mind, "thought styles" may represent a more useful notion to explain different instances of situatedness compared to Kuhn's paradigms. A "thought collective," is consequently "a community of persons mutually exchanging ideas or maintaining intellectual interaction" (Fleck [1935] 2012, 39) via language and symbols that may be distinctive for a specific collective. A person, however, can be a member of several scientific as well as non-scientific thought collectives (which, again, distinguishes Fleck from Kuhn).

Particular forms of self-understanding, such as being an "academic activist" – a term frequently mentioned during the interviews – exemplify these interrelations. The same is true for the main topic of concern in DS in which the legitimacy of *Western* scholars is questioned when conducting research in the Global South (a concern that is highly related to the colonial roots of DS discussed in Section 1). Proto-ideas may, therefore, evolve from academic socializations, from specific civil communities such as ethnic minorities, from certain forms of training (e.g. being trained as a government official), or from particular activist groups.

All of these communities (with their distinctive collective knowledge and ideas), however, exist prior to a person entering it. Thus, gaining membership in such communities implies the taking up of those pre-existing proto-ideas. Through continuous interaction, the new member develops a community's particular thought style. Importantly, however, a member's interaction with this group may also mold the community's thought style; a style is not independent of the people using it. Particular ways of behaving, of seeing things, and of using terminology and symbols distinguish one thought collective from another. At the same time, as has already been mentioned, a person may be a member of several thought collectives. Those multiple memberships are a central possibility – even though not the only one[21] – to bring different thought collectives into interaction with one another. It interrelates different

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[21] For example, in transdisciplinary research projects several thought collectives are being brought together in order to interrelate and (re-)negotiate their situated judgments. Overlapping thought collectives (i.e. multiple memberships) are a possibility, but not a necessity during the initial phase in such frameworks.

situated judgments, thus having the potential to change thought styles of thought collectives.

In her article "Learning from the Outsider Within: The Sociological Significance of Black Feminist Thought," Collins (1986) discusses an illuminating example of how different thought collectives interact and, in so doing, mold thought styles. She provides a detailed account of the epistemic advantages that black-women sociologists enjoy and the benefits that they can bring to the discipline:

> Afro-American women have long been privy to some of the most intimate secrets of white society. Countless numbers of Black women have ridden buses to their white 'families,' where they not only cooked, cleaned, and executed other domestic duties, but where they also nurtured 'other' children, shrewdly offered guidance to their employers, and frequently, became honorary members of their white 'families.' These women have seen white elites, both actual and aspiring, from perspectives largely obscured from their Black spouses and from these groups themselves. (…) In spite of their involvement, they remained 'outsiders.' (Collins 1986, 14)

Thus, while these women, who were part of a particular thought collective, knew that their interaction with this distinctively 'other' thought collective will not enable them to become members, they "looked both from the outside and from the inside out (…) [They] understood both" (Hooks [1984] 2000, xvi). This idea of switching perspectives will become central in the subsequent Section 6. For now, however, I will turn to the consequences that these situated experiences[22] of African American women had for

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[22] The terms "situated experience," "situated judgments," or "situated knowledge" are taken from feminist epistemology. *Situatedness* is characteristic for all traditions in feminist epistemology, be it standpoint theory, feminist postmodernism, or feminist empiricism (see for example Anderson 2017). Standpoint theory claims that particular socially situated perspectives (i.e. oppressed perspectives) are in an epistemically privileged position (see for example Collins 1986). Feminist postmodernism tends to reject claims of privilege stressing a radical instability and contingency of social identities and their representations (see for example Butler 1990). Empiricism "seeks standards (…) for differentiating the circumstances in which situatedness generates error and in which it constitutes a resource that can be harnessed to advance knowledge" (Anderson 2017, n.p.) (see for example Campbell 1998). Hence, despite their differences all three traditions emphasize locality, partiality, and situatedness. As Haraway (1988, 589), an exponent of standpoint theory, puts it, "I am arguing for politics and epistemologies of

the thought style of the thought collective of sociologists. Like each thought collective, the thought collective of sociologists is characterized by similar experiences, a common history (at least in some respects), and shared proto-ideas (i.e. taken-for-granted knowledge and ideas). These aspects form their thought style (i.e. their 'thinking as usual'). "One becomes an insider [in this thought collective] by translating a theory or worldview into one's own language until, one day, the individual converts to thinking and acting according to that worldview" (Collins 1986, 26). New members, however, also mold this particular thought style since "Black women's experienced realities, both prior to contact and after initiation, may provide them with special perspectives and insights. (…) In brief, where traditional sociologist may see sociology as 'normal' and define their role as furthering knowledge about a normal world with taken-for-granted assumptions, outsiders within are liable to see anomalies" (Collins 1986, 26f). While Black women, who are non-members of sociology may be familiar with these experiences they often lack the legitimacy to challenge such anomalies. Interaction based on mutual recognition is thus crucial to change thought styles in particular ways. This leads us back to Section 5: different situated judgments of academics and non-academics need to be recognized in concrete situations for pluralism to unfold. Interaction is thus at the heart of pluralism, and DS's transdisciplinary approach acknowledges exactly that. It seeks to bring into interaction a plurality of situated judgments (i.e. judgments that are situated within specific thought collectives) in order to learn from each other and, in this way, mutually modify each other's thought styles.

> Outsider within status [sic] is bound to generate tension, for people who become outsiders within are forever changed by their new status. Learning the subject matter of sociology stimulates a reexamination of one's own personal and cultural experiences; and, yet, these same experiences paradoxically help to illuminate sociology's anomalies. (…) Experienced reality is used as a valid source of knowledge for critiquing sociological

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location, positioning, and situating, where partiality and not universality is the condition of being heard to make rational knowledge claims. These are claims on people's lives. I am arguing for the view from a body, always a complex, contradictory, structuring, and structured body, versus the view from above, from nowhere, from simplicity." Objectivity is, thus, not a view from nowhere, but "views from somewhere" (Haraway 1988, 590).

facts and theories, while sociological thought offers new ways of seeing that experienced reality. (Collins 1986, 29f)

Black-feminist thought is, of course, only one of many examples. Transdisciplinary research seeks to grant many different perspectives and positionalities access to the process of knowledge production, be it knowledge of different scientific disciplines, ethnic minorities, women groups, policy-makers, or trade unions, to mention only some. Those different thought collectives are supposed to learn from each other and, in so doing, mold each other's thought styles in a way that allows for common strategies in practice. As has already been discussed at length, such synthesis is always contextual depending on concrete situations and not all situated judgments will be accommodated entirely. This is why pragmatic and contextual choices are central to transdisciplinarity.

Situated judgments, as we have seen, are based on experiences from within particular thought collectives. Those collectives mold how reality is perceived. A plurality of such experienced realities, thus, brings about a multitude of situated judgments. It brings about an epistemic, rather than an ontological, form of pluralism. Before turning to this distinction in more detail, I will immediately relativize the notion of *epistemic* pluralism since epistemic outcomes cannot be understood without non-epistemic considerations. Society is always present in our thinking. In the case above, for example, we have seen how experiences of oppression and systematic societal exclusion yielded epistemic changes in the community of sociologists. Thus, it is experience, in all its (often incommensurable) varieties, through which we get in touch with the world. Hence, in contrast to the British empiricists' understanding of experience, it is not a veil between us and the world. "Reality," to speak with Dewey (1903, 296), "must be defined in terms of experience."[23] Similarly, Peirce (1958, vol. 6, §95) asserts that "all our knowledge is, and forever must be, relative to human

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[23] From this statement it is not necessary to draw metaphysical conclusions as Dewey, in fact, did. Dewey seems to suggest that humans and the world are one. He argues: "It is the *situation* that has these traits. *We* are doubtful because the situation is inherently doubtful" (Dewey 1938, 109). The idea, that I put forward here (namely that "reality must be *defined* in terms of experience", emphasis added), however, does not imply these claims. In brief, that reality must *be defined* in terms of experience (as a very precondition of our being human), does not imply that reality *is* of experience.

experience and to the nature of the human mind." As a consequence, following Dewey (1929), we must reject the British empiricists' "spectator theory of knowledge" and instead "return to Aristotle in holding practical activity at the center of experience" (Misak 2013, 114). Experience, in this sense, is never 'pure' or 'neutral.' Our shared five physical senses[24] do not represent the sources of all our knowledge (an idea that was at the center of Chauncey Wright's thinking; see Misak 2013, 28). Experience always includes value regimes that are acquired in specific contexts (such as in a context of oppression or a specific academic discipline). Values, observations, and perceptions are inextricably linked forming "a seamless whole" (see Misak 2013, 23 in reference to Wright). "We thus find in Wright the first careful articulation of the idea we have seen nascent in the early American thinkers. It is the idea that experience might go beyond what our five senses deliver; that we might experience value" (Misak 2013, 23). In brief, situated judgments derive from thought-collective-specific experiences, which include non-epistemic values. A plurality of such situated judgments, thus, represents a plurality of belief-value, rather than merely epistemic, systems in which members share collective experiences.

Such a *belief-value pluralism* must be distinguished from ontological forms of pluralism. Ontological or metaphysical pluralism has, most influentially, been discussed by John Dupré (1995)[25]. He argues that *metaphysical disunity* leads to disunity in science (i.e. pluralism). In his book *The Disorder of Things,* Dupré (1995, 6) attacks the "central pillars of a classical conception of cosmic order": determinism, reductionism, and essentialism. Classical determinism, he argues, is fully incredible since "the degree of causal structure in different parts of the world may be quite

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[24] While these five senses are widely considered universal, it should also not be forgotten that, by no means, all people can make use of their five senses in the same way.

[25] The later Paul Feyerabend advocated for an ontological pluralism too (see also Kusch 2016). He argues that the sciences "manufacture (…) [for example] particles out of a material that did not contain these elements but could be shaped into them" (Feyerabend 1999, 144). Such material, although occasionally offering "resistance," is "pliable": "Moulding it one way (...), we get elementary particles; proceeding in another, we get (…) Gods" (Feyerabend 1999, 145). Thus, following Feyerabend, both elementary particles and Gods *exist*, because "Ultimate Reality" could be successfully molded in these ways. In other words, "Ultimate reality" is abundant – it is a plurality. "After all, this motivates [Feyerabend's] talk of 'ontological relativism'" (Kusch 2016, 112).

variable, and is in any case a strictly empirical matter" (Dupré 1995, 174). Dupré argues against the idea that there is some homogenous stuff that has ontological priority and that there is any consistency between higher and lower levels (which would be needed for causal completeness). In doing so, he rejects reductionism. Regarding essentialism, Dupré (1995, 18) emphasizes that there are "countless legitimate, objectively grounded ways of classifying objects in the world." He terms this stance "promiscuous realism" and points out, "Nothing I have said, either about scientific kinds or about the kinds of ordinary language, suggests that these kinds are in any sense illusory or unreal" (Dupré 1995, 36). Hence, promiscuous realism presupposes a "radical ontological pluralism" (Dupré 1995, 94) and discovering kinds never implies discovering essences. Finally, Dupré (1995, 7) concludes, "The disunity of science is not merely an unfortunate consequence of our limited computational or other cognitive capacities, but rather reflects accurately the underlying ontological complexity of the world, the disorder of things."

Although I feel sympathetic towards Dupré's cogent critique of determinism, reductionism, and essentialism, there is no sound empirical base for promoting a metaphysical pluralism. What is more, following the idea that "reality must be defined in terms of experience" (Dewey 1903, 296), no empirical evidence for metaphysical foundations can be gained *in principle*. Asking how the world is, unrelated to human concerns – and thus unrelated to the question of how we get in touch with the world – may result in mere speculation. Even Dupré himself (1996, 102) seems to acknowledge this, although he refrains from the term "speculation," but uses the notion of "abstract philosophy": "Nevertheless, no amount of evidence can rule out the possibility that this [metaphysical] diversity reveals only the immaturity of most of science. If one is interested in whether disunity is an inescapable attribute of science, one must attempt some more abstract philosophy." Such an abstract philosophical endeavor would need to assert that we, in principle, could gain knowledge about reality unrelated to our experiences (which, as we have seen, also include values). Thus, I reject such metaphysical speculations, not least since they promote a very specific (scientific) culture or practice that is, in my opinion, undesirable. A culture in which people think of human beings as "being responsible to God or 'the nature of reality,' which tells them what kind it is" rather than "creating their own life-world" (Rorty 1995, 59).

In line with this metaphysical culture, Dupré argues that human concerns and interests are as (*and only as*) disordered and pluralistic as the world itself. Feyerabend (1999, 3) arguably articulates this point most poetically: "The world we inhabit is abundant beyond our wildest imagination. There are trees, dreams, sunrises; there are thunderstorms, shadows, rivers; there are wars, flea bites, love affairs; there are lives of people, Gods, entire galaxies. (...) There is no limit to any phenomenon, however restricted." Although I am again, in principle, sympathetic to such a view, I am hesitant to draw this metaphysical conclusion since its argumentative content is no more justified than claiming the existence (as well as shape and structure) of gods[26]. Such a conclusion cannot be derived empirically. Instead, in line with pragmatism[27], I suggest that a more useful (social-scientific) culture would be to accept and embrace the "unreasonable silence of the world" (Camus 1955, 28) and, thus, all the more engage with the multitude of human experiences that engender situated judgments. Therefore, I am in full agreement with Chang (2012, 292) who stresses: "I make no assumptions of plurality in ontology. (...) The evidence from the track record of our humble science from the last few centuries is not strong enough to indicate anything conclusive about the very shape of reality."

Lastly, I will turn to a consequence that an ontological pluralism would evoke. Breitenbach and Choi (2017, 394ff) come straight to the point:

> According to ontological pluralism, for example, no room remains for the classic reductionist conception of nature as consisting of nothing but fundamental microparticles

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[26] As Nietzsche (1996 [1878], p. 9) put it, "It is true, there could be a metaphysical world; the possibility of it is hardly to be disputed. We behold all things through the human head and cannot cut off this head; while the question nonetheless remains what of the world would still be there if one had cut it off." This question obviously remains, but, as I argued, we need to remain agnostic about it since empirical research can, by definition, not provide answers. We do not get rid of our heads and, thus, must work with what we have, experiences (beyond the five senses), rather than referring to metaphysical fantasies.

[27] Misak (2013, 203), for example, summarizes a central pragmatic thought in the following way: "Epistemology must be naturalized. Science (Quine) of inquiry (Peirce) is our theory of what exists. We don't need fruitless philosophies that try to stand over and above first order inquiry and tell us what *really* exists. We don't need that kind of metaphysical theory".

and their governing laws. (…) The classic reductionist project might seem to be necessarily exclusionary because it takes certain scientific disciplines to be redundant and works toward their elimination. But the reductionist who allows, for instance, that the success or failure of her project can be judged by those who reject the reductionist view, especially those whose theories are said to be reducible without loss of information, proceeds in a way that is in fact compatible with non-reductionist projects. This kind of reductionist project can be pursued as part of a pluralist science. It is when the reductionist regards the criteria of success for her project to be determined entirely within the reductionist enterprise, however, that her way of proceeding is exclusionary and incompatible with a collaborative science. Thus sometimes, whether a project is exclusionary or not depends on how it is conceived and carried out.

In this context, I will briefly discuss a weighty influence in DS: neoclassical economics. The increasing dominance of neoclassical thinking in DS has already been suggested on several occasions (both in the literature, e.g. Bernstein 2007, and during the interviews). At its core, neoclassical economics has radically reductionist assumptions. It assumes that all human decision making is driven by the maximization of individual utility. Human activity is, therefore, being reduced to an individual, fully-informed, and rational utility maximizer, the infamous "homo economicus." Is such an understanding sustainable in the pluralist framework that I sketched out during this thesis? Neoclassical economics' overly simplistic reductionist formulations are by all means highly problematic, but remaining agnostic with regards to ontological pluralism, it may be too hasty to exclude them from a pluralistic framework on the basis of their reductionist assumptions *iff* neoclassical economists act in a cooperative way. The latter premise, however, is central since only through interaction and collaboration can unified pluralism come to life. Thus, interactive forms of neoclassical economics can prove beneficial in a pluralist framework. FeEur2 addressed such benefits explicitly:

Hardcore neo-classical economic theories are also stimulating. But you cannot use them to the last consequence. That is the point. Well, maybe I would do that eclectically. So, the conclusions: hardcore neoclassical theory – no! (…) But different aspects and perhaps different methodological ingredients of this concept are quite useful. Gradualism, for example, and the like. (Translated from German)

Hence, *iff* neoclassical approaches are cooperative and allow for critical interaction they may enrich a pluralist debate, upholding the possibility of mutual learning. But therein may lie the rub. Whereas some neoclassical economists have engaged in critical interaction in the last few decades, a vast majority remained impertinently unresponsive. The interviews confirmed these problematic tendencies. Neoclassical economics tends not to consider itself one approach among many, but *the* approach in economics. As Thompson (1997, 291) put it,

> [Neoclassical economics is] also most reluctant to engage in conversation with alternative paradigmatic schools (e.g. feminists, Marxists, Institutionalists or Post-Keynesians). In doing so they have become intellectually incestuous, and unconcerned about being unaware of what they don't know (defined as ignorance-squared). (…) Neoclassical economists, as traditional intellectuals, cultivate the social production of ignorance, and propagate it to their students, in the struggle for ideas. This is done through narrow pedagogy, delineation of research parameters, and by constraining the production and presentation of non-neoclassical knowledge.

At her speech before the Publishing Committee of the American Economics Association, which is responsible for the *American Economic Review,* Anne Mayhew, editor of the *Journal of Economic Issues*, stressed very similar worrying trends:

> She cogently argued that a small group of economists have 'captured' these journals to promote mathematical complexity at the expense of issues, which incorporate 'history, institutions and power.' Further, the prestige of the Association and the journals is used 'to narrow the discipline, to reward the excessive technical training of the prestigious graduate schools, and to stifle the advance of heterodox approaches to economics.' (Mayhew 1996 in Thompson 1997, 291f).

While the discussion about how responsive various strands of neoclassical economics have been towards their critics would deserve another thesis on its own, it is enough for my purpose here to re-emphasize Breitenbach and Choi's (2017, 396) final sentence in their quote above: "Sometimes, whether a project is exclusionary or not depends on how it is conceived and carried out." Carrying out neoclassical economics through ideological domination, thus solidifying the "ignorance-squared," and strategically establishing a hegemonic debate in which other approaches are

considered less scientific (mostly because they lack the mathematical complexities of neoclassical economics) while, at the same time, being unresponsive with regards to critics, who rightly draw into question neoclassical economics' silence on issues like power, governance, history, institutions, and socio-cultural as well as socio-ecological contexts, definitely excludes their proponents from the pluralistic game.

6. Evaluation: Switching Perspectives

Let us briefly recapitulate the main arguments. Section 1 argued that DS is characterized by *prima facie* pluralism. Section 3 and 4 provided impressionist vignettes of the field substantiating the *prima facie* claim and broadened the definition of pluralism to transgressing disciplinary boundaries and traditional scientific knowledge. Section 5 established an inclusiveness criterion for pluralism on the level of situated judgements. Such inclusiveness, however, does not imply that everything needs to be accepted. Choices, as we have seen in Section 4.1., are unavoidable. In this section, I will elaborate on this aspect in more detail. How can we reject[28] particular approaches and what kind of criteria can we use for such decisions? In order to answer this question, I will explore in three steps:

> (1) How do scholars in DS perceive opponent positions in a controversy?
>
> (2) What are the criteria for excluding positions from a debate? Where are the limits of the inclusiveness criterion?
>
> (3) In order to uphold the inclusiveness criterion, different situated judgments must be acknowledged. This, however, does not imply that everyone needs to *incorporate* all forms of situated judgments; choices can still be made. Hence, the question: on what basis are such choices made?

Concerning a scholar's perception of his or her opponent's approach, the empirical data suggests a possibility of "meta-alternation" (see Collins and Yearley 1992). Kusch (2017b) calls this a "dual-perspective view." The first perspective is based on our contingent historical circumstances; it is the *perspective of the epistemic (or believe-*

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[28] In line with the transdisciplinary understanding of pluralism (see Section 4.1.), rejection concerns again the *pursuit worthiness* of particular approaches.

value) agent. We find ourselves in these circumstances – we are "being thrown" into them, to use Kusch's existentialist term – through socialization, education, and training. Hence, the standards of our epistemic (or belief-value) communities[29] (Fleck's thought collectives; see Section 5.1.) seem or appear to us compelling and without any alternative. The second perspective is the *perspective of the epistemic (or believe-value) evaluator* as a sociologist or anthropologist, who steps outside her own systems[30]. This presupposes self-reflection on the contingency of one's own belief-value systems. The centrality of (academic) socialization for one's agency perspective was frequently highlighted during the interviews. When being asked about their deliberations for choosing certain theories or approaches and not others, the interviewees offer very similar responses:

First, of course, it has to do with this longer path of scientific socialization. Which theories I am closer to than others. And, as I said, that is something that is fortunately a process. This is not set in stone now and forever, but it is a long-term finding process. (…) And, of course, it also has to do with my research questions and epistemological interest. How do I need to define things and in what ways do I need to look at certain issues? This is actually already implied by your research question and epistemological interest. (...) But how such a research question forms, for example, or an epistemological interest arises, that does not occur suddenly and then I say "that is now my epistemological interest," but it is something that you only understand when examining your socialization and the literature that exists there, theoretical but also empirical. (FeEur1 translated from German)

First, I need to know them. That is essential. And by 'knowing' I mean more than just reading about it. 'Knowing' in the sense that I consider them reasonably viable and suitable for my empirical question. (FeEur2 translated from German)

I think this may be related to the training. (…) I consider my work as following an interdisciplinary approach, because I am trained in political economy. (…) I myself might already come from more than one discipline, but (…) I still have my basis in these

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[29] I use the plural here since, following Section 5.1., one can be part of several belief-value communities simultaneously.

[30] Remember Hooks' ([1984] 2000, xvi) comment in Section 5.1. that African American women "looked both from the outside and from the inside out (…) (They) understood both."

disciplines, even though they are quite mixed and interrelated. My approach is closely related to these trainings. (…) Through my training, I got very much inspired by post-Marxism. This is a certain kind of pillar or situation that I have not yet overcome. For example, I always get complaints (…) that I am not yet on the gender-train. (…) So, when it goes to feminist Marxism, okay, the Marxism is fine. But when it comes to feminist Marxism, it also needs to be linked to the political economy. (FeSEA3)

Well, that's a very difficult question, because my observations, sometimes with myself but also with others, is that it's almost a coincidence, whatever you have picked up in life at some point. (MaEur6 translated from German)

At the same time, the interviewees describe the possibility of stepping outside their own perspective as agents, thus comprehending other belief-value systems than their own. When being asked whether they are able to understand their opponents and, more than that, even consider them justified, they affirm that they, in fact, can:

When I talk about the ideal that one should approach, then it is, in fact, the following goal: try to understand the other's reasoning, and what data he brings in, so what are his theoretical assumptions, ontic assumptions, about reality, epistemic assumptions, about perceptibility, methodological assumptions, perhaps ethical. (MaSEA6 translated from German)

Yes, I understand [neoclassical economics]. Well, that is, from the internal logic of these economists, of course. (FeEur2 translated from German)

Yes, I do understand that they have been trained that way. (MaSEA7)

There's a lot of writing on that, on the rationality of economics. I mean, when I meet economists I see, it's not a caricature, but I do see the sort of tools that they use. They tend to have a strong belief in the explanatory power and the sort of pragmatism of using these economic tools. For me, I mean, I can understand that logic. But if it misses the longer history of the way things became what they were, then it can't really be a good guide to me. (MaSEA4)

I can understand that for sure. But I don't have to share it. (…) I can comprehend how a certain position came to its understanding, to its view. I can comprehend that if I know,

for example, how he or she has been, so to say, socialized academically. Then I can understand that. But I do not have to share it because of that. (FeEur1 translated from German)

This assemblage of quotes already demonstrates that although many positions are being understood or comprehended, the interviewees do not necessarily need to agree with them. This leads to the question of rejection. How can we – within a pluralist framework, which demands the inclusiveness criterion – reject certain positions? The answer is two-tiered and a distinction between *rules of access* and *situated rules* needs to be made.

First, with regards to the rules of access the interviews suggested some rough and ready guidelines through which positions and approaches can be immediately excluded from the pluralistic game. In other words, positions that do not meet these rules are considered intolerable in DS and are, thus, outside the boundaries of the inclusiveness criterion. Section 5 already discussed these rules of access in terms of a common basis for interaction. Three (non-exhaustive) kinds of such rules were expressed. First, exclusionary projects can, by definition, not be part of a unified pluralistic framework. Second, non-epistemic factors include ethical working procedures, a non-racist attitude, the goal of emancipation, non-violence as well as the broad common vision that projects need to work towards the good of the society. Lastly, in terms of epistemic rules the interviewees stress openness to empirical surprises, internal coherence, transparency with regards to methodical and other working procedures as well as a non-distortion of other positions. Only those approaches that meet these rules are acceptable options in the field of DS.

As has already been discussed in Section 5, the three kinds of rules of access still allow for a variety of interpretations (i.e. situated judgments) and, thus, open the stage for pluralism. The rejection of positions, however, is still an option. This is where situated rules as well as the two different perspectives (i.e. the agent's and evaluator's perspective) enter the game. Particular approaches can be rejected from the perspective of the epistemic or belief-value agent, although they remain part of the pluralistic framework, because they are recognized by the epistemic or belief-value evaluator's perspective. The latter perspective, thus, maintains the inclusiveness

criterion, while the former provides space for the necessity of choices. As Kusch (2017b, 4692f) puts it,

> We do not have such seemings for [belief-value systems][31] other than our own. We take it that these seemings give us some justification for privileging our own [belief-value system]: just like perceptual seemings justify perceptual beliefs, so intellectual seemings justify at least some epistemic justification for our [belief-value system].

Hence, although other beliefs outside our own system "do not seem right to us in light of our own [belief-value system], they are nevertheless justified given the other [belief-value systems]" (Kusch 2017b, 4693). This, however, does not mean abandoning the first perspective from which "our epistemic standards continue to strike us as right" (Kusch 2017b, 4693) and which is therefore rational to use. Consequently, the dual-perspective view avoids skepticism, dogmatism, and naïve relativism. Skepticism would depict a skeptical attitude towards all positions (including our own) since we cannot judge other positions by anything absolute, but only by our own lights. Dogmatism would take the following stance: only my/our position is correct, and it does not matter whether we can only judge it by our own lights. Lastly, naïve relativism represents the position that we can only judge different positions by our own lights, so all of them are equally valid.

To draw up an interim balance, I have argued that two kinds of rules need to be distinguished: *rules of access*, which exclude positions from the debate (and, thus, the pluralistic framework) and *situated rules*, which satisfy the inclusiveness criterion from the evaluator's perspective, but allow for choices from an agent's perspective. In her case study on pluralism in historiography, Kinzel (2016) makes a similar distinction. She distinguishes basic (here: rules of access) from complex (here: situated rules) criteria. Basic criteria are uncontroversial and commonly relied upon. In the field of historiography, she detects some "rough and ready rules" (Kinzel 2016, 139) such as

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[31] In the original quote Kusch uses "epistemic system". In order to avoid a terminological confusion, I think it is better to continue with the term "belief-value systems" to stress the inextricable link between non-epistemic and epistemic beliefs.

source reliability, internal consistency, and consistency with accepted background knowledge. However, these rules (or social conventions, as I would argue) are too abstract and weak to decide among rival positions. Thus, she argues, they leave plenty room for pluralism and relativism. This is where complex criteria enter the stage. Kinzel (2016, 142) summarizes her central argument in the following way: "Basic evaluation criteria reduce the space of permissible alternatives and hence restrict pluralism. But (...) the verdicts that we can reach on their basis are relatively weak, and in order to reach a more definite decision, we would have to refer to complex criteria." These complex criteria, however, are anything but neutral:

> [For example], a convinced social constructivist may wish to reject a historical account on the basis that it is internalist and present-centered and hence fails those complex methodological criteria that call for a more thorough contextualization and historicization of scientific debates. But in doing so, the constructivist has assumed some of the points at issue, namely that a reconstruction of the debate in terms of its technical content only is deficient and that past beliefs should not be evaluated by present-day standards. The constructivist may have good reasons for holding these views, but a decision between conflicting case studies that is based on them is not a neutral decision. Mobilizing complex criteria in conflicts between historical accounts reinforces historiographical pluralism rather than eradicating it. (Kinzel 2016, 147)

Returning to the field of DS, the interviews reveal some of these complex criteria – or, in order to use the terminology established here: situated rules – that offer the possibility for choices among different approaches and, in so doing, reinforce pluralism[32]. I will only mention a few examples here, since the variety of situated

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[32] I deem it essential to stress again that all of these approaches need to satisfy the rules of access. Only within this constraint, pluralism can unfold. We have seen that the rules of access comprise three kinds of criteria. The first kind of criteria, i.e. epistemic criteria, are social conventions that stipulate what it means to be scientific in DS. Those are necessary to demarcate science from pseudo-science. The second kind of conventions, i.e. non-epistemic criteria, a very much linked to the third kind of conventions, i.e. the exclusion of exclusionary projects. Racism, enslavement (as the opposite to emancipation), working against the good of society (and, thus, working exclusively for the good of a small group), as well as other non-ethical procedures imply the explicit exclusion of a variety of situated groups and their judgments. Thus, denying such positions access to the pluralistic framework *ab initio* is a feature shared with feminist standpoint theory. To speak with Haraway (1988, 581), "Feminist

judgments (and, thus, situated rules) in DS is enormous due to the diversity of the field. A detailed elaboration of the wide range of situated rules would, indeed, need further research. Nevertheless, four examples are paradigmatic and exemplify the inseparability of training/socialization (i.e. a particular belief-value system or thought collective) and the rules applied in order to decide among rival positions within a pluralistic framework. One Marxist-oriented scholar (MaEur5) stressed that all approaches that he would consider suitable need to have a "material base." Another scholar trained in political ecology (MaSEA4) mentioned that useful approaches are those that are sensitive to social factors, such as power relations, when dealing with environmental questions. In a similar manner, a scholar from political science (focusing on the analysis of different social movements) explained her reluctance towards constitutional approaches in the following way:

> I mean it's ok, but I am not interested. In my passion, I do not enjoy reading what the law says. Unless the law is related to the people and I analyze how it is linked or something like that. I would see the relation between society and regulations. So, for me, the law is kind of a public policy. The law is a political project that comes from agency who decides. So, it's not the absolute truth that cannot change. For me, it is not my type to say, "ok this is what the law says so we should follow: 1-2-3-4-5", because the philosophy of law is based on changes in society. When society changes, the law should change. (FeSEA3)

Finally, MaSEA4 highlighted, in line with DS' transdisciplinary understanding which also includes non-academic actors, different forms of situated judgments between local communities and national authorities:

> I really think it ranges from those that emphasize economic growth as the main priority – environmental exploitation leading to economic growth, leading to well-being – to

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objectivity means quite simply *situated knowledges*. The eyes have been used to signify a perverse capacity – honed to perfection in the history of science tied to militarism, capitalism, colonialism, and male supremacy – to distance the knowing subject from everybody and everything in the interests of unfettered power." Thus, she continues (587), "The only position from which objectivity could not possibly be practiced and honored is the standpoint of the master, the Man, the One God, whose Eye produces, appropriates, and orders all difference."

those at the other end, which is more around recognizing or privileging existing local ways of governing resources, many of which are not aligned with national development priorities, but kind of reflect more of a preexisting way of living with the environment.

To conclude the three questions raised at the beginning of this section: first, the perception of opponent positions in a controversy occurs on two levels, from an agent's and evaluator's perspective. Switching between these perspectives is not only possible, but also done in practice. Second, the rules of access, i.e. the limits of the inclusiveness criterion, encompass the broad desiderata addressed in Section 5. The exclusion of exclusionary or hegemonic projects as well as particular (non-)epistemic criteria were addressed in this context. Third, in order to uphold the inclusiveness criterion, situated judgements within the constraints of DS' rules of access must be acknowledged (from the evaluator's perspective), but can still be rejected (from the agent's perspective).

Lastly, I will briefly relate this understanding to the DS-specific form of collaboration that has been discussed throughout this thesis: transdisciplinarity. The distinction between the two perspectives is central in this regard. The evaluator's perspective is essential since it accommodates the goal of including multiple perspectives (both disciplinary and non-academic) in the process of knowledge production. In order to create such a common framework, different perspectives (i.e. situated judgments) need to be given space to be expressed and recognized. One needs to be able to step outside one's own belief-value system (i.e. thought collective). However, as has been stressed, transdisciplinarity is characterized by instrumentality. It emphasizes solution-orientation in order to trigger real world change. Hence, to be relevant in practice, choices need to be made. At this point, the agent's perspective becomes central. It embraces the capacity of actors to act in a given context, situation, or environment. Only by being able to make choices between different mutually recognized, but often still incompatible, perspectives can a common solution strategy be pursued. The agency perspective is, thus, central to avoid deadlock and an incapacity or inability of the actors working together in a transdisciplinary framework to act.

6.1. Pluralism and Relativism: Affinities and Differences

In this final sub-section, I will bring together the defining features of DS's "unified belief-value pluralism" as discussed in the course of this thesis and compare them with the defining features of, what I term, "belief-value relativism." I will demonstrate that these forms of pluralism and relativism share nine of their defining features (1-9; see below) but differ in four central characteristics (10 REL and 11 REL as well as 10 PLU and 11 PLU; see below). After having discussed these features, I will argue that DS's transdisciplinary commitment can only be operationalized by drawing upon both pluralism *and* relativism.

The nine common features of belief-value pluralism and relativism are:

(1) Situated Objectivity: Objective knowledge is situated knowledge. Locality, partiality, positionality, and situatedness characterize all human knowledge. This implies the human incapacity to have a view from above or from nowhere[33] (see Haraway 1988; Collins 1986). 'Situated Objectivity' precludes skepticism since it presupposes that we *can* have or gain situated knowledge.

(2) Situated Justification: Judgment is always situated within a particular thought collective or belief-value system. Different and even contradictory judgments can, thus, be justified in light of their situatedness. Judgment is always relative to a thought collective or belief-value system and its thought style. Different thought styles may, for example, imply different methods, explanations, ethics, moralities, worldviews, concepts, theories, or aims.

(3) Contingency: An actor's situatedness is contingent. Membership in a situated thought collective or belief-value system may be gained through socialization, education, or training.

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[33] Haraway (1988, 583) states this idea as follows: "The 'eyes' made available in modern technological sciences shatter any idea of passive vision; the prosthetic devices show us that all eyes, including our own organic ones, are active perceptual systems, building on translations and specific *ways* of seeing, that is, ways of life."

(4) Belief-Value Nexus: Thought styles are never merely epistemic. Epistemic and non-epistemic considerations are inextricably linked.

(5) Metaphysical Agnosticism: Situated judgments are based on experiences from within particular thought collectives. Those collectives mold how reality is perceived. Situatedness is, thus, about how reality is *perceived*, instead of what exists. It makes no assumptions about the very shape of reality and, what is more, acknowledges the empirical impossibility of doing so since all knowledge is gained through experience (beyond the five senses including values – see 'Belief-Value Nexus'). Belief-value systems or thought collectives are, thus, not determined by facts of nature.

(6) Mutual Recognition and Symmetry: From an evaluator's perspective different situated judgments need to be acknowledged since they are justified in light of their situatedness (see 'Situated Justification'). The contingency of one's own thought collective or belief-value system (see 'Contingency') implies that different systems (and their respective thought styles) must not be ranked. 'Mutual Recognition and Symmetry' precludes dogmatism.

(7) Potential Multiple Situatedness: An agent may be situated in more than one thought collective or belief-value system simultaneously. Thought collectives may be compatible, incompatible, separated, conflicting, overlapping, or intersecting. The possibility of an all-encompassing view is, nevertheless, outside human capacity (see 'Situated Objectivity'). In fact, acknowledging that subjectivity is multidimensional precludes the possibility of all-dimensionality since it would be tantamount to one-dimensionality.

(8) Thick Conception of Situatedness: Thought collectives or belief-value systems are not unique to the sciences. The sciences only depict distinct (and, indeed, very effective) kinds of thought collectives. Non-scientific judgments can, thus, also be justified in light of their situatedness (see 'Situated Justification'). Such judgments need to be acknowledged – different kinds of knowledge cannot be ranked on a quantitative scale, but are simply qualitatively different (see 'Mutual Recognition and Symmetry').

(9) Collective Limits: Groups' social conventions may reject certain positions *ab initio* as being intolerable. Those conventions, however, are so abstract that they allow for pluralism and relativism.

Relativism and pluralism, however, also have further distinct characteristics, which they do not share with one another:

(10 REL) Choice: From an agent's perspective choices between justified positions can be made. In contrast to 'Collective Limits,' such choices are concrete (as opposed to abstract) and, thus, may reduce (or even eliminate) pluralism. Choices are never universal, but contingent, place-based, context- or situation-specific, and pragmatic. Choices are always local and situated (see 'Situated Objectivity'). 'Choice' explicitly rejects any claim for equal validity.

(11 REL) Possibility of Immersion and Transformation: The members of potentially existing different thought collectives or belief-value systems may (as opposed to must) be in interaction within one another. Such interaction may result in a transformation of the interacting thought collectives (and their thought style). This implies the potential that these interacting thought collectives may dissolve and ultimately compress into a new thought collective that has not existed before. In such a process, several existing thought collectives could potentially be compressed into a new common one.

(10 PLU) Diversity: Research (in DS) "crosses the bounds of culture, sex, and class," its merits lie "in the diversity of perspectives which it can present" (Sumner and Tribe 2008, 45). Hence, multiple perspectives (i.e. multiple thought collectives with their particular situated judgments) add complexity, rigor, breadth, depth, and richness to any inquiry (see also Denzin 2012). Multiple perspectives are a "resource for better knowledge production" (Van Bouwel 2014, 163). 'Diversity' demands plurality.

(11 PLU) Interaction: Different thought collectives or belief-value systems need to interact and collaborate in order for unified pluralism to be operationalized. Unified pluralism excludes all exclusionary projects.

After having outlined pluralism's and relativism's major features, I will now specifically deal with those not shared. I will begin with relativism's distinct feature 'Choice.' While, in terms of the "dual-perspective view," pluralism acknowledges the perspective of the epistemic evaluator, it cannot make sense of the agent's perspective since this perspective has the potential to eliminate pluralism. 'Choice' can, thus, not be part of pluralism's defining features. (The same is true for the 'Possibility of Immersion and Transformation'). Choices, more generally, are very limited within the framework of pluralism. Although it acknowledges 'Collective Limits,' i.e. social conventions (the rules of access) that may deny certain positions' access to the pluralist framework, such conventions are too abstract to decide among rival positions. Thus, even after acknowledging 'Collective Limits,' rival approaches may still "have rational resources (i.e. their situated rules, my comment) to defend themselves (by their own lights) appropriately against specific challenges from the other side" (Kinzel and Kusch 2018, 65). Hence, different and even incompatible or contradictory approaches can still be true in view of their situatedness within a specific thought collective or belief-value system. Truth is, thus, always a relative value, expressed in the language and symbols of a specific thought collective. Pluralism, by definition, lacks a guidance function to make concrete choices and is, thus, incapable of choosing between those relative truth values. Chang (2012, 262) recognizes this incapacity: "pluralism is a doctrine about how many places we should have at the table; it cannot be expected to answer a wholly different question, which is about the guest list."

As a consequence, in practice, pluralism may lead to naïve relativism, which considers all positions equally valid (as opposed to equally justified), and, thus, paralysis. Relativism, in contrast, explicitly stresses the possibility and necessity of choices. It makes no claim for equal validity. This crucial point – which has consistently been stressed by leading relativists such as Bloor, Feyerabend, or Wittgenstein – is often swept under the table by anti-relativists. Whilst not denying that equal validity is accepted in rare cases, such as beauty or taste, it cannot be formulated as an indispensable condition for relativism. 'Mutual Recognition and Symmetry,' which is necessary for all forms of relativism, can also be construed outside the idea of equal validity. Barnes and Bloor (1982, 27), for example, argue that "the relativist, like everyone else, is under the necessity to sort out beliefs, accepting some and rejecting others. She will naturally have preferences and these will typically coincide with those

of others in her locality." In this context, Barnes and Bloor (1982, 27) make a case for "equal contingency": "(T)here are no context-free or super-cultural norms of rationality," but there may indeed be local causes of credibility that lead actors to choose a belief-value system over another. The vast majority of anti-relativists, however, are still tilting at windmills, construing a caricature of relativism that is, in fact, hardly advocated by any relativist. In what follows, I will deal with some of these critics.

Norris (2014, 522), for example, argues that relativism "enjoins us to love all scientists irrespective of whether they got (or get) things right or wrong." This argument, however, is misleading since it confounds justification and validity. Although several incompatible positions (within the constraints of the rules of access) may be equally justified in light of their situatedness, there is no need to love them all. We can, and should, reject particular worldviews, forms of life, or cultural resources that certain thought collectives draw upon. Those choices are not arbitrary but depend on specific contexts or situations – hence, there can, by definition, be no blueprint for decision-making. The rejection of particular justified approaches can never be based on anything absolute but will have pragmatic (and local) roots.

Similarly, in his book *Fear of Knowledge: Against Relativism and Constructivism*, Paul Boghossian's (2007) definition of relativism heavily relies on the idea of equal validity of epistemic systems. Additionally, he links this claim to what he sees as another defining feature of relativism: epistemic pluralism. Epistemic pluralism holds, "There are many fundamentally different, genuinely alternative epistemic systems, but no facts by virtue of which one of these systems is more correct than any of the other" (Boghossian 2007, 90). First, as has already been highlighted, although one may not be able to judge "which one of these systems is more correct than any of the other," this does not imply (as Boghossian suggests) equal validity since some system may be practically more useful than others *in a particular situation*. Second, pluralism should not be part of relativism's defining features; at least not in the form Boghossian proposes it. The relativism that I propose does not imply that "there *are* many fundamentally different, genuinely alternative" belief-value systems. It remains metaphysically agnostic (see 'Metaphysical Agnosticism'). The subjunctive is, therefore, necessary: there *may be* many fundamentally different, genuinely alternative belief-value systems. Relativism contains the potential for both pluralism

and unity. The later (i.e. unity), however, cannot be acknowledged by Boghossian's definition since the potential for unity can only unfold through 'Choice' (or 'Possibility of Immersion and Transformation' in combination with 'Choice', see below) which, in turn, rejects equal validity. Demanding pluralism is, therefore, not part of relativism's defining features, but an integral part of pluralism (see 'Diversity').

Similar misguided critiques towards relativism have been brought forward by central figures in the debate on pluralism (e.g. Kellert and Chang) as well as by feminist epistemologists[34] (e.g. Haraway). Kellert (2006, 225f) argues,

> This disciplinary pluralism shares much in common with the philosophical pluralism advocated by Robert Nozick, which allows for a multiplicity of admissible views. The multiplicity does not entail relativism, however, because not all views are admissible, and the admissible views can be ranked on their merits.

Again, 'Choice' precludes that all views are admissible. 'Mutual Recognition and Symmetry' demands that "admissible views" must not be ranked (from the evaluator's perspective) since they are equally justified in light of their situatedness. But this does not imply that the admissible views cannot "be ranked *on their merits*" (emphasis added) *iff* these merits are defined in practical and local terms. Particular views may prove practically more useful than others *in a concrete situation* and the relativist (in contrast to the pluralist-only) can make such pragmatic decisions (from the agent's perspective).

Chang (2012, 261) is in a hurry to demarcate his pluralist position from relativism too. His construal of relativism, however, is also flawed:

> The most fundamental difference is that relativism involves a renunciation of judgment and commitment at least to a degree, which pluralism most definitely does not. The mature pluralist attitude is to engage productively with what one disagrees with, which is very far from the feared caricature of relativism in which one says "Whatever."

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[34] Feminist epistemology is central in this regard since several of relativism's and pluralism's defining features (especially 'Situated Objectivity' and 'Situated Justification') are based on this strand of thought.

Rejecting equal validity as a feature of relativism nullifies the claim that "relativism involves a renunciation of judgment" and that it represents a 'whatever-attitude.' Additionally, keeping in mind Chang's (correct) claim that pluralism "cannot be expected to answer (…) [questions] about the guest list," it remains unclear how pluralism's allegedly higher degree of commitment (in contrast to relativism) towards judgment would be formulated. Additionally, Chang (2012, 261) argues that "relativism does not imply pluralism," a statement that is perfectly in line with what has been said so far: relativism only implies the potential for pluralism. But relativism does not, as Chang (2012, 261) suggests, insist "on the equal treatment of any alternatives that do exist." While alternatives need to be mutually recognized, they do not need to be *treated* equally. Local choices between alternatives can be made.

Let us finally turn to Haraway (1988, 584), who argues,

> The alternative to relativism is partial, locatable, critical knowledges sustaining the possibility of webs of connections called solidarity in politics and shared conversations in epistemology. Relativism is a way of being nowhere while claiming to be everywhere equally. The 'equality' of positioning is a denial of responsibility and critical inquiry.

The "equality of positioning" is no feature of relativism. On the contrary, 'Choice' explicitly seeks – as opposed to deny – responsibility and critical inquiry[35]. Relativism does not claim to be everywhere, which would be tantamount to being nowhere (see 'Situated Objectivity'), but acknowledges an agent's situatedness in decision-making. Additionally, neither the possibility of "meta-alternation," nor the potential of multiple situatedness (see 'Potential Multiple Situatedness') does, as has been discussed, imply the possibility of an all-encompassing view, which is outside human capacity (see 'Situated Objectivity').

To sum up, acknowledging 'Choice' as a defining feature of relativism turns the anti-relativist argument on its head: it is not the *inability* to make decisions that is a characteristic of relativism. On the contrary, it is the *ability* to make decisions that is a

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[35] For a brief historical case study with regards to 'Choice,' see Appendix 3.

major strength of it. I will now turn to pluralism's two distinct features, starting with 'Diversity.' As Chang (2012, 261) put it, "it may sound like a stupid point" but it is essential that pluralism has a clear commitment towards plurality. This feature is especially important for demarcating pluralism from relativism and will play a central role in my argument that transdisciplinary research needs both relativism and pluralism. I will discuss this issue in detail at the end of this section (where I will also deal in more detail with relativism's defining feature 'Possibility of Immersion and Transformation,' which has not been discussed yet). Finally, 'Interaction' stresses the necessity that these plural belief-value systems actively interact with one another. While not precluding the possibility, relativism, in contrast to the form of pluralism in DS, i.e. a *unified belief-value pluralism*, does not demand such interaction. Interaction, however, is at the heart of transdisciplinary research. This leads to my final argument: Why does transdisciplinary research in DS need to draw upon both relativism and pluralism?

On the one hand, transdisciplinarity demands, as has just been mentioned, a commitment towards interaction and collaboration (see Section 4.1). Only through such interaction is it possible to gain awareness of anomalies in the respective thought collectives (remember Collins 1986). Interaction is, thus, central for modifying thought styles and thus producing new thought collectives in a specific context (see 'Possibility of Immersion and Transformation'). Such a transdisciplinary form of collaboration is very much related to what Feyerabend (2010, 237) termed "open exchange":

> An open exchange (...) is guided by a pragmatic philosophy. The tradition adopted by the parties is unspecified in the beginning and develops as the exchange proceeds. The participants get immersed into each other's way of thinking, feeling, perceiving to such an extent that their ideas, perceptions, world-views may be entirely changed – they become different people participating in a new and different tradition. An open exchange respects the partner whether he is an individual or an entire culture.

Immersion not only requires that different situated judgments are mutually recognized (see 'Mutual Recognition and Symmetry', which is a feature of both pluralism and relativism), but that they need to interact actively (see 'Interaction'). Relativism does not reject 'Interaction,' but it does not insist on it. Compression (see Section 5), i.e. the

establishment of a pragmatic unity in a specific situation, presupposes critical interaction. At the same time, compression may limit 'Diversity' contextually. Hence, while relativism allows for the 'Possibility of Immersion and Transformation,' pluralism cannot since it may undermine one of pluralism's defining features. Crucially, however, each form of compression (and, thus, immersion and transformation) is partial (see also Section 5). The idea that *all* thought collectives could immerse themselves into and empathize with *all* other thought collectives, and through this process reach a rational consensus, is an *ideal* that cannot be achieved in practice. The fallacy of this ideal – which has, for example, been proposed by John Rawls (1985) and Philip Kitcher (2011) – has been widely discussed in the literature (see for example Bärnthaler *forthcoming* [2019]; Mouffe 2005; Van Bouwel 2004). To speak with Haraway (1988, 586), "There is no way to 'be' simultaneously in all, or wholly in any, (…) positions (…). The search for such a 'full' and total position is the search for the fetishized perfect subject of oppositional history." Every form of unity (which, as has been highlighted, is central for transdisciplinary research's common solution strategy) is partial and includes choices. Any 'Possibility of Immersion and Transformation' will, therefore, also include 'Choice.'

This is why transdisciplinary scholars need to acknowledge both relativism and pluralism. Pluralism encourages them to include multiple perspectives (i.e. situated judgments) in the process of knowledge production and, what is more, bring them into interaction with one another. Relativism does not insist on that. At the same time, acknowledging transdisciplinarity's problem-solving capacity, contextual and pragmatic choices need to be made[36]. Pluralism is of no help here. In brief, while transdisciplinary research relies on pluralism, it needs to contextually narrow down 'Diversity' via 'Choice' (or 'Possibility of Immersion and Transformation' in combination

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[36] Among others, feminist epistemology offers many fruitful deliberations with regards to such pragmatic choices. To mention only one example, Longino (Longino and Lennon 1997, 21) outlines some virtues "that are taken as counting *prima facie* and *ceteris paribus* in favor" of a proposed explanation. She states that these virtues include "(...) novelty, ontological heterogeneity, complexity or mutuality of interaction, applicability to human needs, and decentralization of power (...)." For an example of such a pragmatic choice based on the decentralization of power, see also Bärnthaler 2018.

with 'Choice'). Only thus, research can become practically relevant. Knowledge, in this sense, is what is useful, and usefulness is a social idea that varies from context to context.

7. Conclusion

Let us briefly summarize the thesis's main arguments. Section 1 to 4 provided an overview of the atmosphere in DS. Major (historical) developments and central conflicts were discussed and a small group of DS scholars was introduced. Those sections demonstrated the sheer diversity of the field. Additionally, I argued that pluralism in DS transgresses both disciplinary and academic boundaries. Conflicts between DS scholars are rarely restricted to a specific discipline and non-academic actors play a central role in the process of knowledge production. Therefore, a major feature of pluralism in DS is the inclusion of different forms of knowledge, which "cannot be understood on the same quantitative scale, (but are) simply qualitatively different" (Stigendal and Novy 2018, 208). Hence, pluralism in DS "may very well be motivated in the end by the desire to show that the politics of demarcationism" in which scientific knowledge is *a priori* hierarchically 'better,' "were themselves illegitimate" (Richardson 2006, 19).

Section 4.1 highlighted that neither multi- nor interdisciplinarity is able to acknowledge the central role of non-academic actors. Transdisciplinary approaches are, therefore, at the center stage in DS. In this context, I outlined the major characteristics of transdisciplinary research. Transdisciplinarity is a context-specific negotiation of knowledge. It is solution-oriented, place-based, and seeks for unity of knowledge among different disciplines and non-academic actors. Collaboration and interaction are, thus, cornerstones. I further argued that Breitenbach's and Choi's thin conception of procedural unity – unified pluralism – accurately reflects the pluralist endeavors in a transdisciplinary framework. It *demands* interaction and collaboration among plural approaches. Via, what I termed "compression," such interaction eventually results in a local unity of knowledge. Such unity, however, is contingent, place-based, context-specific, and pragmatic. Each unity dissolves with a new context. The literature on transdisciplinary research does not accurately reflect this locality and predominantly

considers transdisciplinary endeavors as seeking for a more comprehensive, even global, form of unity. Acknowledging the radical contextual character of transdisciplinarity, however, shows that such a conception of unity is misleading. Hence, transdisciplinarity needs and encourages pluralism. It 'borrows' knowledge not only from various disciplines but also from other sources outside academia. Such plurality of knowledge is the foundation (or pool) for contextual negotiations of unity. Unity, in a transdisciplinary sense, does not mean that we can in principle achieve a context-independent "complete and fully integrated unity" (Breitenbach and Choi 2017, 398), but that unity is a pragmatic choice in a specific situation in order to develop a common solution strategy in practice.

Section 5 dealt with questions of interaction. In this context, the empirical data suggested that a common basis for interaction needs to exist in DS and that this basis is not merely of epistemic nature. Pluralism does not mean that 'anything goes' (to reproduce a widely uttered mis-interpretation of Paul Feyerabend's famous statement). Similar to democracy, the sciences need to uphold shared principles. They need to construct limits that "need to be put to the kind of confrontation which is going to be seen as legitimate in the public sphere" (Mouffe 2000, 9). The interviews revealed several broad desiderata that scholars in DS share. This common basis comprised ethical working procedures, openness to empirical surprises, coherence, transparency, non-distortion, a non-racist attitude, emancipation, non-violence as well as broad common visions such as "for the good of the society." Such abstract principles, however, can be interpreted very differently by different thought collectives or belief-value systems (resulting in different situated judgments). Therefore, they leave plenty of room for pluralism and relativism. Unified pluralism *demands* that such situated judgments need to be mutually recognized. Thus, exclusionary (and dogmatic) projects that are ignorant towards other situated judgments outside their own thought collective or belief-value system have no space in a pluralist framework.

Section 5.1 rejected arguments for a metaphysical pluralism since, following Dewey, reality must be defined in terms of experience. Additionally, following Wright, I argued that these experiences go beyond our five senses and include values. Epistemic and non-epistemic values can, thus, not be sharply demarcated. Belief-value pluralism, instead of epistemic pluralism, may therefore be the better term.

Section 6 differentiated between two kinds of rules: rules of access and situated rules. The rules of access comprise broad principles (i.e. social conventions) that need to be met in order for approaches to be tolerated in the field of DS (and, thus, be a potential part of a pluralist framework). Those rules of access basically consist of the broad desiderata discussed in Section 5, including particular epistemic and non-epistemic values as well as the principle to deny exclusionary projects access to a pluralist framework. Hence, with regards to the latter, the inclusiveness criterion demands that intolerance must be answered with intolerance. It is here where, to speak with Mouffe, the friend-enemy-distinction both starts and ends. Only if these constraints are defended, "agonistic pluralism"[37] can unfold:

> What is important is that conflict when it arises does not take the form of an 'antagonism' (struggle between enemies) but of an 'agonism' (struggle between adversaries). The agonistic confrontation is different from the antagonistic one, not because it allows for a possible consensus, but because the opponent is not considered an enemy to be destroyed but an adversary whose existence is perceived as legitimate. Her ideas will be fought with vigour but her right to defend them will never be questioned. The category of enemy does not disappear, however, for it remains pertinent with regard to those who, because they reject the conflictual consensus that constitutes the basis of a pluralist democracy, cannot form part of the agonistic struggle. (Mouffe 2018, 143f)

Thus, only those approaches that pass the rules of access can be part of an agonistic pluralistic framework in which different situated judgments can be expressed and must be recognized. But pluralism does not free one from the necessity of choices and arguments. It does not free one, as Mouffe stresses, to fight vigorously for one's ideas. Pluralism, however, is no help in making decisions. Relativism, in contrast, is. This is where situated rules enter the stage. The abstract nature of the rules of access does not eliminate pluralism since situated rules (rules that are situated in a particular

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[37] In order to offer the reader a clear summary of the thesis' main points (and their connections), I decided to put a more detailed discussion on Mouffe's concept of "agonistic pluralism" (and its theoretical background) and its relation to "unified belief-value pluralism" and "belief-value relativism," respectively, in Appendix 4.

thought collective or belief-value system) can bring about a variety of different, and even incompatible, situated judgments and, therefore, positions and approaches. With regards to such situated rules, the "dual-perspective view" played a central role. Different situated judgments need to be acknowledged from an evaluator's perspective – this acknowledges pluralism's inclusiveness criterion and, therefore, allows for an agonistic pluralism of adversaries "whose existence is perceived as legitimate" instead of enemies "to be destroyed." From an agent's perspective, however, situated judgments can be rejected based on one's own situatedness – this acknowledges the necessity for choices and the possibility to fight and argue for one's own ideas. Section 6.1 dealt with the importance of these two perspectives for transdisciplinarity in more detail.

Here, I outlined nine defining features that pluralism and relativism have in common: 'Situated Objectivity,' 'Situated Justification,' 'Contingency,' 'Belief-Value Nexus,' 'Metaphysical Agnosticism,' 'Mutual Recognition and Symmetry,' 'Potential Multiple Situatedness,' 'Thick Conception of Situatedness,' and 'Collective Limits.' Pluralism and relativism, however, also differ in four central defining features. On the one hand, relativism is also defined by the 'Possibility of Immersion and Transformation' and by 'Choice,' which emphasizes that, from an agent's perspective, relativists can decide between equally justified positions. Such choices are local and pragmatic. On the other hand, pluralism's distinct characteristics are 'Diversity' (pluralism has a clear commitment towards plurality) and 'Interaction' (unified pluralism *demands* interaction among plural systems). Finally, I argued that transdisciplinary scholars need to rely on both pluralism and relativism. The former encourages them to include multiple perspectives (i.e. situated judgments) in the process of knowledge production and, what is more, bring them into interaction with one another. The latter allows for choices which are essential for transdisciplinarity's solution-orientation and its aspiration to trigger real world change. In this connection, transdisciplinary approaches (drawing upon relativism) may reduce pluralism in two ways: through the 'Possibility of Immersion and Transformation' (in combination with 'Choice') or 'Choice.' The production of a pragmatic unity of knowledge (out of 'Diversity'), however, is always local, partial, and contingent, instead of global, complete, and necessary. Some situated judgments may prove practically more useful in a certain local context or situation while others may prove practically more useful in another.

Finally, having summarized my main arguments, I deem it essential to address their scope. No universal form of pluralism exists. Pluralism is always local. Thus, the field of DS circumscribes the arguments in this article. This is particularly true for the central thesis that the concept of pluralism needs to be extended. Pluralism in DS can only be understood beyond disciplinary constraints and beyond the borders of scientific knowledge. I do not imply that such an extension of pluralism only concerns the field of DS, but the question whether such a claim can be sustained in other areas can only be answered empirically. Any claim for or against as well as about pluralism needs to be empirically motivated (see also Kellert et al. 2006). Although historical case studies are predominant in HPS, I tried to show that qualitative interviews constitute a fruitful alternative.

8. References

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9. Appendix 1: Interview Guideline (English)

A1: E-mail prior to the interview (first contact)

Dear XXX,

in the context of my studies in 'History and Philosophy of Science' at the University of Vienna, I am currently working on my master's thesis, which constitutes an investigation of social science practices in a sociology of science framework. More specifically, I try to investigate how science is ultimately practiced in cases where incompatible approaches are pursued at the same time. For this purpose, I conduct an empirical study to analyze situations in which scientists reflect upon their practices (and upon situations in which different practices meet). These situations are to be reconstructed through conversations with social scientists.

I would be very grateful if you had time for such a conversation, i.e. interview. The interview will focus on the practical experiences you have gained in your everyday work as scientist – and above all, in the interactions with colleagues in your field.

The interview requires about 30 minutes preparation time on your part and will take no longer than one hour. I would like to conduct the interview during our two-week stay in Chiang Mai (but I do not conduct the interview as part of our project). Of course, I would leave the exact date arrangement to you.

In the hope for a positive answer I remain with best regards,
Richard

A2: E-mail prior to the interview (after positive answer)

Dear XXX,

Thank you for your good will, I am very pleased to be able to conduct an interview with you. Below you will find a text for the announced interview preparation on your part. If you have any further questions, please do not hesitate to contact me. Many thanks!

I kindly ask you to engage in a little thought experiment. Please think about or imagine a situation (preferably, but not necessarily, one that actually happened) in which you and a colleague of yours – whom you consider as well-informed and professional as yourself – have a *scientific* disagreement. In other words, your *empirical* research on the same phenomenon, question, or topic yields different conclusions. Especially focus on the following issues (it may be helpful to take notes and bring them to the interview):

1. What is the scientific question, topic, or phenomenon that you and your colleague disagree on? Please choose a topic within your own field of scientific expertise that does not only concern philosophical or theoretical questions, but includes empirical data.

2. What is the subject-matter of the disagreement (i.e. what exactly is it that you disagree on)?

Lastly, I kindly ask you to reflect a bit on your general field of study:

3. How would you describe the area you are working in?
4. What characterizes this area / your field of study?
5. Within this field of study, are there different approaches?
    o If yes, could you sketch some central differences?

B: Guideline for the actual interview

The aim of *my investigation* is to analyze situations in which scientists reflect upon their practices (especially upon situations in which different practices meet). The aim of *this interview* is therefore to reconstruct such a situation in which different scientific practices meet. The results will be anonymized. Do you mind if I record the interview?

1. Personal Background and the Characterization of Scientific Systems

Please tell me a bit about your background.

- What are you trained in? How did you get to your current field of study?

In which countries have you been trained/educated and worked up until now?

Now, I would like to turn to some of the questions that I asked you to reflect upon beforehand.

How would you describe the area you are working in?

What characterizes this area / your field of study?

- Which scientific values characterize this area?

In this field of study, are there different approaches?

- If yes, could you sketch some central differences?
- Can you also find such different approaches within your own institute?

In case there have been different approaches:

What are, in your opinion, the main reasons that such a plurality of approaches exist in your field of study?

Would you consider this plurality as something positive? Why or why not? Always?

Within your field of study, is there anything that, in your opinion, everyone *has* to agree on?

- If yes: could you provide an example? (Does this example still allow for different approaches?)

2. Evaluation and Interaction

Imagine yourself now in the concrete situation of disagreement that I asked you to think about beforehand. Please briefly describe this situation.

What is the scientific question, topic, or phenomenon that you and your colleague disagree on?

- Describe

What is the matter/subject of the disagreement (i.e. what exactly is it that you disagree on)?

- What kind of is this conflict? Is it a real conflict after all? Looking at different things? Nature of the disagreement?

Does the encounter with this other position force you to lower the confidence in your own? And why does it or why does it not?

What is your goal when encountering disagreements with colleagues? What should be the outcome?

- Is there something like a goal at all?

Is there a possibility to overcome the disagreement? If no, why? If yes, how? (Based on what?)

Can you imagine a situation in which you and your colleague will not be able to solve the disagreement, but both of your accounts are contributing to the investigation of the phenomenon in a fruitful way? Can you think about an example why this may – or may not – be the case?

Let us now imagine the following situation. You are in the scientific disagreement that you have described. Even after long discussion about your theoretical assumptions, methods, etc. and after sharing all your empirical evidence with each other you still disagree. In other words, you and your colleague still draw different – maybe even opposing – conclusions.

Could you imagine that you nevertheless still understand the reasons of your colleague although you cannot agree with his or her conclusion? Could you provide an example why this may or may not be the case?

If yes:

Would you also go a step further arguing that there may be a situation in which you not only understand the reasons, but also consider your colleague as being somehow *justified* in his or her conclusion without necessarily withdrawing your own position? Could you provide an example why this may or may not be the case?

- If yes:
    - What would be the basis or your criteria for considering your colleague justified or reasonable in his or her opposing conclusion?

    - What would be the limits where you would say that your opposite has no good reason for his or her belief?

Within the concrete disagreement that you have chosen before: Could you still interact – or even collaborate – in a fruitful way?
- Example of such interaction?
- How much of such interaction actually takes place in your field (especially between different approaches)?

3. Concluding questions

We have now almost reached the end of the interview. Before that, I would finally like to come back to some more general aspects in science and scientific disagreement. Bearing in mind what we have discussed so far:

What would a scientist have to do / say in your area that you no longer consider him or her as 'peer'?

When you use or draw upon particular theories in your scientific work, what are your criteria or deliberations for using certain theories and not others?

On what basis do you reject certain theories or approaches? You can also use concrete examples.

What are the characteristics, merits, or values of a good theory that you would consider using?

How would you understand progress in your scientific field or with regards to the phenomenon of your choice?

10. Appendix 2: Interview Guideline (German)

A1: E-mail prior to the interview (first contact)

Liebe/r XXX,

im Rahmen meines Studiums 'History- and Philosophy of Science' an der Universität Wien arbeite ich gerade an meiner Masterarbeit, welche eine wissenschaftssoziologische Untersuchung sozialwissenschaftlicher Praktiken darstellt. Genauer gesagt gehe ich der Frage nach wie Wissenschaft stattfindet (und stattfinden kann) wenn entgegengesetzte Ansätze verfolgt werden. Hierzu führe ich eine empirische Studie durch um Situationen zu analysieren in denen WissenschaftlerInnen über ihre eigenen Praktiken (und Situationen in denen sich verschiedene Praktiken treffen) reflektieren. Diese Situationen sollen durch Gespräche mit SozialwissenschftalerInnen rekonstruiert werden.

Ich würde mich sehr freuen, wenn Sie Zeit für ein solches Gespräch hätten. In dem Gespräch sollte es um die praktischen Erfahrungen gehen, welche Sie im Forschungsalltag – und vor allem in der Interaktion mit Kollegen ihres Faches – gesammelt haben.

Das Interview bedarf einer ca. 30-minütigen Vorbereitungszeit Ihrerseits und würde nicht länger als eine Stunde in Anspruch nehmen. Sehr gerne würde ich das Interview während unseres zwei-wöchigen Aufenthalts in Chiang Mai machen (ich führe das Interview aber nicht im Rahmen unseres Projekts durch). Die genaue Terminabsprache überlasse ich aber natürlich Ihnen.

Auf Ihre Bereitschaft hoffend verbleibe ich mit freundlichen Grüßen,
Richard

A2: E-mail prior to the interview (after positive answer)

Liebe/r ...,

vielen Dank für Ihr Entgegenkommen, ich freue mich sehr ein Interview mit Ihnen durchführen zu dürfen. Im Folgenden finden Sie einen Text für die angekündigte Interviewvorbereitung Ihrerseits. Sollten Sie noch weitere Fragen haben, zögern Sie bitte nicht mich zu kontaktieren. Vielen Dank!

Ich bitte Sie, sich an einem kleinen Gedankenexperiment zu beteiligen. Stellen Sie sich eine Situation vor (bevorzugter-, aber nicht notwendigerweise, eine tatsächlich erlebte Situation), in der Sie und ein Kollege/eine Kollegin von Ihnen – welche/n Sie für zumindest gleich gut informiert und gleich professionell wie sich selbst halten – eine wissenschaftliche Meinungsverschiedenheit haben.

Mit anderen Worten, Ihre empirische Untersuchung desselben Phänomens / derselben Frage /desselben Themas führt zu unterschiedlichen Schlussfolgerungen. Fokussieren Sie sich dabei besonders auf die folgenden Punkte (es kann hilfreich sein, Notizen zu machen und diese zum Interview mit zu bringen):

1. Was ist die wissenschaftliche Frage /das Thema / das Phänomen, über welches Sie und Ihr Kollege eine Meinungsverschiedenheit haben? Bitte wählen Sie ein Thema innerhalb Ihrer eigenen wissenschaftlichen Expertise, das nicht nur philosophische oder theoretische Fragen betrifft, sondern auch empirische Sachverhalte/Daten beinhaltet.
2. Was ist der Gegenstand der Meinungsverschiedenheit?

Abschließend möchte ich Sie bitten, ein wenig über Ihren eigenen Forschungsbereich zu reflektieren:

3. Wie würden Sie den Forschungsbereich beschreiben, in dem Sie arbeiten?
4. Was charakterisiert diesen Bereich?
5. Gibt es in diesem Forschungsbereich unterschiedliche Ansätze?
   a. Wenn ja, können Sie einige zentrale Unterschiede skizzieren?

B: Guideline for the actual interview

Das *Ziel meiner Untersuchung* besteht darin herauszufinden, wie Wissenschaft stattfindet (und stattfinden kann) wenn entgegengesetzte Ansätze verfolgt werden. Das *Ziel dieses Interviews* ist es deshalb, eine Situation zu rekonstruieren, in der unterschiedliche wissenschaftliche Praktiken aufeinandertreffen. Die Ergebnisse werden anonymisiert. Stört es Sie, wenn ich das Interview aufzeichne?

1. Persönlicher Hintergrund und die Charakterisierung wissenschaftlicher Systeme

Bitte erzählen Sie mir etwas über Ihren Hintergrund.
- In welchem Bereich wurden Sie 'ausgebildet'? Wie sind Sie zu Ihrem aktuellen Forschungsbereich gekommen?

In welchen Ländern wurden Sie bisher 'ausgebildet' bzw. haben dort gearbeitet?

Nun möchte ich mich einigen der Fragen zuwenden, über die ich Sie gebeten habe im Vorfeld zu reflektieren.

Wie würden Sie den Forschungsbereich beschreiben, in dem Sie arbeiten?

Was charakterisiert diesen Bereich? Welche Merkmale hat er?
- Welche wissenschaftliche Werte kennzeichnen diesen Bereich?

Gibt es in diesem Forschungsbereich unterschiedliche Ansätze?
- Wenn ja, können Sie einige zentrale Unterschiede skizzieren?
- Finden Sie diese verschiedenen Unterschiede auch in ihrem eigenen Institut?

Falls es verschiedene Ansätze gibt:

Was sind, Ihrer Meinung nach, die Hauptgründe dafür, dass es verschiedene Ansätze in Ihrem Forschungsbereich gibt?

Würden Sie diese Pluralität als etwas Positives bewerten? Warum oder warum nicht? Immer?

Gibt es in Ihrem Forschungsbereich etwas, auf das sich, Ihrer Meinung nach, alle einigen *müssen*?
- Wenn ja: Können Sie ein Beispiel geben? (Erlauben diese Beispiele noch verschiedene Ansätze?)

2. Bewertung und Interaktion

Stellen Sie sich jetzt wieder die konkrete Situation der Meinungsverschiedenheit vor, über die ich Sie gebeten habe im Vorhinein nachzudenken. Bitte beschreiben Sie diese Situation kurz.

Was ist die wissenschaftliche Frage /das Thema / das Phänomen, über welches Sie und Ihr Kollege eine Meinungsverschiedenheit haben?
- Beschreibe

Was ist der Gegenstand der Meinungsverschiedenheit?
- Wie stehen die zwei Positionen zueinander? Welche Art von Konflikt? Ist es überhaupt ein Konflikt? Nicht-vergleichbar? Betrachten sie einfach etwas anderes? Art der Meinungsverschiedenheit?

Führt die Begegnung mit dieser anderen Position dazu, das Vertrauen in ihre eigene Position zu senken? Und warum oder warum nicht?

Was ist Ihr Ziel bei Meinungsverschiedenheiten mit Kollegen? Was sollte das Ergebnis sein?
- Gibt es überhaupt so etwas wie ein "Ziel"?

Gibt es eine Möglichkeit die Meinungsverschiedenheit zu überkommen? Wenn nein, warum? Wenn ja, wie? (Worauf basieren?)

Können Sie sich eine Situation vorstellen, in der Sie und Ihr Kollege nicht in der Lage sind die Meinungsverschiedenheiten zu lösen, aber beide Ihrer Positionen dazu beitragen, das Phänomen auf fruchtbare Weise zu untersuchen? Können Sie über ein Beispiel nachdenken, warum dies der Fall sein könnte oder auch nicht?

Stellen wir uns nun die folgende Situation vor. Sie sind in der wissenschaftlichen Meinungsverschiedenheit, die Sie beschrieben haben. Selbst nach langen Diskussionen über Ihre theoretischen Annahmen, Methoden usw. und nachdem Sie alle Ihre empirischen Beweise miteinander geteilt haben, stimmen Sie immer noch nicht überein. Mit anderen Worten, Sie und Ihr Kollege ziehen immer noch andere – vielleicht sogar gegenteilige – Schlussfolgerungen.

Können Sie sich vorstellen, dass Sie die Gründe Ihres Kollegen dennoch verstehen, obwohl Sie seiner Schlussfolgerung nicht zustimmen können? Können Sie ein Beispiel dafür nennen, warum dies der Fall ist oder nicht?

Falls ja:

Würden Sie auch noch einen Schritt weiter gehen und argumentieren, dass es Situationen geben kann, in denen Sie nicht nur die Gründe verstehen, sondern auch Ihren Kollegen in seiner Schlussfolgerung irgendwie *gerechtfertigt* sehen, ohne dass Sie Ihre eigene Position zurückziehen müssen? Können Sie ein Beispiel dafür nennen, warum dies der Fall ist oder nicht?

- Falls ja:
    - Was wäre die Grundlage oder Ihre Kriterien, um Ihren Kollegen in seiner gegenteiligen Schlussfolgerung als gerechtfertigt zu beurteilen?

    - Was wären die Grenzen, wo Sie sagen würden, dass Ihr Gegenüber keine Rechtfertigung für seine Annahmen hat?

In dieser konkreten Meinungsverschiedenheit, welche Sie vorher gewählt haben: Könnten Sie immer noch auf fruchtbare Weise interagieren – oder sogar zusammenarbeiten?

- Beispiel für eine solche Interaktion?
- Wie viel Interaktion findet in deinem Forschungsbereich tatsächlich statt (vor allem zwischen unterschiedlichen Ansätzen)?

3. Abschließende Fragen

Wir sind jetzt fast am Ende des Interviews angelangt. Zuvor möchte ich noch auf einige allgemeinere Aspekte zurückkommen. Wenn wir im Gedanken behalten, was bisher besprochen wurde:

Was müsste ein/e WissenschaftlerIn in ihrem Gebiet tun/sagen, dass Sie ihn oder sie nicht mehr als 'peer' betrachten?

Wenn Sie bestimmte Theorien in Ihrer wissenschaftlichen Arbeit verwenden oder auf sie zurückgreifen, welche Kriterien oder Überlegungen haben Sie, um bestimmte Theorien und nicht andere zu verwenden?

Auf welcher Grundlage lehnen Sie bestimmte Theorien oder Ansätze ab? Sie können auch konkrete Beispiele verwenden.

Was sind die Eigenschaften, Vorzüge oder Werte einer guten Theorie, welche Sie in Betracht ziehen würden?

Wie würden Sie wissenschaftlichen Fortschritt in Ihrem wissenschaftlichen Bereich oder in Bezug auf das Phänomen Ihrer Wahl verstehen?

11. Appendix 3: A Brief Historical Case Study on "Choice"

Based on Shapin's and Schaffer's (1985) *Leviathan and the Air-Pump,* Kinzel and Kusch (2018) historically reconstruct the conflict between Robert Boyle and Thomas Hobbes (see Section 5). They argue that although Boyles' and Hobbes' interpretations were mutually inconsistent, the overall debate was ultimately *rationally* resolvable, and Boyle was able to convince a majority of natural philosophers of his *situated judgments*, his particular language game.

Kinzel and Kusch stress that although very different, and even contradicting, judgments "can be supported by reasons in one and the same situation," this does not imply that "reasons play no role" (60). Rationality, in this sense, consists "in the practice of assembling and ordering available reasons in a situated judgment which specifies the content of the rule or principle" (60). Hence, the debate's conclusion was rational since it was based on "evidence and criteria" (60). At the same time, the closure of a debate, despite its rationality[38], is always contingent "in that it is not the only possible rational outcome. A different constellation of arguments and situated judgments could have led to a different outcome" (66). What kind of constellations of arguments and situated judgments will become prevalent is highly context-dependent – while certain constellations might prove useful in one situation, they might be impractical in others (see the radical contextual character of *compression* in a transdisciplinary framework).

The important point here is that a rational closure of a debate is possible. In the context of the dispute between Hobbes and Boyle it ultimately eliminated one thought collective. Hence, closure goes beyond mere critical interaction. It may eliminate

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[38] Rationality is never universal, but always contextual. Kusch and Kinzel (2018) argue that "rational, yet contingent resolvability of disagreement" is best explained by "the idea that justification is relative to the particular situated judgments made by individuals and communities in concrete social contexts and at specific points in historical time. (...) What is a rationally intractable disagreement at one time, might be contingently rationally resolvable at another time" (66). Instrumental notions of rationality argue in a similar vein: one is rational in doing X if X is conducive to one's goals. Now, what counts as rational in one situation may not count as rational in another if goals change, or if the assessment of conduciveness of an act to a given goal, changes.

situated judgments through rejection (i.e. the necessity of choices) or via transformation (i.e. creating a new, shared thought collective out of many). In any case, it can bring about a limitation (or even elimination) of pluralism (in the context of transdisciplinarity, I referred to such a short-term elimination as compression – this contextual closure is situation-specific and any unity dissolves with new contexts). If one account can convince others on the basis of situated judgments or if several situated judgments are transformed into a shared one, the number of different approaches will be reduced. Relativism, thus, does not imply pluralism.

12. Appendix 4: Unified Belief-Value Pluralism, Belief-Value Relativism, and Agonistic Pluralism

In this Appendix, I will briefly elaborate on the relation between the concepts of "unified belief-value pluralism" as well as "belief-value relativism" as discussed in this thesis and Mouffe's understanding of "agonistic pluralism." To do so, I will reconstruct the idea of agonistic pluralism and relate it to the (eleven) features of unified belief-value pluralism and belief-value relativism, respectively. I will stick closely to Mouffe's (2000, 2005, 2018) original texts and offer something of a running commentary.

A central thought that forms the basis of agonistic pluralism is the basic insight that each "we" requires a "they," i.e. identity formation takes place via demarcation, which always includes the possibility to turn into a friend/enemy distinction:

> Schmitt's emphasis on the ever-present possibility of the friend/enemy distinction and the conflictual nature of politics constitute the necessary starting point for envisaging the aims of democratic politics. (…) In my view one of Schmitt's central insights is his thesis that political identities consist in a certain type of we/they relation, the relation friend/enemy which can emerge out of very diverse forms of social relations. (Mouffe 2005, 13ff)

Neither identity, nor the positions taken are, however, fixed. Mouffe's claim is anti-essentialist, stressing reality's contingency:

> What appears as the natural order is never the manifestation of a deeper objectivity that would be exterior to the practices that brought it into being. (…) The social agent is constituted by an ensemble of 'discursive positions' that can never be totally fixed in a closed system of differences. It is therefore impossible to speak of the social agent as if we were dealing with a unified, homogeneous entity. (Mouffe 2018, 102)

A diversity of "discursive positions"[39] and identities defines reality. To speak with Schmitt (1976, 53), we live in a "pluriverse, not a universe." Put differently, we need to acknowledge that "we live in a world where a multiplicity of perspectives and values coexist and that it is impossible, for empirical reasons, that each of us would adopt them all" (Mouffe 2018, 106).

The deliberations that form the basis for Mouffe's concept of agonistic pluralism are very similar to five underlying features of belief-value relativism and unified belief-value pluralism: (1) *Situated Objectivity, (2) Situated Justification, (3) Contingency, (7) Potential Multiple Situatedness,* and *(11 REL) Possibility of Immersion and Transformation.* Objectivity is always situated within a thought-collective or belief-value system. We are incapable to adopt all positions or to have a view from above, to achieve a "deeper objectivity" in Mouffe's terms (1). Hence, judgment is also situated within a particular thought collective or belief-value system (2). At the same time, "things could always have been otherwise" (Mouffe 2018, 102) – an agents situatedness is always contingent (3). This situatedness (and, thus, identity), however, can never be "totally fixed." An agent may be situated in multiple compatible, incompatible, separated, conflicting, overlapping, or intersecting thought collectives: subjectivity is multidimensional (7). Additionally, the potential interaction between thought collectives might change them via transformation, i.e. thought styles are moldable (11 REL).

Hence, if we acknowledge that a) every "we" requires a "they" and that every "we" and "they" is situated, b) there can be no deeper objectivity outside one's situatedness, and c) that situatedness is always contingent, how, then, is interaction in a democracy (or in the sciences) possible without falling into Schmitt's trap of cooptation and homogenization? Mouffe's central argument is that we need to avoid the antagonistic possibility of the friend/enemy distinction, i.e. of a struggle between enemies. Instead, we should aim at an agonistic struggle between adversaries:

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[39] Without elaborating on this argument in any detail here, I suggest that Mouffe's emphasis on discursive reality and anti-representationalism is closely related to *(5) Metaphysical Agnosticism*. Daly (2006, 173), for example, stresses that Mouffe promotes a "post-metaphysical culture."

> We begin to realize that one of the main challenges for pluralist liberal-democratic politics consists in trying to defuse the potential antagonism that exists in human relations so as to make human coexistence possible. Indeed, the fundamental question is not how to arrive at a consensus reached without exclusion, because this would require the construction of a 'we' that would not have a corresponding 'they.' This is impossible because the very condition for the constitution of a 'we' is the demarcation of a 'they.' (…) The crucial issue in a liberal-democratic regime, therefore, is how to establish this we/they distinction. (…) What is important is that conflict when it arises does not take the form of an 'antagonism' (struggle between enemies) but of an 'agonism' (struggle between adversaries). (Mouffe 2018, 105)

How to achieve such a condition? Following Mouffe, the central strategy to avoid antagonism is to acknowledge the contingency of one's own position and, in so doing, create an environment in which different positions can be expressed.

> Of course, at this point we need to part company with Schmitt, who was adamant that there is no place for pluralism inside a democratic political community. Democracy, as he understood it, required the existence of a homogenous *demos*, and this precludes the possibility of pluralism (Mouffe 2005, 14).

Thus, taking the fact of pluralism seriously in a modern democracy (and in the sciences) demands a multiplication of forms of life (i.e. of situated judgments and thought styles) that promote a social identification with democratic (as well as scientific) values as well as a multiplication of institutions and discourses (Mouffe 2000).

Hence, related to the concepts of "unified belief-value pluralism" and "belief-value relativism" Mouffe's claim is threefold. First, it builds on *(6) Mutual Recognition and Symmetry*: the contingency of one's own thought collective or belief-value system implies that different systems (and their respective thought styles) must not be ranked. Second, Mouffe seeks for a multiplication of situated judgments and, therefore, a multiplication of thought collectives. *(10 PLU) Diversity* accommodates this demand. The acknowledgment of multiple perspectives is a "resource for better knowledge production" (Van Bouwel 2014, 163) and, in Mouffe's argument, a necessity for

democracy. Third, Mouffe claims that those diverse belief-value systems need to promote a social identification with some shared (democratic, scientific, ethic, etc.) values. This is where *(9) Collective Limits* enter the stage: certain principles must be shared, i.e. all belief-value systems need to promote those social conventions. They are, however, so abstract that they still allow for a variety of different, and even contradictory, situated judgments. Those *Collective Limits* imply Mouffe's claim that the friend/enemy distinction will never fully disappear:

> The category of enemy does not disappear, however, for it remains pertinent with regard to those who, because they reject the conflictual consensus that constitutes the basis of a pluralist democracy, cannot form part of the agonistic struggle. (Mouffe 2018, 106)

To put it in the language of this thesis, unified pluralism excludes all exclusionary projects. Positions that refuse to acknowledge other instances of situatedness than their own and are hostile to the broad shared (epistemic as well as non-epistemic) desiderata must not be part of a pluralist framework. Those, who reject what "constitutes the basis of a pluralist" framework cannot be part of a unified pluralism (they are, thus, "enemies" instead of "adversaries"):

> Of course, democracy cannot survive without certain forms of consensus relating to allegiance to the ethico-political values that constitute its principles of legitimacy, and to the institutions in which these are inscribed. But it must also enable the agonistic expression of conflict, which requires that citizens genuinely have the possibility of choosing between real alternatives. (Mouffe 2018, 107)

It is only within these limits that pluralism (and, following Mouffe, democracy) can come to life. Acknowledging the positions of adversaries, however, does not imply that they also need to be supported from the perspective of an agent's situatedness: "Her ideas will be fought with vigour but her right to defend them will never be questioned" (Mouffe 2018, 106). This leads to *(10 REL) Choice*: local choices can (and need to) be made.

I have argued that such choices are necessary for transdisciplinary research's need to establish a contextual unity, thus being able to honour their promise of being

solution-oriented and triggering real-world change. Each choice (and, thus, unity), however, is contingent, contextual, and pragmatic, and includes value-judgments[40]:

> Things could always have been otherwise and every order is predicated on the exclusion of other possibilities. (…) Every social order is politically instituted and the ground on which hegemonic interventions occur is never neutral, for it is always the product of previous hegemonic practices. It sees the public sphere as the battlefield on which hegemonic projects confront one another, with no possibility of a final reconciliation (…). (Mouffe 2018, 102ff)

Mouffe (2018, 103) continues,

> There is therefore a double movement: on the one hand, a movement of decentering which prevents the fixation of a set of positions around a pre-constituted point; on the other hand, and as a result of this essential non-fixity, the opposite movement: the institution of nodal points, partial fixations which limit the flux of the signified under the signifier. But this dialectic of non-fixity/fixation is possible only because fixity is not given beforehand, because no centre of subjectivity precedes the subject's identifications. (…) This type of link which establishes between various positions a contingent, unpredetermined relation is what is called an 'articulation.' Even though there is no necessary link between different subject positions, in the field of politics there are always discourses that try to provide an articulation from different standpoints.

"The institution of nodal points" and "partial fixations" displays what I referred to as local unity. Relatedly, the idea that "non-fixity/fixation is possible only because fixity is not given beforehand" points to the fact that (as I have shown empirically in DS) each situation is characterized by a plurality of contingent and potentially contradictory (but still justified) thought collectives and, thus, thought styles[41] (i.e. non-fixity), but in order to trigger real-world change a common solution strategy that allows for action needs to be established in such a situation (i.e. fixation). Fixation, however, is always partial since it is impossible for an agent to adopt all positions (such an all- dimensionality

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[40] See also *(4) Belief-Value Nexus.*

[41] Those thought collectives and thought styles extent beyond the sciences; see *(8) Thick Conception of Situatedness.*

would be tantamount to one-dimensionality and would, thus, undermine the idea of *Situated Objectivity*[42]). A "final reconciliation" of all perspectives is outside human capacity. Therefore, contextual and pragmatic choices need to be made – "every order is predicated on the exclusion of other possibilities." As a consequence, what Mouffe calls "articulation" is metonymic with what I termed "compression," i.e. the establishment of a pragmatic – but always partial, local, and contextual – unity that articulates a common solution strategy in a particular situation.

To sum up, by relying on all elven features outlined in Section 6.1, agonistic pluralism embraces (and relies on) both unified belief-value pluralism as well as belief-value relativism.

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[42] In a similar manner, Mouffe (2018, 106) highlights the "necessarily conflictual nature of pluralism, which stems from the impossibility of reconciling all points of view." Such "necessarily conflictual nature of pluralism" further points to *(11 PLU) Interaction*. We cannot make sense of Mouffe's notions of "conflict" or "battlefield" if we would assume that different positions merely exist next to each other; conflict only arises through interaction. Such form of interaction, however, is different from *(11 PLU) Interaction* in the sense that it does not necessarily seek for collaboration (this is where *Choice* enters the stage again).

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