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Artful Sustainability: *Queer-Convivialist Life-Art and the Artistic Turn in Sustainability Research*

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Artistic and arts-based research, and artful learning more generally, hold specific qualities that can contribute to the development of transdisciplinary hermeneutics. This article reviews these qualities and advocates for an artistic turn in sustainability research, as well as for a turn to a queer-convivialist life-art, enhancing the transdisciplinary experience of qualitative complexity. The article points at early signs of this turn, both in the discourse of 'convivialism' and in sustainability research & education, noticing a trend that hopefully may take up in pace and grow in scale in the coming years, allowing sustainability research to more deeply integrate arts-based research and thereby more fully realize its potential for transdisciplinarity.).

Keywords*:* Artful learning, arts-based research, convivialism, sustainability science, transdisciplinary hermeneutics.

1 Introduction

Over a time-span of about 20 years, alongside the rise of "sustainable development" in public discourses and of sustainability-oriented approaches in society and in the academic world, a growing number of voices have advocated, and started to practice, a variety of forms of discourses, practice and research that highlighted and exemplified the importance of artistic (e.g. [1, 2, 3, 4, 5, 6, 7, 8, 9]), aesthetic (e.g. [10, 5, 11]) and creative (e.g. [12, 13, 14, 15, 16]) approaches, and/or more generally of cultural approaches (e.g. [17, 18, 19, 20, 21]) to sustainability-oriented action and research.

The time has now come for an artistic turn in both sustainability science and sustainability activism: *Artful Sustainability* is called forward, in order to realize sustainability research's potential to develop itself in terms of "transdisciplinary hermeneutics" [22].

My aim in the following pages is not to engage in a systematic review of these precedents (and the references mentioned above are only a small sample

of a much wider body of literature). Rather, I aim to take up and reflect on one argument made by several authors, which amounts to advocating for nothing less than an artistic turn for sustainability research (in and beyond academic institutions) and for sustainability activism. To do so, I will focus on two elements: First, regarding global activism, I will carry out a reading of the Convivialist Manifesto (a text which I see as a significant milestone for a sustainability-oriented civil society) in which I will be stressing an artful interpretation of its message and highlighting the manifesto's orientation to qualitative complexity. Second, regarding sustainability research, I will focus on the potentials of arts-based research, with the aim to encourage the further development of arts-based sustainability science as part of a wider transdisciplinary movement of artful sustainability-oriented research.

2 Promises of Convivialism and of Sustainability Science

Many civil organizations and social movements across the planet, are aiming to address the compounding contemporary threats to human civilization and working towards a more sustainable human development. A common outline for the shared features of these efforts was drawn a few years ago by the *Manifeste Convivialiste* [23], a text co-authored by several influential French-speaking left-, green- and center-left-oriented intellectuals. The Convivialist Manifesto highlighted some fundamental commonalities, shared concerns, values and approaches across a diversity of movements, and suggested several sensible orientations. I will thus engage into a commentary of this manifesto in the next section, as an opportunity to discuss the need for a queer-convivialist life-art and for an experience of complexity, as part of the transformative search process of sustainability.

Meanwhile in academia, in several European and North-American universities, a young (trans-)discipline emerged, which over the past decade became increasingly visible under the name of "Sustainability Science". This movement within academia also aims to address the compounding threats and to work for sustainable development. This still relatively-new field and form of research already developed several innovative features that bear a potential for social transformation, with a focus on

solutions-oriented knowledge and action, rooted in an epistemology that does not shun from a normative self-understanding and developing an action-oriented research agenda. Sustainability Science borrows several participative and empowering features from the long tradition of participatory action-research (PAR; see e.g. Reason and Bradbury [24]), though not always clearly acknowledging it or imprecisely aiming to differentiate itself from it – and having a comparatively more fixed normative agenda rooted in the analysis of global problems of unsustainable development (whereby the researcher acquires a more missionary role than usually does a PAR researcher who typically sees her- or himself as 'behind'/following social movements rather than at the helm). Sustainability Science also developed a focus on educative qualities, with many of its members aiming to build "competences for sustainability", most especially systems thinking, anticipatory, normative, interpersonal and strategic competences [25]. However, its roots in natural sciences, quantitative social sciences and systems modelling on the one hand, and its solutions-orientation spurred by a strong sense of urgency (justified by the current planetary situation) on the other hand, both bring limitations to the transformative potential of Sustainability Science. A small number of researchers involved in this field have, in recent years, started to argue, not only that "sustainability is the emergent property of a discussion about desired futures" (John Robinson in [26] p. 31), but also "that maybe the challenge of sustainability isn't to prove the world more real – rubbing peoples noses in the parts per million and the hectares – but to prove the world more imaginary" (Robinson paraphrasing David Maggs, in [27]). For them, sustainability must thus ground itself beyond its traditional scientific foundation, including subjective dimensions and granting essential roles to interpretive social sciences and humanities [28]. The limitations of sustainability science can and should be addressed by an artistic turn towards an artful form of sustainability research.

Addressing compounding threats such as climate change, is a challenge to work wisely with intricate combinations of knowing and non-knowing, relative certainties and uncertainties, diverse capabilities and incapabilities, hard limits and open possibilities. It is a challenge to think creatively yet humbly, containing hubris and countering the unfortunate tendency to run for quick fixes – which Gregory Bateson de-

plored as a society's tendency to go for the short-cuts, instead of painstakingly identifying deeper leverage points (as Donella Meadows called them). As research on climate change (and as the failure to mitigate climate change until now), shows, we need to get prepared for crises of probable much greater extent than what we have experienced so far. We will then need to get ready to develop human creative response at levels, scales and speeds probably unknown until now.

3 The Need for a Queer-Convivialist Life-Art and for an Experience of Complexity

As the Convivialist Manifesto made clear, the challenge of sustainability for the times to come, is not about preserving and sustaining a "good life" of the same type as what affluent societies have been enjoying for a few decades. The implications of superficial understandings of good life and sustainability, may stabilize the status quo for a few more decades to come, for some parts of the world. But in the long run for everyone (and for some sooner than for others), they will only worsen our lack of resilience. Instead of preserving good life, the search for sustainability should be interpreted as inviting us to experiment with other lives, to open up to futures-oriented questions, and to queer these other, potential (good?) lives, taking resilience as a moving horizon.

From a sustainability-oriented perspective, resilience points at the ability to survive and live well on the long term by transforming oneself in relationship with one's environments. It implies an ability to learn from, and absorb disturbances, i.e. to be changed and re-organise, to some extent, while still keeping important elements of a "same identity" (for want of a better term), or rather, keeping an ethical societal direction such as e.g. the one sketched out in the Convivialist Manifesto around principles of interdependency and care. Resilience works here as a capacity to evolve (or rather in Edgar Morins sense, to co-evolve and eco-evolve) through serious crises. It is not just resistance, and it is not just adaptation, but involves some elements of both resistance and adaptation, without losing sight of ethical goals for sustainability. Building up the capacity for resilience will become very relevant in the coming decades, when the trusted approaches that fuelled the development of modern societies will be severely tested. Under growing instability and uncertainties, resilience will also bring better responses than any single all-encompassing strategic blueprint for transformation to sustainability. Some of my colleagues even dropped the term "sustainability", to talk about this. For example, the many space and time scales involved in this civilizational challenge brought the ecological artist David Haley to talk of a search for "capable futures" instead of "sustainability" [29]. The understanding of resilience that I am stressing here, points at the necessity to learn from the unexpected, i.e. serendipitous learning. As I argued elsewhere [6], serendipity is not merely a meeting of an open-minded perception with unexpected events, but also implies sagacity: a wisdom that is grounded in sense perceptions, and that allows keen discernment and sound judgment. The required openness also means that one should be flexible, curious and alert enough to change ones goals and interests, along the way (i.e. developing an agility when faced with options for change). Sagacity brings together sensorial perception, experiential learning over time (and over a lifetime), and acting in wisdom. Serendipity and sagacity allow not merely an accumulation of capabilities and of knowledge, as a stock of fixed items that would pile up over time. Rather, the accumulated experience actualizes itself in light of constantly changing factors. More important even than experience as the acquired stock of knowledge, is experience as the training of the capacity to perceive and interpret the world in complex ways, i.e. a phenomenological and hermeneutic learning process. This learning process requires artful qualities; else the experiential process may become a numbing, anaesthetizing one [30] that over time reinforces path-dependencies and tunnel visions rather than develop ones sagacity and serendipitous qualities.

When I look at the characteristics of resilient systems, what I see is the expression of life's inherent creativity. My contention is that, while sustainability requires both a build-up of resilience and an openness to transformative change (i.e. often radical change, going to the roots of issues and seeking deep leverage), building up the qualities of resilience in human societies calls forward a cultivation of multiple creative responses and capabilities – a radical embracing of Joseph Beuys' s provocation: "Ev-

eryone [be(come)/return to be[com]ing] an artist". Furthermore, the compounding threats discussed by sustainability researchers (and summed up in the Convivialist Manifesto), do not permit just any arbitrary form of creative development of human societies. They require a kind of cultural development that is especially sensible to qualitative complexity. My understanding of "complexity" is following Edgar Morin's, in his 6-volumes oeuvre, *la méthode* [31].[1] Although difficult to sum up in very few words, Morin's complexity can be approached by considering his notion of "macro-concepts": A macro-concept harbors the dynamic tension, both contradictory and complementary, between relationships of unity, complementarity, competition, and antagonism. Across different levels of systems, we need to learn to appreciate both the contradictions between, and dynamic balancing of, different logics, and to acknowledge the great level of ambivalence, uncertainty, and indeterminacy that all living beings have to cope with on this planet. Morin appealed, metaphorically, to our "musical ears", which allow us to "perceive the competitions, symbioses, interferences, overlaps of themes in one same symphonic stream, where the brutal mind will only recognize one single theme surrounded by noise" (Morin [31]).

One major quality of the Convivialist Manifesto lies precisely there: In its basic sensibility to qualitative complexity. Especially, the manifesto gives us some hints that "convivial" is not equated with 'consensus-ist conformist' political correctness, and should not drift into that direction. However, the manifesto, in its encounter with a wide readership, walks on a thin hermeneutic line: If misread in a way that is insensible to complexity, this manifesto will fall into the trap of a new form of narrow green/leftist moralism. In order to consolidate this quality that I see in the manifesto, and to help prevent the misreading I just mentioned, I will now focus my next argument on stressing The Importance of Being Earnest! ... Not quite. (Sustainability Science is earnest enough already.) I will focus the remainder of this section on the importance of developing an aesthetics of complexity – as a foundation stone for a practice nourishing itself in the Convivialist Manifesto and bringing an artful quality to Sustainability Science.

One area in which the manifesto expresses very well its sensibility to complexity is in stressing the balance of cooperation and antagonism ("coopÉrer et s'opposer", [23] pp. 12, 25-26, 27). This insight echoes Edgar Morin's understanding of complexity and philosophy of "unitas multiplex" (where any living relationship needs to be experienced through the 4 overlapping and de-re-connecting lenses of competition-cooperation-antagonism-unity). It also echoes Chantal Mouffe's work on the importance of antagonistic relationships (and her plea for "agonistic" politics) as important dimensions of democratic practice, warning against a reduction of politics to mere consensus-based processes. This is indeed the core meaning of the manifesto's call "to cooperate and oppose" (with) each other. This means, to both turn away from the exclusive focus on market competition which is dominant (and dwarfing cooperation) in contemporary societies, but also to prevent the very high risk of a consensus-ideology that would invariably end up into a "soft totalitarianism" (to borrow a provocative expression that I first heard – associated to a critique of consensus and the media in late 20th century democracies – in the mouth of political scientist Slobodan Milacic). Instead of a rigid dogma of consensus, convivialism needs (a) "uniplural" (Morin) culture(s) of complexity. The Convivialist Manifesto thereby does a better job at striking a dynamic balance between cooperation and opposition, than Mouffe's own writings that privilege agonism over consensus (e.g. [32]). The need to strike such a balance is also at the core of Richard Sennett [33]'s analysis, which demonstrated how, over the history of modern Europe, different approaches to social and political participation and cooperation have been caught in a tension between 'dialectic' and 'dialogic' tendencies: In a dialectic process (in a Hegelian sense), tensions between opposing views are resolved through compromises or argumentative resolution/synthesis. In a dialogic process (in a Bakhtinian sense), different views coexist and respect each other's difference, whereby oppositions remain open and unresolved. The challenge of a qualitatively complex approach is not to privilege dialogic over dialectic processes as some proponents of 'mindfulness' may argue (or vice versa, as some proponents of agonistics may argue), but to find a dynamic balancing and negotiating process whereby both tendencies are involved with shifting dominance.

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[1]For a more thorough introduction to Morin's complexity in English language, see chapter 3 in my book Art and Sustainability [5].

The challenge is to develop, in very concrete situations and contexts, a fine art of balancing competition, cooperation, antagonism and unity. This is indeed, not just a set of recipes with tested-and-tried techniques. It means resorting both to the consensus-fostering approach of nonviolent communication, and to the critical, deconstructive and dissensual artivistic approach advocated by Mouffe [32]. And it means resorting to the latter of course not merely towards others, e.g. some hegemonic evil forces 'out there', but also self-reflexively, as individuals, as societies and as species. It requires qualities of ambiguity, ambivalence and the "musical ear" praised by Morin, i.e. it craves for artistic competences fostering the aesthetic experience of complexity. In short, the convivialist "coopérer et s'opposer" is less a science (in the narrow sense of the term) than it is an "art de vivre ensemble" ([23] p. 14): an art of living together. This art is of course not a propagandistic, agit-prop kind of art. It is rather a continuous learning and research process with queer and discordian accents. It requires both the deconstructive and dissensual qualities found in the work of some contemporary artists, but also the reconstructive and reconnective qualities of ecological artists as I discussed them in the book *Art and Sustainability* after Suzi Gablik [5]. One example of public art attempting an interesting balancing act of these qualities, is the piece that Hans Haacke did for the Bundestag in Berlin: *Der Bevölkerung* (2000 - ongoing), a collection of soils from all German Länder (federated states), which Haacke asked Members of Parliament to contribute (New MPs were asked to bring new soil, and some soil is removed when a MP's term expires). Haacke wrote in his statement for this piece: "In an extremely controlled building, the ecosystem of imported seeds in the Parliament's courtyard constitutes an enclave of unpredictable and free development. It is an unregulated place, exempt from the demands of planning everything. It is dedicated TO THE POPULATION".

But why do I advocate for this necessary art to have "queer and discordian accents"? I will turn my earnest eye to the discordians later. First come the queer: The function of a queering artistic process is not to bring certainties, to win over your audience to your critical message, to necessarily 'make them understand' something that you already identified and thought up for yourself. It is not a Brechtian process of distanciation, elevating you into the (cold winds

of) an intellectual enlightenment, and shutting down the ambiguities. The function of a queering artistic process is, on the contrary, to foster uncertainties that stimulate de-normalizing and de-naturalizing aesthetic experiences and thought & embodiment processes. It is a process of distanciation and of 'freaky desires' - to paraphrase the parlance of artist and "freaky theorist" Renate Lorenz [34], keeping you in a (warm flux of) intellectual, emotional and corporeal confusion, keeping ambiguities and ambivalences thriving for a longer moment. From such an experience can arise more interesting queerings of 'good' lives, taking us to other desires, elsewhere than within the path dependencies of affluent consumerism. We also requires a queer vigilance, to balance the "relocalisation and reterritorialization" ([23] pp. 36, 38) and the "entre soi suffisamment solide" - i.e. strong enough between-ourselves/self-segregation ([23] p. 38) proposed by the Convivialist Manifesto, with a constant reflexive work of de-normalization and de-territorialization of identities, without which the genesic potential of chaos (as discussed by Morin) would be choked off. The trick is to avoid an exaggerated parochialism and maintain the quality of what Ursula Heise [35] called an 'eco-cosmopolitanism'. We must clear out any potential confusion or misunderstanding: The Convivialist Manifesto should not be confused with some kind of communitarianism: The manifesto clearly founds itself in principles of "commune humanité [...] commune socialité [et] individuation" ([23] p. 26), i.e. Morin's three levels of human identity as individual-society-species, not reducing these to only one level. The further risk to avoid here, I would add, is ending up with an identitarian trinity of speciesm, communitarianism and individualism. Here the 'queering apart' (or 'freaking out') of these tendencies is of utmost importance. More generally, a vigilant and chronic process of queering is necessary to ward off a rigidified moralism within any convivialist-identified and/or sustainability-oriented movement. For example, from a queer-ecological perspective, the manifesto's negative take on the notion of "démesure" ([23] pp. 29, 35), i.e. excess, needs to be handled carefully, because excesses, inefficiencies of redundancies, and irrational exuberances, are important qualities of all living systems, without which no resilience could be achieved. A wholly "measured" convivialist order, forbidding "démesure", would be as foolish an enterprise as the techno-dream of effi-

cient smart cities. The manifesto's moral warning shot hits its target more relevantly, I would contend, when it warns against "illimitation" ([23] p. 35) and "hubris" ([23] p. 29), rather than when it rejects excess.

The manifesto's second chapter proposes "four (plus one) basic questions" ([23] pp. 17ff) as "a shared "doctrinal" minimum that can fuel, sustain and legitimize an array of simultaneous answers applicable across the globe." These are the moral, political, ecological, economic (and spiritual) questions. These 4+1 questions form a meaningful set (although the "+1" spiritual question is largely left up in the air, without much discussion), but they fail to point out explicitly that any relevant moral question should be grounded in aesthetics – not in the Kantian sense but in the Deweyan sense of "aesthetics as experience" and in the Ingoldian sense of human experience – as the experience that is aliveness: a continuous movement constituting perception, as the pre-ethical basis to any moral questions we may raise: Tim Ingold considers that, at the foundation of any knowledge or ethical system that is to work in practice, is the need for intuition, i.e. a "sentient ecology" (after David Anderson), a "knowledge [...] based in feeling, consisting in the skills, sensitivities and orientations that have developed through long experience of conducting one's life in a particular environment. [...] These skills [...] provide the necessary grounding for any systems of science or ethics that would treat the environment as an *object* of its concern. The sentient ecology is thus both pre-objective and pre-ethical" ([36] p. 25 in the 2011 re-edition). The manifesto therefore fails to notice ... The Importance of Being Earnest?! Still not. (Actually, the manifesto, not unlike the discourses of sustainability scientists, is earnest enough already.) Or is it missing Sense and Sensibility? Not exactly either... But let not my course of thoughts derail just yet: The manifesto fails to notice the importance of developing senses, sensitivities and sensibilities to our environments, as multiple and interrelated modes of corporeal learning and embodied knowing, opening us up to our complex enmeshment with environments, waking us from 'anaesthesia' as coined by Wolfgang Welsch in his *Ästhetisches Denken* [30] and the associated psychic numbing. These aesthetics, i.e. these "organs of perception" (as developed by Shelley Sacks and Hildegard Kurt in their artistic work and discussed in their writings [37]), will then

open up the field of perceptions-experience-knowing into enhanced qualities of questions, regarding the moral question (as well as the political, ecological and economic questions) raised by the convivialist manifesto. To be fair: some of of the points in the manifesto tangentially approach this insight, i.e. recognizing humans as "êtres de désir" ([23] p. 18) – beings driven by desire, and recognizing the importance of the "mobilisation des affects et des passions" ([23] p. 36) – mobilization of affects and passions... We need to mobilize aesthetic sensitivities to living complexity, with a convivialist-discordian eroticism.

This also means that, besides their tactical and strategic functions for mobilization and protests, "shame" and "indignation" alone ([23] p. 35), make up a poor, narrow and limited toolbox for cultural and social movements. Here, the manifesto's appeal to "affects and passions" ([23] p. 36) is highly relevant, but it also needs to be further qualified. We need to stress and articulate artistic tactics of reflexivity that are futures- and ethics- oriented, while at the same retaining qualities of ambivalence and very importantly, tactics of humor... Only with an extended toolbox, not restrained by a constricted moralism, can the bottom-bottom (i.e. horizontal) "creativity" shortly invoked in the manifesto ([23] p.36), start unfolding itself, and stimulate qualities of resilience.

After Hans Dieleman [38], I consider that resilience requires the flourishing of spaces where imagination, experimentation and challenging experiences open up futures-oriented questions and perspectives. These are both mental and physical spaces of conviviality, agonistic confrontation and other, confusing, and individually as well as socially creative, shared experiences. These are spaces where social conventions are reflected, unfrozen and challenged [5], and where imaginative and experimental practices unfold [39]. Researchers and activists alike need to engage more fully into a comparative translocal exploration of such spaces, of the functions of arts-based activities and processes therein, and of the roles of artists and other creative individuals and groups, in such spaces of possibility (see [40] for an empirical analysis on the characteristics of urban spaces of possibility). We may also explore local places as "Cthulhu-scenes" (after Donna Haraway's inspiring neologism and visions of the *Cthulhucene* as a response to the capitalism-uncritical concept of the Anthropocene [41]) - i.e. cities, suburbs, villages

and other human settlements, both as naturecultural sceneries and as stages where diverse agents and 'actants' (in Latourian-speak), humans and also more-than-humans, engage (on different levels) with the multiple scales and dimensions of the search process of sustainability.

A convivialist life-art should ground itself in aliveness as the experience of complexity. It should be a creative, reflexive, critical and above all, a humorous activity. The convivialist manifesto should not be received as a stern treatise for sworn-in revolutionaries, but as an open and fundamentally democratic invitation. Seen artistically, this should be an invitation to re-invent through practice, the art of living together. An art of interdependence, of humility and also of a seriously healthy reflexive humor (as the discordians practiced it already several decades ago).

In the words of a famous systems thinker: "There is yet one leverage point that is even higher than changing a paradigm. That is to keep oneself unattached in the arena of paradigms, to stay flexible, to realize that NO paradigm is "true," that every one, including the one that sweetly shapes your own worldview, is a tremendously limited understanding of an immense and amazing universe that is far beyond human comprehension. It is to "get" at a gut level the paradigm that there are paradigms, and to see that that itself is a paradigm, and to regard that whole realization as devastatingly funny. It is to let go into Not Knowing, into what the Buddhists call enlightenment" (Meadows [42] p. 19). The one discourse I encountered, so far, that came closest to what Donella Meadows described here, is the discordians' half-serious, half-absurdist worship of chaos. But I did not really introduce the discordians yet. I kept it for the end of this section on the need for a queer-convivialist life-art and for an experience of complexity. So let me shortly (and exceptionally, else I will lose my earnest academic credentials in the eyes of some "greyfaces") defer to the (convivialist) authority of Wikipedia: "Discordianism is a religion and subsequent philosophy based on the veneration or worship of the Roman Discordia, equivalent of Eris, the Greek goddess of chaos, or archetypes or ideals associated with her. It was founded after the 1965 publication of its (first) holy book, the Principia Discordia [...] The religion has been likened to Zen, based on similarities with absurdist interpretations of the Rinzai school, as well as Taoist philosophy. Discordianism is centered on

the idea that both order and disorder are illusions imposed on the universe [...] There is some division as to whether it should be regarded as a parody religion, and if so to what degree. Discordians use subversive humor to spread their philosophy and to prevent their beliefs from becoming dogmatic. It is difficult to estimate the number of Discordians because they are not required to hold Discordianism as their only belief system, and because there is an encouragement to form schisms and cabals" [43]. A few pinches of discordianism might bring some welcome seasoning to the appetizing table of convivialism. Alas, this very article is largely falling short in terms of humorous form – despite my couple of earnest attempts, clouded with declarations of utmost importance. And my earnest efforts are not over, as I now proceed to discuss what potentials lie especially in arts-based research, which could help reform sustainability research in the direction of an artful experience of complexity.

4 The Potential of Arts-Based Research

The potential of integrating the arts and sciences in research is especially promising in terms of 'transdisciplinary hermeneutics' [22] whereby a symbiosis between different ways of knowing the world may be developed. This understanding of transdisciplinary, based in the writings of Basarab Nicolescu [44, 45, 46], Edgar Morin [31] and rooted in the epistemological writings of Stephane Lupasco [47], is not opposed to disciplinary research, but rather to what I propose to label as a "cisdisciplinary" attitude to research. A cisdisciplinary knowing would be one that mistakes the situated and partly valid knowledge and learning made possible by any given discipline, with a complete and self-sufficient access to knowledge of the world. I am borrowing the prefix "cis-" from the term "cisgender" that refers to people who have "a gender identity or perform a gender role society considers appropriate for one's sex" ([48] p. 789). Cisdisciplinarity is an approach to disciplinary knowledge that mistakes a given discipline for an access to a complete knowledge of the world in one of its dimensions, ignoring that a discipline can merely contribute a fragmentary and situated knowledge on one dimension of reality. A cisdisciplinary way of researching is one that is satisfied with only the partial and fragmentary learning al-

lowed by a single discipline, and construes it as a complete and autonomous, self-sufficient explanation of reality. It demands from its followers to perform a 'scientific' role that cisdisciplinary gatekeepers consider appropriate for one's discipline. Whereas the pursuit of procedural autonomy by disciplinary researchers in order to carry out research programs is an often necessary and productive practice in science, its extension into the pursuit of an ontological autonomy of disciplinary knowing, and the often-resulting epistemological and methodological sectarianism of cisdisciplinary researchers, are among the greatest harms to knowing-of-the-world that cisdisciplinary attitudes bring. Cisdisciplinary attitudes are marked by epistemological, methodological and science-political conformism. They facilitate prejudice and discrimination against ways of knowing that lie outside an established canon of respectable disciplines (which includes especially the arts and spirituality; for some cisdisciplinarians it also includes certain academic fields of studies such as gender studies or specific non-scientific disciplines such as psychoanalysis). Therefore, cisdisciplinary attitudes either oppose inter- and transdisciplinary ways of knowing, or work towards limiting inter- and transdisciplinary research to forms of collaboration between "science and society" that still maintain a strong hierarchy between the legitimate scientific knowing and the illusory 'knowing' of so-called common sense.

The "breadth and depth of knowing we associate with the full scope of human understanding" ([49] p. 82) is not sufficiently tapped into, when cisdisciplinary attitudes dominate the practice of modern science. As I articulated in the preceding pages, qualitative complexity (as theorized by Edgar Morin) is required. Already in 1983, Donald Schön argued that professionals and experts across disciplines have been experiencing, again and again, a "mismatch of traditional patterns of practice and knowledge to features of the practice situation – complexity, uncertainty, instability, uniqueness, and value conflict – of whose importance they are becoming increasingly aware" ([50] p. 18). One of the most promising features of arts-based and artful approaches to research, reaching outside of artistic professions, is to contribute to an epistemological development beyond the limitations of cis-disciplinarity, contributing to transdisciplinary hermeneutics.

Arts-based research affects our very ideas on the nature of knowledge and understanding. It introduces considerations and elements, which have been often kept out from the breadth of a researchers access to the world. In contrast to artistic research, largely originated in art schools and art studios, arts-based research brings these new approaches and insights directly to the heart of social sciences (and sustainability science) departments where researchers take the risk to work with these approaches. Arts-based research involves the "systematic use of artistic process, the actual making of artistic expressions in all of the different forms of arts, as a primary way of understanding and examining experience" ([51] p. 29). It encompasses "a set of methodological tools used by qualitative researchers across the disciplines during all phases of social research, including data collection, analysis, interpretation, and representation" ([52] p. 1). It constitutes "an effort to explore the potentialities of an approach [...] that is rooted in aesthetic considerations and that, when it is at its best, culminates in the creation of something close to a work of art" ([53] p. 1). What characterizes research as artful or arts-based is not merely the use of specific items or elements labelled as arts (whether dance, theatre, painting, media art of other old and new formats) but rather the search for and attainment of specifically "arous[ing or] evocative" ([53] p. 41), and reflexively stimulating [54] aesthetic qualities.

Arts-based research endeavours to elicit unusual ways of thinking about social and natural phenomena, through the stimulation of uncertainty, risk-taking, and confrontation beyond superficial and taken-for-granted understandings and meanings, "broadening and deepening conversations" ([55] p. 79). It seeks new ways of asking questions and uncovers new questions to be asked ([52] p. 12). It aims to make questions and inquiry more interesting, to "stimulate problem formulation" ([53] p. 171), rather than to directly and unequivocally answer its research questions and offer some final meanings, as it "revisits the world from a different direction, seeing it through fresh eyes" ([53] p. 16). In his educational and research practice, David Haley calls it "question-based learning": With this approach, one sees the world as an expanding, meaningful inquiry, rather than as solution-led, problem-based approaches that demand closure. 'Embodied questions' offer diverse, creative ways of learning ecologically, as opposed to engineered or managed linear forms of teaching

that exacerbate wicked problems, because they lack appreciation of complex contextuality.

Question-based learning, according to Haley, potentially offers dialogic processes, compared with dialectic, polarised ways of confronting the world and those (human and other than humans) who inhabit it. *Nevertheless*, as I already discussed above, the challenge of qualitative complexity is to find a dynamic balance between dialogic and dialectic processes. Therefore, arts-based research (and transdisciplinary research more generally) should not merely privilege dialogics over dialectics and shun away from insightful confrontations. In their questioning journey, artful approaches to research "prompt us to deconstruct assumptions" ([55] p. 143). The open space of inquiry in arts-based research is especially valuable as a corrective complement to mainstream research approaches, because it is not obsessed with a solutionist urge for the provision of answers (unlike much of sustainability science). Abandoning the claim to produce universal knowledge, arts-based research generates multiple perspectives on its research questions, rooted in multiple "attentions" ([56] pp. 37-38). Those attentions address complex and subtle interactions and they make them noticeable in the first place. This deepens our understanding of issues and makes it more (qualitatively) complex ([53] p. 3). The involvement of manifold perspectives changes the way researchers and their audiences experience situations and objects ([57] p. 128), which can stimulate innovative thinking [58].

In his work on *arts practice as research*, Graeme Sullivan highlights key characteristics of arts-based research ([49] pp. XIII ff.):

- It draws a creative tension between complexity and simplicity – this relates to a key challenge for sustainability research: addressing the immense qualitative complexity of global sustainability transformation while tracing new intervention approaches that allow participative processes beyond small circles of already highly involved agents. The apparent self-contradictory double-goal of maintaining and even cherishing qualitative complexity ("we must learn, not to be afraid of complexity", as argued by ecological artist David Haley [59]), *and* of finding simplicity and elaborating simple forms, is one challenge that artists and arts-based practitioners are long acquainted with: "not oversimplifying complex issues, and [...] finding ways to be challenging whilst not being off-putting" ([55] p. 76).

- It places much focus onto venturing into and exploring the unknown, allowing the emergence of new knowledge, and taking a fluid approach to knowledge-generation. "Arts practice as research opens up new perspectives that are created in the space between what is known and what is not. Traditional research builds on the known to explore the unknown. Art research creates new possibilities from what we do not know to challenge what we do know" ([49] p. 244). Unlike the proverbial scientist searching for his keys in the night, not near where he may have dropped them but near the nearest lamp post, artists and arts-based practitioners are often willing and even motivated to explore into the darkness (and even sometimes into the murky and uncomfortable depths of the *Heart of Darkness* of human soul and society [60]), helped by a creative searching, learning and shaping (Gestaltung) process that allows ambiguity and ambivalence.

- It converts a process of search and analysis into the telling of a story – not unlike scientific research, but with much more awareness of the subjective authorship at stake in the process of telling a story.

Knowledge generation in artistic process is nourished by "imaginative investigations" ([49] p. XII) that articulate constellations of possible meanings, allowing a large freedom of lateral, associative thinking around lived experience. Especially the analysis and interpretation of data in arts-based research should be "systematic and rigorous but also inventive so as to reveal the rich complexity of the imaginative intellect" ([61] p. 20). This imagination is not purely speculative. The empirical ground of an arts-based research process is to be found in sensory perceptions and in a reflexive relationship to ones perception of the world, which bears great similarities with the phenomenology of perception (hence many artists sustained interest in Maurice Merleau-Ponty's *Phenomenology of Perception* [62]). This implies a heightened awareness of the multiple levels and processes of interpretation at play in perception and further cognitive and inter-subjective communicative processes. Artists and arts-based practitioners are often especially sensible to the framings of

and influences on perceptions and interpretations by personal biographies, cultural frames and social constructions of reality (even though some sociologists like to believe in their privilege or monopoly over social reflexivity). They are also sensible to the influence of immediate contexts and importance of the situations where perceptions and interpretations take form. They thus recognize interpretation as a dynamic and interactive process ([49] pp. 15 ff.). This high self-reflexive awareness that arts-based approaches bring the researcher, are a powerful way to address the challenge of re-uniting the Subject and Object, overcoming their undue separation in modern science. In the arts-based research process, both the observer and the observed are considered "as legitimate sources of knowledge in any inquiry" but are also to be held under continuous critical scrutiny ([49] p. 52). The "convenient fiction" of objectivity ([49] p. 38) is then replaced by an intersubjective process of assessment and valuation of the potential artistic expressions ([49] pp. 39 ff.). Here, arts-based approaches can be brought together with hermeneutic methods. For arts-based research, the dialogue with audiences of artistic expressions gains higher importance than in some traditional formats of artistic production and consumption: This dialogue assigns meanings and includes multiple perspectives, further enriching the research process. The researcher is also part of this dialogue and must include her or his own emotions too ([52] pp. 18 ff.).

Artistic practice bears the capacity to both question+reflect+critique the construction of knowledge, and to allow the emergence of new understanding (cf. [49] p. 96). The insights gained thereby sheds light on that which "might otherwise be beyond words", as argued by both Barone and Eisner, and Savin-Baden and Wimpenny ([55] p. 76), thanks to "expanding the various descriptive, explanatory and immersive systems of knowledge that frame individual and community awareness" ([49] p. 97). Arts-based research aims to generate a broader knowledge-range, involving especially tacit knowledge, e.g. as knowledge experientially generated in-action ([50] p. 49) – revealing, beyond denotative words, that we are "knowing more than we can say" ([50] p. 51). Produced artworks are "a site where knowledge is created" ([49] p. 71), and so are artistic processes [63], as these works and processes embody tacit knowledge (see also [64]). Arts-based research also involves contextual knowledge ([49] p. 71) through reflection about

the cultural and biographical conditions of the artistic inquiry, a.k.a. situated knowledge as discussed below with Donna Haraway. At this juncture, some arts-based researchers point at an issue, "whether knowledge is found in the art object of whether it is made in the mind of the viewer" ([49] p. 83). Here, I would argue against a reduction of knowing to either of these two alternatives, instead following Tim Ingold's views on perception and knowing as a meshwork of movements where both the subject and the others (labelled by Ingold not as objects but as 'things') actively encounter each other, affecting each other's lines of movement: "an issuing along with things in the very processes of their generation; not the trans-port (carrying across) of completed being, but the pro-duction (bringing forth) of perpetual becoming. ... To be sentient ... is to open up to a world, to yield to its embrace, and to resonate in one's inner being to its illuminations and reverberations. Bathed in light, submerged in sound and rapt in feeling, the sentient body, at once both perceiver and producer, traces the paths of the world's becoming in the very course of contributing to its ongoing renewal" ([65] p. 12). Furthermore, artful knowing involves specific qualities in experiential learning: The quality of sensory-based perceptions and learning can be sharpened, deepened, and differentiated through the training of aesthetic observation and exploration, allowing more distinctive experience (cf. [66] p. 115). Next to this, the otherwise tacit and subconscious processes by which ideas and terms are associated to images in the mind, come closer to the surface and can be subjected to interference and change thanks to arts-based practices (cf. [67] p. 211). All these qualities can sharpen a sensibility to qualitative complexity (see also Kagan [5] on the need for 'aesthetics of complexity' in the context of transdisciplinary sustainability research).

In arts-based research, the choice of specific methods-mixes is usually guided by the research questions, not by the disciplines ([55] p. 46) – it is "inquiry-based" rather than discipline-based, as is the case in any truly transdisciplinary research project (Cf. [68]). Therefore, the research incorporates findings and methods from other research approaches, with a fluid and pragmatic take on epistemology, e.g. not necessarily ignoring research rooted in positivism; it tolerates epistemological pluralism, again allowing another dimension of complexity (cf. [49] pp. 100 ff.). It also brings many own methods originating from

a variety of artistic practices, largely untapped by other research approaches, such as e.g. ethnodrama and performance ethnography where dramatic forms allow to merge research and representation ([55] p. 55), dance where the researcher and participants' bodies are the vessels of a corporeal searching, experiential learning and embodied knowing, and the "tool through which meaning is created" ([52] p. 183), or poetry, storytelling and other creative written narratives that stimulate wider interpretative processes than usual denotative language with relatively more prescriptive meanings ([52] p. 259; [49] p. 205; [55] p. 129). Arts-based research projects do include stages that bear resemblance to traditional scientific research processes: data collection, analysis, interpretation and representation ([52] p. 12). The process often does not neatly proceed linearly from one stage to the next, but rather usually proceeds both in iterative cycles and with parallel, simultaneous and/or hybrid processes and stages ([55] p. 63). Sullivan even rejects the qualification of "iterative" for artful processes, as he differentiates their "cyclical, emergent and discovery oriented" characteristics, from the "linear, iterative and confirmatory" characteristics of processes typically found e.g. in quantitative social research ([49] p. 192). Interpretation and representation are often enmeshed with each other, as already hinted at above, and there are "more overlaps between data collection and data interpretation than in other forms of qualitative inquiry" ([55] p. 46). This also involves "iterative relationships between the issue, the context, the researcher and the participants" ([55] p. 28).

Patrica Leavy replaces arts-based research in the context of qualitative social science, recalling the epistemological shifts already brought about by qualitative research: "Qualitative researchers do not simply gather and write; they compose, orchestrate, and weave" ([52] p. 11). In this tradition, the active, meaning-making, interpretative role of the scientist was recognized, as the social sciences experienced successive 'linguistic' and other cultural turns ([49] p. 18). For example, the ethnographic tradition of Clifford Geertzs "Thick Description" [69] already stressed the creative and imaginative (and sociologically speaking, the fictional) qualities of the research process. Leavy thus considers arts-based research as "a new breed of qualitative methods" for social sciences, able to approach topics which involve existential conceptual dimensions such as love, death,

power, memory, fear, loss, desire, hope and suffering. These dimensions constitute "some of the most fundamental aspects of human experience" ([52] pp. 3 ff.) and should be also highly relevant to researchers engaged for sustainability, as they matter greatly in relation to attitudes, motivations, desires, dispositions to believe, and dispositions to act, at the individual and community levels. Furthermore, not only to investigate, but also to communicate research findings around these aspects of human experience, artistic and arts-based forms of expression can be especially "emotionally and politically evocative, captivating, aesthetically powerful, and moving" ([52] p. 12). Leavy insists on the potential power of the arts to communicate the emotional aspects of social life ([52] p. 13). This is one argument that scientists are prompt to acknowledge and focus on when thinking about the use of the arts in research, though too often in a narrowly instrumentalist and impoverished way – as the other qualities and the epistemological challenge of arts-based research (as they are sketched out in the text) are ignored. Two critical remarks are warranted, regarding Leavys claim:

- On the one hand, as the sociology of the arts has demonstrated in much details for several decades – from the works of Pierre Bourdieu and Richard Peterson to those of Bernard Lahire and many others, different art genres, forms and styles reach only specific sections of a society, according to cultural capital and other determinants of aesthetic consumption patterns (see e.g. Lahire [70]). No art-form is therefore having a universal outreach to an entire society.

- On the other hand, the arts are not merely good communicators of emotional dimensions of reality, but offer also especially media to develop emotional intelligence and gain a probably deeper experiential knowing of these dimensions (whether directly or vicariously with works of fiction; see e.g. Weik von Mossner [71, 72]).

Given that there exists as of today, no "consensus about what should count as quality" across the great variety of existing arts-related research approaches ([55] p. 52), and that each arts-based research project needs to find its own relevant set of quality-criteria, an in-depth discussion of the issue is beyond the scope of this text. However, some potentially helpful suggestions are made by Barone and Eisner, with a set of 6 general criteria that can be considered,

together with wider concerns of ethics and aesthetics: incisiveness (revealing the core of an issue), concision (that allows a previously unknown perspective to be perceived), coherence (between the parts and the whole of the inquiry), generativity (enabling to see phenomena beyond single cases, and to potentially act upon them), social significance (thematic relevance and importance for social change), evocation (reaching understanding beyond logico-deductive explanations) and illumination (deeper insights on a single topic) ([53] pp. 148-154). Regarding possible ethical criteria across different forms of arts-related research, Savin-Baden and Wimpenny ([55] pp. 86 ff.) suggest to look into matters of ownership, reflexivity, negotiated meaning, transparency, plausibility, honesties, integrity, verisimilitude, criticality, stance, authenticity and peer evaluation.

Overall, arts-based research not only brings new methodical elements that allow an enriched interdisciplinary research work, especially for qualitative social sciences. It also requires that the researchers learn and develop new sets of competences and skills that help scientists research the complex unity of the world beneath, between and beyond disciplines, as advocated by Basarab Nicolescu [44], contributing to the development of transdisciplinarity. Indeed, artful approaches to research aim not merely at explaining phenomena, but at gaining an understanding of phenomena ([49] p. 96), exploring subjects in more existential human depth than usually done in scientific research.

Arts-based research (and other forms of arts-related research) share an epistemological ground with Donna Haraways epistemology of "situated knowledges" and of an "embodied objectivity" [73] i.e. an epistemology where knowing grounds its validity in its situatedness and partiality, rather than in the claim to reach universality by speaking from nowhere (or from an imagined "control tower", as already deconstructed and denounced by Morin [74]). Haraway insists on the differences and multiplicity of local knowledges ([73] p. 579). Arts-based research encourages this multiplicity, where other methods tend to restrain it. Arts-based research invites individual, personal, subjective perspectives and experience (of the researched, the researcher and the audience) as legitimate and central dimensions. On the one hand, subject and object are not split but united in vision, as advocated for by Haraway ([73] pp. 581 ff.). On the other hand, Haraway also

calls forward a recognition of our "split and contradictory self", i.e of a multidimensional subjectivity: "The knowing self is partial in all its guises, never finished, whole, simply there and original; it is always constructed and stitched together imperfectly, and therefore able to join with another, to see together without claiming to be another" ([73] p. 586). Arts-based approaches, which unfold and allow ambiguity, polysemy and/or ambivalence, are an ideal vehicle to bring about this recognition. Leavy echoes Haraway very closely (without citing her) when she writes that "arts-based practices produce partial, situated and contextual truths" ([52] pp. 15-16 ; see also [56] pp. 37-38). However, recognizing one's partial position is not sufficient, a critical self-reflexivity is required, as advocated by Haraway as well as by arts-based researchers (e.g. [55] pp. 45, 48). As argued by Haraway, positioning is required, and thus arts-based researchers have to reflect on their position in the creation of knowledge, throughout the research process, including a reflection of political and epistemic contexts. In doing so, artful approaches allow an expanded reflexivity that is not only logico-deductive but is "more than rational" ([75] p. 109) in its integration of hermeneutic, aesthetic, ontological and professional reflexivities – i.e. of reflexivity through the deconstruction of meaning-routines, the re-articulation of perceptions and forming (Gestaltung), the revisiting of being and existence, and an experiential knowing-in-doing (cf. [75]; see also [50]). Furthermore, artistic reflexivity takes on a specific quality insofar as "a healthy scepticism and ironic posture" is often found and expected too ([55] p. 33), as attitudes that keep reflexivity in a state of near-constant sharpness. Another requirement that Haraway stresses, in the feminist epistemological tradition, is the recognition of the research objects activity (vs. research objects considered as inert and/or passive). As discussed above, arts-based research fulfil this requirement too (as does any proper transdisciplinary research), in its attention to the multiple perspectives of the researched, researcher and audiences. The resulting, redefined objectivity according to Haraway is rooted not in a claim of neutral distance but in "contestation, deconstruction, passionate construction, webbed connections and hope for transformation of systems of knowledge and ways of seeing" ([73] p. 584). Here, Haraway suggested a bold endeavour and agenda with even clearer accents than done by most arts-based re-

search advocates (whereby I remain sceptical about the terminology of objectivity, preferring the earlier-mentioned terminology of inter-subjectivity when discussing the networking of partial perspectives).

5 Outlook: Practicing Artful Sustainability Research & Education

Lazy readers expect to find a summary of the main ideas and insights from an article or paper in its conclusion. I will not comply with this convention here. Instead, I prefer to use the final paper pages to address those readers who did read the whole paper I close this text with two threads of outlook: (1) a few words about those colleagues around the world who are already developing the transdisciplinary practice of artful sustainability research today; and (2) a brief commentary of how artful sustainability as I proposed it in this text, relates in both complementary and contrasting, unitary and opposing ways, to Dieleman [22]'s interpretation of transdisciplinary hermeneutics.

Studies on of the roles of the arts in relation to sustainability-related issues are being published every few years for already more than a decade. See the published reviews on the roles of visual, performing and community arts for environmental sustainability (Curtis et al. [76], Blanc and Benish [9]), of ecological art for sustainability (Blanc and Ramos [4], Kagan [5], Weintraub [8]), of literature and cinema from the perspective of ecocriticism (see e.g. Zapf [77]), of music in relation to sustainability (Kagan and Kirchberg [78]), and reviews focusing more specifically on the roles of literature (Johns-Putra [79]) and the arts (Galafassi et al. [80]) regarding the challenge of climate change. However, reviews of arts-based approaches as they are already being practiced by sustainability science researchers themselves, are rarer and emerged only more recently: see for example Heras and Tbara [81] on the uses of theatre-based participatory tools and methods in sustainabilty research projects.

For my part, my efforts at the Leuphana University Lüneburg, from 2005 to 2017, most often in collaboration with Volker Kirchberg and/or further colleagues, have included multiple projects integrating arts-sociological, cultural-scientific, arts-based and inter- and trans-disciplinary approaches, combining

research with higher education. Among the specific arts-based and arts-related approaches I employed are Identity Correction (after the Yes Men), documentary film-making, trans-situ art installations (with the CCC of Geneva Art University), transect walks (after Martin Kohler), walks with video (after Sarah Pink), performative interventions in public space, and systems games (originally developed by Dennis Meadows and Linda Booth Sweeney) modified in order to bring some element of qualitative complexity. Further formats and approaches were developed by my colleagues and students throughout our research projects (related to performative re-enactment, creative writing, photography, theatre of the oppressed, contact-improvisation dance, and further approaches). In summer 2010 I directed the "International Summer School of Arts and Sciences for Sustainability in Social Transformation" (ASSiST, Gabrovo, Bulgaria) with a focus on the transdisciplinary development of walking-based place-making methods, and in summer 2016 another international and transdisciplinary summer school on "Artistic and other Creative Practices as Drivers for Urban Resilience" (in Espinho, Portugal, co-directed by Nancy Duxbury) with a focus on urban practices that create spaces of possibilities for sustainable urban development.

In November 2016, a coalition of (mostly early-career) sustainability researchers working with arts-based research organized an international symposium at the Institut d'Estudis Catalans and Autonomous University of Barcelona, entitled "Realizing Potentials: conversations and experiments at the frontier of art-based sustainability". Further universities co-organized this gathering: Universitat Oberta de Catalunya, Societat Catalana de Biologia, Universidade de Evora, Universidad Pablo Olavide Sevilla, and University of Hohenheim (suggesting the emergence of some meagre institutional for these approaches). The event included a series of practical arts-based research workshops, and I was invited to give the keynote speech on "Artful Sustainability: The artistic turn in sustainability science" (which overlapped with some of the points I am discussing in this paper). Several dozen researchers from around the world presented their current arts-based research projects in fields of environmental sciences and sustainability science.

New Higher Education programs emerge that focus on artful sustainability research. For example,

the federal university of So Joo del-Rei (in Brazil) opened a postgraduate program in 'Arts, Urbanities and Sustainability' that started offering a Master in 2016, rooted in the university's transdisciplinary research group in 'arts, cultures and sustainability' initiated in 2013 by Adilson Siqueira. The 'PIPAUS' MA places a strong emphasis on artivism, "based on an expanded definition of art that follows the redefinitions of art conceived not as a formal act but as an intervention in society, so that the artist works in interdisciplinary community teams and artistic creativity is no longer an act of isolation" (PIPAUS website, own translation from the Portuguese: https://ufsj.edu.br/pipaus/informacoes_gerais.php). This postgraduate programme is, to my knowledge, one of the very few and first in the world to integrate urban studies, sustainability research and arts-based research. It is being taught by fourteen professors from five Departments: Literature, Arts and Culture (DELAC: Literature, Theater and Social Communication); Architecture, Urbanism and Applied Arts (DAUAP: Architecture and Urbanism and Applied Arts-Ceramics); Natural Sciences (DCNAT: Biology); Zoology (DEZOO); and Administrative and Accounting Sciences (DECAC). The programme enables its students to "collaborate in the society-nature relationship mediated by communication, technology and the field of applications in order to contribute to the sustainability agenda" (PIPAUS website).

These are only a few examples, but they may be early signs of an artistic turn in sustainability science, which hopefully may take up in pace and grow in scale in the coming years, allowing sustainability research to more deeply integrate arts-based research and thereby more fully realize its potential for transdisciplinarity.

Artful Sustainability, as I elaborated over the preceding pages, corresponds largely to Dieleman [22]'s interpretation of "transdisciplinary hermeneutics" that he claims "will change science into art" (Dieleman [22]: 197) - "an art rather than a science, because it has the potential to make us combine what is with what may be, and what is measured with what is felt and intuited" (Ibid: 180). Most especially, the interplay of different approaches to knowledge production is a primary goal of transdisciplinary hermeneutics and of artful sustainability, as is the recognition (after Morin and Nicolescu) that reality is complex and discontinuous and that the dimen-

sions of the subject of knowing (through "cognitive knowing, embodied knowing and enacted knowing") are as important as, and to be related to, the dimensions of the object of knowing (e.g. as an object of study, as a (philosophical) idea, as a creation and as an experience). Artistic and arts-based research not only combine cognitive and embodied knowing both for their practitioners and audiences, but also develop enacted knowing for all participants who are actively involved at some level of arts-related performance, through the enactment of roles and situations (not only strictly in performing arts but also through other forms of artistic expressions). Scientific writing is insufficient and "artistic forms are necessary to capture the results of processes of perceiving and sensing, which are essential parts of team-based transdisciplinary hermeneutics" (Ibid: 196). The thereby constituted "transdisciplinary approach gives room for the simultaneous existence of multiple truths" (Ibid: 178). Artful Sustainability, as I advocated in this paper, does give this room, as well as it strives to "constantly question the knowledge we develop in terms of its possible biases, which are not only rooted in the way we think and analyze, but equally in the way we see, feel and act" (Ibid: 179).

Dieleman [22] focuses on two "key competencies" to learn to master transdisciplinary hermeneutics: mindfulness and dialogue. He sums up the qualities of these two approaches, pointing out their value as correctives to the limitations and dangers of unreflected habits and de-contextualized (modern-scientific) discussions. However, notwithstanding their qualities as correctives, some limitations and dangers are associated with mindfulness and dialogue as well.

I acknowledge that mindfulness (in principle) allows developing "a state of heightened consciousness of our own physical experiences, feelings and thoughts [and] find[ing] a new equilibrium between brain, body and environment, overhauling the dissociation of the brain from the body and of awareness from experience" (Ibid: 191). Nevertheless, as I experienced over recent years over a variety of situations, the current spread of the practice of mindfulness, in its concrete implementation, is placing consciousness and awareness on a pedestal, leaving too little space to subconscious flows of the body-mind, sometimes even suffocating intuition while praising it and strangling creativity while invoking it. I saw some of

its advocates effectively perpetuating a delusional imaginary of control (though replacing cybernetic and technocratic control with mindful self-awareness) and also developing a simplistic imaginary of reaching harmony by appeasing tensions and avoiding conflicts. Dieleman [22] makes a convincing plea for mindfulness as a competency that allows practitioners of transdisciplinary hermeneutics to know through the use of the bodily senses, and emotions. However, it is important to mention that the opposite should be accomplished to what now usually is achieved in some mindfulness practices: Instead of realizing merely a mindful control over the body, one should realize a state in which the mind also serves and follows the body. This is only implicitly present in Dielemans latest article and should be stressed more explicitly.

As to dialogues, it is important to mention a different shortcoming and danger. I already warned at several points earlier in this paper against a one-sided privileging of dialogics against dialectics. Further warnings against the uncritical use of this approach can be found among (self-)critical accounts of practices of "Nonviolent Communication" after Marshall Rosenberg, which stress the consequences of dialogical approaches that leave no genuinely legitimate space for contradictory tensions and conflicts ([82, 83, 84]). The acceptance of multiple truths then turns into an a-political escapism towards avoidance and denegation-suppression of direct tensions. Ultimately, if left unchecked and unbalanced by other approaches, this a-political practice may end up contributing to a soft-totalitarian form of consensus-ism. On the contrary, arts-based approaches can allow tensions and conflicts to be expressed and reflectively processed in non-oppressive *and* non-censored ways, if they take care to avoid the a-political biases that loll in mindfulness and nonviolent communication.

Dieleman [22] concludes that transdisciplinary learning and knowing, when it moves in between levels of reality, "allows us to see unity and connectedness [as] a capacity we create inside of us" (Ibid: 197). It is what Nicolescu calls the "Included Third" as a way to realize unity in knowing and surpass the fragmentation of knowledge. I second that but once more, I need to emphasize that such unity and connectedness must explicitly be seen as "uniplurality" within qualitative complexity, without tipping into any form of holistic simplification. Artful Sustainability is convivial *and* discordian. This is why a

crucial quality of artistic and arts-based approaches is to maintain tensions, discomfort, irritations and challenging experiences at all levels of reality. An approach that would be merely content with certain currently practiced forms of mindfulness and dialogics and tend towards a-political practice, would fail to address the deep injustices perpetuating global unsustainable development. A qualitatively complex transdisciplinary imaginary of sustainability needs to associate ontological, epistemological *and* political imaginations.[2]

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