

# Resisting the Imperative of Integration: Epistemic Injustice, Resistance and Openness in Inter- and Transdisciplinary Research

Machiel Keestra

University of Amsterdam, Netherlands

Hans Dieleman

Autonomous University of Mexico City, Mexico

**Abstract:** Inter- and transdisciplinary (ITD) research is essentially integrating a pluralism of perspectives to a more comprehensive solution or insight into the problem. Yet this article argues that with an “imperative of integration,” ITD approaches risk epistemic injustice or excluding some perspectives, for example, when those of non-academic stakeholders like indigenous groups or patients are marginalized or rejected. Three forms of epistemic injustice can be distinguished: contributory or participatory injustice, when some individuals or groups have no opportunity to adequately contribute to the research project. Testimonial injustice is when their insights are not taken seriously, while hermeneutical injustice indicates a lack of the interpretive resources to support understanding of their perspective. In our first case study, responding to epistemic injustice, persons with autism or their caregivers exert epistemic resistance. Defending neurodiversity, they criticize the leading deficit model of autism, pathologizing autism instead of recognizing it as a form of diversity and adjusting research accordingly. Arguing for improved inclusion of autistic voices, their endogenous epistemic resistance seeks to reshape research agendas and methodologies from within. Different is what happens in our second case with “Buen Vivir,” a Latin American concept of sustainability grounded in indigenous worldviews. As these worldviews are fundamentally different from Western scientific paradigms, their exogenous epistemic resistance does not only challenge common sustainability research but also addresses the—still continuing—colonial history of disruption, violence and exploitation. We argue that ITD researchers should be more aware of the injustices that lead to endogenous and exogenous epistemic resistance and learn how to respond to these. These researchers do well in obtaining an attitude of epistemic humility and openness and engaging with two constructive strategies that we present here: dialogue and imagination. Dialogue can help to address in an equitable way the epistemological, metaphysical, and ethical

assumptions that can make interdisciplinary integration challenging. Alternatively, the joint exercise of imagination may lead to the mental construction of novel realities that are not tainted by the epistemic injustices that led to the epistemic resistance.

**Keywords:** epistemic injustice and resistance, philosophy of inter and trans-disciplinarity, pluralism, interdisciplinary integration, dialogue, imagination, sustainability, neurodiversity

## 1. Introduction

The question of how to integrate disciplines, domains or sources of knowledge has been prevalent in western philosophy since its early beginnings. It was Aristotle, in *Posterior Analytics* (Barnes, 1976), who developed a differentiated account of separate knowledge domains while analyzing the epistemological and metaphysical nature of this plurality vis-à-vis an apparent unity of reality (cf. Keestra, 1991). The quest for the unity or integration of knowledge has a long history and poses fundamental epistemological, metaphysical and logical questions. Today, “doing science” equally confronts us with practical, normative and psychological challenges. Science has become “modern” and enrolls (still largely) within disciplinary organized academia, within a global world system. A crucial challenge of sciences today, is found especially in solving complex problems and because of that in the integration in some form of disciplines or the integration of their “data, methods, tools, concepts, theories, and/or perspectives” (Klein, 2021, p. xviii). The recognition of multiple equally valid theoretical, conceptual and methodological perspectives on such problems poses the challenge of their integration, which would not be the case if such pluralisms would be rejected (Keestra et al., 2022b). However, such integration cannot always be followed through, when not all relevant features of distinct disciplinary perspectives can be included in a more comprehensive integrated process.

Such incomplete integration is generally due to implicit theoretical, methodological or metaphysical assumptions, which might even contradict each other. In this article, though, we focus on another reason why successful integration may not be obtained. To the extent that inter- and transdisciplinary (ITD) research involves multiple perspectives represented by different team members and stakeholders, epistemic injustice may occur: insensitivity or numbness of some team members regarding the perspectives of others, which affects these (members and) stakeholders and their contribution to the epistemic project at stake. While epistemic injustice is a real risk in interdisciplinary projects, the risk is even higher in transdisciplinary research when

stakeholder perspectives are to be integrated, for instance of patients, citizens, policy makers or other extra-academic input (Hirsch Hadorn et al., 2008). As the range of, and diversity in, perspectives that need integration grow, the chances of doing epistemic injustice to some perspective(s) may grow as well. Even more problematic may be the integration with non-western sciences, when those are based on different ontological, epistemological, and methodological assumptions (Dieleman, 2015).

Given their epistemic nature, different forms of injustice are not always recognized as such, making it important to articulate them. Indeed, epistemic injustice may result from epistemic insensitivity, or cognitive and affective numbness to alternative perspectives, disciplines, paradigms or entire sciences with their corresponding worldviews. Such insensitivity or numbness typically goes unnoticed by those demonstrating it. Correspondingly, such ITD researchers might be equally insensitive to epistemic resistance. Such resistance can take the form of undermining a joint research project yet more common are milder forms. Resistance should therefore not always be looked upon as a form of sabotage but rather as a constructive, dialogical attitude that expresses dissent and challenges. It does build upon the epistemic openness that generally is expected in ITD projects and processes.

We introduce in this context the terms *endogenous* (obtaining within a particular epistemic project) and *exogenous* (performed from outside of a particular epistemic project) injustice and resistance. As 21st century research and science generally is increasingly performed in global, multicultural and transdisciplinary networks, we believe that epistemic injustice and resistance will increasingly occur which is why we think exploring them opens an important new field for interdisciplinary studies. We demonstrate this with two brief case studies: The first focuses on neurodiversity and autism research while the second case study deals with resistance of the Latin-American concept of “Buen Vivir” of sustainability sciences. Prior to that, we contextualize these case studies with a brief introduction on the imperative of integration and a theoretical outlook on epistemic injustice and resistance. We will finish with some concrete recommendations for stimulating epistemic humility and openness in order to prevent such epistemic injustice and resistance from happening.

## 2. The Logic and Imperative of Integration

When the word “interdisciplinary” was coined around 1925 at the Social Sciences Research Council and used more widely after that, it usually referred to collaboration and coordination between two or more sciences, disciplines, or fields, with an important position for their “borderlands” and their “cross-relationships” (Frank, 1988). Only gradually, the integration of disciplinary

contributions became for many authors the “acid test” of interdisciplinarity, turning collaborations without such integration into multidisciplinary (Klein & Newell, 1997, p. 404). In a similar vein, integration has also been hailed as “the core methodology underpinning the transdisciplinary research process” which includes—as a feature distinguishing it from interdisciplinary research—also extra-academic stakeholder input (Pohl et al., 2008, p. 421). Integration was also presented as key when interdisciplinary research was defined as research that “integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge” (National Academy of Sciences, 2005, p. 2).

Integration can involve heterogeneous elements that have different origins, as in different disciplines or research fields. Consequently, their integration implies an equally diverse set of integration techniques since the integration of quantitative data sets requires a different technique or method, for example, than the integration of different languages or communities. Klein has presented an early list of such integration techniques in her seminal book on interdisciplinarity, which range from “regular meetings” to “common data gathering and analysis” to “focusing on a “common enemy” or “target” (Klein, 1990, pp. 189–190). Expanding upon that work, other sets of integration techniques have been developed (Keestra et al., 2022a; Newell, 2001; Repko & Szostak, 2017).

The rationale for putting integration central stage in inter- and transdisciplinary research can be manifold. Foregrounding the complexity of wicked problems or the interdependency of multiple systems, partial insights in these are inadequate in both explaining and predicting their operations (Dovers, 2005). Particularly when multi-disciplinary research leads to results that should be implemented practically and have a real-world impact, integration of both epistemic and normative contents is a crucial step. Consequently, as Bammer (2009) argues, integration should be considered a crucial skill and a field of training and research by itself. Dover observed even how in response to the inadequacies of non-integrative approaches in sustainable development research and policy, an “integration imperative” has emerged (Dovers, 2005).

Notwithstanding this integration imperative, integration’s central role in ITD has also been questioned—even though that is often considered “heretical” (Holbrook, 2013). Indeed, as the synthesis of knowledge—often associated with logical positivism’s reductionist perspective (Oppenheim & Putnam, 1958)—is increasingly criticized, integration is also questioned by many. Some raise questions about “seamless integration,” pointing out the incompleteness that mostly affects ITD integration (Stinson, 2016). Others refer to the complex trade-offs that inevitably accompany many cases of ITD integration (Lash-Marshall et al., 2017). Integration of perspectives in a Covid-19 research project distinguished specific forms of interactions that amount to resistance to integration, like “disconnection,” “polarization,” “incorporation”

and “reconciliation” (Lösch et al., 2023). Indeed, a combination of practical, epistemic, normative and ontological challenges may impede on such integration (Byskov, 2020).

Arguing more generally “against holism’ in interdisciplinary research, Sarewitz (2010) defends an approach that is “relentlessly pragmatic, unapologetically tendentious, excruciatingly humble, exceedingly patient” (p. 75). Approaching ITD integration from the perspective of epistemic injustice and resistance, our conclusion is not dissimilar from this. As epistemic injustice harms an ITD project and the integration of relevant perspectives and thus provokes epistemic resistance, we plead for increased awareness and prevention strategies.

### 3. Epistemic Injustice and Resistance

It may be surprising to some readers to see justice and resistance being addressed in the context of knowledge production: Are we not making a category mistake here as knowledge is about truth, objectivity, robustness and the like but not about justice? Obviously, though, it has long been pointed out that not only does knowledge figure in social processes—as Bacon’s “knowledge is power” testifies—but social processes in turn also affect the production, reception and dissemination of knowledge. The recognition of the relevance of a particular disciplinary or stakeholder perspective or a concept on a complex problem, for example, is to some extent a normative decision which can be subject to forms of injustice. By “unboxing” science, authors like Latour and Collins have shown that the emergence and acceptance even of intrinsic elements of science like concepts, theories and methods, are subject to social processes that are implied in normative and other decisions (Collins, 2010; Dieleman, 2015; Latour & Woolgar, 1986/1979).

Given such analyses, epistemic injustice and resistance are no category mistakes but important lenses for scrutinizing ITD research. The term “epistemic injustice” was introduced only some 20 years ago. In her seminal monograph “Epistemic Injustice: Power and the Ethics of Knowing,” Miranda Fricker (2007) points out the importance of epistemic insensitivity and irrationality, which in her work stems from prejudices, power-relationships, and lack of hermeneutical resources. Epistemic injustice is the injustice one experiences as an epistemic subject by being denigrated or having one’s expertise treated disrespectfully (Fricker, 2017). We will explain below three distinct forms of epistemic injustice that affect in different ways the potential contribution that an epistemic agent might make.

*Testimonial injustice* is the first form and “occurs when prejudice causes a hearer to give a deflated level of credibility to a speaker’s word” (Fricker, 2007, p. 1). She gives as an illustration the case of a philosopher during a conference

dominated by research scientists when: “It becomes clear that the philosophers of science are regarded by the majority of the other delegates as out of touch with the realities of scientific practice, so much so that they are, frankly, held in some intellectual disdain” (Fricker, 2007, p. 28). It is not so much the actual experience that any philosopher of science may have that is at stake here, she argues, simply being a “philosopher of science” renders one’s word likely to be dismissed as coming from an out-of-touch academic. She labels this an “identity-prejudicial credibility deficit” which unfortunately is not an uncommon phenomenon in academia (Fricker, 2007, p. 29).

The second form, *hermeneutical epistemic injustice*, refers to the lack of interpretive resources that prevents persons from articulating their experiences and insights such that they can contribute. We deal here with a broader sociological phenomenon of a lack of collective knowledge (in a society) necessary to be able to interpret a specific situation (or person) in such a way that it is doing justice to that situation or personal experience. The example Fricker gives of women experiencing sexual harassment is very illustrative. For a long time, those experiences were not taken seriously and were belittled with arguments pointing at the role of the women themselves in the harassment. In Fricker’s example the woman who was abused blamed herself and was blamed by her husband for being a bad mother, a fairly common response at the time. There was a lack of collective hermeneutical resources to interpret those situations accurately and justly and, it must be added, this inadequacy was usually purposefully prolonged by those in power, as this served their interest (in this case, the interest of especially powerful men).

In addition to those two, a third form of epistemic injustice is worth adding. Kristie Dotson (2014) defines epistemic oppression as a persistent epistemic exclusion that hinders one’s contribution to knowledge production. Drożdżowicz (2021) called this “contributory injustice” and Patin et al. (2021) “participatory injustice”: the person or group is prevented from participating at all in the knowledge process, is being isolated from it. More than just being socially unjust, it is important to recognize the epistemic nature and consequences of such exclusion. Correspondingly, those performing such epistemic injustice are also hampering the epistemic project at stake and not only being socially unjust.

The exclusion or marginalization of a particular group may be due to testimonial or hermeneutical injustice, as well as to “subjectless” forms of power that are structurally marginalizing a particular group (Fricker, 2007, p. 11). Power differences between disciplines might explain the different success rates in funding application or reputation and interest in the greater public, for example (Lélé & Norgaard, 2005). Even more vulnerable to epistemic injustice are extra-academic partners like patients, citizens, indigenous groups or other relevant parties in transdisciplinary research since they usually do not come from scientific backgrounds. Bringing instead their lived experience, values and interests, and their different positionalities to a project, integrating the

perspectives of extra-academic partners adds fundamentally different challenges to ITD projects (Lawrence, 2024). Careful navigation of these differences is required because they are even more prone to testimonial injustices than academics from disciplines that are underestimated.

Whenever epistemic injustice is imposed, it can lead its victim to perform in turn resistance that is epistemic, defined by Medina (2013) as “the use of our epistemic resources and abilities to undermine and change oppressive normative structures and the complacent cognitive-affective functioning that sustains those structures” (p. 3). He sees epistemic resistance arising out of interactions between disadvantaged subjects with limited opportunities in challenging the epistemic perspectives of other (usually more dominant) participants and of whom the views are taken less seriously nor considered as viable alternatives. In ITD collaboration epistemic injustice can entail the rejection of alternative worldviews, paradigms, research methods, theories and/or problem definitions etc. while avoiding adequate deliberation and dialogue about this with all participants. Indeed, such rejection of alternatives often occurs without adequate epistemic argumentation, as these specific forms of social exclusion often emerge from uncritical reliance upon traditional hierarchies between epistemic groups, with scientists being appreciated more than extra-academic lay persons. Obviously, such forced reduction of the necessary ITD pluralism can seriously hamper the integration and the robustness of ITD insights as a result, making epistemic resistance the more relevant.

It is important to distinguish between different types of resistance. This can take the form of “undermining” as Medina mentions in his definition, yet in most cases it will take less destructive forms. Humour, for example, can be a non-confrontational form of epistemic resistance (Colvin, 2020). Masking one’s identity to escape from epistemic injustice is another form, again avoiding confrontation (Omran & Yousafzai, 2024). Other forms of epistemic resistance consist of redefining central concepts or reframing of problems, for example, refocusing attention to other sources of knowledge, offering counter-narratives or dissonance, and questioning authority while emphasizing pluralism.

Medina (2013) acknowledges the value of such constructive challenging when ascribing to “an epistemic model of democracy that gives centrality to the ever-present possibility of dissent and contestation” (p. 10). He sees this as belonging to a resistance model of democracy and prefers this over a consensus model that overvalues the logic of integration at the cost of misappreciation of epistemic diversity. He makes a plea in this context of actively searching for dissenting viewpoints and critical engagements within the diverse perspectives at the table in a certain inter- or transdisciplinary project. We second that point of view and propose a resistance model of inter- or transdisciplinarity instead of a consensus model. Yet, as our two brief cases below suggest, it is useful to introduce the distinction between endogenous and exogenous epistemic resistance.

Joint—democratic—deliberation and dialogue do offer context and process that enable epistemic resistance “from within.” Epistemic agents aiming to remedy epistemic injustice may still largely embrace the principles of the epistemic project at stake while engaging in endogenous epistemic resistance. Such resistance is meant not just to critique elements of the project but rather to renegotiate the unequal balance of power that affects these epistemic agents’ participation in and contribution to the project. A proposal to redefine and reframe autism, for example, can have a more fundamental goal than offering conceptual critique. It may also imply that the contributions by autistic stakeholders should be included in the epistemic project and not be dismissed as stemming from persons with a deficit or disorder. In other words: Such endogenous epistemic resistance does occur within the epistemic matrix structuring the project as a whole and contributes to the actual inclusion of these epistemic agents.

Unfortunately, though, situations occur in which such constructive epistemic resistance from within is impossible or ineffective. In response to “epistemic gaslighting,” for example, a subdominant epistemic agent may need to withdraw entirely from a situation in which those in a position of power and presenting themselves as allies are making her doubt her own experiences of epistemic injustice (Pohlhaus, 2020). Performing exogenous epistemic resistance, this epistemic agent might avoid this situation entirely while finding real allies in a group of similarly excluded people that recognize and acknowledge this gaslighting experience.

Even more fundamental are cases of exogenous epistemic resistance when the paradigm or matrix structuring an epistemic project is not shared between project members. Epistemic differences can extend to basic ontological assumptions about the nature and origin of reality, often leading to the discrediting of marginalized positions. This is more likely to occur in projects that include participants with outspoken religious convictions, or participants from parts of the world outside of the Western hemisphere. We will explore exogenous epistemic resistance in a case study on sustainable development and the Latin American concept of “Buen Vivir,” the last being developed as a critical answer to the first. With these two “ways of knowing” being fundamentally at odds, remedying epistemic injustice from within a shared project may no longer be feasible—and their integration no longer a realistic option as we will argue.

#### 4. Case study: Neurodiversity and Autism Studies

Above, we found that epistemic injustice occurs when a particular epistemic perspective on a given problem is not recognized as relevant or adequate and hence not integrated in ITD research. Exemplifying how a development of

interpretive resources can enable a previously dispersed group to identify their similarities as well as their shared experience of exclusion or marginalization is the case of “neurodiversity” that we will discuss below. Neurodiversity refers to “perceived variations seen in cognitive, affectual, and sensory functioning differing from the majority of the general population or ‘predominant neurotype,’ more usually known as the ‘neurotypical’ population” (Bertilsdotter Rosqvist et al., 2020, p. 1). Countering an approach to such variations or differences that rests upon a medical model separating normal conditions on the one hand, from conditions that are deemed abnormal, disordered, deficit or otherwise deviating on the other hand, the neurodiversity approach presents an analogy with biodiversity. Instead of pathologizing “minority cognitive styles,” neurodiversity aims to reframe these as a “normal and healthy manifestation of biodiversity” (Chapman, 2021, p. 1360). Indeed, “neurodiversity” as a term for “neurological differences” was coined by a sociologist coping with that condition herself and introducing it as an additional political category next to class, gender and race (Singer, 1999 64). Given this source, it is not surprising to find that power dynamics and injustices are at work in this context of neurodiversity as well.

### *Autism Studies and Forms of Epistemic Injustice*

Autism research is mostly associated with a clinical practice aiming to address what are assumed to be deficits (Milton & Bracher, 2013). These deficits are measured against implicit societal and medical norms such as independence, sociability, economic productivity and selfhood (Bertilsdotter Rosqvist et al., 2020). Indeed, there is a risk of circular reasoning involved as soon as someone is diagnosed with a particular mental disorder: that person “does not begin with a clean slate but is suspected of having a constellation of symptoms commensurate with a psychiatric disorder” (Scrutton, 2017 348). Once such assumptions are at stake, it is challenging to engage in adequate collaboration or communication across differences and as a consequence testimonial injustice may occur. Scrutton (2017) adds that mental health diagnosis tends to be “sticky” and provokes a confirmation bias and therefore testimonial injustice even if the diagnosis was made in the past.

These implicit societal and medical norms undermine in the case of autism research the credibility of autistic persons, hampering their participation in such research. Indeed, if they are included at all, it is usually as objects of research rather than as participants who are well able to judge the significance and relevance of the information they contribute. This is only partly due to the epistemic norm in most medical research favoring quantitative, “objective” information over qualitative, “subjective” information. However, presenting first-person insights of their lived experiences does require the interpretive resources to articulate and express these adequately. These resources are

hardly available, though, adding to the testimonial injustice they suffer from another form of epistemic injustice: *hermeneutical* injustice (Carel & Kidd, 2017). Moreover, the ineffability of lived experiences stems not only from the lack of words and expressions but also from the fact that understanding these experiences is partly dependent upon one's familiarity with the relevant bodily experiences (Kidd & Carel, 2017). Fricker points out that hermeneutical injustice leads to a form of cognitive disablement that affects society as a whole. Nonetheless, a non-dominant patient group will suffer more from it as their experiences will be hermeneutical marginalized, receiving less recognition and respect than more dominant groups (Fricker, 2007).

Given the testimonial and hermeneutical injustices, it is not surprising that autistic persons have experienced also *contributory or participatory* epistemic injustice, participatory injustice being "a matter of who belongs" (Patin et al., 2021, p. 6). This participatory or contributory (Drożdżowicz, 2021) injustice can take on various forms in a given research project. Autism researcher and parent to an autistic child herself, Christina Nicolaidis lists several forms:

A misalignment between researchers' priorities and those of the autistic community; a lack of inclusion of autistic individuals in the research process; use of demeaning or derogatory language and concepts; threats to study validity derived from miscommunication between researchers and participants; and the use of findings to advance agendas that opposed community values. (Nicolaidis et al., 2011, p. 2)

Yet even on a smaller scale, participation can be threatened if the dominant group is implicitly imposing norms for communication and collaboration upon the research project. Hillary does compare such misalignments with the challenge of cross-cultural communication, in the case of autism research entailing potential differences in eye-contact, in speech dependency in building relations, in attention to non-verbal communication matter, all of which challenges implicit assumptions about "normal" communication (Hillary, 2020). As this situation might lead to a sense of uncertainty and even anxiety in such contexts it may undermine the confidence and self-trust of persons with autism, impacting their research participation, avoiding situations in which they might experience testimonial or hermeneutic injustice (Hookway, 2010). This would prevent them from contributing their unique access to experience and knowledge of their specific condition, but also from advising on what might be best for them or what they need to overcome certain obstacles (Scrutton, 2017). Consequently, such epistemic injustice "limits our capacity to recognize, understand, and cultivate autistic thriving and wellbeing," harming our society as a whole (Chapman & Carel, 2022, p. 617). So how has the autistic community responded to the epistemic injustices as described in the previous sections? Can we discern resistance, broadly understood, in their responses?

In their 2018 editorial “A new era for autism research, and for our journal,” the editors of the journal *Autism* claim: “Precisely because it is a common endeavor, autism research requires the *participation of that broad community [of autistic people and their allies]* on fair terms. It is not right that one group holds all of the influence and power”—with that latter group being autism researchers (Pellicano et al., 2018 p. 82). They note that autistic people are often considered as a problem requiring a solution, implying a basis of disrespect even when collaborating. Hence, they envision the new era in autism research “characterized by a new commitment to equality of participation, an era in which the voices of those who participate in research in all kinds of ways will be listened to and taken seriously at every stage of the research process,” all of which was found lacking elsewhere (Pellicano et al., 2018, p. 83). In other words, the epistemic resistance that is exerted in this context is endogenous instead of exogenous. With this endogenous epistemic resistance, the autistic community has not given up on participation in research but aims to change it fundamentally as to be more in line with its self-understanding, needs and values.

One main topic of resistance, or critique, of the autistic community with regard to research in which it participates, is the research agenda or priorities itself. Generally, it is deplored that stakeholders are only involved in the last stages of a research project when dissemination and implementation is at stake, and not in the early stage in which agenda and questions are developed (Pellicano et al., 2014a). For example, stakeholders agreed in focus groups that most research seems to focus not on adults but on children with autism, leading to research agendas with limited relevance to the—larger—group of adults with autism. Worth noting is that researchers seemed to have different opinions about this. Similarly, the autistic community was disappointed about the focus on biomedical research, while neglecting other lines of research (Pellicano et al., 2014b).

Epistemic resistance has also focused on the *reproduction of concepts of and attitudes towards autism and autistic persons* that treat these as somehow deficient, disordered, disabled. Indeed, Orsini (2022) argues for “unknowing autism” when engaging with autistic communities as a way to avoid this reproduction. For such labeling of neurodiverse conditions as inherently disordered, pathological or as an illness presents a prime obstacle for adequate interactions between professionals and autistic persons (McVey et al., 2023). Arguing against a “deficit model” of autism, stakeholders defended a “difference model,” a model of neurodiversity that would indeed support the democratic interaction mentioned above (Bertilsdotter Rosqvist, 2019). This holds even more when the medical model of autism, which identifies autism as a deficit in the individual, is replaced by a social model that challenges society to accommodate neurodiverse needs and capacities such as those of autistic individuals (McVey et al., 2023).

Thirdly and associated with a deficit model is also *ableist language* which is typically—although probably unconsciously—used in autism research, in fact discriminating against the very subjects that are both part of the research and target for its results (Bottema-Beutel et al., 2021). Surveying 195 autism researchers, a study found many of these often used language that is considered dehumanizing and aiming to “other” autistic people, to cure and remediate them. Indeed, the researchers found a majority using ableist language in this group (Botha & Cage, 2022). As mentioned, this may undermine the self-confidence of autistic persons while participating in research projects, adding participatory epistemic injustice to the testimonial and hermeneutical injustices.

A fourth topic, related to the debate about ableist language, is related to the choice of research focus: A shift away from ableism is associated with a shift from biological causes and treatments to services and support for autistic people (Zamzow, 2023). Analysis of discourse in the autistic community concurs with this shift as it is found to be “fundamentally anti-cure” (Bagatell, 2010, p. 44). Yet, as a consequence of diminished involvement in the early stage of research, research results are often found lacking in relevance for the everyday needs and values of the community itself, having scientific relevance only instead (Pellicano et al., 2014a). Research grounded in a medical model of autism tends to yield interventions making autistic persons “less autistic” instead of accepting and valuing them as they are (Guberman, 2023).

With epistemic injustices foregoing the adequate integration of the perspective of autistic communities, epistemic resistance amounts largely to urging researchers to “unknow” previously held assumptions about autism and autistic persons (Jackson-Perry, 2024). Such unknowing is in line with the cultural humility and self-reflection that an expert panel in autism and adulthood advised (Lopez et al., 2022), or more specifically “neurotypical epistemic humility” (Chapman & Carel, 2022 p. 625). Culminating in such advice, endogenous epistemic resistance contributes to changes in research and interventions such that these are not imposed upon autistic persons and communities but instead comply with their self-understanding and aims. As such, the neurodiversity movement generally should be considered a social justice movement (Chapman, 2021) and simultaneously, in our words, an epistemic justice movement. In contrast, the next section demonstrates that in other cases epistemic resistance may turn exogenous if communities do not trust that epistemic injustices can be repaired from within.

## 5. Case study: Sustainability and “Buen Vivir” in Latin America

The second case study focuses on epistemic injustice and exogenous epistemic resistance in sustainability research, and the concept of “Buen Vivir” in

Latin America. Buen Vivir (Spanish for Good Living) stands for a movement that gained influence around the turn of the century, and has everything to do with resisting Western imposition on Latin America using the concept of sustainable development (Vanhulst & Beling, 2013).

To understand the fundamental ontological and epistemological differences, we start with a brief presentation of the most important ones. Describing those, however, inevitably is doing some epistemological injustice to Buen Vivir, because a mere conceptual, philosophical or academic, description is rejected in Latin American indigenous epistemology, as this amputates half of the hermeneutical resources needed for an adequate apprehension of reality: Concepts only tell us something in combination with lived experience and the two cannot be separated.

Central in the worldview of Buen Vivir is Mother Earth, who is a living creature that hosts a diverse community of life forms, of which humans are one among many. It represents an animist worldview, where nothing exists as such (or exists in isolation), but where all is in a process of becoming against the background of a sacred energy-in-motion that makes all creations possible. Moreover, this ontology is not based on a logical or a conceptual system alone, but equally (and more importantly) on a semiotic system of signs and symbols, manifesting themselves in movement (Pollock, 1995; Vit-Suzan, 2008). It is obvious that combining—let alone integrating—such assumptions with those coming from most modern sciences, is a major challenge.

The same is true with respect to epistemological differences. In Buen Vivir, knowing enrolls in a world of sensibilities that develops as living beings experience life through movements and sounds, produced by themselves and others (De Munter, 2016, p. 629). This is echoed in the well-known Latin American concept of “*sentipensar*,” a neologism composed of the verbs “feel” (*sentir*) and “think” (*pensar*), hence “feelthink” in English. It is both to think with feeling and feel with thinking and is used as a concept to describe how indigenous people relate with the world (Escobar, 2014). Again, a major challenge for integration with modern science.

But it does not stop there. In the world of Latin American indigenous people, “everything speaks.” As a consequence, the existence of a Subject-Object relationship is rejected. In this context, Carlos Lenkersdorf arrived at the concept of a subject-to-subject cosmovision where all is created and understood intersubjectively, through communicative action. This includes not only human beings, as in the writing of Habermas, but equally includes plants, animals, rivers, mountains, the moon, and more (Lenkersdorf, 1997). This has major implications for the way to “do research” and enter in a joint inter- or transdisciplinary project.

In terms of “methodology,” as such an “out-of-context” term when talking about Latin American indigenous epistemology, there equally are fundamental differences. As everything is speaking (and feeling), communication

and connection is central, in verbal as well as non-verbal terms, such as through rituals and ceremonies, using signs and symbols. And as all is having a sacred dimension, respect, empathy, and affection is fundamental in all forms of “speaking” and “listening.” In terms of verbal communication, mainly restricted to human interaction, so-called “dialogues of knowing” are common, meetings in which all can speak uninterrupted, taking as much time as needed. In terms of non-verbal communication with non-human beings and the cosmos as a whole, rituals and ceremonies come into play. Those usually include the use of elements as water, soil, fire and air, which are carefully situated in a (sacred) space, together with fruits and seeds or plants as offerings.

### *Epistemological Injustice and Resistance*

Can such a fundamentally different way of being and knowing be combined, let alone, be integrated with (or in) a modern (scientific) concept as for instance sustainable development? As a movement, Buen Vivir started with a search for an equivalent of sustainable development in terms of indigenous languages and ways of living, and resulted in suggestions for several words as possible approximations of sustainable development. As a common denominator, the Spanish term “Buen Vivir” was chosen, with as possible interpretations: our way of being, of living, in plenitude, in excellence, in fullness, together, or simply “Good Living” (Gudynas, 2011). Buen Vivir was a response to experienced endogenous hermeneutical epistemic injustice, in the form of constructive resistance.

However, as Raúl Prada, former vice-minister of Strategic Planning of Bolivia, writes, it became clear that all of these terms represent a perception that is wholly different from, and rather opposite to, the Western concept of progress (Prada, 2013). There is no equivalent in indigenous languages to development, and imposing the concept of sustainable development on the continent, and the indigenous people in particular, is nothing less than a form of green neo-colonialism (cf. Dorn, 2022). The academic world responded in various ways.

First of all, various scholars started to characterize Buen Vivir in terms of established sociological and philosophical concepts, such as socialism, ecologism, complexity thinking and epistemology of the south (Díaz-Muñoz, 2024). The intention here as well was to resist the acceptance of the concept of sustainable development by means of building an epistemological bridge to an alternative approach. What almost all did however was “capturing” the phenomenon with Western concepts that are not suitable at all. In other words, they were doing “hermeneutical injustice” to Buen Vivir, because they were lacking a suitable collective hermeneutical framework (and language) to interpret the phenomenon, leading towards epistemic injustice. Gudynas (2011) is very well aware of that, and writes that it is difficult “getting out of

the shadow of a coloniality of knowledge and the imitation into which we fall by always looking towards that global North” (p. 94).<sup>1</sup> This kind of coloniality is very common in Latin America and complicates indeed getting out of the shadow of coloniality (Dieleman, 2022).

Javier Medina, a well-known Peruvian intellectual who worked most of his life in Colombia and contributed in many publications to the development of Buen Vivir, introduced in this context a new philosophy that he labeled “biosophy.” This complements the, in his words, mere “thinking dimension” of European philosophy (Medina Dávila, 2017). Medina Dávila (2017) writes, “the world is no longer an opaque mass of arbitrarily heaped or arbitrarily piled objects, but is a living, articulated and meaningful cosmos” (p. 118).<sup>2</sup> It is again a form of constructive resistance, even though some elements of undermining modern science entered in Medina’s work. He emphasizes that,

If the peoples of the South have not been able to do philosophy, it is something that, instead of being ashamed or embarrassing us, should rather make us rejoice: it means that something has effectively prevented us from dehumanizing ourselves by reducing us to the thinking dimension alone: something rather sad, to tell the truth. (Estado Plurinacional de Bolivia, 2023, p. 62)

While there is mainly constructive epistemic resistance in Latin America in academic circles and in NGO’s, the Western world responded in a rather different way. Dorine van Norren’s PhD study tried to answer the question if Buen Vivir could contribute to the realization of the UN sustainable development goals (SDGs). The short answer resulting from her research is that it cannot, mainly due to epistemological numbness and political power relationships. She analyzed negotiations between the UN and in particular Ecuador that, together with Bolivia, integrated Buen Vivir in its constitution. An important hurdle to overcome in those negotiations was the fact that the SDGs are totally formulated in Western terminology using modern science-based epistemology (van Norren, 2017, p. 310). Even after lengthy negotiations (more than one year), “this did hardly result in indigenous terminology being recognized explicitly” (van Norren, 2017, p. 306). The response (i.e., the epistemic resistance) from the side of Ecuador was a withdrawal. The Ecuadorian representatives challenged the dominant epistemology, expressed dissent and even entered into dialogue but finally, as nothing seemed to work to get their vision recognized, withdrew from the negotiations altogether.

José Guillermo Díaz-Muñoz (2024) proposed a model for the trans-disciplinary study of Buen Vivir, and organized, in between 2014 and 2019, various meetings with representatives of Mexican indigenous communities and NGOs, to ask them about their willingness to collaborate. The outcome

1 Quote translated by co-author Dieleman

2 Quote translated by co-author Dieleman

of the meetings indicates a willingness to collaborate, as it is recognized that modern scientific knowledge has its merits. The conditions for collaborating however were clearly marked. An obligatory first step, prior to collaboration, would be engaging in an “inter-cultural dialogue” to value native indigenous knowledge and wisdom. Such a dialogue could set the stage for what they call an “inter-scientific dialogue” between the ontology, epistemology and methodology of both worldviews. This would preferably lead to a “permanent process of social learning between the academy of modern science and the wisdom of the original indigenous peoples” (Díaz-Muñoz, 2024, p. 36).

This sounds promising yet they continued presenting several non-negotiable conditions as well, like the requirement that each research project should include a dialogical perspective, searching for both complementarity and contradictory findings to the initial research outcomes. This opens a path of a spiral-wise deepening of insights yet requires much more time and effort in a somewhat open-ended process: a major challenge as modern scientific research is firmly conditioned in terms of time, financial resources and more and more in terms of narrowly defined research outcomes. Moreover, they hold on, quite explicitly, to the assumption that their main learning comes from their own experiences. Research outcomes certainly don’t have the status as they often have in the Western world, as being superior to experiential knowledge.

## 6. Dialogue and Imagination: Responses to Injustice and Resistance

Is it possible to avoid epistemic injustice, or diminish it, and when epistemic resistance presents itself, channel it in constructive directions? What strategies are available, and are these equally applicable in case of endogenous or exogenous epistemic resistance respectively? Above in section 3, we referred to the occurrence in such cases of “epistemic challenging” as “expressing dissent while leaving a constructive dialogue open.” Associated with such challenging is the assumption of epistemic pluralism: multiple perspectives—which includes theories and methods, but also problem definitions or aims—are available on any epistemic project requiring integration.

In order to develop a genuinely constructive strategy in response to epistemic challenging, researchers must be able and willing to critically reflect upon their own cognitive processes and assumptions, in other words to meta-cognize (Keestra, 2024) which includes reflecting on their inner self and implicitly used assumptions (Dieleman, 2015). An important result of this should be that researchers are prepared to obtain an attitude of epistemic humility and openness. Purposefully leaving a position of authority and power, both in the case of endogenous and exogenous epistemic injustice, when researchers

experience this attitude of cultural and epistemic humility they may recognize that other epistemic perspectives and alternative sets of norms and values can equally bear on an epistemic project (Chapman & Carel, 2022; Lopez et al., 2022). Consequently, they might be open to other—epistemic and axiological—perspectives and prepared to consider their merit and implications. For including these perspectives there are several strategies available of which we'll mention two main ones: dialogue and imagination.

A first strategy to be recommended is dialogue, consisting of interpersonal and reciprocal exchanges in which both—of more—participants aim to reach mutual understanding. As such, dialogue differs from debate or discussion in which participants aim to convince each other with arguments. Clearly, once epistemic injustices occur, they will continue to have an impact upon such competitive exchanges. With testimonial injustice implying lack of credibility due to prejudices and biases, a dialogue method developed to address epistemological, metaphysical, and ethical assumptions in interdisciplinary collaborations can support overcoming this injustice (Gonnerman et al., 2020). Indeed, interdisciplinary thinking generally has been compared to dialogical exchanges, which might lead to the “complexification” of a particular perspective or to “hybridization,” development of a hybrid, third perspective from two given perspectives (Nikitina, 2005).

However, when hermeneutical injustice is at stake as in our “Buen Vivir” case study, another more open and personal form of dialogue is necessary as a method to mitigate hermeneutical marginalization of a particular perspective. One of us has developed a specific dialogue method which, although it initially was employed to support post-slavery racial reconciliation, has been applied in many other contexts including educational and research contexts (Keestra et al., 2025). The humility and openness required for such personal dialogue should lead to participants adopting a certain “*epoché*”—abstaining not just from a specific methodological approach but more generally postponing the determination and judging of one or more relevant perspectives on the project at stake (cf. Haapasaari et al., 2012). Indeed, by engaging in a bidirectional attempt to express oneself and mutually understand each other while empathizing with a different perspective, such personal dialogue can support both participants in their understanding of each other and of themselves alike and provide both with novel hermeneutical resources (cf. Keestra, 2020). In the case of autism research, for example, mutually respectful dialogue between researchers and autistic persons and their allies is presented as a method to include the latter as research collaborators and not just as subjects (Pellicano et al., 2017).

A second strategy in response to epistemic challenges to be highlighted here is joint imagination. Writing about epistemic resistance, Medina emphasizes that epistemic interaction not only involves sharing resources and experiences but also imaginations. Indeed, through imagination we can develop—or

instead numb—sensitivities to others’ perspectives and experiences, while implicating our own positionality and relationality as well.

The imagination is an exercise in perspective-taking, a way of inhabiting spaces and relating to others that connects up with our actual world, establishing a bridge between our world and other possible ones that we may not want to build, for the traffic of this bridge can be problematic in both directions. (Medina, 2013, p. 255)

In a number of publications, Dieleman proposed to work in “spaces of experimentation and imagination,” spaces that invite to explore a problem or situation in various ways simultaneously, such as through analysis, exchanging life experiences, introspection, or mentally constructing alternative realities (Dieleman, 2012, 2022; Dieleman et al., 2017). This is inspired by Donald Schön’s (1983) idea of creating so-called “generative metaphors” as an active way to frame and reframe—visualize—situations. Discovering new metaphors generate new perceptions and explanations while such discovery is not an act of abstract conceptualization, but implies being in contact with, reflecting on and experiencing a problem or situation. They invite to experience puzzlement, surprise and confusion and they seek to transcend existing boundaries. Engaging in this way in problematic situations is establishing a relationship with them and to frame them, as well as to frame oneself in relation to that situation. Imagination represents a form of embodied knowledge that should be considered as critical of, or complementary to, scientific knowledge while providing an experience of open and pluriform reality (Dieleman, 2017). Indeed, rejecting the dichotomy between rationality (science) and imagination (arts), Klein and Parncutt (2010) plead for the integration of both in inter- and transdisciplinary projects. In such projects, imagination can help participants to jointly develop affective and embodied experiences of future possibilities (Keestra, 2019).

## 7. Conclusion: Relevance to Philosophy of ID/TD and Future Developments

How does our recommendation to engage with dialogue and imagination as ways to mitigate the epistemic injustices and resistance that are not uncommon in ITD research relate to the critique of the “imperative of integration” with which we started our argument (Dovers, 2005)? Are dialogue and imagination meant as alternatives to developing integrated insights that are considered the litmus test for ITD? Or are we instead considering dialogue and imagination as ways that may eventually lead to the desired integration, ways that help to overcome or even silence the resistance exerted by the autistic communities or the groups involved in the Buen Vivir case study? If so, would

that mean that dialogue and imagination are expected to contribute to an instrumentalist approach to ITD as opposed to a more critical-reflexive stance, as distinguished by Schmidt (2022)?

We believe that such giving in to an instrumentalist approach is not the implication of our argument. Indeed, just as Schmidt argues that these two stances—instrumentalist and critical-reflexive—do not exclude each other, so do we believe that dialogue and imagination must not per se exclude the integration of resistant perspectives in ITD research. However, what we are insisting on when we recommend including dialogue and imagination in the ITD research process is an explicit interest in and attentive search for pluralism, coupled with an explicit strategy to search for or even create “epistemic friction”: resistance grounded in alternative and contestatory perspectives, counter-narratives and -practices and more (Medina, 2013). Researchers must keep in mind that the absence of participation of potential stakeholders does by no means imply that there is also an absence of valuable contributions they could make: Perhaps they don’t participate because they have no confidence in the impact of their perspective. In an optimal scenario, though, when epistemic friction and resistance has encouraged researchers to engage with all stakeholders in a practice of dialogue and/or imagination, this would lead to a reconceptualization of the entire project such that either full integration of perspectives occurs or that the project is no longer continued in its initial form. In both cases, the humility and openness defended above will have left an imprint on the project.

In addition, our argument has also shown the importance of acknowledging that ITD projects are always influenced by elements that appear at first difficult to integrate in an epistemic project: embodied experiences, emotions, power differences, socio-cultural and individual norms and interests, historically grown social relations and relations to the environment, and so on. Yet what our case studies have shown is that perhaps unwillingly such elements do often play a role in an implicit and therefore harmful way. Their denial or outright rejection as acceptable dimensions of ITD collaboration is what in many cases constitutes epistemic injustice and subsequently provokes the epistemic resistance we’ve described. A more critical-reflexive inter- and transdisciplinarity should therefore seek to provide adequate space to these “strange” elements—not merely to keep an ITD project alive but more pertinently for it to yield results that are socially robust and can eventually have an impact (cf. Nowotny et al., 2001).

Hence, we make this appeal to ITD scholars to intentionally and explicitly look for epistemic friction, to scrutinize potential occurrences of endogenous and/or exogenous epistemic injustice as consequences of their project for both epistemic and moral reasons. Remember that we’ve argued for epistemic openness and humility as virtues that may help to avoid the risk of testimonial and hermeneutical injustice: Instead of denigrating an extra-academic perspective

or not providing the hermeneutic resources necessary to understand such a testimony, researchers should engage in metacognitive and reflective practices that help to modestly contextualize their own perspectives. Including the recently formulated Inner Development Goals—like self-awareness, humility, empathy, co-creation skills and courage—in the education and tasks of scholars may contribute to this task (Ankrah et al., 2023). This implies that researchers should develop a set of knowledge, skills and dispositions that is so far uncommon to what most scholars have acquired and are expected to apply.

## Biographical Notes

**Machiel Keestra**, PhD, is appointed as the University of Amsterdam's Central Diversity Officer and is philosopher at its Institute for Interdisciplinary Studies. He has published on a.o. tragedy, the history and philosophy of science, interdisciplinarity and transdisciplinarity, cognitive neuroscience, diversity and inclusion, dialogue and narrative identity. Keestra, Uilhoorn and Zandveld's textbook, *An Introduction to Interdisciplinary Research: Theory and Practice*, appeared in 2022 with Amsterdam University Press. Keestra has since 2010 been board member and past-president (2014–2016) of the international Association for Interdisciplinary Studies, was founding board member of the global Interdisciplinary and Transdisciplinary Alliance (2017–2023). He is editorial board member of *Issues in Interdisciplinary Studies*. Keestra co-founded the Ketu Ketu Table, a personal dialogue method to reflect on the shared history of slavery and its legacy in racism, discrimination and prejudices. With over 42,000 participants in the Netherlands and abroad, the Ketu Ketu Table has joined UNESCO's Collective Healing Advisory Board in 2024. He may be reached at [m.keestra@uva.nl](mailto:m.keestra@uva.nl); homepage is <https://www.uva.nl/en/profile/k/e/m.keestra/m.keestra.html>.

**Hans Dieleman**, PhD, of Dutch/Flemish origin, has a doctoral degree in social sciences from the Erasmus University in Rotterdam, the Netherlands, and works as a full professor in the Autonomous University of Mexico City (UACM). He is a fellow of the Texas-based Academy of Transdisciplinary Learning and Advanced Studies and of the Mexican interuniversity research network RENISCE for the study of Emotions and Affects from the Social Sciences and Humanities. He is a member of the advisory board of the transdisciplinary *Journal of Engineering & Science* (TJES). His research themes center on sustainability, education, art, transdisciplinarity, and embodied cognition. He may be reached at [hansdieleman@gmail.com](mailto:hansdieleman@gmail.com) and [johannes.dieleman@uacm.edu.mx](mailto:johannes.dieleman@uacm.edu.mx).

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