Paradoxes of Transformative Social Innovation: From Critical Awareness towards Strategies of Inquiry[1]

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ABSTRACT

Society is transforming through a whirlpool of innovations. This includes technological as well as social innovations, i.e. changes in social relations involving new ways of doing, organizing, framing and knowing. Especially the potentials for *transformative* social innovation (TSI) are gaining the interest of progressive political actors and critical scholars. Occurring in the form of new modes of governance and alternative ways of working and living together, TSI involves the challenging, altering or replacing of dominant institutions. As documented in various strands of critical social inquiry and innovation research, TSI praxis is pervaded with contradictions, anomalies and paradoxes. This methodological contribution addresses the challenge that tends to remain: How to elaborate this general critical awareness into more operational 'strategies of inquiry'? The paper discusses paradoxes of a) system reproduction, b) temporality, and c) reality construction. Identifying distinct kinds of contradictions and distinct empirical phenomena, this differentiation also calls attention to the associated differences between realist, processual and constructivist research philosophies. Gathering the empirical analyses, theoretical interpretations and methodological advances that have been made on these paradoxes, this contribution opens up the scope for critical and practically relevant innovation research: It is important to bridge the divide between rigorous but sterile methodological know-how, and critical-reflexive theorizing that lacks operational insights.

Keywords: Social Innovation; Societal Transformation; Paradoxes; Critical Analysis; Methodology.

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INTRODUCTION: TRANSFORMATIVE SOCIAL INNOVATION – NARRATIVES, CRITIQUES AND PARADOXES

Society is transforming through a whirlpool of innovations. This involves technological innovations such as renewable energy systems, artificial intelligence and nanotechnology, but a wide array of social innovations is developing as well. Social innovations are innovations in social relations, involving new ways of doing, organizing, framing and knowing (Avelino *et al.*, 2019; Pel *et al.*, 2020). They include a wide variety of attempts to change the prevailing ways of living and working together. Examples of such socially innovative practices and governance arrangements include Participatory Budgeting, Ecovillages, Timebanks, social entrepreneurship, Slow Food, and the various movements towards commons-based consumption, Degrowth, circular economy, and solidarity-based economy.

There is much interest from both policy and research for social innovation that is somehow *transformative* – supporting shifts towards more sustainable societies (Haxeltine *et al.*, 2017) or more sustainable and just energy systems (Hiteva & Sovacool, 2017; Mikkonen *et al.*, 2020). Such transformative social innovation (TSI; cf. section 1) is often juxtaposed against incremental innovations through which society is merely maintained (Klein *et al.*, 2016; Moulaert *et al.*, 2017; Westley *et al.*, 2017; Avelino *et al.*, 2019). Moulaert and MacCallum (2019) similarly distinguish between conventional and counterhegemonic SI. This quest for counterhegemonic, transformative social innovation has a long tradition. Even if not approached under that particular header, transformative social innovation can be considered a shared research area for scholarship on (amongst others) real utopias (Wright, 2010), diverse economies (North, 2014), grassroots innovation (Seyfang & Smith, 2007), degrowth (Pansera & Fressoli, 2021), social movements (Monticelli, 2018), social economy (Moulaert & Ailenei, 2005), sociology of work (Ferreras *et al.*, 2022) and social enterprise research (Steyaert & Dey, 2010).

As we will argue, there are compelling reasons to draw a line between 'transformative' and regular, incremental social innovation – *but where, and how?* The praxis of attempts towards TSI is pervaded with tensions, contradictions and paradoxes. Critical perspectives on social innovation have pointed out the dramatic discrepancies that often exist between narratives of transformation on the one hand, and their transformative impacts on the other hand (Shin & Yeong, 2019; Teasdale *et al.*, 2020). Critical analyses have also deconstructed many of the narratives of empowerment accompanying emblematic TSI examples such as microcredit (Khan *et al.*, 2007), participative beyond-the-state governance (Swyngedouw, 2005), social enterprise (Bull *et al.*, 2018), or energy prosumerism (Lennon *et al.*, 2020). TSI

narratives may often take explicit distance from statist visions of transformations (Wittmayer *et al.*, 2019), but the aforementioned critiques show how also these less grand transformative visions – paraphrasing Scott (1998) – are vulnerable to failure and undesirable consequences. TSI research is thus pervaded with observations of *paradoxes*: Social innovation is both a buzz-word *as well as* an imaginary with real implications and distinct 'hype' dynamics (Schubert, 2018; Grimes, 2021). Attempts towards TSI need to be radical enough to have transformative impact, but also incremental enough to remain acceptable (Smith, 2007; Dey & Teasdale, 2016). Social innovations may often be attempts to restore practices existing earlier and elsewhere (Shove, 2012; Ziegler, 2017), but simultaneously they may acquire a certain innovative significance (Pel & Kemp, 2020). Westley *et al.* (2017) explained well why such paradoxes are rather inherent to TSI phenomena: Attempts at change in institutional structures often seek to reconcile fundamental conflicts of values – between the protection and the public disclosure of natural areas, for example.

This paper aims to make a methodological contribution. It argues for a critical perspective that acknowledges these paradoxes as inherent and practically vital aspects of TSI phenomena. This sensitivity to paradox follows seminal works in organization theory (Morgan, 1997), institutional theory (Poole & van de Ven, 1997) and social theory (Luhmann, 1995). Yet in line with Andriopoulos & Gotsi (2017), we stress the need for more operational understandings, i.e., for empirically detailed and methodologically well-considered engagements with these paradoxes. Conventional innovation scholarship provides abundant and well-established methodological repertoires. Yet however rigorous they may be, these methods also tend to be rather sterile, i.e. insensitive to the paradoxical aspects of innovation phenomena (Godin & Vinck, 2017). By contrast, critical scholarship on issues of innovation and transformation does have a strong antenna for TSI paradoxes, but this relies heavily on conceptual work: The engagement with TSI paradoxes could do with some more empirical concreteness, and some more methodological elaboration in terms of (easily understandable and applicable) strategies of inquiry. Aiming to advance the critical awareness in this direction of methodological specifics, this contribution is guided by the following research question: *Which kinds of TSI paradoxes can be distinguished, and which strategies of inquiry could help to grasp, analyze and communicate about these paradoxical phenomena?*

The paper is structured as follows. First, we specify what TSI is, clarifying how TSI paradoxes form crucial areas for critical innovation research **(section 1)**. We distinguish three kinds of paradoxes. Indicating distinct kinds of contradictions and distinct empirical phenomena, this tripartite distinction also calls attention to the associated differences between realist, processual and constructivist research philosophies **(section 2)**. Next, we discuss these three key TSI paradoxes in more

detail. We explain what is paradoxical about them, how they manifest empirically, and through which strategies of inquiry they can be grasped. We discuss paradoxes pertaining to system reproduction **(section 3)**, temporality **(section 4)** and reality construction **(section 5)**. The concluding section wraps up the main answers to our research questions. It shows how critical social innovation research can rely on various methodological advances, within and beyond innovation studies **(conclusion)**.

1. TRANSFORMATIVE SOCIAL INNOVATION PARADOXES

1.1. Transformative Social Innovation: Reclaiming social innovation

Somewhat in the shadow of technological innovations, a wide array of social innovations is developing as well: Participatory Budgeting, Ecovillages, Timebanks, social entrepreneurship, Slow Food, ethical banks, and the various movements towards commons-based consumption, Degrowth, circular economy and solidarity-based economy are just a few examples. Acknowledging a broad range of socially innovative practices (Jaeger-Erben *et al.*, 2015), we define social innovation (SI) as innovations in social relations, involving new ways of doing, organizing, framing and knowing (Avelino *et al.*, 2019; Pel *et al.*, 2020). This parsimonious conceptualization avoids teleological assumptions of necessarily benign and 'social' effects (Cajaiba-Santana, 2014), the particular form of 'pro-innovation bias' (Godin & Vinck, 2017) that pervades SI discourse. Rather than proposing some kind of neutral SI understanding, however, this definition calls attention to the multitude of possible SI interpretations. The main bone of contention is the 'transformative' significance of social innovation.

As indicated in the inaugural article of this journal, SI is one of the oldest of the so-called 'X-innovations' (Gaglio *et al.*, 2019, p. 8). It is an appropriation of the innovation imaginary that historically has been ventured mostly by social reformers. Often juxtaposed against imaginaries of technological innovation and innovative *products*, SI is tied strongly to the socialist project of emancipation – it seeks innovation that truly empowers individuals. The resurrection of social innovation (SI) in the last decades has retained much of this emancipation spirit. Promoted as alternative solutions to meet 'grand societal challenges' (European Commission, 2011), the social innovation imaginary has institutionalized into social policies and research programs. In the process, it has gained traction as an instrument for social change (Moulaert *et al.*, 2017). Considered as a means to achieving societal ends (Schubert, 2018; Wittmayer *et al.*, 2020), SI has also been taken well beyond the original core issues of social equity, inclusion and socio-economic justice. Mobilized for 'grand societal challenges', it has also been deployed for issues of sustainable development, democratization, and digitalization.

The institutionalization of SI has come with a certain dilution of its commitments to empowerment. The same trend has been observed regarding social entrepreneurship (Dey & Steyaert, 2012). The instrumentalist appropriations of SI have in turn evoked attempts to resuscitate its transformative contents. Stretching the SI concept into a 'Swiss army knife of social problems', one can ask what is *not* social innovation (Solis-Navarrete *et al.*, 2021). Apart from the observations on analytical dilution, there have been fierce critiques of the associated normative void: the neoliberal appropriation of the concept has arguably created a managerial breed of SI approaches (Jessop *et al.*, 2013; Klein *et al.*, 2016; Moulaert *et al.*, 2017). Taking distance from incremental problem-solving, critical scholars have thus stressed that SI should not be reduced to marginal patches ('caring liberalism'), or to isolate projects to alleviate social problems (Moulaert & Maccallum, 2019). Instead, it should be taken seriously as a program of empowerment (Avelino *et al.*, 2019) and radical societal transformation (Moulaert *et al.*, 2017).

The above critiques have initiated a discourse on *transformative* social innovation (Klein *et al.*, 2016; Haxeltine *et al.*, 2017). This prefix reclaims social innovation as a counterhegemonic, transformative concept. TSI has been defined as the process through which SI challenges, alters or replaces dominant institutions (Pel *et al.*, 2020). Unger (2015) and Westley (2017) similarly underline the SI potentials for 'double-loop' learning and institutional transformation. Similar to the approaches of 'real utopias' (Wright, 2010) and 'working utopias' (Crossley, 1999), TSI rests on the 'prefiguration' (Monticelli *et al.,* 2018; Wittmayer *et al.*, 2022) of alternative social relations and institutional arrangements. The key objective is to unleash broader institutional changes. Social enterprises, for example, can be evaluated in terms of individuals empowered, community needs catered for, and societal added value provided. Seeking to radicalize the idea of the social economy, advocates of the social solidarity economy (SSE) (Laville, 2014; Ridley-Duff & Bull, 2021), have underlined the broader transformative potentials of social enterprises, however: their pioneering role in the demonstration of alternative modes of production, democracy at the workplace and sustainable business models, and alternative *institutional arrangements*. TSI can be considered the SSE equivalent for social innovation: It reclaims and radicalizes the SI concept.

1.2. TSI paradoxes and critical innovation research

The SI/TSI distinction is not as clear-cut as these juxtaposed acronyms suggest. There are good reasons to draw a line between them, yet empirically it is seldom obvious whether social actors are doing TSI, or 'just' regular SI. There are many shades of grey between *de forma* social enterprises, and enterprises that *de facto* pursue ideals of social and solidarity-based economy (Bull *et al.*, 2018; Dey & Teasdale, 2015).

Alternative food networks come with certain *promises* of being alternative (le Velly, 2019). SI initiatives can *become* transformative, to *some* extent, on certain *dimensions*. As usual this depends on strategies, resources, and conditioning factors (Westley *et al.*, 2017; Pel *et al.*, 2020). Meanwhile, language plays tricks on us: the discrepancies between transformation narratives and concrete transformation processes are often obscured by evasive innovation lingo (Teasdale *et al.*, 2020; Westman & Castán Broto, 2022).

The above examples show how TSI is pervaded with tensions, contradictions and paradoxes. We follow Westley *et al.* (2017) and Swyngedouw (2005) in emphasizing the paradoxical character of TSI phenomena. The latter called attention to the Janus-Face of social innovation activities: on the one hand the face of counterhegemonic impulses and apparent TSI, and on the other hand the face of quite conventional, incremental SI. For almost any empirical example of apparent TSI, there is a quite system-confirming counterpart: consider the two faces of the 'maker movement', comprising both the radical innovation democracy of the Hackerspaces as well as the plain celebration of making products. Regarding the Slow Food movement, one could consider the two faces of food sovereignty and gastronomic fetishism. And indeed, how does the transformative face of the Ashoka 'changemakers' fit with their apparent resignation into the neoliberal imperatives of adaptiveness, self-realization and incessant innovation (Teasdale *et al.*, 2020)? Such paradoxes of two-faced SI/TSI are pervasive, as we will substantiate further in sections 3-5.

These SI/TSI Janus-faces, are they really paradoxes? Indeed, some of the observed tensions, anomalies and contradictions may not qualify as paradoxes in terms of formal logic. On the other hand, they are paradoxical in the dictionary sense of a 'statement that is seemingly self-contradictory or opposed to common sense and yet is perhaps true'. Furthermore, one can consider how (T)SI practitioners appear to *experience* their activities as paradoxical: examples are the social enterprises strategically mimicking the innovation discourse that gets them funded (Dey & Teasdale, 2016), or the Basic Income experimenters acknowledging their crowdfunding initiative to be a 'gimmick' (Pel & Backhaus, 2020). Yet ultimately our sensitivity to paradox is a matter of interpretation. To us it is a principled choice for an *explorative* mode of critical innovation research: critique should not remain limited to demystification and unmasking, or to deconstruction that forgets about *re*construction (Avelino & Grin 2017). Various critiques have exposed the plain, system-confirming SI that often hides behind alleged TSI. Unfortunately, many of these critiques take the form of 'I see something you don't see' (Luhmann & Rasch, 2002), i.e. of unveiling power structures supposedly overlooked by SI practitioners themselves. However, many SI practitioners – consciously and overtly – seek to leverage the forces of 'neoliberalism' and innovation society. Seeking to show the 'real face' of a certain

social innovation, the critique then remains caught up in naïve, essentialist views on social reality. The long, checkered genealogy of appropriations has shown it already (section 2.1): SI cannot be unequivocally either 'transformative' or 'incremental'.

Different from the 'unmasking' modes of critique, we propose an explorative line of critical innovation research. Rather than seeking to expose false representations and 'capture' of innovations, we seek to engage with the concrete contradictions, anomalies, and paradoxes of innovation that tend to be ironed out in ideological representations of it (Godin & Vinck, 2017). This sensitivity to paradoxes is in line with the anti-essentialist modes of critique of Adorno's (1966) negative dialectics and the genealogical deconstructions of Foucault (Kelly 1996): the double face is considered as the true face, and the task is to articulate its contradictions.

2. FROM CRITIQUE TO STRATEGIES OF INQUIRY: 3 KINDS OF TSI PARADOXES

The sensitivity to TSI paradoxes is growing. Apart from the recent moves towards critical innovation research (Gaglio *et al.*, 2019), innovation is becoming a prominent area of Social Science and Humanities research (Moulaert *et al.*, 2017; Ingeborgrud *et al.*, 2020). Yet this critical awareness of paradoxes is not enough. To take critical innovation scholarship beyond deconstruction and unmasking, explorative modes of critical analysis are needed (section 1.2). This implies a reconstructive, empirically concrete engagement with paradoxes. Such empirical engagement could disclose the potentialities that reside in ambiguous SI realities (Anderson, 2006), and it could yield instructive lessons on the practical handling of paradoxes: Stirling (2016), for example, calls attention to the 'judo' that SI protagonists play with the forces that dominate them.

Seeking more operational understandings of TSI paradoxes, the critical-philosophical awareness needs to be complemented with social science, and with dedicated methodology (Andriopoulos & Gotsi, 2017). This step is notoriously difficult to take. Alvesson and Sköldberg (2017, p.12) point out a persistent gap between methodological reflections on the one hand, and on the other hand the operational considerations of data gathering methods and research practice. It is for example easy to agree that the methodological repertoires of conventional innovation scholarship are systematic and rigorous, yet rather sterile in the face of the paradoxical aspects of innovation phenomena (Godin & Vinck, 2017). As indicated earlier by Poole and van der Ven (1989), straightforward roadmaps, phase models and heuristics tend to obscure the nuances and paradoxes of innovation practice. Haxeltine *et al.* (2017) similarly identify methodological pitfalls and negligence of TSI paradoxes, yet they

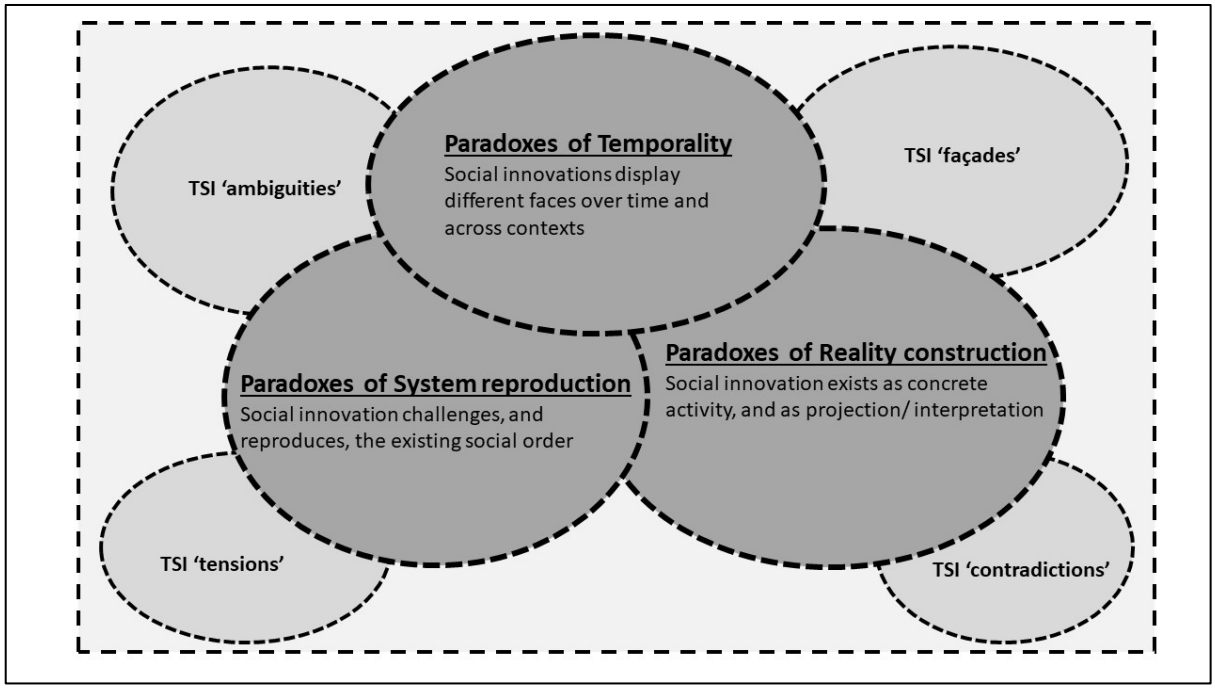
also show the challenge to elaborate methodological approaches through which to grasp them empirically. Seeking to bridge this operationalization gap, this paper elaborates the critical awareness of TSI paradoxes into appropriate *strategies of inquiry* (SoI). SoI are comprehensive methodological approaches that integrate considerations of ontology, epistemology and research methods. Other than methods in the narrow sense of data gathering techniques and analytical procedures, they are methodologies in the broad reflexive sense: they also comprise ontological and epistemological considerations of research philosophy (Ulrich, 2003; Alvesson & Sköldberg, 2017). Importantly, such SoI reach beyond the tacit 'Fingerspitzengefühl' of the seasoned researcher: TSI research needs explicit, codified investigation repertoires that can be applied across research contexts.

An important first step towards such SoI is to distinguish between different kinds of paradoxes. Elements of somehow paradox-sensitive strategies of inquiry can be found across the social sciences. Yet it is crucial to order this mixed bag, and to combine the many pockets of insights and methodological advances into a more coherent repertoire of SoI. As we will discuss further in sections 3-5, we have started our methodological reflections from our own case studies. Reflecting upon our empirical encounters with TSI paradoxes and reviewing similar studies, it became apparent that the various Janus-faced SI phenomena are not always labeled and treated as TSI *paradoxes*. Various scholarly traditions rather speak of 'tensions', 'contradictions', 'ambiguities'. In our own case study descriptions we often stuck to matter-of-fact descriptions of empirical phenomena 'with two faces'. Meanwhile, certain modes of critical analysis prefer to speak of 'false representations' and 'facades' (section 1.2). Most importantly, we observed that analyses in terms of 'paradoxes' are not always referring to the *same kinds* of paradoxes.

Along the lines of the seminal Poole and van der Ven (1989), we could distinguish how studies have approached TSI paradoxes in terms of 1) opposition; 2) spatial separation; 3) temporal separation or 4) synthesis. Seeking to mobilize methodological advances from a broad range of TSI-related disciplines, such rigorous approach seemed overly restrictive, however. Our classification stays closer to the observed variety of conceptualizations, approaches and empirical cases. **Figure 1** provides an analytical canvas that covers a wide range of 'paradoxes', 'contradictions' and 'tensions'. It shows three kinds of paradoxes as fairly distinct, yet fuzzy-demarcated and partly overlapping spheres. Other than trying to be logically exhaustive or to propose analytically foundational categories, we have taken a more inductive approach: the tripartite distinction reflects first and foremost our aim to capture the variety of TSI Janus-faces that we have encountered in our own research. Importantly, these categories are also covering a large portion of the TSI paradoxes frequently reported in TSI research. Beyond these basic considerations of salience

and coverage, our clustering does indicate certain more fundamental distinctions. As will be elaborated in the next sections, the paradoxes do indicate quite distinct kinds of contradictions. The distinguished kinds are prominent in particular disciplines and strands of research, and they bear the imprints of different research philosophies and epistemological/ontological assumptions. One can consider for example how the paradoxes of system reproduction revolve around the substantive and politically urgent contradictions between the transformative and system-reproductive effects of certain social innovations. By contrast, the paradoxes of temporality tend to be highlighted in relational, processual modes of inquiry: Various analyses have unfolded TSI paradoxes less as absolute contradictions, but rather as ambiguities and 'double faces' manifesting *across time*. Meanwhile, the paradoxes of reality construction are indicating contradictions that – unlike the first two – refer only indirectly to empirical states of affairs. Indicating contradictions resulting from observation, interpretation and performativity, this kind of paradoxes is quite clearly reflecting constructivist philosophies of science.

Fig. 1: Three kinds of TSI paradoxes



Source: own elaboration (Pel *et al.*, 2022).

The linkages between particular kinds of paradoxes and particular research philosophies will become more apparent in the following three sections. For each of the three kinds of paradoxes we provide a brief description, some empirical examples, and (elements of) appropriate strategies of inquiry.

3. TSI PARADOXES (I): TRANSFORMATION AS SYSTEM REPRODUCTION

A first kind of paradox encountered frequently in TSI research is the paradox famously described in De Lampedusa's 'il Gattopardo': "Everything has to change, so that everything can remain the same." Innovation has indeed long been associated with renewal, and with the maintenance rather than transformation of societal structures (Godin & Vinck, 2017). The system reproduction paradox in its basic form indicates the contradictory two faces of many social innovations: one face of transformation and counterhegemonic agency, and the other face of working within, and reproducing, the customs and formal structures of the existing social order. It is therefore not easy to distinguish TSI from regular SI (section 1.1).

Observations of this reproduction paradoxes abound in TSI research. Despite being revolutionized through a multitude of more or less transformative innovations and structural changes, society remains very familiar and stable. TSI scholarship has brought forward many observations on the '10 square miles surrounded by reality' that innovation initiatives tend to be confined to (North, 2010), on the isomorphic pressures that push social enterprises back into profit-seeking (Dey & Teasdale, 2016), on the reproduction of power asymmetries through participative governance arrangements (Swyngedouw, 2005), and on the tendencies of 'smart' technological solutions to reinforce technological path dependency (Grin *et al.*, 2010). The mainstreaming of eco-communities in e.g. eco-city projects has been criticized for a *"dilution of the original ideas and concepts (with emphasis on social justice, civic empowerment and local democracy), which do not appear to feature largely in many current projects, and the prevalence of mainly technocratic approaches"* (Joss, 2011, p. 246). While participatory budgeting is often celebrated as a case of social innovation with political and democratic potential, it has also been described as "watered down" in the "sustained export of a lite version of participatory budgeting by rather non-democratic and non-participatory institutions such as the World Bank" (Chavez, 2008).

A telling example in our own research experience is the Impact Hub network of social entrepreneurs. On the one hand, the Impact Hub can be argued to reproduce the 'enterprise society' and enforce the hegemonic dominance of the market logic at the macro-level (Avelino & Wittmayer, 2019). Others have argued that the case of the Impact Hub demonstrates how *"social entrepreneurship is used to forge links between ideological values which hitherto seemed incompatible (…) perhaps the most revealing example pertains to how the prospect of becoming a social entrepreneur conflates traditional notions of doing business with hedonistic values of enjoyment"* (Dey & Lehner,

2017, p. 764), and that *"the promise of enjoyment which pervades portrayals of the social entrepreneur might cultivate a passive attitude of empty 'pleasure' which effectively deprives social entrepreneurship of its more radical possibilities"* (*ibid.*, p. 753). On the other hand, we can also clearly observe how this network empowers small and independent upcoming social entrepreneurs to challenge, alter and possibly replace large incumbent enterprises by providing social entrepreneurs not only with co-working spaces and options for pooling resources and skills (Avelino & Wittmayer, 2019), but also with a strong shared identity and autonomous motivation (Avelino *et al.*, 2020). Furthermore, it has also been studied how the Impact Hub managed to transform a franchising process and respective business models, thereby navigating the mission drift tensions between commercial and social value relatively successfully, by developing decentralized decision-making and shared governance (Giudici *et al.*, 2020).

The reproduction paradox is clearly not a fringe phenomenon. There is an accordingly wide range of strategies of inquiry to consider. One line of strategies of inquiry to deal with this reproduction paradox are the dialectical approaches that take the paradox as the 'driver' of TSI processes. Key examples are provided in the set of case studies compared in Westley *et al.* (2017), who emphasize that TSI revolves around attempts to reconcile conflicting principles – for example between the disclosure and the protection of natural areas. Another example is le Velly (2019) on the evolution of alternative Food Networks. Likewise, there are the studies that start from the institutionally or ethically hybrid character of TSI. This is done for example through multi-criteria analyses, showing shifting emphases in the balancing of conflicting principles. There is a rich tradition of social enterprise research that handles TSI paradoxes through analyses of balances between institutional logics (Defourny & Nyssens, 2017). In this way it can be shown in more detail how TSI processes involve transformation and change on *some* dimensions, whilst largely reproducing existing practices in other aspects. In similar vein, TSI researchers have sought to specify *degrees* of transformation and *dimensions* of change – this similarly works towards statements specifying how transformation X is accompanied with, or possibly even facilitated by, reproduction of Y and Z.

A second strategy of inquiry is multi-perspective analysis. There is a myriad of studies that combine different theoretical perspectives to show different faces of TSI, and therewith, its respective transformative and reproductive sides. Empirical studies along this format are still rare, but there have been various conceptual advances. One example is Geels (2010), exposing how sustainability transitions can be understood through different ontologies. Highlighting how conceptualizations can be incommensurable with each other, this study also sheds light on reproduction paradoxes: a TSI process can be understood in terms of institutional change, and of

institutional stability. An empirically more concrete example is Novy & Leubolt (2005): the analysis shows how the institutionalization of Participatory Budgeting in Porto Alegre can be understood to have resulted from 'bottom-up' community action, but it can also be attributed to the institutional work of governmental actors. Even if focusing on the interactions between these two innovation activities, this analysis also unfolds that the TSI has two faces. In our own work (Avelino & Wittmayer, 2019) we used the Multi-Actor Power perspective. Its shows how TSI-initiatives challenge and change power relations in some aspects and at some levels, whilst reproducing them in others.

A third way of handling the paradox has been brought forward by the interpretive policy analysis (IPA) tradition, especially through critical discourse analysis (Hajer, 1995). These interpretive approaches start from the understanding that TSI realities are framed and shaped by the narratives constructed around them. Other than designating a self-evident phenomenon or corresponding with objective entities or processes, TSI and related innovation categories order and accord meaning to society and its governance (Fischer & Forrester, 1999). Alongside with the interpretive core business of eliciting how certain innovation attempts mean different things to different people, IPA analysis also confronts the difficulty that any description of an innovation process implies a debatable vantage point – leaning towards some actors' narratives of change (Wittmayer *et al.*, 2019) and rather alien to those of other involved parties. Critical discourse analysis (Howarth, 2010; Fairclough, 2013) is a branch of interpretive analysis that not only reconstructs but also critically scrutinizes what TSI narratives disclose and hide, confirm and negate. Key examples are Teasdale *et al.* (2020) who critically challenge the moral underpinnings and political choices (or rather lack thereof) of social innovation discourses on e.g the role of 'changemakers'. Another good example can be found in Westman & Castán Broto (2022, p. 1) who analyse discourses on urban transformations. They argue that these tend to be "cloaked in emancipatory terminology" and "grow from a radical foundation", but "do so while reproducing assumptions and values of mainstream discourses" and thereby "prevent the flourishing of radical ideas".

4. TSI PARADOXES (II): TEMPORALITY

A second kind of paradoxes encountered frequently in TSI research pertains to time. Innovation and transformation both imply a certain difference between a situation 'before' and a situation 'after' – without such difference, 'innovation' is not an appropriate framing of a social activity. Regarding this temporality, TSI researchers often run into the paradoxical conclusion that the innovation in case is at the same

time new and old – and therewith at the same time an innovation and not an innovation.

These temporality paradoxes have been pointed out in various analyses. For historians (of technology, of ideas, or of institutions), these temporality paradoxes are quite regular phenomena. Focusing on the time aspect, the paradox is often unfolded in terms of 'phases' and 'shades', becoming and fading. As indicated by Poole and van de Ven (1989), paradox can be dissolved by taking a temporal perspective on them. The following empirical examples are instructive: many supposed 'niche' innovations also involve attempts to revive or restore practices existing earlier and elsewhere (Ziegler, 2017). When looking for innovations to foster societal transformations, it may therefore be wiser to look instead for such 'pockets of persistence' (Shove, 2012) that have survived against the tide. Related to this are the observations of the waves of revival and fading of certain innovations. Whereas innovations revolving around new material-technological configurations follow rather a pattern of successive waves, technologies undergo more clearly progressive evolution, and they seldom get dis-invented or fully 'exnovated' (Arnold *et al.*, 2015). By contrast, SI involves innovations in practices and institutions, following more fuzzy cycles of fading and re-emergence. Telling examples are the Social Economy (Moulaert & Ailenei, 2005) or the 'new communalism' displayed by Ecovillages and certain kinds of energy cooperatives and commons-based initiatives (Forsman *et al.*, 2020). Processes of transformative social innovation often display patterns of recurring tensions between fundamental principles and values – singular innovations are therefore only passing moments in longer series of innovating and adapting (Westley *et al.*, 2017). Moreover, various contradictions tend to arise around the identification of origins of innovations, and of supposed pioneers. The grey zone of being not yet, or no longer, innovative is open to various social constructions: new *for whom*? (Roth 2009). As a consequence, TSI research is deeply implicated in the paradoxes of practices that have a 'manifest' face ('makerspaces' such as Repaircafés and Hackerspaces gaining transformative significance for their democratization of technology and means of production) and the 'latent' face (Pel & Kemp, 2020) of secluded, local and seemingly regular manufacturing. These faces change along with the societal context, and along with the directions that innovation society (Rammert *et al.*, 2018; Gaglio *et al.*, 2019) is taking.

The temporality-related paradoxes have been taken up through various strategies of inquiry. Very important has been the actor-network based sociology of translation, with its relational, ontogenetic analyses of how things come into being. These ontologically cautious methodologies have shown how innovations do not diffuse like gases (Akrich *et al.*, 2002), but rather involve processes in which the identities of innovations, innovators and adopters are continuously transforming (Pel

et al., 2017a). A very important development is the creation of 'mobile methods' that are sensitive to a dynamic, mobile social world (Büscher & Urry, 2009). The methodological insistence on studying innovation *in-the-making* – as opposed to retrospective 'whig history' accounts in which the uncertainties of the innovation process have been driven out – has also made for strongly interpretive strategies of inquiry. Focusing on situated actors' translations (interpretations, adaptations) of innovations, it is shown concretely how a certain innovation can be a breakthrough to one organization and a quite insignificant case of 'more of the same' to another. The material semiotics of ANT (actor-network theory) offer strategies of inquiry similar to those in interpretive policy analysis: disclosing how innovation and novelty are socially/historically constructed, the paradox is shown to result from the competing appropriations (Gaglio *et al.*, 2019) of innovations. Research on the history of technology has delivered essential groundwork, in this regard. In the context of TSI, revolving around changes in power relations, this means that innovations tend to become deeply ambiguous entities (Smith, 2007). Their multiple faces can be understood in terms of alternating *phases* of radicalization and domestication (Hargrave & van de Ven, 2006).

Next to the sociology of translation there is also a broad repertoire of process-analytical methods (Langley, 1999). These methods are well-established in innovation research, and they can be used in ways that basically iron out the paradoxes: methodologies like causal process tracing aim to identify conditions and mechanisms to explain particular process outcomes, and they help to reconstruct stages of innovation diffusion, innovation trajectories, or transition 'pathways'. These strategies of inquiry seek to avoid 'paralysis by analysis', i.e. they zoom out from TSI paradoxes to get a sense of the bigger picture (Grin *et al.*, 2010). By contrast, process analysis can also zoom in on particular events, rather than on the generic patterns in sequences of events. One approach we have used for that is the 'Critical Turning Points' (CTP) database, describing TSI cases as series of critical turning points. The database contains about 450 qualitative descriptions of these CTPs, i.e. *"moments or events in processes at which initiatives undergo or decide for changes of course"* (Pel *et al.*, 2017b). Even if stating mostly factual information on events and phases that TSI practitioners considered *important*, this dataset does provide a cross-section of the 'tensions', 'challenges', and 'dilemmas' of TSI practice, i.e. the different ways in which practitioners make sense of what we describe as TSI paradoxes. More generally, process methodology can be put to many uses, and interpretive-reflexive approaches exist that can be tailored to investigation of TSI paradoxes. A highly inspiring example is the reflection on temporal demarcations by institutional change theorist Grzymala-Busse (2011). The interpretation of TSI paradoxes can be deepened by framing a TSI process along different timelines. This clarifies how it can display both the classical

breakthrough of an innovation, as well as a passing moment in an ongoing process of up-and-down. Similarly, one can play out the evolutionary, relational and durational temporal perspectives of Garud and Gehman (2012). This helps to develop nuanced views on the relative novelty of an innovation.

Finally, critical innovation research offers various conceptual tools that help to deal with the temporality-related paradoxes. The basic move is to resolve paradoxes by discarding the underlying binary categorizations (le Velly, 2019). Poole and van der Ven (1989) discussed this as the 'synthesis' approach to paradox. Innovation phenomena are often ambiguous and shady, it is easy to agree. Yet they come mainly across as 'paradoxical' through framings in terms of dichotomies: innovation vs adoption, innovation vs imitation, or innovation vs maintenance (Godin & Vinck, 2017). The historical development of innovation thinking – historical, genealogical methods are essential resources – can indeed be seen as an endless juxtaposition of 'X-innovations' (Gaglio *et al.*, 2019). Looking for ways out of conceptual deadlocks over what is and what isn't innovation, Godin and Vinck (2017) have opened up a broad range of conceptual interventions and 'outcast' innovation categories. Calling attention to in-between phenomena, these categories help to explore innovation as a multifaceted phenomenon. Notable examples are reinvention (Rice & Rogers, 1980), imitation (Howaldt *et al.*, 2015), 'repair' innovation (Schubert, 2019) or the forgotten groups under the innovation diffusion bell-curve: Geels (2021) urges the transitions research community to mind 'followership', and not just *leadership*.

5. TSI PARADOXES (III): REALITY CONSTRUCTION

A third kind of TSI paradoxes are the paradoxes of observation and reality construction. By researching, describing and informing others about TSI phenomena, researchers are engaged in the shaping and co-production of these phenomena. This includes think tanks such as the Young Foundation and others: linking social innovation research to entrepreneurial strategies, they have established themselves *"as central agencies for organising societal change"* (Schubert 2019, p.57). TSI research seems particularly heavily affected by this 'double hermeneutic' of social science (Stirling, 2016). Audet (2014) discussed the same circumstance in sustainability transitions research. Researchers often share the transformative ambitions of social innovation protagonists, and then participate in the creation and diffusion of innovations (Lefèvre *et al.*, 2016; Aiken, 2017). In relation to social entrepreneurship, Dey and Steyaert (2012, p.92) for example, encourage scholars to engage in different forms of critical analysis of current understandings of social entrepreneurship with the goal to "*in the end, be able to enact social entrepreneurship differently*". The paradox that results is the simultaneous existence of social innovation as a factual process,

and as a projection. Organizers of crowdfunded lotteries for individual basic incomes played into this paradox, consciously creating a TSI 'hype'. Dramatically remote from the ideal of a *universal* basic income and in that sense a 'fake' social innovation, the provision of basic incomes for selected individuals did make the basic income concept tangible, understandable, communicable, and in *that* sense real. The initiators, very well aware of the paradox, considered the basic income experiments as a very mediagenic gimmick (Pel & Backhaus, 2020). As the initiative captured our scholarly attention as well, and as it become a 'case of TSI', we may ask ourselves: *How important and transformative was it really, within the larger picture of decades and even centuries of basic income advocacy? Whose TSI narrative were we telling? Was this 'real' TSI?*

When engaging in research on phases, conditions, incentive structures and ecologies that could help innovations to thrive, TSI researchers develop heuristics, policy instruments and discourses that not only provide academic understanding. The findings and framings also structure how TSI processes could be navigated in practice. This comes to the fore when researchers work closely with policy actors to explore, operationalize or co-produce concepts such as sustainability transitions (Turnheim *et al.*, 2020). Voß (2014) gives the example of 'transition management': as it gained credibility through researchers as well as policy makers, 'transition' has become a highly performative concept. It refers at once to concrete transformation processes in socio-technical systems, to visions of desired futures, to patterns in transformation processes, and to certain modes of governance and innovation management. *How can we support the energy transition? Which transition, and why? Is a transition actually taking place?* These issues are hard to untangle. In our own research practice, this unclear reality status of transitions came up for example as we worked towards a 'roadmap' on collective renewable energy prosumerism. Informed by a series of systemic contradictions or tensions (e.g. between market and community logic; or between energy islands and full system interconnection), we avoided overly linear projections of the future transition. The subsequent participatory integrated assessment process involved over more than 100 practitioners. Formulating possible pathways towards desirable forms of collective prosumerism (de Geus *et al.*, 2021), the challenge arose to depict the 'transition' both as a walkable path and as an elusive set of uncertain possible futures.

Importantly, TSI phenomena circulate through particularly intensive 'policy mobilities' (Temenos & McCann, 2013). This involves benchmarking of 'best practices', mappings of innovation 'hotspots', online networks and establishment of charters and declarations. Communicating their innovation insights through policy briefs, practitioner handbooks, blogs, webinars, and innovation management programs (Pfotenhauer & Jasanoff, 2017), TSI researchers create expectations about the possible

governance roles of actors and initiatives (Voß & Freeman, 2016). Similar to the 'looping effect' described by Hacking (1995), innovation researchers are inextricably involved in the constitution of innovator identities: TSI case study reports cast individuals as 'grassroots innovators'; 'regime actors', or 'incubators'. These descriptive concepts have emancipating or confining effects. This paradoxical creation of TSI realities is particularly intensive in the mapping activities undertaken in many EU-funded research projects – of social innovations (SI-DRIVE Atlas of Social Innovation[2]), of TSI processes (TRANSIT Database[3]) or of approaches linking urban sustainability and justice (URBANA wiki[4]). In doing so they co-shape understandings of what counts as transformative social innovation, and what not. An explicit intervention in this regard was the 'Transformative Social Innovation Manifesto' to which we participated, aimed to "*redirect attention to the emerging movement of transformative social innovation: communities and individuals across the world that are making change on the ground*"[5]. Such collaboration among researchers and movements also takes on more institutionalized forms such as in the Global Ecovillage Network research working group where an explicit aim is to encourage researchers to "*give something back to the ecovillages*" (GEN Website[6]).

The observation paradoxes pervade TSI research. Several strategies of inquiry exist to address them. First, the most prominent one is through pursuing normatively engaged and action-oriented research, e.g. Participatory Action Research (PAR; Arthur, 2013; Moulaert *et al.*, 2017; Bartels & Wittmayer, 2018). Confronting the positionality of the researcher head-on (Wittmayer & Schäpke, 2014), these approaches take the fact/projection duality as a starting point for their analysis (Lefèvre *et al.*, 2016; Aiken, 2017). These approaches are not necessarily designed with the purpose of handling TSI paradoxes, yet they do provide practical instructions and epistemological guidance: the fact/projection paradox corresponds with the balancing between the 'action' and 'research' components. Through its engaged, practical approach, PAR has become a particularly prominent strategy of inquiry in TSI research (Moulaert *et al.*, 2017). As Arthur (2013) indicates, its primary purpose in this context is perhaps to support social innovators' struggles with 'system reproduction' paradoxes (section 3). Still, PAR also helps to address the observation paradoxes,

[2] https://www.socialinnovationatlas.net/ (accessed April 20th, 2022)

[3] http://www.transitsocialinnovation.eu/sii (accessed April 20th, 2022)

[4] https://wiki.sustainablejustcities.eu/index.php/Main_Page (accessed April 20th, 2022)

[5] http://www.transitsocialinnovation.eu/tsi-manifesto (accessed April 20th, 2022)

[6] https://ecovillage.org/our-work/research-ecovillages/ (accessed April 20th, 2022)

through its 'post-normal science' epistemologies (Funtowicz & Ravetz, 2001): It directs attention to the co-production processes through which TSI becomes known as TSI.

A second strategy of inquiry is to turn TSI researchers, their communications about TSI, and the societal conditions that shape TSI research into objects of research. Critical theory and critical innovation research provide innovation-historical tools to decode the origins and underlying motives of new innovation categories such as 'responsible' or 'frugal' innovation (Gaglio *et al.*, 2019) – or social innovation, for that matter (Schubert, 2018). Analyses of 'innovation society' (Rammert *et al.*, 2018) clarify how innovation researchers are expected to report on novel, cutting-edge phenomena – not the mundane repair work, or the innovations with only nebulous transformative impacts. TSI researchers thus take part in 'hype' dynamics, which appear to be important factors in social innovation trajectories (Grimes, 2021). This underlines the particular usefulness of the strategies of inquiry developed in Science & Technology Studies. These approaches help to reconstruct the co-production of TSI realities through science-policy interactions (Jasanoff, 2004), the co-performance of social institutions by science and experts (Callon, 2007), the circulations of 'best practices' (Temenos & McCann, 2013), and the emergence of new knowings-of-governance (Voß & Freeman, 2016). Such reconstructions make the observation paradoxes tangible – highlighting in particular the face of *projected* TSI realities.

Finally, there are various applications of reflexive methodology (Alvesson & Sköldberg, 2017). This revolves around transparency about underlying assumptions. This acknowledges for example that researchers may have long discussions about what is (not) social innovation (Solis-Navarrete *et al.*, 2021), but the practitioners involved have their views on this well (Dey & Steyaert, 2012). Callorda Fossati *et al.* (2017) indicate for example how the sampling of supposed SI cases can be informed by Delphi method procedures, to avoid silent introduction of researchers' assumptions. Similarly, Pel *et al.* (2017), and McGowan *et al.* (2017) propose ways towards a more cautious cutting up of innovation processes into units of analysis, and into supposed key actors and points of origin. Especially researchers on socio-technical and social-ecological systems have invoked critical systems thinking (Ulrich, 2003): this unwinds the observation paradoxes surrounding statements about 'systems' that are supposedly transforming, or in need of transformation – *whose* systems? And what would a transformation amount to? (Smith & Stirling, 2010). Finally, reflexive methodology also comprises noteworthy quests for adequate, paradox-acknowledging representations of TSI phenomena: Stirling (2019) discusses in detail how 'incumbency' and power asymmetries keep being reinforced through misleading *visuals* of TSI. Composed through levels, arrows and clear-cut entities, diagrams in scientific analyses keep perpetuating dominant assumptions on how TSI can be 'implemented', 'managed' and controlled.

CONCLUSION

TSI research is pervaded with paradoxes. Whilst critical-reflexive innovation scholarship tends to provide the crucial conceptual deepening, it does often come with a certain lack of empirical and methodological concreteness. By contrast, conventional innovation scholarship tends to provide rigorous methodological repertoires, yet these tend to be rather sterile, i.e. insensitive to the paradoxical aspects of TSI. Seeking to bridge this divide, we raised the following research questions: *Which kinds of TSI paradoxes can be distinguished, and which strategies of inquiry could help to grasp, analyze and communicate about these paradoxical phenomena?*

Table 1. Three kinds of TSI paradoxes: Descriptions, empirical examples, strategies of inquiry

kinds of TSI paradox	Description	Empirical examples	Strategies of inquiry
System reproduction	SI challenges, and reproduces, the existing social order.	• Social enterprises challenging incumbent industry while also reproducing market logic • Eco-communities that mainstream some principles of e.g. ecovillage movement while losing some of the more radical aspects. • Democratic potential of participatory budgeting watered down into 'partial' pseudo-participation.	• Dialectical approaches • Multi-perspective analyses • Critical discourse analysis
Temporality	SI displays innovative/ normal, manifest/ latent faces over time and across contexts.	• Makerspaces as transformative social innovation and as regular repair and manufacturing • Re-emerging cooperatives • Social innovations as 'pockets of persistence'	• Translation analysis • Process analysis • Critical innovation research
Reality construction	SI exists as activity in the social world, and as projection/ interpretation.	• The Basic income lottery 'hype' • Co-created 'transition' roadmaps • Mapping of social innovations	• Participatory Action research • Reconstructions of co-production • Reflexive methodology

Source: own elaboration (Pel *et al.*, 2022).

The summary table conveys several answers and insights. A first insight is that the TSI paradoxes can be considered central phenomena to this area of study – especially when also considering the range of studies that deal with them in terms of 'tensions', 'contradictions', 'ambiguities' or 'dilemmas'. We have substantiated this through various empirical accounts and theoretical insights, spanning different research strands and different traditions of TSI research. It is interesting to see how critical innovation studies and various social science angles on societal change are converging. Interpretive policy analysis, Science & Technology Studies, critical social theory and innovation theory seem to be key sources to tap from. They provide potentially complementing insights and methods.

Second, we have clarified how TSI research involves paradoxes of different kinds. The system reproduction paradoxes, the temporality-related paradoxes and the observation paradoxes are each in their own ways relevant. Their multiple overlaps are worthwhile to think through: one can consider for example how the reproduction paradoxes tend to coincide with temporal paradoxes, and how certain strategies of inquiry are fit to deal with either of the two. Likewise, one can consider how both of these paradoxes are in turn connected with the reality construction paradoxes: the different empirical faces of TSI can be associated with different reality constructions, for example with the 'inside' and 'outside' perspectives distinguished by Smith and Stirling (2007). Likewise, it is worthwhile considering the linkages with other angles on TSI Janus-faces (such as 'tensions', 'contradictions', cf. Figure 1). Meanwhile, we have clarified how the three kinds of paradoxes are really distinct. Certain paradoxes are gaining particular attention in particular empirical fields of study, and in particular disciplines. For example, we distinguished between explorative modes of critical innovation scholarship and the more essentialist ones that seek to challenge and 'unmask' (section 1.2). Discussing empirical examples, our analysis has shown how these approaches are drawn either towards issues of projection and interpretation, towards issues of becoming and fading, or rather towards discrepancies between claimed and realized transformative impacts. Highlighting how different ontological and epistemological assumptions are consistent with different methods, our analysis helps TSI scholars to determine their research approach.

Third, we have confronted the persistent difficulty to move beyond general critical awareness, and beyond paradox-acknowledging *vocabularies* (e.g. the 'two-handed explanation' and the 'Janus-faces', and the wider register of expressions for ambiguity, tensions, contradictions and shades). It is crucial to develop appropriate *visualizations* as well. As discussed by Stirling (2019), TSI research repeatedly winds up with simplistic representations of transformation processes. Whilst conveying misleading ideas about the degree to which these processes can be known and managed, many of the otherwise so useful schematic diagrams tell us little about the handling of paradox. Set up to clarify the matter, our figure and our summary table admittedly share in this betrayal of paradox. We look forward to seeing advances on this front – in this journal, and in innovation research more broadly.

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