Approaching management and organization paradoxes paradoxically: The case for the tetralemma as an expansive encasement strategy

Steffen Roth [a,b,c,*], Dirk Schneckenberg [d], Vladislav Valentinov [b,e], Heiko Kleve [c]

[a] Department of Strategy, Excelia Business School La Rochelle, France
[b] Next Society Institute, Kazimieras Simonavičius University, Lithuania
[c] Witten Institute for Family Business, University of Witten-Herdecke, Germany
[d] Department of Strategy and Innovation, Rennes School of Business, France
[e] Leibniz Institute of Agricultural Development in Transition Economies in Halle, Germany

ARTICLE INFO

ABSTRACT

The field of paradox studies keeps struggling to put the notion of paradox into the very centre of organizational life and managerial decision-making, with mixed success. We argue that this research ambition can be realized much more effectively by anchoring the field in three interrelated conceptual approaches which build on paradox as the paradigmatic point of departure. These approaches include Spencer Brown's form calculus, Niklas Luhmann's systems and organization theory, and the traditional Indian logical construct of tetralemma. In the proposed argument, paradox constitutes the very identity of organizations as (re-entries of) distinctions drawn in the environment; it is actualized in every act of organizational decision communication, as well as in the process of the continual vanishing and renewal of such acts. In this conception of organizational life, the key challenge is to debunk false distinctions by using tetralemmatization strategies that entail a radical questioning of the problematic observational perspectives.

1. Introduction: un-/popular paradoxes

One of the most fascinating paradoxes of paradox theory is its appearance as both theory and method. Although expressively labeled as such, paradox theory is proud of not only its conceptual rigor but also its relevance to "current and future leaders, with the potential to help inform our messy, apparently unexplainable, and often seemingly irrational contemporary world (…), to understand the range of tensions experienced, and to learn how to respond in different, more complex and integrative ways" (Smith et al., 2017, p. 304). Yet, for researchers, too, "paradox theory offers a lens to understand and engage these tensions" (Schad et al., 2018, p. 107), and the goal of most contributions to paradox theory has been to sharpen the focus of this lens and thus to enable scholars to more effectively apply it to the observation of tensions in management and organization (Smith and Lewis, 2011a,b, p. 382). Scholars systematically applying paradox theory as a lens realize that it "truly offers a new way of viewing organizational phenomena, as well as solutions and ways of responding to ongoing problems that managers and organizations face" (Waldman et al., 2019, p. 1). As a consequence,

"paradox theory has emerged as a meta-theory to guide theorizing in multiple areas of organizational research" (Keller & Lewis, 2016, p. 553), which implies that paradox theory may be safely applied as a method for making wise theory-decisions in our fields.

Paradox theory thus seems to share with other theories – such as game theory, actor-network theory, or grounded theory (Alcadipani & Hassard, 2010; Fendt & Sachs, 2008; Law & Hassard, 1999; Sayes, 2014) – the characteristic that it is both referred to as theory and used as method. Observations of theories as methods typically appear as paradoxical and thus trigger attempts at categorial separation (Roth, Mills, et al., 2021). Yet, there has always been a minority of researchers who considered this separation a categorical mistake (e.g., Elias, 1978; Merton, 1968a, b; Luhmann, 2017). This camp holds that once they apply their own categories not only to their research objects but also to themselves, such self-referential theories indicate how their observations come about and can be replicated. Hjorth and Reay (2018, p. 11) have recently defined such "knowledge of the way to knowledge" as "method/ology".

To date, however, the systematic use of paradox theory as method is

complicated by the theory's missing self-implication. Traditionally, paradoxes have been treated as research objects "out there" (Hahn & Knight, 2021) in two ways: as if they were problems to be strategically ignored, solved, or controlled (Calton & Payne, 2003; Cameron, 2008; Clegg et al., 2002; Kan & Parry, 2004; Lewis, 2000; Poole & Van de Ven, 1989; Poulis, 2021; Quinn, 1988; Tuckermann, 2019); or promising tools for the management of, inter alia, change, creativity, or innovation (Papachroni et al., 2015; Gaim, 2018; Ritala & Stefan, 2021).

Such attempts at the taming of paradoxes (Pina e Cunha & Putnam, 2019; Pinae Cunha et al., 2021), however, seem to have contributed to the progressive reification of a dynamic phenomenon as well as to oblivion to the social processes that influence the scale and scope of possible responses to the phenomenon (Berti & Simpson, 2019). The result is research "that treats paradox itself as reified and stable while organizations are changing. Paradox then retains its identity, even though responses to it shift over time" (Pina e Cunha & Putnam, 2019, p. 101). The practical side-effect of this theoretical ossification of social processes are organizations and members who have "overconfidence in their ability to embrace paradoxes successfully", while merely using the "representational practice of paradox management as a strategic tool" (Gaim et al., 2019, p. 17).

Instead of reducing paradoxes to mere problems or tools, paradox theorists therefore suggest that researchers and practitioners more fully embrace the paradoxical condition (Pinae Cunha et al., 2021) and analyse how organizations and members *respond to* rather than resolve or manage paradoxical situations (Smith & Tracey, 2016; Schad et al., 2019; Raisch & Krakowski, 2021; Schad & Bansal, 2018). The proposed shift of perspective is consequential and far-reaching in that it promotes a switch from a problem- or control-gaze to a broader focus on the larger problem ecology that includes response mechanisms other than those directly related to the paradox. This broadening of perspective corresponds with the results of the seminal literature review by Putnam et al. (2016), in which the authors show that "more-than" strategies that preserve the dynamics of paradox have always complemented the trade-off-focussed "either-or" and equilibrist "both-and" approaches dominant in paradox theory. Thus, combined either-or, both-and, and more-than approaches seem required to match or embrace the complexity of the paradox condition and track the full scope of the corresponding responses (Pina e Cunha & Putnam, 2019).

The main contention motivating the present article is that paradox theory is used as method despite its lack of self-implication, and that this tension is managed and maintained by recourse to a set of external theories, or metatheoretical traditions (Putnam et al., 2016), that play the role of what ought rather to be cornerstones of a paradox theory based on its own foundations. As a result, we are confronted with a paradox lens focused on but not made of paradoxes.

In addressing this performative contradiction, the present article aims to outline an original and self-implicative paradox theory that is both made of and focused on paradoxes. Hence, the clear goal is "that we approach paradoxes paradoxically" (Schad et al., 2019, p. 115). To this end, we shall first introduce to the foundations of a theory built on paradoxes in general and on the paradox most pertinent to the observation of paradox in particular, namely the paradox of observation. In drawing on the works of Niklas Luhmann (1987; 1995a; 1995b) and George Spencer Brown (1979), we shall use the example of the tetralemma, an ancient Indian figure of thought for solving dilemmas, to show how this foundational paradox can be unfolded into architectures of distinctions that contain paradoxes without confining them. We shall then proceed to the demonstration that the tetralemma contains all (and probably further) approaches to paradox identified in the seminal literature by Putnam et al. (2016). We conclude that our paradoxical paradox-theoretical approach to paradoxes lends further credence to the work of Putnam et al. and that the tetralemma qualifies as an adequate tool for the observation of paradox and responses that neither ossifies nor confines the dynamic and polycontextural phenomena at stake.

2. The paradox of observation

Niklas Luhmann is notorious for his extensive reference to paradoxes (Seidl & Becker, 2006; Cooren & Seidl, 2020; Rasche & Seidl, 2020), the most foundational of which, for his systems theory, is that "a system *is* the difference between system and environment" (Luhmann, 2006, p. 44). This paradoxical definition of his theoretical cornerstone was inspired by Maturana and Varela's (1980) concept of autopoietic systems defined as those systems established and maintained by reproducing their boundary to their environment. In this sense, autopoietic systems positively are the difference they make between themselves and their environment. Whereas this definitory paradox originally referred to living systems only, Luhmann (1995b, p. 42ff) traced it back to the work of George Spencer Brown, 1979 and extended it to all forms of "observing systems" including psychic and social systems. In this context, Spencer Brown's concept of the re-entry plays a key role as the operation that allows for operational closure, which in turn

> "is a necessary condition for observations, descriptions, and cognitions, because observing requires making a distinction and indicating one side of the distinction and not the other. The other side, the unmarked side, can be anything that is, for the time being, of no concern. Such distinctions have to made by the system within the system. (…) Paying attention to this condition of the capacity of observing, we can see that the system *makes* the *difference* between system an environment and *copies* that difference in the system to be able to use it as a distinction. This operation of re-inventing the difference as a distinction can be conceived as a re-entry of a form into the form, or the distinction into the distinguished (…). Such a re-entry has remarkable consequences. The form of a re-entry is a paradoxical form, because the re-entering form is the same and is not the same." (Luhmann, 1995a, p. 172f)

As Luhmann extended this general paradox of observation to social systems, it reappears in the form of a decision paradox whenever we are confronted with the operations of organizations as social systems, and hence as specific forms of communication. In fact, Luhmann's organization theory is built on a communication theoretical variant of Heinz von Foerster's (1992, p. 14) famous "metaphysical postulate" that "(o) nly those questions that are in principle undecidable, we can decide". Decisions, therefore, are only possible and required and thus only appear as communications of perfectly contingent preferences for one out of a set of basically equivalent alternatives. The question then is:

> "How can decisions be communicated together with their alternatives and in relation to them? Communication produces itself as a unified operation, as a unity of information, utterance, and understanding. But how can this unity communicate an alternative, not only as information about a multiplicity of possibilities but as decided alternative? The decision has to inform about itself, but also about the alternative, thus about the paradox that the alternative is an alternative (for otherwise the decision would not be a decision) and at the same time not an alternative (for otherwise the decision would not be a decision)." (Luhmann, 2018, p. 110, p. 110)

This paradox of decision is "unfolded" (Luhmann, 2005, p. 91) through Luhmann's definition of organizations as autopoietic systems that consist of and are maintained solely by the decisions they make. In this decision-centred organization theory (Ahrne et al., 2016, p. 94f; Grothe-Hammer, 2019, p. 327), organizations are therefore conceptualized as "decision machines" (Nassehi, 2005), "interconnected decision processes" (Apelt et al., 2017, p.9), or "chains of decision communication" (Sandhu, 2017, p. 90) that produce further decision communication. The paradoxical effect at work here is that, as the communication of decisions implies the communication of alternatives, every additional decision communication creates additional alternatives, which, in turn, create additional need for decision communication.

The more alternatives emerge, the more arbitrary a made decision appears against the background of an ever-growing horizon of alternatives. Hence it is evident that decisions appear as inherently uncertain concepts that can easily be challenged by recourse to one of the many alternatives it implies. But then again, once made, a decision can guide subsequent decisions and thus absorb the inherent uncertainty of decision-making by more or less strategic forms of path dependency. The decision to hire a faculty member, for example, is typically made contingent on their fit with those members that have been hired before. Thus, the paradox of decision is shifted to the level of what Luhmann (2003; 2005; 2018) refers to as decision premises, that is, decisions on decisions that guide further decisions, among which he counts not only personnel decisions, but also communication channels, decision programmes, and organizational cultures. As all decisions on decisions remain decisions themselves, however, it is evident that the basic paradox of decision has been transposed rather than resolved. Hence, we find that to "unfold a paradox is simply to shift the observer's blind spot to a place where it is less troublesome" (Luhmann, 2005, p. 92).

As the basic paradox of decision can be shifted creatively across the different levels of decision premises and along many other dimensions of organization, the navigation of these shifts requires a tool that contains the paradox without resolving and trace without confining it.

In order to unfold this tool, however, we need to first refold the decision paradox back into the basic paradox of observation, the probably most compact representation of which is present in the form of George Spencer Brown (1979) concept of form. Notorious is hence Spencer Brown's (1979, p. 1) incantation:

"We take as given the idea of distinction and the idea of indication, and that we cannot make an indication without drawing a distinction. We take, therefore, the form of distinction for the form".

The basic idea here is that the observation of something implies the distinction between this something and something else. In observing something, we hence concurrently draw a distinction and point at one side of the distinction. This is why observation is an inherently paradox operation: A duality is both unfolded and indicated as a unit/-y.

Thus, Spencer Brown's starting point is already a movement, that is, the ever-oscillating observation that everything that appears is appearing only due to a form of distinction-*and*-indication that carries within the inescapable paradox that indication is only possible based on a distinction between distinction and indication (Kauffman, 1987, p. 58). The observation paradox is therefore not limited to the observation of paradox. Yet, suppose the observation of paradox is what we are interested in. In that case, we are confronted with the observation paradox of the observation of paradox, and thus with the paradox that this observation "includes the exclusion of the unobservable, including, moreover, the unobservable par excellence, observation itself, the observer-in-operation" (Luhmann, 1995b, p. 44). In other words: a paradox is observed whenever observations point to themselves.

3. The tetralemma

As is well-known, Spencer Brown introduced his famous mark or cross

⌐

To serve as *both* a crosshair pointer to the invisible interface of the paradox of observation and the observation of paradox *and* an operator that unfolds paradoxes as soon as motives mobilize them.

One advantage of a Spencer Brownian approach to paradox is that one does not need to venture on Niklas Luhmann's autopoietic turn, his focus on communication rather than actors or action, and his notorious "newspeak", any yet remains connectable to the Luhmannian theory architecture. On the contrary, Spencer Brown's oeuvre, and his Laws of

Form in particular, too, has a solid reputation of not being the most accessible read either.

An early manuscript by Spencer Brown (1961, p. Part I, 1) entitled "Design with the NOR" and recently published in Roth, Heidingsfelder, et al. (2021), however, suggests that both his cross and his later derived laws of form were inspired by "an electronic device, the transistor NOR unit, which, amongst other applications, is taking the place of relays in industrial automation and control systems". While working as an engineer for Mullard Equipment Limited, an English radio transmission equipment manufacturer, Spencer Brown (1961, p. Part II, 2) identified a need to introduce his cross as a representation of the NOR unit, which he held to be an operation hitherto unknown or at least unfamiliar to logic. This NOR unit corresponds to a technological implementation of a NOR gate and hence a truth table. However, the paradox inherent to the cross that it may refer to both the entire truth table and to the individual expressions in each row. In other words, the cross is used to indicate both the entire NOR unit and specific states of the NOR gate. Without losing too much of our wit, we may also say: the cross contains the basic structure of the paradox of observation and the process of its unfolding.

An attempt to visualize this circumstance has been provided by Louis Kauffman (2001, p. 98) in the form of his *Planar Graph of the Rhombic Dodecahedron* (see Fig. 1):

Although Kauffman (2001) makes no reference to the NOR units or gates, Fig. 1 is instrumental in showing that and how the cross refers to both the logical NOR in general (here represented by the outermost cross on the right-hand side of the figure) and to specific, the most familiar of which are neither a nor b (bottom-left corner of the outer square), b not a (top-left corner), a and b (top-right corner), and a not b (bottom-right corner). Thus, we find that the NOR is its default operation, *neither … nor …*, and contains what it is not. This again somewhat paradoxical observation is congruent with the circumstance that NOR gates are functionally complete gates that can express all other logic gates using their own operations.

In revisiting Fig. 1, we may also find that Kauffman's Dodecahedron presents a sophisticated variant of the *tetralemma* (Jayatilleke, 1967; Sparrer, 2007; von Kibéd, 2006; Roth, Parsons, & Brown, 2017), figure of thought from traditional Indian logics that is highly useful for resolving dilemmas (see Fig. 2).

One early field of application was traditional Indian jurisdiction, where the tetralemma helped to increase the number of perspectives a
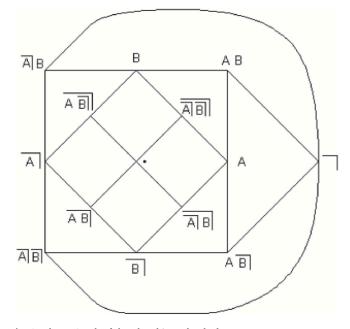

Fig. 1. Planar Graph of the Rhombic Dodecahedron.
(source: Kauffman, 2001, p. 98)

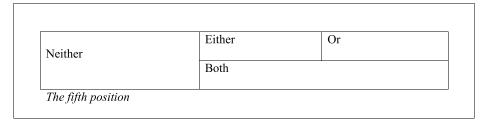| Neither	Either	Or
	Both	

The fifth position

Fig. 2. Tetralemma.

judge could take on a lawsuit. Whereas the standard expectation is that a judge rules in favour of one of two opponents in court, the tetralemma proves beneficial whenever this either-or-thinking creates dilemmas. In such cases, the tetralemma acted as a reminder that the judge could also neutralize the dilemma by ruling in favour of both or neither of the opponents. In a later Buddhist variant, the tetralemma also includes a fifth position negating the other four positions. This fifth position, therefore, represents the idea that most dilemmas result from ill-defined problems rather than from insoluble ones.

Particularly in this enhanced version, the tetralemma clearly is a tool that helps to both frame a problem and think out of the box, as it enables users to switch between different perspectives on the problem or replace it with another one.

Against this backdrop, the tetralemma commends itself as an intuitive tool for the navigation of dilemmas and paradoxes, including the basic paradox of observation. In the subsequent section of this article, we shall proceed to the demonstration that the tetralemma contains all paradox response strategies identified by Putnam et al. (2016) and further ones, and that the tool is therefore capable of containing paradoxes without resolving and tracing without confining them.

4. An either-or, both-and, neither-nor, and more-than matrix

Whereas the tetralemma rose to prominence as a tool for the management of dilemmas, our above derivation of the tetralemma as an early variant or prototype of logical NOR already indicated that the tetralemma clearly has the capacity to provide a dynamic framework for the integration of either-or, both-and and more-than approaches (Putnam et al., 2016, p. 125ff).

Either-or approaches to paradoxes typically observe conflicts, contradictions, or trade-offs between what appears to be mutually exclusive options. From a NOR-perspective, for a dilemma to appear, the full tetralemma must be reduced to the innermost 1×2 cross-tabulation in Fig. 2 and thus be observed by an observer in the way indicated in Table 1:

Table 1 defines a dilemma as a situation where the decision for one alternative, indicated by a "1" in the respective cell, seems to eliminate the other option and therefore implies a "0" in the corresponding cell.

When confronted with such an amputated tetralemma, the typical response is then to expand the one-dimensional cross-tabulation into a 2×2 matrix listing the advantages and disadvantages of each of the opposing options. In pursuing this strategy, however, the observer follows a more-than approach that clearly transcends or reframes the original dilemma (as identified or suggested by Deye & Fairhurst, 2019; Putnam et al., 2016; Sharma et al., 2021; Simpson et al., 2021), for example, by resort to a set of ethical guidelines or moral preferences. The result of this exercise is then a 2×2 matric of This versus That and a distinction like Positive versus Negative (see Table 2).

Table 2 shows that the typical decision balance sheet underlying

Table 1
Dilemma as a trade-off matrix of This/That and Yes/No.

This	1	0
That	0	1

Table 2
Standard dilemma response via a matrix of This/That and Positive/Negative.

	Positive	Negative
This	1	0
That	0	1

many either-or decisions evokes the impression that one alternative is better than the other and therefore ultimately the positive or the good option. The underlying tough choice, however, has not been neutralized by this strategy and, therefore, has to be repeated whenever the foundational dilemma reappears. In repeating the exercise over time or with different participants, however, one may find that its outcome may change with the changing contexts.

An alternative approach to either-or problems would be to tetralemmatize the dilemma at stake. The point then is to realize that, from the perspective of the tetralemma, a dilemma is created by a conscious or unconscious neglect of two of the basic logical operations depicted and explained in the context of Fig. 1. From this perspective, the problem hence is that dilemmas are created by distinctions that are false in the sense that they are not mutually exclusive and jointly exhaustive. Consequently, these distinctions fail to comply with Spencer Brown's (1979, p.1) dictum that "distinction is perfect continence" (Spencer Brown, 1979, p. 1) and lack the capacity to contain and unfold the entire paradox of observation.

In order to re-translate a dilemma into a tetralemma, it is therefore critical to transform the problematic distinction into two "true", binary distinctions (see Table 3):

Table 3 shows, first, both how tetralemmas may be created and, second, that the traditional Indian tetralemma *both* contains the either-or and both-and approaches *and* complements them by a neither-nor approach.

In this context, it is interesting to note that the both-and approach has been considered more effective than or superior to the either-or approach to paradox on many occasions (e.g. Lewis, 2000; Lewis & Smith, 2014; Miron-Spektor et al., 2018, 2001; Raisch et al., 2018). "The majority of paradox studies favour both-and approaches" (Wenzel et al., 2019, p. 56). From the perspective of the tetralemma, however, this option appears as just one of a set of 4+ choices that are all, in principle, equivalent perspectives or options.

The "+" in the preceding sentence also recalls the Buddhist version of the tetralemma, which includes a fifth position transcending the four positions of the Indian tetralemma. This extension corresponds well with the recent prominence of more-than approaches in paradox theory (see Table 4).

As illustrated in Table 4, the fifth position of the tetralemma moves the focus of observation outside of the tetralemma and is therefore

Table 3
Tetralemma as retranslation one false into two true distinctions.

	This	Not-This
That	Both-And	Either
Not-That	Or	Neither-Nor

Table 4

The fifth position as boundary spanner between tetralemmas.

Both-And Or Than Fifth Position	Either Neither-Nor	Either Neither-Nor More	Both-And Or

helpful for a general reframing of the tetralemma. Sometimes also referred to as "double negation" (Murti, 2013, p. 161), the fifth position, therefore, reifies Spencer Brown's (1979, p. 5) famous axiom 2:

$$\daleth \;=$$

Which he refers to as "the form of cancellation". In our case, the original tetralemma is indeed cancelled as soon as it is negated and thus both refolded into one distinction (as per Fig. 1) and distinguished from something else. In other words, the fifth position opens up a window to a world that contains more than the original tetralemma. This ecological perspective on the original is then useful to reframe or transcend the original problem, to create spaces or open up resources for its solution, and to critically reflect upon or playfully explore less dysfunctional or more instructive paradoxes that might replace the original one. Thus, the fifth position matches well with and covers all responses that Putnam et al. (2016, p. 128ff) associated with the more-than approaches to paradoxes.

Whatever the fifth position observes in the world outside of the original tetralemma, however, can be observed only by drawing another distinction. This new distinction may then be unfolded into another paradox and thus itself be negated from the original tetralemma's perspective or another fifth position.

For compactness reasons, we may therefore rearrange Table 4 into Table 5 and thus show how the Buddhist version of the tetralemma covers and complements the three existing approaches to paradox comprehensively summarized by Putnam et al. (2016, p. 122ff).

Whereas the either-or, both-and, and more-than approaches have been discussed in great detail by Putnam et al. (2016) and are generally well-established in paradox theory, neither-nor approaches are less popular in our field.

This unpopularity notwithstanding, a neither-nor approach

Table 5

Four types of approaches to paradox (advanced from Putnam et al., 2016, p. 125ff).

Either-Or Approaches	Both-And Approaches
"Either-or approaches treat contradictory poles as distinct phenomena that function independent of each other and fit into three broad areas: (1) defensive reactions and mechanisms, (2) selection or privileging of one pole, and (3) separation or segmentation." (Putnam et al., 2016, p. 122, *p. 122*)	*"Both-and responses differ from either-or approaches through treating opposites as inseparable and interdependent (…). In this category, organizational members avoid segmenting opposites or privileging one pole over the other. The literature reveals three types of both-and approaches: (1) paradoxical thinking, (2) vacillation or spiraling inversion, and (3) integration and balance."* (Putnam et al., 2016, p. 123, *p. 123*)
Neither-Nor Approaches	***More-Than Approaches***
Based on the general acceptance of the *paradoxical constitution of observation*, this fourth major approach suggests that the other three approaches are functionally equivalent to each other as well as to attempts at ignoring paradoxes or keeping them latent. Three types of PCO strategies may be distinguished: (1) The tetralemmatization of paradoxes, (2) their strategic combination, and (3) their systematic use for definition-making and discourse design.	*"A third major approach to addressing paradoxes focuses on connecting oppositional pairs, moving outside of them, or situating them in a new relationship. (…) Drawing from the literature, this category consists of three clusters: (1) reframing and transcendence (…), (2) connecting, third spaces, and dialogue (…), and (3) reflective practice and serious play (…)."* (Putnam et al., 2016, p. 128, *p. 128*)

resonates with the basic assumption that paradoxes are, by default, "dormant, unperceived, or ignored" (Smith & Lewis, 2011a, 2011b, p. 390) and, therefore, need to be observed into existence by a manager (Knight & Paroutis, 2017) or any other observer.

More than any other approach, the neither-nor approach points to the basic concept of observation and, thus, the basic paradox of observation outlined in the earlier sections of this article. In this sense, the neither–nor approach may also be observed to refer to the default condition of observation. As a consequence, this *paradoxical constitution of observation* approach is particularly instructive when confronted with what has been described as nested paradoxes (Cunha & Putnam, 2019; Pearce et al., 2019; Smith & Lewis, 2011a, 2011b), that is, those "paradoxes within paradoxes" nested across different levels of analysis that "constitute a new and refreshing view of organizations for scholars to explore" (Cunha, 2008, p. 1225).

From a Luhmannian and the underlying Spencer Brownian perspective, such nested paradoxes are indeed constitutive of all forms of theorizing or observation. Consider Luhmann's (2013, p. 44) notorious and foundational definition that "a system is the difference between system and environment". In the case of this definition, the two sides of the distinction, system and environment, while being distinguished, also appear as indistinguishable because one of the sides, system, is defined as the distinction it draws between the two sides. This definition makes perfect sense against the backdrop of Luhmann's attempt to define as autopoietic those systems capable of self-maintenance by virtue of the precisely those operations that maintain the boundary between system and environment. Yet, such nested definitions and the paradoxes they uncover may also result in the observation of considerable management challenges and fuel the corresponding discourses on the tensions between exploitation and exploration (Andriopoulos & Lewis, 2009), the paradoxes of power, wisdom and compassion (Simpson & Berti, 2020), and many other forms of nested double binds or doublethinks (Berti & Simpson, 2019). Obviously, persistent paradoxes are useful for the design of highly self-sufficient discourses and definitions.

Just as in the case of Luhmann's notorious definition, however, the observation of nested paradoxes is created by little more than re-entries of the distinctions at stake. As always, re-entries occur if distinctions are copied into themselves and thus reappear as a part of what is distinguished. This results in "the paradox of re-entry. Is the distinction that was introduced still the same distinction or not?" (Luhmann, 2013, p. 120).

When confronted with such paradoxical re-entries, one prime approach to unfold them consists in their tetralemmatization. As shown above, the tetralemmatization of a problematic tensions or dichotomies implies that we treat the opposing concepts as (if they were) two sides of one false distinction that must be translated into two true distinctions. Once these two true distinctions orthogonalized, we witness the emergence of the tetralemma and hence an observational tool that covers all perspectives on which to base our different approaches to navigate or transcend the original dilemma. As recently exemplified by Kleve et al. (2020), this approach may be mobilized for the strategic navigation of family-business tensions in the context of family-influenced firms *if* the false distinction family versus business is translated into the two true distinctions family versus non-family and business versus non-business (see Table 6).

In Kleve et al. (2020), the authors show how the resulting tetralemma is instrumental for the analysis of dilemmatic family-business interaction triggered that may be triggered even by the most casual

Table 6

The business-family tetralemma (Kleve et al., 2020, p. 438, p. 438).

	Family	Non-Family
Business	Business family	Business
Non-Business	Family	Neither

forms of business-family communication, for example, when a parent asks their adult child the question 'How are you?' Against the backdrop of the framework outline in Table 6, it appears that the question may be understood in four very different ways: (1) As a form of sincere parental care (the *this*-side and hence the *family* quadrant in the above tetra-lemma); (2) as an entrepreneur's question to their potential successor (the *that*-side and *business* quadrant); (3) as a case of mixed message demanding a decision or an equally ambiguous answer from the child (the *both*-side in terms of the *business family* or *family business* quadrant); or (4) a form of small talk related to neither family or business matters as "regardless of how the child answers, the parent will steer the conversation to the real desired topic: the president of Russia's latest tweet." (Kleve et al., 2020, p. 438).

Based on this framework, the authors then proceed to an illustration of how *either-or*, *both-and*, *more-than*, and *neither-nor* approaches can be distinguished and combined into a comprehensive analysis and strategic navigation of family-business tensions.

Thus, in reviewing Tables 5 and 6, we find that our tetralemmatic approach to paradox theory and responses is both practical and covers all hitherto identified approaches to paradox as soon as we engage with the Buddhist wisdom that the resolution of one paradox comes at the cost of the shift to another.

As a result, it appears that either-or, both-and, and more-than approaches are dimensions of one and the same framework and thus functionally equivalent approaches to paradox, none of which is superior to another. This finding challenges the ressentiments, whether latent or explicit, that both-and and more-than approaches are more sophisticated or functional than the either-or approach.

The neither-nor approaches, for their part, remain not limited to more or less conscious attempts at not deciding for either option defined by a dilemma. True, the general neither-nor perspective definitely implies that (the deliberate) ignorance or latency of paradoxes are strategic options tantamount to those suggested by the other three approaches. Yet, in reviewing our discussion around Fig. 1, it is also more than obvious that the neither-nor perspective both contains and unfolds the entire tetralemma, and thus vertically integrates the either-or and both-end perspective and horizontally points at alternative tetralemmas.

This 'perfect continence' of the neither-nor position is both para-doxical and congruent with the role of logical NOR in the design of models or devices for computation, where combinations of NOR gates are known for their capacity of generating other logical functions such as (both-)AND or (either-)OR.

Digitally informed research in the strategic operation of paradoxes, in the sense of their transformation and combination, therefore, emerges as a promising field.

5. Conclusions

The extant scholarship on management and organization paradoxes has long been looking for approaches that integrate the notion of paradox into the foundations of organizational activities and managerial decision-making. Putnam et al.'s (2016) "constitutive approach" to paradoxes in organizations is a case in point. The overall track record of this scholarship remains however ambivalent. On the one hand, this scholarship is perceived to be so dynamic and fruitful that there are reasons to be concerned that its very "success could advance a dominant logic, which will ultimately hinder conceptual development and result in its downfall" (Schad et al., 2019, p. 107). On the contrary, there remain nagging gut feelings that the notion of paradox, despite decades of research, still remains insufficiently embraced within the core theoretical understanding of organizations. One possible reason for these feelings is that the relevance of paradox for organizations is often traced back to specific environmental trends, such as globalization and conflicting stakeholder pressures (e.g., Putnam et al., 2016), and focused on specific managerial tensions (e.g., Smith & Lewis, 2011a, 2011b) and organizational attributes (e.g., Schad et al., 2019). Another likely reason

is that paradox studies themselves tend to be classified in terms of dichotomies, such as social/cognitive (Putnam et al., 2016) or ontology/epistemology (Schad & Bansal, 2018). In the perception of the authors, one pole of these dichotomies used to be privileged, a condition they seek to redress by shifting the privilege to the other pole.

At the same time, there is little doubt that the notion of paradox forms the cornerstone of the thought of Spencer Brown's form calculus, which forms the logical basis of Niklas Luhmann's systems and organization theory, which in turn is amenable to interpretation in terms of the traditional Indian construct of the tetralemma. In Luhmann's organization theory, paradox is not justified by any specific features of organizations or of their environment; instead, it is actualized in every act of organizational decision communication, and indeed in the very process of the continual vanishing and renewal of such acts. This process unifies the aspects of order and disorder (Putnam et al., 2016, p. 137) while infusing them with dimensions of challenge and avant-garde (Pinae Cunha et al., 2021). In this process, the notion of paradox is so central that it cannot even be said to present a condition to which individual stakeholders respond, or through which they work, or with which they cope. Rather, paradox constitutes the very identity of organizations as (re-entries of) distinctions drawn in the environment; it is hardwired into organizational life in a way that defies the very possibility of dichotomizations along the social/cognitive (Putnam et al., 2016) or ontological/epistemological lines (Schad & Bansal, 2018). In this conception of organizational life, the key challenge is not to cope with paradoxes per se, but rather to unlearn the habit of drawing false distinctions, for example, by dissolving them into orthogonal true distinctions which may be organized into one or translated into another tetralemma. Thus, the strategic operation of paradoxes, in the sense of their systematic transformation and combination, emerges as a promising field of research.

The proposed paradoxical approach to paradoxes informs the extant literature in a number of ways. Perhaps most obviously, it affirms the possibility, disbelieved by Putnam et al. (2016, p. 133), that "a unified or coherent metatheory" of organizational paradoxes can be considered to be a realistic ambition for further research. We argue that this metatheory can be developed on the basis of inspirations for which the notion of paradox is genuinely constitutive, which we believe to be the case with Spencer Brown's form calculus and Luhmann's systems and organization theory. At the same time, we are hopeful that the manifold and recursive structure of the tetralemma precludes the possibility, envisioned by Schad et al. (2019), that such a metatheory may congeal into any sort of dominant logic repressing alternative lines of conceptual development. We believe that this metatheory responds to Pina e Cunha et al.'s (2021) call for expanding the behavioural repertoire emanating from the paradoxical condition by accommodating counter-intuitive logical options which radically question the prevalent observational perspectives. This questioning is tantamount to embracing an avant-garde stance "that thrives on anti-normative moves" (Pina e Cunha et al.'s (2021), p. 50). Furthermore, the proposed approach radicalizes the contribution of systems thinking to paradox research. Although the relevance of this thinking has been authoritatively established (Schad & Bansal, 2018) and early exemplified in works on the role of "rejection values" (Günther, 1962) in "linkage institutions" (Teubner, 1997), we believe that the systems thinking of the Luhmannian variety can go much further in illuminating the way in which paradoxes pervade and indeed constitute organizational realities.

The most salient implications for further research arising out of the proposed approach are concerned with revisiting the relationship of tetralemmatization to a host of the known strategies of dealing with paradoxes. Obviously, this relationship is free of any normative biases toward both-and approaches (cf. Schad & Bansal, 2018). What is yet unknown are the specific ways in which tetralemmatization may subsume and enrich the extant classifications of the above strategies (Schad et al., 2019; Schad & Bansal, 2018; Putnam et al., 2016; Smith & Lewis, 2011a, 2011b). In addition, tetralemmatization may itself be profitably

applied to pressing management issues marked by the problematic prominence of painful trade-offs. One of these issues is the pervasiveness of trade-offs among stakeholder interests in settings where stakeholders could work together to create value (cf. Freeman et al., 2020; Schad & Bansal, 2018, p. 1502). In these settings, there is an urgent need to move beyond the perceptions of trade-offs; but even the both-and option, evidently corresponding to the idea of the win-win constellations arising out of the jointness of stakeholder interests, may generate adverse ecological side-effects (Schad & Bansal, 2018, p. 1499; cf. Slawinski & Bansal, 2015). To prevent these side-effects, the strategy of tetra-lemmatization is called upon to suggest radically new solutions which will cut across stakeholder theory, organization theory, and paradox studies.

References

Ahrne, G., Brunsson, N., & Seidl, D. (2016). Resurrecting organization by going beyond organizations. *European Management Journal, 34*(2), 93–101.

Alcadipani, R., & Hassard, J. (2010). Actor-network theory, organizations and critique: Towards a politics of organizing. *Organization, 17*(4), 419–435.

Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. *Organization Science, 20*(4), 696–717.

Apelt, M., Besio, C., Corsi, G., von Groddeck, V., Grothe-Hammer, M., & Tacke, V. (2017). Resurrecting organization without renouncing society: A response to Ahrne, Brunsson and Seidl. *European Management Journal, 35*(1), 8–14.

Berti, M., & Simpson, A. (2019). The dark side of organizational paradoxes: The dynamics of disempowerment. *Academy of Management Review.* https://doi.org/10.5465/amr.2017.0208

Calton, J. M., & Payne, S. L. (2003). Coping with paradox: Multistakeholder learning dialogue as a pluralist sensemaking process for addressing messy problems. *Business & Society, 42*(1), 7–42.

Cameron, K. S. (2008). Paradox in positive organizational change. *The Journal of Applied Behavioral Science, 44*(1), 7–24.

Clegg, S. R., Vieira da Cunha, J., & Pina e Cunha, M. (2002). Management paradoxes: A relational view. *Human Relations, 55*(5), 483–503.

Cooren, F., & Seidl, D. (2020). Niklas Luhmann's radical communication approach and its implications for research on organizational communication. *Academy of Management Review, 45*(2), 479–497.

Cunha, M. (2008). Paradox. In S. R. Clegg, & J. R. Bailey (Eds.), *International encyclopedia of organization studies* (pp. 1223–1225). Thousand Oaks, CA: Sage.

Cunha, M. P. E., & Putnam, L. L. (2019). Paradox theory and the paradox of success. *Strategic Organization, 17*(1), 95–106.

Deye, J. M., & Fairhurst, G. T. (2019). Dialectical tensions in the narrative discourse of Donald J. Trump and Pope Francis. *Leadership, 15*(2), 152–178.

Elias, N., Mennell, S., & Morrissey, G. (1978). *What is sociology?* London: Hutchinson.

Fendt, J., & Sachs, W. (2008). Grounded theory method in management research: Users' perspectives. *Organizational Research Methods, 11*(3), 430–455.

von Foerster, H. (1992). Ethics and second-order cybernetics. *Cybernetics and Human Knowing, 1*(1), 9–19.

Freeman, R. E., Phillips, R., & Sisodia, R. (2020). Tensions in stakeholder theory. *Business & Society, 59*(2), 213–231.

Gaim, M. (2018). On the emergence and management of paradoxical tensions: The case of architectural firms. *European Management Journal, 36*(4), 497–518.

Gaim, M., Clegg, S., & Cunha, M. P. E. (2019). *Managing impressions rather than emissions: Volkswagen and the false mastery of paradox.* Organization Studies, Article 0170840619891199.

Grothe-Hammer, M. (2019). Organization without actorhood: Exploring a neglected phenomenon. *European Management Journal, 37*(3), 325–338.

Günther, G. (1962). Cybernetic ontology and transjunctional operations. In M. C. Yovits, G. T. Jacobi, & G. D. Goldstein (Eds.), *Self-organizing systems* (pp. 313–392). Washington D. C.: Spartan Books.

Hahn, T., & Knight, E. (2021). The ontology of organizational paradox: A quantum approach. *Academy of Management Review, 46*(2), 362–384.

Hjorth, D., & Reay, T. (2018). Organization studies: Moving entrepreneurially ahead. *Organization Studies, 39*(1), 7–18.

Jayatilleke, K. (1967). The logic of four alternatives. *Philosophy East and West, 17*(1/4), 69–83.

Kan, M. M., & Parry, K. W. (2004). Identifying paradox: A grounded theory of leadership in overcoming resistance to change. *The Leadership Quarterly, 15*(4), 467–491.

Kauffman, L. H. (1987). Self-reference and recursive forms. *Journal of Social and Biological Structures, 10*(1), 53–72.

Kauffman, L. H. (2001). The mathematics of charles sanders peirce. *Cybernetics & Human Knowing, 8*(1–2), 79–110.

Keller, J., & Lewis, M. W. (2016). Moving towards a geocentric, polycultural theory of organizational paradox. *Cross Cultural and Strategic Management, 23*(4), 551–557.

Kleve, H., Roth, S., Köllner, T., & Wetzel, R. (2020). The tetralemma of the business family: A systemic approach to business-family dilemmas in research and practice. *Journal of Organizational Change Management, 33*(2), 433–446.

Knight, E., & Paroutis, S. (2017). Becoming salient: The TMT leader's role in shaping the interpretive context of paradoxical tensions. *Organization Studies, 38*(3–4), 403–432.

Law, J., & Hassard, J. (1999). *Actor network theory and after.* Oxford, UK; Malden, MA: Blackwell/Sociological Review.

Lewis, M. W. (2000). Exploring paradox: Toward a more comprehensive guide. *Academy of Management Review, 25*(4), 760–776.

Lewis, M. W., & Smith, W. K. (2014). Paradox as a metatheoretical perspective: Sharpening the focus and widening the scope. *The Journal of Applied Behavioral Science, 50*(2), 127–149.

Luhmann, N. (1987). Tautology and paradox in the self-descriptions of modern society. *Zeitschrift fur Soziologie, 16*(3), 161–174.

Luhmann, N. (1995a). Why does society describe itself as postmodern? *Cultural critique. Spring,* (30), 171–186.

Luhmann, N. (1995b). The paradoxy of observing systems. *Cultural Critique, 31*(Autumn), 37–55.

Luhmann, N. (2003). Organization. In T. Bakken, & T. Hernes (Eds.), *Autopoietic organization theory: Drawing on Niklas Luhmann's social systems perspective* (pp. 31–52). Oslo: Copenhagen Business School Press.

Luhmann, N. (2005). The paradox of decision making. In D. Seidl, & K. H. Becker (Eds.), *Advances in organization studies* (p. 1566). Amsterdam: John Benjamins Publishing, 1075.

Luhmann, N. (2006). System as difference. *Organization, 13*(1), 37–57.

Luhmann, N. (2013). *Introduction to systems theory.* Cambridge: Polity Press.

Luhmann, N. (2017). The theory of society as science. *Zeitschrift für Soziologie, 46*(4), 219–248.

Luhmann, N. (2018). *Organization and decision.* Cambridge: Cambridge University Press.

Maturana, H. R., & Varela, J. F. (1980). Autopoiesis. In , *Autopoiesis and cognition: The realization of the livingId* (pp. 59–134). Dordrecht: Reidel.

Merton, R. K. (1968a). *On theoretical sociology: Five essays, old and new.* New York: The Free Press.

Merton, R. K. (1968b). *Social theory and social structure.* New York: The Free Press.

Miron-Spektor, E., Ingram, A., Keller, J., Smith, W. K., & Lewis, M. W. (2018). Microfoundations of organizational paradox: The problem is how we think about the problem. *Academy of Management Journal, 61*(1), 26–45.

Murti, T. R. V. (2013). *The central philosophy of buddhism: A study of the Madhyamika system.* Routledge.

Nassehi, A. (2005). Organizations as decision machines: Niklas Luhmann's theory of organized social systems. *The Sociological Review, 53*(1_suppl), 178–191.

Papachroni, A., Heracleous, L., & Paroutis, S. (2015). Organizational ambidexterity through the lens of paradox theory: Building a novel research agenda. *The Journal of Applied Behavioral Science, 51*(1), 71–93.

Pearce, C. L., Wassenaar, C. L., Berson, Y., & Tuval-Mashiach, R. (2019). Toward a theory of meta-paradoxical leadership. *Organizational Behavior and Human Decision Processes, 155*, 31–41.

Pina e Cunha, M. P., Clegg, S., Berti, M., Rego, A., & Simpson, A. (2021). Fully embracing the paradoxical condition. *Organizational Aesthetics, 10*(2), 50–67.

Poole, M. S., & Van de Ven, A. H. (1989). Using paradox to build management and organization theories. *Academy of Management Review*, 562–578.

Poulis, K. (2021). Complexity as an empirical tendency: Promoting non-measurement as a means to enhanced understanding. *European Management Journal, 39*(4), 487–496.

Putnam, L. L., Fairhurst, G. T., & Banghart, S. (2016). Contradictions, dialectics, and paradoxes in organizations: A constitutive approach. *The Academy of Management Annals, 10*(1), 65–171.

Quinn, R. E. (1988). *Beyond rational management: Mastering the paradoxes and competing demands of high performance.* San Francisco: Jossey-Bass.

Raisch, S., Hargrave, T. J., & Van De Ven, A. H. (2018). The learning spiral: A process perspective on paradox. *Journal of Management Studies, 55*(8), 1507–1526.

Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–augmentation paradox. *Academy of Management Review, 46*(1), 192–210.

Rasche, A., & Seidl, D. (2020). A Luhmannian perspective on strategy: Strategy as paradox and meta-communication. *Critical Perspectives on Accounting, 73*, 101984.

Ritala, P., & Stefan, I. (2021). A paradox within the paradox of openness: The knowledge leveraging conundrum in open innovation. *Industrial Marketing Management, 93*, 281–292.

Roth, S., Heidingsfelder, M., Clausen, L., & Laursen, K. B. (2021a). *George Spencer Brown's "design with the NOR": With related essays.* Emerald Publishing.

Roth, S., Mills, A., Lee, B., & Jemielniak, D. (2021b). Theory as method: Introduction to supertheoretical options for organization and management research. *Journal of Organizational Change Management, 34*(4), 689–698.

Roth, S., Parsons, L., & Brown, S. (2017). NOR design for double contingency tables. *Kybernetes, 46*(8), 1469–1482.

Sandhu, S. (2017). Organization as communication and institutional theory: Opportunities for communicative convergence. In S. Blaschke, & D. Schoeneborn (Eds.), *Organization as communication: Perspectives in dialogue* (pp. 79–101). London and New York: Routledge.

Sayes, E. (2014). Actor–Network Theory and methodology: Just what does it mean to say that nonhumans have agency? *Social Studies of Science, 44*(1), 134–149.

Schad, J., & Bansal, P. (2018). Seeing the forest and the trees: How a systems perspective informs paradox research. *Journal of Management Studies, 55*(8), 1490–1506.

Schad, J., Lewis, M. W., & Smith, W. K. (2019). Quo vadis, paradox? Centripetal and centrifugal forces in theory development. *Strategic Organization, 17*(1), 107–119.

Seidl, D., & Becker, K. H. (2006). Organizations as distinction generating and processing systems: Niklas Luhmann's contribution to organization studies. *Organization, 13*(1), 9–35.

Sharma, G., Bartunek, J., Buzzanell, P. M., Carmine, S., Endres, C., Etter, M., … Keller, J. (2021). A paradox approach to societal tensions during the pandemic crisis. *Journal of Management Inquiry*, 1056492620986604.

Simpson, A. V., & Berti, M. (2020). Transcending organizational compassion paradoxes by enacting wise compassion courageously. *Journal of Management Inquiry, 29*(4), 433–449.

Simpson, A. V., Berti, M., Cunha, M. P. E., & Clegg, S. (2021). *Art, culture and paradox pedagogy in management learning: The case of Portuguese fado.* Management Learning, 1350507620988093.

Slawinski, N., & Bansal, P. (2015). Short on time: Intertemporal tensions in business sustainability. *Organization Science, 26*(2), 531–549.

Smith, W., Erez, M., Jarvenpaa, S., Lewis, M. W., & Tracey, P. (2017). Adding complexity to theories of paradox, tensions, and dualities of innovation and change: Introduction to organization studies special issue on paradox, tensions, and dualities of innovation and change. *Organization Studies, 38*(3–4), 303–317.

Smith, W. K., & Lewis, M. W. (2011a). Toward a theory of paradox: A dynamic equilibrium model of organizing. *Academy of Management Review, 36*(2), 381–403.

Smith, W. K., & Lewis, M. W. (2011b). Toward a theory of paradox: A dynamic equilibrium model of organizing. *Academy of Management Review, 36*(2), 381–403.

Smith, W. K., & Tracey, P. (2016). Institutional complexity and paradox theory: Complementarities of competing demands. *Strategic Organization, 14*(4), 455–466.

Sparrer, I. (2007). *Miracle, solution and system: Solution focused systemic structural constellations for therapy and organisational change.* Solutions Books.

Spencer Brown, G. (1961). *Design with the NOR.* Crawley, Sussex: Mullard Equipment Limited.

Spencer Brown, G. (1979). *Laws of form.* New York: E. P. Dutton.

Teubner, G. (1997). The king's many bodies: The self-deconstruction of Law's hierarchy. *Law & Society Review, 31*(4), 763–788.

Tuckermann, H. (2019). Visibilizing and invisibilizing paradox: A process study of interactions in a hospital executive board. *Organization Studies, 40*(12), 1851–1872.

von Kibéd, M. V. (2006). Solution-Focused Transverbality: How to keep the Essence of the Solution-Focused Approach by extending it. In G. Lueger, & H.-P. Korn (Eds.), *Solution-Focused Management, Rainer Hampp, Mering* (p. 41). München: Rainer Hampp Verlag.

Waldman, D. A., Putnam, L. L., Miron-Spektor, E., & Siegel, D. (2019). The role of paradox theory in decision making and management research. *Organizational Behavior and Human Decision Processes, 155*, 1–6. https://doi.org/10.1016/j.obhdp.2019.04.006

Wenzel, M., Koch, J., Cornelissen, J. P., Rothmann, W., & Senf, N. N. (2019). How organizational actors live out paradoxical tensions through power relations: The case of a youth prison. *Organizational Behavior and Human Decision Processes, 155*, 55–67.

Steffen Roth is Full Professor of Management at the Excelia Business School, France, and Full Professor of Social Sciences, Founding Director of the Next Society Institute, and Member of the Senate at the Kazimieras Simonavičius University, Lithuania. He is also a Visiting Professor of Management and Organization at the University of Witten-Herdecke, Germany, and holds the title of Adjunct Professor of Economic Sociology at the University of Turku, Finland. He is the field editor for social systems theory of Systems Research and Behavioral Science. The journals his research has been published in include *Journal of Business Ethics, Ecological Economics, Administration and Society, Technological Forecasting and Social Change, European Journal of the History of Economic Thought, European Management Journal, Journal of Cleaner Production,* and *Futures*. His ORCID profile is available at orcid.org/0000-0002-8502-601X.

Dirk Schneckenberg is an Associate Professor of Strategy and Innovation at the Rennes School of Business, Rennes, France. His research interests cover strategy and digital innovation, business model innovation, knowledge management, open innovation, and higher education innovation. He has published four books and over 100 peer-reviewed contributions in journals and conference proceedings.

Vladislav Valentinov is Adjunct Full Professor of Economics at the Martin-Luther-University Halle-Wittenberg, Germany, and Senior Researcher at the Leibniz Institute of Agricultural Development in Transition Economies in Halle, Germany. He has served on the Editorial Boards of several journals, such as the *Journal of Economic Issues, Voluntas, and Kybernetes. His research has been published in journals such as Cambridge Journal of Economics; Ecological Economics; Journal of Institutional Economics; Administration and Society; Nonprofit and Voluntary Sector Quarterly; Journal of Business Ethics;* and *Journal of Agricultural and Environmental Ethics*.

Heiko Kleve is Full Professor of Organization and Development of Business Families at the Faculty of Economics, Witten Institute for Family Business (WIFU), University of Witten/Herdecke, Germany. He studied social pedagogy and social sciences (sociology, political science, and social philosophy) in Berlin and received his doctorate in sociology. Prior to his appointment at Witten/Herdecke, he was Full Professor at the Alice Salomon University of Applied Sciences in Berlin and the Potsdam University of Applied Sciences. He has also been a consultant, mediator, coach, and supervisor for individuals, families, groups, teams, and organizations for about 20 years. He has published 12 books and numerous articles on systems theory, postmodern theory, and systemic methods with a special focus on applied social science, such as social work, systemic counseling, and constellation work.