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Accepting organizational theories: non-empirical confirmation and interpretative flexibility

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Abstract. In this paper we aim to contribute to the recent debate on non-empirical theory confirmation by analyzing why scientists accept and trust their theories in the absence of clear empirical verification in social sciences. Given that the philosophy of social sciences traditionally deals mainly with economics and sociology, organization theory promises a new area for addressing a wide range of key questions of the modern philosophy of science and, in particular, to shed a light on the puzzling question of non-empirical confirmation. Although institutional theory of organizations cannot be directly tested and evaluated via empirical data, this theory nevertheless became a dominant theory of organization-environment relations and most organizational researchers routinely use it as a standard theoretical framework for making sense of empirical findings. We analyze the trajectory of institutional theory development and proliferation and argue that it enjoys its current status of the standard theory of organizational sociology because 1) it is flexible enough to account for most organizational processes and phenomena; 2) it has suppressed existing alternative theories that are less flexible; 3) because scientists do not tend to look for alternatives for once winning theory and 4) due to its ability to bridge different fields and function as an interfiled theory which, in turn, serves the main aim of scientific conduct, namely, a quest for unification.

Keywords: theories, empirical support, organizational theories, institutional theory, falsificationism, closed theories.

1. Introduction.

What do the non-empirical confirmation and acceptance mean for science and scientific method? Is it a problem with how scientists obtain scientific knowledge and what they claim to be this knowledge or we should extend the criterion of acceptable scientific method and scientific knowledge? Does modern particle physics research represents a revolution in scientific practice and our traditional understanding of acceptable scientific methodology or it is a “*troubling case of science gone awry*” (Cabrera, 2019:1)? Recent philosophical writings on the nature of non-empirical assessment deal with reasons to trust theories (Dawid, 2013; 2019; 2021; Linnemann, 2020; van Dongen, 2021; Blum, 2021; Ritson, 2021; de Ridder, 2022). On the one hand, while experiment and observation had always been considered a hallmark of science, scientific method and scientific practice, the history of modern physics and many other sciences demonstrate that an overreliance on experimental evidence becomes less relevant (if relevant at all)¹. Scientists routinely accept and trust their theories when no or little experimental evidence can be found. In turn, the very nature of trust has been considered as an antithesis to knowledge and something that should have no place in the scientific enterprise (Hardwig, 1991). There are different and divergent views in the philosophy of science and among working scientists on the relationship between theory and evidence and on the criterion of theory assessment (Bunge, 1973; Lakatos, 1974; Brown, 1995). These views can be grouped into three main categories: 1) Empirical evidence is a necessary and sufficient condition for theory appraisal and acceptance; 2) empirical evidence is a necessary but not sufficient condition for theory appraisal and acceptance and 3) empirical evidence is desirable but not even necessary for theory appraisal and acceptance. The

¹ For example, a special issue in one of the journals devoted to the philosophy of science considers this problem: “*The fact that whole communities of physicists have devoted so much time and effort to evaluating theories that are largely disconnected from experiments and empirical testing suggests that existing philosophical accounts of the epistemology of physics, based as they are on a broadly empiricist conception of physics, are no longer completely apt, or are at least somewhat out of date*” (Eva and Hartmann, 2021:1).

last view can even share a claim that empirical evidence is not needed and plays no role in theory assessment in modern science (for example, a famous quotation of Einstein that “it is a theory that decides what can be observed” is the case).

Bunge (1973) describes the first approach (Necessary and sufficient) as a belief that experience constitutes the highest court of appeal and immediately rejects this view as methodologically, philosophically and historically untenable. He reminded that “*experience is something to be explained, and explanation is a task for theories*” (1973:5). Advocates of the second view (necessary but no sufficient) incline rather towards a Popperian falsificationist program where it must be possible for a theoretical scientific system to be refuted by experience. And although doing so never gives them “*any reason to believe a theory is true, it does sometimes enable them to weed out false hypotheses, and therefore contributes to the aim of getting theories which are close to the truth*” (Maher, 1990:104). The debate we aim to contribute in this paper raises questions about all three philosophical views on the relationship between theory and evidence. We explore these views on the form and nature of acceptable scientific method and theory assessment by analyzing organizational research which offers one of the most interesting cases of blurred roles and relationships between theory and data and hybrid theory appraisal. We believe the puzzling issue of non-empirical confirmation can be better addressed and explored using this case and, in particular, the institutional theory of organizations sheds some light on this problem. In particular, the balance between the interpretative flexibility and the ability to keep the boundaries of explanations and predictions made institutional theory the most successful theory of organizations and caused it rapid expansion across other fields and areas of social sciences. These balancing guaranties that a theory does not degenerate into a “theory of everything” and keeps making clear predictions about what should and should not be observed and expected.

With this paper we aim to contribute to the ongoing building of the philosophy of organizational research and organization theory. Philosophy of organization studies and organization theories should be an established field of philosophy as, for example, philosophy of economics, mathematics or physics are. We need to engage in a same kind of discussion and contribute to the critical analysis of the nature of theories, their use, value and development. In particular, we hope to contribute to the emerging debates on the nature of organizational theories and, in particular, to explore the reasons and peculiarities of the acceptance and persistence of institutional theory (Davis, 2010; 2015; Alvesson and Spicer, 2019; Alvesson et al., 2019; Kraatz, 2020; Aksom and Tymchenko, 2020; Aksom and Firsova, 2021). Despite its enormous ambiguity and flexibility, institutional theory is the most successful theory of organization-environment relations and this popularity increases each decade with little or no dependence on empirical correspondence and self-consistency. Institutional theory in particular and organization theory as a scientific field promise a whole new research avenue for philosophers of science and when seen through philosophical lenses – for organizational theorists as well.

Before we start, it must clarify the interrelations that are made in this paper between organization theory and natural sciences, in particular, physics. Someone may, not without reason, be indignant at the abundance of analogies and references to physics that are made in this paper. But we believe that organization theory and research can learn a lot from physics, physicists and their theories and theory building (not to mention that philosophy of science is to some extent a philosophy of physics). Physics has taken deep roots in virtually all social sciences from the very beginning of their modern history and has been used as guiding metaphors for economics, sociology and organization theory as well. Economics, sociology and organization theory are essentially embedded in mechanistic and biological metaphors such as “forces”, “inertia”, “stasis”, “pressure”, “equilibrium”, “evolution”, “adaptation”, “selection”, “survival”, “self-maintenance” and so on.

2. Empirical and non-empirical theory confirmation.

Why do scientists trust their theories in the absence of empirical data²? This question that has been addressed in Richard Dawid's (2013) book "String theory and the scientific method" launched one of the most interesting and relevant debates in modern philosophy of science (Dawid, 2019; Eva and Hartmann, 2021). When Dirac addressed the question about "why we believe in the Einstein theory?" he mentioned both empirical and non-empirical factors such as aesthetics concerns³ (Kragh, 2015). Questions posed by Dirac and Dawid are, in fact, neighbors of another big philosophical debate of recent decade, namely, the famous realist/antirealist debate. They attend the same kind of question: can we trust our current successful theories and why do scientists maintain these theories even despite the lack of empirical support being nevertheless supported, accepted and defended by scientists for decades? This problem has been recognized most explicitly in the modern physics as "*recent developments in contemporary physics have, ostensibly, led to a crisis in our collective understanding of good scientific method*" (Cabrera, 2019:1). This concern reflects a received view on the scientific method as a hallmark of scientific rationality, that is, "*science is a rational activity, and its rationality is secured by the scientific method*" (Siegel, 1985:517-518). Skeptics claim that string theorists ignore the generally acknowledged scientific criteria of theory assessment, as this theory lacks empirical support and has serious theoretical problems. Lee Smolin, for example, clearly distinguished the sociological dimension of current practices in modern physics and in particular in terms of string theory acceptance (Ritson and Camilleri, 2015). Dawid (2009; 2013; 2019) himself offered an interesting and controversial explanation of the string theory phenomenon claiming that there has been a quiet revolution in what should be count as a good scientific methodology and the problem is not with this theory but with criteria of scientific method and theory development (Ellis and Silk, 2014; Pessoa, 2015). He proposes that the very standards and canons of scientific theories assessment should be widened since modern science ultimately delves deeper into unobservable structures and phenomena and the prevalence of theory over observation is stronger than ever before in the history of science.

Most working scientists in the field of modern theoretical particle physics have no problem with ignoring the lack of empirical evidence and endorse the String Theory for its unification efforts and mathematical fertility (Rickles, 2013). Many physicists believe that string theory can generalize standard quantum field theory, unify General Relativity with the other forces of Nature and it is, therefore, a main and only candidate for being a theory of quantum gravity and a "theory of everything" (Ritson and Camilleri, 2015; Cabrera, 2019; Read and Le Bihan, 2021). String theory had contributed enormously to the advancement of mathematics and given that many purely mathematical results eventually find application in nature (Dyson, 1964), it is reasonable to expect that many mathematical structures generated by the String theory research will be found useful to describe future natural phenomena. Shing-Tung Yau cites physicist Henry Tye who assumes that "*string theory is too beautiful, rich, creative, and subtle not to be*

² Collins, for example, reverted this question about the sociological factors in a scientific enterprise by arguing that "*no-one cares about the large majority of scientific results—whether they are right or wrong makes no difference to anyone*" (1993:233).

³ For many scientists, mathematicians and philosophers of science the beauty of theories is a sign that these theories are likely to be true. It is believed that aesthetic factors influence the formulation, pursuit, acceptance and maintenance of theories (Engler, 2002; 2005; McAllister, 1998). Criteria such as simplicity, symmetry, inner perfection, economy and unification in theory building are thus seen as no less important than empirical considerations (Engler, 2005).

used by nature. That would be such a waste” (Yau and Nadis, 2010:293)⁴. But at the current stage, at least mathematics greatly benefited from string theorists’ work.

Weinberg describes the same logic of acceptance for the General Relativity theory. Internal consistency and mathematical beauty were considered as more important evidence in support of Einstein’s theory than a lack of experimental support (Mamchur, 1987; Engler, 2005). Brush (1996; 1999; 2002) distinguishes between three equally important factors that affected General relativity acceptance, namely, empirical predictions and explanations; (2) social-psychological factors; and (3) aesthetic-mathematical factors. After all, as Weinberg (1992) claims, it is more important for the scientific progress that a certain theory should be taken seriously and it is worth the time than a proof that a theory is right.

Additionally, string theory is considered as a theoretical program that develops and extends existing physical knowledge, being a successor theory to standard quantum field theory just like General Relativity is a successor to Newtonian gravitation (Chall, 2018). General Relativity, for example, expands the scope of the classical theory of gravitation, yet simultaneously expands the scope of application. String theory retains the standard model as a limiting case, retains and reproduces its empirical content but provides a more fundamental account on a number of phenomena (Chall, 2018). While mathematical beauty and effectiveness are widely regarded by many physicists and mathematicians as a sign of truth and scientific progress, another sign of development is that mathematics becomes more complicated. The mathematical apparatus of the String theory is much more complicated and difficult than its predecessors. It is a matter of fact that as each new physical theory becomes more abstract, it requires a more difficult mathematical toolset: this was the case for Newtonian physics, quantum mechanics, relativity theories and quantum field theory and String theory is not an exception.

The main emphasis in criticism of non-empirical confirmation is made on the inconsistency with Popper’s falsificationism and with the almost taken-for-granted claim that scientific theories must be tested against empirical evidence (Brush, 1999). It is the central belief about science, scientific reasoning and scientific method that theories must be confronted with the world in order to be either rejected or supported and corroborated. According to falsificationism, scientists should attempt to falsify, rather than verify, scientific theories. For example, Ellis and Silk (2014) open their criticism of Dawid’s arguments by referring to Popper’s claim that a theory must be falsifiable to be scientific. By falsifying theories, it is argued by falsification program supporters, we can distinguish science from non-science and progress by getting closer to the truth. Nevertheless, the falsificationism program and related positions with regard to the primacy of empirical verification of theories face serious shortcomings (Musgrave, 1973; Lakatos, 1974; Bunge, 1973; Pinch, 1985). We will mention only two of them but there is a vast literature on problems with Popper’s program.

First, theories are more than a direct induction from facts to generalizations. As intelligent guesses and conjectures, scientific theories recognize those patterns and phenomena that can’t be inferred from common experience (Bunge, 1973). Usually, theories postulate the existence of forces and entities which are far beyond the reach of any direct observation and at best their effects can be observed (Worrall, 1982). This implies that theories cannot be refuted on the basis of empirical data tests. Moreover, theories not only cannot be judged against observations; they specify “*what is and is not observable; specify the conditions under which what is observable, is observable*” (Hooker, 1975:152). As scientific theories are not “derived from anything”

⁴And vice versa – Dyson accused S Matrix theory in lacking mathematical beauty: “*I find S matrix theory too simple, too lacking in mathematical depth, and I cannot believe that it is really all there is. If the S-matrix theory turned out to explain everything, then I would feel disappointed that the Creator had after all been rather unsophisticated*” (1964:134).

(Deutsch, 2011:4) and cannot be thus inferred from experience, the same is true for the opposite procedure: theories cannot be refuted based on only observational evidence. We cannot learn from experience the falsehood of any theory (Lakatos, 1974) just as we cannot build a theory from individual observations and experience. Therefore, neither confirmations nor refutations have any epistemic value whatsoever because neither can be learned from experience. Siegel summarizes the rejection of the view of the scientific method a mechanical procedure for inventing and justifying hypotheses:

“Scientific method is to be understood not as the procedures of inquiry; it is rather to be understood as criteria of evaluation of the fruits of inquiry” (1985:527).

Second, the history of science demonstrates that scientists themselves do not follow the falsification principle, maintaining their theories even in those cases when evidence suggests these theories are problematic or simply wrong. Usually, scientists ignore contradicting evidence or attempt to rescue their theories. As Lakatos (1970:207) argued *“[scientists] do not abandon a theory merely because facts contradict it. They normally either invent some rescue hypothesis to explain what they then call a mere anomaly or, if they cannot explain the anomaly, they ignore it, and direct their attention to other problems”*. At the same time, scientists have always relied on non-empirical arguments to trust theories (Rovelli, 2019) as they did in the case of string theory acceptance, cosmological theories and in most social sciences.

Therefore, both real scientific practice and the very nature of scientific theories demonstrate that scientific conduct and theory development cannot be reduced and limited by strictly empirical methods of theory assessment. Successful science appears to ignore and abandon many dogmas and images of scientific conduct (Dang and Bright, 2021). Scientists do not usually abandon and stop trusting their theories when faced with crucial experimental evidence and they accept theories without reliable empirical support. Victoria Chick summarizes this paradoxical inconsistency in the image of science and method by observing that as one should not accept a theory without a fact so *“one might equally say “never accept a fact without theory because facts, as we know, are theory-laden”* (2003:309). In the next sections, we will analyze the reason why social scientists accept and maintain their theories despite the lack of empirical evidence and certainty.

However, in order to avoid confusion in understanding, a difference between various questions with regard to the theory acceptance/abandoning need to be clarified and explained. There is a difference between why scientists continue to trust and do not abandon and maintain problematic theories (those that ignore or cannot account for some research question or phenomena or have internal or external logical inconsistencies) and why they trust theories when there are insufficient empirical reasons for this (or no reasons at all). For example, classical mechanics and electrodynamics did face problems with previously unconceived phenomena but they by no means had been abandoned. Instead, these theories were acknowledged as limited special cases and were retained as closed theories that are correct in their respective domain of application. In this case, scientists delineate, reduce and constrain the boundaries of once best theories and keep using them as tools for a limited range of problems while new theories account for new phenomena and questions. This is a view on physical theories endorsed by Werner Heisenberg. He argued that physicists do not abandon such successful theories as Newtonian mechanics under the pressure of empirical and theoretical anomalies but maintain them as *“perfectly accurate within its limited domain”* and *“correct for all time”* (Bokulich, 2006).

Alternatively, Wray (2019) addresses the question of discarding theories. In contrast to Heisenberg he maintains that even successful theories can be abandoned by scientific communities, even though this process is usually inertial and resistant. More often attempts to modify problematic theories to be expected.

There is therefore a difference between 1) accepting, trusting and maintaining a theory with no or little empirical evidence (Dawid, 2013), 2) continuing to trust and maintain a theory that confronts empirical difficulties (Feyerabend, Lakatos and Laudan among others), 3) completely abandoning a once successful theory (Wray, 2019) and 4) accepting a new theory but maintaining an old one as a limiting case and a closed theory that is correct in its limited domain (Bokulich, 2006). In this paper we consider the first, the third and the fourth scenarios as we exclude the case of abandoning a theory due to empirical difficulties because this variant is non-applicable to organizational theories (and to institutional theory in particular).

3. How organizational theories explain

As a distinctive field of social sciences, organization theory takes organizations as a discrete and meaningful unit of analysis (Lammers, 1981; Scott, 2004; Davis, 2010; Meyer and Bromley, 2013). In this sense, organizational research had effectively distinguished itself from the study of individual human behavior, society, economic relations, markets or research on management problems. One of the founders of organization theory and the Nobel Prize winner Herbert Simon summarized the need for an organization theory because “*some phenomena are more conveniently described in terms of organizations and parts of organizations than in terms of the individual human beings who inhabit those parts*” (1991:126). The modern age of organization theory had begun in the 1960s when traditional approaches typical for scientific management gave way to more sociological frameworks (Lammers, 1981). Before then, researchers and practitioners assumed that there could be “the one best way” to organize and manage and as Scott notes, “*most theorists in most of their work assumed that organizations could be understood apart from their environments, that the important processes and events were internal to the organization*” (1981:407). Many organizational theorists consider this point of reorientation as a case of Kuhnian paradigm shift. Later on, one more such “revolution” in organization theory occurred as it was recognized that organizations are highly dependent on their external environments and the task of organization theory (administrative science back then) is to understand and analyze organization-environment relations. It can be summarized that organization theory is a science that studies the patterns of environmental influence on organizational practices, structures and decision-making process⁵. A newly emerged in the 1960s contingency theory of organizations positioned itself as a theory of adaptation, that is, a focus was on how organizations react and respond to their environments and adapt to environmental shifts by regaining a fit (Donaldson, 1995; Shenkar and Ellis, 2021). Later theories such as population ecology and institutional theory will follow this route although challenging most basic postulates and predictions of contingency theory.

Similar to many scientific theories from mature sciences organizational theories 1) recognize causal relationships between phenomena, 2) list factors that affect or have no influence on observed phenomena and 3) delineate boundaries of application and mention which phenomena and domain of experience are beyond the scope of these theories (Aksom and Tymchenko, 2020). Many organizational theories attempt to specify the magnitude, form and condition of a relationship. As Edwards and Berry noted, in contrast to clear and strict predictions of theories in mature sciences, in social sciences theories make “*predictions that are merely directional, such as stating that two variables will be positively or negatively related*” (2010:668). Organizational theories fall under this category. Organizational theories say what is more likely to occur and, for example, a master hypothesis of institutional theory states that the stronger are institutional

⁵ In the 21st century organization theory migrated from sociology faculties to business schools becoming a much wider thing than just sociology of organizations, absorbing some former business disciplines and heavily influencing others.

pressures the more likely it is that organizations would conform to these pressures and contribute to the overall homogenization of their institutional field. A typical organizational theory's mechanism of explanation has the following structure:

Under certain conditions A it is a tendency that B is more likely than C.

For example, institutional theory claims that the stronger is the impact of institutional environment, the more it is likely that an organization will prefer to conform to institutional demands and neglect technical and economic needs. Further, a decoupling between adopted institutional practice and internal routines is to be expected. Using this simple explanatory structure, organizational theories explain the life span of organizations, the phenomenon of their emergence, existence, success, change and decline as well as structures and practices organizations incorporate, the reason of certain behavior patterns and decision-making patterns (especially in the context of great ambiguity, uncertainty and various kinds of wider environmental influences and pressures).

4. Institutional theory: structure and development

Institutional theory has emerged in the 1970s in response to the overly functionalist and economic-based description of organizations offered by the then-dominant contingency theory (Donaldson, 1995; Tolbert and Zucker, 1996; Greenwood et al., 2014; Lopdrup-Hjorth, 2015; Haveman and Wetts, 2019). Institutional theory addressed a number of anomalies that contingency theorists either ignored or could not answer at that time and also challenged the notion and patterns of organizational adaptation. In contrast to prevailing explanations, institutionalists shifted attention from economic and technical factors towards social and cultural relationships in which organizations were embedded. In the founding paper, Meyer and Rowan claimed that "*the formal structures of many organizations in postindustrial society dramatically reflect the myths of their institutional environments instead of the demands of their work activities*" (1977:341). Seemingly irrational and ceremonial behavior of many organizations has been successfully handled by the institutional framework. Institutionalists recognized that gaining and regaining fit with the external environment is much more difficult than it used to be assumed and, moreover, contingency theorists looked in the wrong direction: a fit with institutional environments is what ensures organizational survival and success.

In general terms, institutional theory explains global processes of homogenization and globalization of modern organizations as a consequence of strong institutional forces of coercive normative and mimetic nature (Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Zucker, 1987). Organizations exist, share and depend on common institutional environments and this embeddedness cause them to become similar to each other as they mimic standard institutional practices and conform to shared institutional norms, beliefs and understandings. Institutionalists shifted their attention from purely economic and efficiency considerations towards what they believe are more essential factors – social and cultural norms that construct institutional environments (In extreme versions of institutional theory economic and technical criteria are assumed to be themselves socially constructed) and thus seeing organizations as social systems.

Institutional theory offers the following causal explanations of relationships and tendencies. Institutional environments force organizations to conform to institutional norms and standards which allow them to survive and succeed. The willingness and ability to conform to institutional prescriptions and adopt necessary practices allows buffering their structures from turbulence, get easier access to resources and improve their social status (Meyer and Rowan, 1977; DiMaggio and Powell, 1983). By adopting similar structures and practices, organizations become similar to each other, thus, contributing to the overall homogenization of their environment (which, in turn,

reinforces institutional pressures). Due to expected conflict and inconsistency between real day-to-day routines and adopted abstract institutional standards, organizations are likely to decouple and disintegrate institutional structures from actual working procedures (Meyer and Rowan, 1977).

Institutional theory does not have any mathematical formulations and there is no definitive empirical test that can decide whether institutional theory is right or wrong or in any crucial contradiction with the data or other theoretical predictions. Some researchers, for instance, claim that it is impossible to tell whether organizations can deviate from strong institutional prescriptions and whether it is isomorphism that is more expected in most cases than heterogeneity (Davis, 2010)⁶. Nevertheless, for social sciences in general and for organizational research in particular, directional predictions form a solid ground for successful theorizing and analyzing various empirical observations, explaining and predicting organizational processes and tendencies.

4.1. How Institutional theory was accepted?

As a theory, IT postulates two major claims:

1. Organizations are essentially embedded in wider institutional environments and their survival and success depend on an ability to adapt to institutional demands and legitimized themselves (Meyer and Rowan, 1977) and
2. Over time organizations tend to become similar to each other as they conform to the same institutional norms and thus adopt same practices and structures (DiMaggio and Powell, 1983).

Meyer and Rowan's "*Institutionalized Organizations*" (1977) had been viewed as a revolutionary paper in organizational sociology just a few years after its publication. DiMaggio and Powell's extension of institutional theory has been even more successful. The 1977 paper has been successfully positioned as an alternative theory that can better account for numerous organizational anomalies than the then reigning contingency theory did. Almost immediately institutional theory has been welcomed as a theoretical perspective that can counterbalance such functionalist notions as rationality, efficiency or objectivity and instead recognize organizational behavior and practices as ceremonial, symbolic, sub-optimal and infused with institutional value and meaning beyond technical purposes.

Accounting scholars were among first to recognize the value of institutional theory in their observations of seemingly non-rational and ritualistic behavior instead of strictly functional and technical practices (Burchell et al., 1980; Mellempvik et al., 1988). Institutional theory perfectly caught the rising wave of the most popular research stream in European accounting studies in the 1980s, namely, a research on the organizational and social context of accounting practices. Institutional theory allowed going beyond the functionalist paradigm of the mainstream accounting research and assist interpretive accounting research in understanding the everyday practice of accounting and how accounting become infused with institutional value (Meyer, 1983). A symbolic rather than technical use of accounting became the hottest topic on accounting research for next few decades. It was obvious that accounting helps performing certain rational practices but institutional theory became a long-awaited and irreplaceable tool

⁶ Kraatz and Zajac (1996) conducted an empirical study where they found that contrary to institutional isomorphism thesis, U.S. liberal arts colleges – one of the most institutionalized fields – went through "illegitimate" institutional change. This case of falsification did not eventually resulted in theory abandonment. As Davis (2010) noted, institutional theory prove to be a moving target and is too vague even for being falsified.

for exploring and explaining many anomalies, transformations and deviations in accounting practices. “questioned the validity of rational choice models of decision making as an adequate description of information use in organizations” In these early applications of IT in accounting researchers “questioned the validity of rational choice models of decision making as an adequate description of information use in organizations” (Ansari and Auske, 1987) an instead Furthermore, although originally proposed as a macro-theory of organizational fields, institutional theory had no trouble in fitting case-study methodology and explain decoupling, ritualistic behavior and letitimacy-seeking behavior.

Motivation for adoption and use accounting practices and how these practices were actually used in organizations.

For a wider organizational research community an idea that organizations seek for legitimacy and try to adapt to institutional norms and beliefs became the most promising and interesting stream of research.

5. Interpretative flexibility of institutional theory

We propose that the key factor that allowed institutional theory to become the most successful theory of organizations and escape criticism and abandonment for being too ambiguous and-or even useless is its ability to strike a balance between interpretative flexibility and boundary-keeping. The former refers to theory’s ability to cover new phenomena and theoretical questions. Initially, the notion of interpretative viability has been offered by Benders and van Veen (2001) within the framework of the Management Fashion theory in order to conceptualize the nature and virtues of fashionable management concepts and ideas. Specifically, it was argued that interpretative viability explains the broad diffusion and adoption of new management practices because interpretatively flexible concepts can be modified, adapted and localized for the specific needs and beliefs of local potential users:

“To increase the chance of gaining popularity, fashion setters should keep their product ambiguous to a certain degree. Such ‘interpretative viability’ increases the size of the potential market because different buyers may recognize their own situation in the description. A concept’s promises make it attractive to apply, while its ambiguity means that (potential) users can eclectically select those elements that appeal to them, or that they interpret as the fashion’s core idea, or that they opportunistically select as suitable for their purposes” (2001:37-38).

This conceptual ambiguity and flexibility are possible because, in contrast to material artifacts, managerial concepts and ideas lack a material component. So do organizational theories⁷. Institutional theory used to rely on this property more than any other theory before. In a way, this is a blade-running to some extent, since too abstract theories can lose their value and usefulness and be abandoned and replaced by other useful tools. So do management concepts. Becker et al. (2010) demonstrated an interesting case of overusing interpretative flexibility in the case of modern cost management system – Beyond Budgeting concept. Although this concept had a clearly delineated identity (12 principles and a causal structure of how to implement and use them in work), in practice Beyond Budgeting allowed too much plasticity. Excessive abstractness and flexibility in the context of scientific theories is seen as an argument in support of the view that such theories are unfalsifiable and thus unscientific. In a less radical version of this view it means simply that theories are too abstract to be useful in data analysis. A theory has no boundaries and therefore no clear domain of application (Alvesson and Spicer, 2019).

⁷ Ironically, organizational theories explain self success.

On the other hand, boundary-keeping implies that a theory keeps the ability to indicate and maintain the limits of its own applicability, that is, clearly delineate what can be observed and what cannot; which tendency and phenomenon to be expected and which ones are less or not likely to occur. In other words, a theory does not degenerate into a “theory of everything” (and nothing). If one neither can tell when a certain theory is true nor it can be identified when theory is false (Lakatos, 1974; Grünbaum, 1976), at least falsificationism offers another criterion that scientific theories should satisfy, namely, having clear boundaries of application. It is of course necessary but not sufficient criterion for accepting a theory as scientific. This is the criterion that makes it possible to understand that the theory has a specific, limited area of application and there are explanations and predictions this theory puts forward and there are phenomena and processes that this theory either cannot account for or forbids to happen. As such, institutional theory still postulates the prevalence of isomorphism over heterogeneity, conformity over resistance and social forces and motives over economic and functional concerns.

Interpretative flexibility of institutional theory can be contrasted against its competitor in the 1970s and 1980s – the population ecology of organizations (Hannan and Freeman, 1977). Both theories appeared in the same year in 1977 and aimed at challenging and correcting the contingency theory. There were several attempts to combine both theories (Baum and Oliver, 1991; 1992; Baum and Powell, 1995; Haveman and David, 2008) but again it was the institutional theory that benefited from this synthesis while population ecology remained nothing but an assistant and supplier of some limited research questions and constructs. Although institutionalists claimed they were motivated to converge both theories and not by the competition, it was the institutional theory that “survived” this synthesis and won the contest. Population ecology and other theories of organization-environment relations appeared to be limiting cases of a much broader institutional paradigm. Furthermore, an interest in researching a relatively narrow topic of founding and death rates of organizational populations had declined among organizational researchers and this theme has drifted towards strategic management and international business scholars. Population ecology theory emphasized that it is a population of organizations that should be taken as the unit of analysis. At the same time, institutional theory freely approached the macro level of diffusion and isomorphism but there was no trouble for institutionalists to successfully attend and analyze case studies of single organizations. Additionally, population ecology is built around the notion of structural inertia which makes successful organizational change difficult and rare. In contrast, institutional theory explains both change and stability and this again allows outperforming “inert” organizational ecology. Given such flexibility, institutional theory became the dominant theory of organizations and continued to absorb other areas of research (Greenwood et al., 2014).

Davis (1971) in his classical paper “that’s interesting!” argued that counterintuitivity is a key virtue that distinguishes successful theories in social sciences from narrow and less popular theories and explanations. For him, socio-cultural factors in social sciences (and in organization and management theory in particular) are much more important in shaping the field than a matter of truth and correctness of scientific theories. He argued that “*a theorist is considered great, not because his theories are true, but because they are interesting. ... In fact, the truth of a theory has very little to do with its impact, for a theory can continue to be found interesting even though its truth is disputed—even refuted!*” (Davis, 1971: 309). Arguably, institutional theory is more interesting and insightful than its competitors. As Cole noted, population ecology offered rather trivial and obvious answers:

“My major criticism of the theory is that even assuming that the theory is true... the theory leads to obvious conclusions. To say that ... organizations are less likely to survive when there is heavy competition, is not saying anything that intelligent nonsociologists would not know. It is not only the main point of the theory that seems obvious, but most of the details as well. For example the authors point out that unions beginning as secessions from other unions have a

much higher chance of disbanding than unions beginning as a result of a merger with another union. I am sure that this finding would surprise no union organizer or official.” (1994:143).

Institutional theory, in contrast, although allows for considerable theoretical and empirical extensions and subsequent ambiguity growth, undoubtedly claimed many counterintuitive things. Seemingly rational organizations conform to socially constructed beliefs, neglects economic concerns and decouple daily routines from ceremonially adopted and maintained structures. Many changes over time lead to a greater homogeneity and mimicry at the macro level of organizational fields. All these conclusions were unimagined before institutional theory arrived in 1977.

It can be said that this value of counterintuitivity and being interesting served as a fuel for further successful development and expansion to different branches and fields of organizational research while interpretative flexibility performed the function of a tool that allows expansion. Other organizational theories lost their competition with institutional theory because they were either less interesting or less flexible or both. This is not to say, of course, that this exogenous factor means a theory is correct or wrong: the main reason for accepting or rejecting a theory is endogenous, empirical, that is, it faces problems associated with the validity of the theory itself. For example, if a theory claims something that is directly refuted by experience, it is an endogenous problem. “That’s interesting” and “flexibility” effects work rather as complementary, sociological factors but they incline researchers to consider interesting and flexible theories as more practically useful and theoretically reach than those that do not have these virtues. In case of organizational research, these virtues led a scientific community to prefer to continue working with institutional theory while other alternative theories did not prove their falsity.

6. Institutional theory as an interfiled theory and the value of unification

Another argument in support of institutional theory is its ability to bridge different fields of social sciences and, in particular, in business studies. Darden and Maull (1977) introduced a certain type of theories (or better to say – a virtue that some theories have) to the philosophy of science, namely, interfiled theories. These theories emerge as bridges between different fields of science, “*may provide answers to questions which arise in one field but cannot be answered within it alone, may focus attention on domain items not previously considered important, and may predict new domain items for one or both fields*” (1977:43). Discourse analysis, communication research, psychology (research on emotions) – all these fields have been successfully approached by institutional theorists. Institutional theory links different fields of social sciences such as accounting research, higher education policy, urban studies or marketing. This synthesis works in both directions: theorists solve particular theoretical problems, puzzles, inconsistencies, anomalies, paradoxes and fill in the gaps and simultaneously apply institutional theory to new phenomena and areas of research (for example, social movements, inequality, accounting practices, politics, marketing or health care problems).

6.1. The value of unification

In this paper by unification we mean a theoretically meaningful and consistent synthesis via combination and mutual generalization of two or more scientific theories and/or fields. Unification is an attempt to integrate different theories and understand them as different puzzles of the same holistic picture. While Kuhnian model of long periods of normal science punctuated by non-cumulative breaks during scientific revolutions remains the most popular explanation of

scientific change and development, many working scientists deny this view and argue instead that science progresses by means of unification and generalization (Smolin, 2006). They would say that scientific progress is based ultimately on unification rather than fragmentation of knowledge (Maxwell, 2014)⁸. It is the model that can be of great value for organizational research where a problem of theoretical fragmentation and the so-called phenomenon of “paradigm wars” have been named as a major obstacle towards the cumulative increase of knowledge and progress (Willmott, 1993; Donaldson, 1995; 1998). By achieving more complete description of phenomenon, unification increases our understanding of this phenomenon. By unifying different theories, interactions and phenomena we achieve a better and more satisfying explanation by uncovering a common origin and showing that seemingly different phenomena are manifestations of a single and more fundamental force. We have different but successful in their respective domains theories that either ignore each other or conflict.

Organization theory is no exception. If we can show that different theories can be unified with each other on the more fundamental level, we can avoid inconsistencies in our understanding of organizations and open the door for further explanations of a wide range of phenomena otherwise left as a set of loosely related observations. Physicists arrived at a seemingly stalemate situation when both grand theories (Quantum Mechanics and General Relativity) although successfully explain and predict all phenomena in their range of application, are mutually incommensurable. Both cannot be unified and this means – cannot be simultaneously true and final description of the nature. The main reason each is incomplete, as Smolin noted, is “*the existence of the other*” (2006:4). Either one of them is false (which seems incredible as both have perfect confirmation record) or both should be modified, extended and mixed so a new final theory is yet to come. Organizational theories are more flexible and open for unification which is illustrated in the next subsection with an example of discourse analysis and institutional theory synthesis in the 2000s.

6.1.2. Types of unification.

In case of institutional theory we can distinguish between all least four main types of unification:

1. Both theories explain a puzzling phenomenon (Phillips et al., 2004; Rautiainen and Scapens, 2013);
2. Advancing one theory by an assistance of another (Oliver, 1991; George et al., 2006; Kennedy and Fiss, 2009);
3. Advancing and extending both theories:
 - a) Extending their range of application (Deephouse, 1999; Voronov and Vince, 2012);
 - b) showing their correspondence and interrelation (Voronov and Vince, 2012);

⁸ Both philosophers of science and scientists agree that the ultimate goal of scientific inquiry is the organization of all data of experience into scientific theories that give simple, self-consistent, and exhaustive explanations based on a few basic assumptions and ideas (von Bertalanfi, 1950). It has been noted that modern science demonstrates a general trend towards generation and unification as opposed to fragmentation and specialization typical for the 19th and the first half of the 20th century. New interdisciplinary fields such as chaos theory, synergetics, systems science, network science and non-linear dynamics offered a range of unifications between theories and fields which had nothing in common before. At the forefront of these unification attempts are cybernetic and systemic approaches used to try to understand “*the behavior of complex systems primarily in terms of relatively simple feedback mechanisms*” (Otley et al., 1995:34). In social sciences many researchers express the views that social and economic systems and structures can be understood in terms of evolutionary processes (Hodgson, 2013) or even as a non-linear dissipative structures that obey the same laws of chance and statistical mechanics as do physical or chemical systems.

4. Building a new theory that maintains previous two as a limiting case, being applicable in a larger domain and explaining more phenomena (Abrahamson, 1996; Czarniawska and Joerges, 1996). In this case, a new theory can be broader than its predecessor, and the ideal type of such new theory is able to explain everything its predecessor did and something else new. Thus such new theory covers more phenomena and explains more than existing best theory. Alternatively, a new theory can have a limited range of application (possibly narrower than predecessor) but it is able to explain something that the best existing theory either unable to explain or does not address this issue.

One of the most fruitful ways of extending scientific knowledge and increasing an understanding of scientific picture is to reinterpret existing successful scientific theories as special cases of broader scientific fields. We will consider a specific case of merging institutional theory with discourse analysis. A stream of research that treats institutionalization and institutional dynamics as a discourse and rhetoric strategies offers an interesting example of unification. It is a kind of unification that reframes institutional theory as a special case of discursive processes. According to this interpretation, discourses are institutional effects and vice versa (Phillips et al., 2004). Institutional processes thus are understood as existing and taking place in the socially constructed reality of discourses and rhetorical strategies. Institutional theory is reduced to discourse analysis and vice versa: the discursive analysis is extended so now it includes and explains also institutional processes and phenomena (Phillips et al., 2004; Zilber, 2006; Maguire and Hardy, 2009). In other interpretations any instance of organizational change can be reduced to discourse (Heracleous and Barrett, 2001).

In discursive perspective on institutional processes institutionalization is conceptualized as “*changes in the structure of arguments used to justify a practice over time*” (Green et al., 2009:11). Similarly, a diffusion of institutionally loaded practices can be understood as rhetorical efforts as “*the diffusion of a practice depends on the discursive justifications used to rationalize it*” (Green, 2004:653). Likewise, a discursive perspective helps to analyze the social construction and constitution of institutions (Phillips and Oswick, 2012). As such, institutional processes are clearly understood as a special case of discursive processes. From now on, according to this perspective, legitimating is an exercise in discourse construction and promotion and institutional change occurs and depends on actors’ ability to institutionalize a needed discourse. “*The content or structure of discourse reflects and shapes institutionalization*” (Green et al., 2009:11) as actors succeed in institutional change when they are able to shape the legitimacy of practices by means of rhetoric and persuasive arguments. Therefore, material aspects of institutions and visible structural changes are nothing but special cases of symbolic aspects. Traditionally a diffusionist account of institutionalization has been criticized for “*violating the inherently phenomenological assumptions of institutional theory*” and offering “*a structural solution to a cognitive problem*” (Suddaby et al., 2016:226). Many institutionalists have been unsatisfied with a prevailing institutional approach when the adoption of a new practice and an increase in diffusion are equated with institutionalization (Green, 2004; Suddaby, 2010). Discursive approach helped to depart from overly materialist and realist depictions of institutions and institutional change and approach a tighter link to the social-constructionist tradition in institutional theory (Green et al., 2009).

Green et al., (2009) offered an interesting and persuasive theoretical explanation of institutionalization. In their theory an extent of institutionalization directly depends on the amount of efforts made to promote and justify certain idea, practice, belief and understanding. A decrease in the amount of efforts directed at argumentation signals an increase in institutionalization and legitimation. This proposition effectively abandons and replaces the previous understanding of institutionalization as an extensive diffusion of material structures and objects.

Discursive approach provides a deeper explanation of the nature of institutions, institutionalization and, specifically, institutional effects and changes such as deinstitutionalization, field reconfiguration or the emergence of new practices and logics. In particular, Green's rhetorical theory of diffusion and institutionalization implies that "*changes in justifications and diffusion provide a basis for explaining institutionalization*" (2004:653). Discursive perspective on institutions offers a convenient methodological tool for exploring institutional effects and change. Also a deeper understanding was achieved for such phenomena as legitimacy, field-configuring events, institutional fields and various kinds of institutional change.

6.2. Handling blind spots and ambiguities in theoretical explanations and predictions

It can be agreed that institutional theory covers and explains many phenomena but in most general terms it is a theory that describes how organizations adapt to institutional demands and adopt institutionally legitimate and illegitimate practices. It is therefore a puzzling observation that institutional theory does not have an answer to the most interesting question in this respect, namely, what happens with institutional and non-institutional practices inside organizations? Institutional theory offered a rather unsatisfactory answer, proposing that decoupling occurs between adoption and actual use. But as a growing literature of practice adoption and variation demonstrates, there is a list of various heterogeneous responses to institutional standards and institutional pressures produce various, often unexpected outcomes (Ansari et al., 2010; Rovik, 2011; Firsova et al., 2022; Aksom, 2022).

In 2011, A Virus-like theory of idea-handling processes was proposed by Rovik as an alternative theoretical framework for studying what happens with

6.3. A too-much-plasticity effect

Returning to the example of population ecology, it has some modest success in bridging the fields of strategic management, entrepreneurship and international business but arguably not enough which can be explained by the lack of flexibility and "that's interesting" effect. Institutional theory is the most successful organizational and management theory in this respect. But while it is successful in unification there is also a negative side of the plasticity effect. Recently organizational scholars began recognizing the danger of such plasticity and the ability to penetrate various neighboring fields of research (Alvesson and Spicer, 2019; Alvesson et al., 2019; Alvesson and Blom, 2021). Over time, institutional theory increases in ambiguity. Being structured around the notion of the institution, institutional theory simultaneously extended and blurred what can be understood and accepted as an institution, institutional effect and institutionalization. However, unless this problem did not lead institutional theory to degenerate into an abstract pseudo theory, this virtue serves as a mechanism for expanding domains that can be explained and unifying various fields.

We now return back to where we started, namely, to the discussion of the string theory. Institutional theory's ability to address and unify many various loosely related phenomena, research questions and branches of social sciences is as attractive for organizational theorists as the string theory for physicists. Despite the obvious ambiguity of institutional framework, this theory promises to be the major candidate for being organizational and management (and even more broadly – sociological) theory of everything. Summing up, institutional theory is a string

theory for many social scientists in terms of being a candidate for a “grand unified theory”. Like the string theory, institutional theory covers as many fields and phenomena as possible without degenerating into a completely unfalsifiable pseudo theory that explains everything and nothing.

7. Conclusions.

The interpretative flexibility of institutional theory allowed it to become the dominant theory in organizational research. Flexibility is a key characteristic that prompted researchers to trust, accept and maintain institutional theory and this flexibility appeared to be more important in theory evaluation and acceptance than even empirical support, refutation attempts and willingness to search for alternative theories. This case supports the popular view in the philosophy of science that scientists accept theories even in the absence of empirical support and are not ready to abandon successful theories as empirical anomalies and lack of empirical support are never sufficient to cause the rejection of these theories.

Institutional theory is highly endorsed by organizational theorists because it allows achieving a remarkable theoretical unification, bridging various theories, fields of science and empirical phenomena and by organizational researchers as this theory allows making sense of most organizational phenomena. Interpretative flexibility of institutional theory thus hits two targets at once: it is able to expand by incorporating different theoretical areas and it is able to mobilize its basic principles to explain as many empirical observations as possible. Although being flexible enough to escape empirical scrutiny and while falsifiability and refutation is not applicable to organizational theories, institutional theory follows one important principle of falsifiability – the ability to delineate the boundaries of application. Institutional theory succeeded because it has achieved a balance between the interpretative flexibility and the ability to maintain more or less clearly delineated boundaries and established cause-effect structure. Another important source of success for institutional theory is its ability to be counterintuitive – the so-called “that’s interesting” effect. This effect is a prerequisite for being successful, flexible theory of organizations and outperforming competing theories.

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