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A DIFFERENT WAY

A TRIBUTE TO BRUNO MAGGI

ESSAYS ON SOCIAL ACTION AND ORGANIZATION

FRANCESCO MARIA BARBINI, GIOVANNI MASINO, MASSIMO NERI,
GIOVANNI RULLI, ANGELO SALENTO, MARCO ZAMARIAN

Abstract
In this ebook, six scholars from diverse disciplines - organization studies, sociology, and medicine - reflect on the influence of Bruno Maggi's work on their research and theoretical development and production. The specific topics include organizational change in enterprises and in work, and its relationship with technology, negotiation, learning, legal regulation, and health. These themes recall Maggi's scientific career and pay tribute to his original contribution to the interpretation of social action: the Theory of Organizational Action. Through his theoretical reflection, research, and teaching, Maggi has shown that, in line with what the epistemology of the human and social sciences has clearly indicated, it is possible to pursue a pathway that is distinct from the usual and opposing views of objectivism and subjectivism.

Keywords
Organizational action, Technology, Organizational negotiation, Well-being, Regulation, Learning.

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Table of contents

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Social action and organization

The six authors of this book present their respective theories, all driven by a common goal: a tribute to the *Teoria dell'Agire Arganizzativo* - Theory of Organizational Action.

The term "action" refers to Max Weber's thought. Weber poses social action as the fundamental issue; indeed, he talks about *Handeln*, rather than *Handlung*, in order to emphasize, through the use of the verbal noun form, that understanding social action is a matter of interpreting the process of action (not the executed action) and its development, while integrating time as a fundamental variable. Action (whether doing, omitting, or enduring) is endowed with meaning, it is social as it is directed towards the attitude of others, according to the intentional sense attributed to it by the subject agent. The subjectively intended sense of action thus coincides, in its (rational and non-rational) orientation, with its social dimension.

Is presenting a researcher's own theory to highlight another author's theory contradictory? Absolutely not: it is undoubtedly the best choice. Every theory expresses a "point of view", peculiar to its author, more or less deliberate, more or less systematically constructed. We should never presume that we can adequately present someone else's theory. Instead, it is entirely legitimate to wonder how a researcher has been inspired by a particular theory, and what he/she has drawn from it in constructing his/her own point of view. This is the simple yet demanding question that the authors of this book have asked themselves. And their answer constitutes the best tribute they could offer to the Theory of Organizational Action.

In an exemplary, almost pedagogical manner, Francesco Maria Barbini recounts how his initial research path was shaped by his encounter with a theory. His doctoral dissertation, which focused on organizational change in enterprises,

initially adopted the interpretative framework of the mainstream functionalist view of the world: a choice dictated, indeed forced, by what is commonly taught in university courses. However, this choice led to profound dissatisfaction, leaving fundamental questions unresolved. These questions found a solution in the subsequent transformation of the dissertation into a book: between the two drafts came the knowledge of a different theorization, the encounter with interpretations of organizational change drawn from numerous enterprises within the Research Program "The Organization Workshop", which is based on the theory of organizational action. This encounter led to a deliberate shift in the way of seeing: organizational change no longer appeared as the inevitable functional adaptation of a reified system to its environment, but rather as an intrinsic component of the processes of action that create and develop the reality of the enterprise.

The path evoked by Giovanni Masino is quite similar. His early research, beginning with his doctoral studies, concerned the organizational change in work induced by the development of information technologies. Here too, encountering the theory of organizational action helped him overcome the difficulties and obstacles of current interpretations, which fail to adequately account for changes in the regulation of work. A careful analysis of regulation reveals that what is often presented as autonomy in work is, in many cases, not autonomy at all, that is, not the result of rules established by the acting subject, but rather the result of rules imposed by others, and increasingly, as information technology advances, through digital procedures. From the initial research on "computer-aided" design, Masino's theory allowed unraveling these false autonomies in the subsequent, numerous transformations of work, up to the recent confusions induced in cases of activities that appear legally "independent" but are in fact rigidly constrained in content.

Massimo Neri presents a theory of negotiation. This theory, too, draws on the interpretation of organization as the regulation of processes of action and decision. Negotiation appears to be doubly connected with organization: not only is the regulation of action processes the result of negotiation, but negotiation

itself is subject to regulation. Neri also compares prevailing interpretations of negotiation in the literature, interpretations that assume either an objectivist or a subjectivist view of the world, with the interpretation he proposes, which is based on a view transcending the old, unresolved dichotomy between objectivism and subjectivism. Adhering to this vision also allows for the identification of an idea of justice, and an idea of human being, that closely aligns with the interpretation of social action processes inspired by the theory of organizational action.

The path presented by Angelo Salento likewise adheres to the theorization of the regulation of processes of action, in explicit opposition to interpretations that reify organization. His research focuses on transformations of work in large-scale industry, production processes, and inter-firm relationships, from the alleged "post-Fordism" to current strategies of pervasive "digitalization", in which the relationships between organizational changes and transformations in labor law are examined at every level. Salento's theory pays particular attention to the conceptualization of "rule" and "regulation" within the theory of organizational action, and to its connections with legal reflection, combining references to economic and work sociology, sociology of law, and labor law.

Marco Zamarian's theoretical reflection concerns the relationship between organization and learning. Developed through research on organizational routines and cognitive artifacts, knowledge management, and resilience in enterprises (particularly in high-risk contexts), his theory juxtaposes the various organizational learning theories in the literature, identifying their weaknesses and contradictions. Against this backdrop, he proposes an interpretation of learning as an inseparable aspect of every process of action derived from the theory of organizational action. In his theory, learning permeates the processes of action and is an essential component of their construction, while, at the same time, it is supported and guided by their regulation. Zamarian's reference to the theory of organizational action reminds us that this theory is at once a theory of learning, of training, and of education.

Giovanni Rulli's theory addresses the relationship between organizational action choices and the well-being of the acting subjects. The structuration and unfolding of the action process inevitably have consequences for the subject involved, in terms of both resources and constrictiveness, for his/her well-being, which is itself conceived as a perfectible process. Organizational analysis can thus engage in conversation with occupational medicine and other biomedical disciplines, as well as with ergonomics (in its various forms) to pursue prevention goals, particularly in work action processes. This has been demonstrated over four decades by the Interdisciplinary Research Program "Organization and Well-being", in which Rulli was both an early advocate and one of its most active contributors, engaging in research and interventions across a range of contexts (healthcare, education, commerce, and manufacturing) and producing numerous scientific publications. This activity attests to the possibility of constructing organizational theories that incorporate the well-being of acting subjects and to the possible realization of effective prevention in every process of action.

The theories of the six authors in this book address various aspects of social action and its regulation and are, in different ways, interdisciplinary theories. This is not surprising, since the theory of organizational action that inspires them is itself largely interdisciplinary. Likewise, the theories that inspired the theory of organizational action are interdisciplinary: we may recall Max Weber's theory of social action, Herbert Simon's theory of bounded rationality, James Thompson's theory of organizational action, and Georges Friedmann's theory of revalorization of labor. Interdisciplinary choices in theoretical construction involve considerable costs and difficulties, as they forgo the reassuring protection afforded by disciplinary institutionalization; however, while physical reality can be studied usefully within the safe borders of a single discipline, the realities of social action cannot be so constrained, they require open choices of knowledge.

It is equally unsurprising that the theories presented here presuppose a particular way of seeing, a view of the world, that differs from both the

mainstream objectivist and the subjectivist view, and that overcomes the opposition between objectivism and subjectivism along with the dilemmas it entails. Like the theory of organizational action, these theories are rooted in the third way clearly outlined by the epistemological debate that engaged the human and social sciences for three decades between the end of the nineteenth and the beginning of the twentieth centuries, and that can be recognized since the origins of the philosophy of Mediterranean civilization.

This book invites the readers to follow the example set by its authors, to reflect on the construction of their own theory, to clarify how they have been influenced by previous theories, what stimuli they have absorbed, and above all what view of the world, presupposed by the theories they have been inspired by, is - more or less consciously - the view they have been induced to share, or have freely chosen.

To the authors of this book, I extend my most sincere and profound gratitude.

Bruno Maggi

Introduction

This book has been conceived as a tribute to Bruno Maggi, a scholar whose intellectual work represents one of the most extensive and ambitious reflections on social and organizational action.

We felt that the most effective and respectful way to honor both the scholar and his work was not to propose a summary or reformulation of his ideas, an operation constantly at risk of redundancy and inaccuracy, if not outright distortion of his thought. Instead, we chose to recount how our encounter with Maggi and his work transformed our ways of seeing the world and interpreting research, and how this then gave rise to new ideas and new theories.

In the social sciences, as in every scientific field, it is possible to identify typical paths: different conceptions and ways of understanding and interpreting the phenomena studied. Each path consists of internally consistent ideas, concepts, and theories that, taken together, manifest a particular view of the world. Scholars' career paths are often associated with this choice, whether out of conviction and intellectual consistency, conformity to social and scientific community norms, or in response to incentives of various kinds. This relative order of intellectual paths has its positive aspects: it contributes to the clarity of the debate and the clarification of respective positions. Bruno Maggi has always emphasized the importance of understanding the structure of scientific debate in the social sciences, highlighting the multiplicity of epistemological choices and the often radical, irreconcilable diversity of ways of conceiving knowledge. He also observed that not all possible ways are sufficiently explored. Some can be identified as mainstream views, i.e., well-trodden and institutionalized paths, often reinforced by incentives. Others, on the other hand, are less common, certainly less easy, but sometimes very stimulating and enriching.

The contributions in this book follow *a different way*, as the title suggests: an alternative to the most popular routes. With consistency, rigor, and innovation, Bruno Maggi has traced an original pathway, profoundly different from the dominant ones. He did so in a manner increasingly rare today: by elaborating a systematic, coherent, and broad theoretical construct, explicitly rooted in epistemology and consciously ambitious. From this construct, each of us has drawn inspiration to develop his own research journey: each in his own way and on different topics, but all deeply influenced by Bruno Maggi's example.

This book is, in fact, an account of these intellectual stories, which inevitably intersect with personal experiences. It brings together contributions on organization, work, technology, negotiation, well-being, regulation, and learning while, at the same time, testifying to the importance and indispensability of theoretical reflection. Such an exercise seems particularly necessary in this moment in history, marked by short-termism, polarization, the primacy of speed and cost-effectiveness over depth and quality, the marginalization of expertise, and the exaltation of uninformed opinions, even those openly contradicting available evidence.

If systematic theorization constitutes the root of any reliable attempt to understand reality, the subjectivity inherent in every interpretation of phenomena must also be acknowledged - especially, though not exclusively, in the social sciences. Maggi often reminds us that "everyone proposes his/her own theory". By this he means not only the intrinsic richness of the sciences, which stems precisely from the variety of paths, but also the need to associate this variety with rigor and consistency: It is a rejection of dogmatism that does not, however, slide into relativism; rather, it points to a discipline of comparison, a continuous discussion aimed at improving our understanding of reality, while recognizing its provisional and perfectible nature.

We met Bruno Maggi at different stages of our careers, collaborated with him in diverse contexts, and benefited in different and personal ways from the conceptual tools offered by the theory of organizational action. Our disciplinary backgrounds are equally varied—from sociology to medicine to organization

studies. Maggi has consistently insisted on the importance of interdisciplinarity in research and reflection, and his intellectual biography is living proof of this. This book seeks to reaffirm that stance, testifying both to the significance of disciplinary traditions and to the necessity of placing them in dialogue, in comparison, and, whenever possible, in collaboration. Good research requires not only in-depth inquiry but also exploration. The contributions collected here embody both dimensions, and their order guides the reader along a path of increasingly explicit interdisciplinarity.

The desire to create this book dedicated to Bruno Maggi therefore stems from the intellectual debt we owe him and his intellectual contribution. Our scientific paths have been profoundly stimulated and facilitated by his theoretical proposal, but our debt goes further. It extends to his teaching as a mentor, always conducted by example, inspired by an idea of education consistent with his own theory and translated into practice. It is a teaching centered on discussion and debate as primary tools for growth and learning, on openness and interdisciplinary collaboration, and on the rejection of superficiality, inaccuracy, conformism, and utilitarian orthodoxy, and the need for uncompromising rigor. Last but not least, it concerns the conception of research as the development of long-term, wide-ranging research Programs: the identification of fundamental issues - such as well-being, work, and organizational action - explored over the long term, never with the presumption of definitive answers, but always anchored in essential principles and a coherent epistemological matrix; in short, a conception of research and reflection not only as a profession, but as a way of life. For decades, Bruno Maggi's example and teaching have inspired, and continue to inspire, our work. This book expresses our deep gratitude to the man we are proud to recognize as our *Intellectual Mentor and Guide*.

Enterprise change

Francesco Maria Barbini

Introduction

The contribution offered by Bruno Maggi and his Theory of Organizational Action[1] (TOA) to the study and interpretation of organizational change is remarkable, spanning methodology, theory, and the analysis and interpretation of concrete cases.

In 1983, he founded a research program on enterprise change, The Organization Workshop (*L'Officina di Organizzazione*), one of the most notable and long-lasting initiatives in organizational change studies and research. In almost forty years, more than 150 cases of enterprise change have been discussed in the Workshop's seminars. A substantial body of scholarly literature has emerged from this Program, including monographs (Maggi, 1998; 2001; Maggi, Masino, 2004; Masino, Maggi, 2013; Masino, 2015) and peer-reviewed articles with wide international diffusion and recognition.

Today, any student or researcher interested in organizational change cannot disregard this scientific work.

Notably, this research program did not originate from a sudden intuition but was a direct consequence of the theoretical framework developed by Maggi for understanding the organization and its transformations. The very rules of the Organization Workshop, unchanged since its inception, reflect the research methods advocated by Maggi.

Surprisingly, despite such extensive work on enterprise change, Maggi never published an essay providing a complete and substantive description of

[1] In the chapter *Social Action and Organization*, Maggi emphasizes that the concept of "action" should be understood in the sense used by Max Weber (Weber, 1922), who used the term *Handeln* instead of *Handlung* to underline, with the use of the noun verb (*Handeln*), the interpretation of the *process* of action (not the *performed* action) - that is, its unfolding over time, and the social meaning attributed to it by the acting subject - with time considered a fundamental dimension.

his organizational change theory. Why has one of the most prominent scholars of this topic never authored work explicitly titled "Organizational change"?

This chapter aims to reflect on the interpretation of organizational change offered by the Theory of Organizational Action.

Drawing on personal experience, it highlights distinctive features of Maggi's theory and illustrates how it enabled a young researcher to overcome significant interpretive impasses.

Studying organizational change

In the fall of 2002, I was about to complete my doctoral dissertation. The topic I had chosen concerned the development of virtual enterprise, i.e., new forms of inter-firm cooperation enabled by innovations in information and communication management systems.

The underlying theme of my research was organizational change. The dissertation not only advocated such change but regarded it as inevitable, driven by the demands of the contemporary competitive environment.

The opening section of the first chapter illustrates the methodological assumptions that guided the entire thesis:

"The competitive environment in which enterprises operate has changed dramatically over the past ten to fifteen years: the way of doing business today is markedly different from the traditional one. […] The new competitive environments, dynamic and complex, often undermine the efficiency and sometimes even the effectiveness of traditional organizational structures. Every enterprise today is faced with new and interconnected competitive challenges. […] Enterprises should therefore undertake a continuous process of change, or at least of organizational fine-tuning, to adapt to environmental pressures" (Barbini, 2002: 8).

Next came a paragraph praising flexibility, depicted as a fundamental (albeit not sufficient) prerequisite for business success. Finally, an explicit definition of organizational change was offered: "organizational change is a continuous process of adaptation to environmental stimuli" (Barbini, 2002: 10).

Therefore, my interpretation of the phenomenon presupposed a mainstream, typically functionalist view. The enterprise was conceived as an organic system that, in order to survive and succeed, had to maintain a dynamic equilibrium with its meta-system of reference: the competitive environment.

Environmental changes between the end of the twentieth century and the early years of the twenty-first century were portrayed as revolutionary and, accordingly, as requiring profound changes in enterprises. Indeed, those years were marked by significant changes in markets (new customer segments, increasing globalization, fiercer competition), by innovations in information technology (development of integrated information systems - ERPs, the Y2K bug that prompted organizations to renew their IT infrastructures, and the ubiquitous rise of the Internet), and by new management practices aimed at redesigning the enterprise "from a blank sheet" (business process reengineering, agile management techniques, knowledge management).

The functionalist view implied a process of organizational change dictated by shifts in the competitive environment, which required first adapting the enterprise's strategy, then its structure (intended as the system of jobs and departments), and finally the adaptation of human resource management choices.

Environmental change was depicted as sweeping and increasingly frequent (the so-called "turbulent" environment) such that periods of stasis (equilibrium) became progressively shorter.

As a matter of fact, this functionalist interpretation did not differ from Lewin's classic interpretation (Lewin, 1947): unfreezing–moving–refreezing. It simply emphasized that the interval between one "refreezing" and the next "unfreezing" was shrinking, rendering change *almost* continuous.

Thus, organizational flexibility, understood as an organization's ability to adapt quickly to environmental change, was elevated as a fundamental prerequisite for the enterprise's survival and success. The dissertation uncritically adopted this interpretation, noting that "the only way to respond positively to the forces of change is to create and institutionalize the ability to

change. Success lies not in predicting the future, but in building an organization capable of thriving in uncertainty" (Barbini, 2002: 11).

Adherence to the mainstream view still required an additional choice: either identify the competitive environment as a whole as the exogenous variable forcing the enterprise to adapt, or adopt an interpretation that identified IT innovation as the primary source of environmental disequilibrium driving organizational change (the so-called technological *determinism*).

I explicitly rejected the technological imperative in the dissertation: "Some scholars have formulated models hypothesizing that the use of certain information technologies automatically entails a change […]. Information technology is, by nature, 'neutral'; it cannot qualify as an automatic or quasi-automatic agent of organizational change; rather, it represents a means that allows enterprises to make the changes imposed by the growing complexity of the competitive domain. That is, the need for change does not come from technologies, but from the enterprise's environment. An enterprise that seeks to evolve in order to develop the abilities described above finds in Internet technologies an exceptional means to implement and support the necessary changes" (Barbini, 2002: 1).

On the other hand, it was necessary to acknowledge the impact of IT innovations on the environment. The dissertation emphasized that "clearly, these new technologies, by leading to global competition, become a source of further environmental complexity: established competitive advantages can be destroyed, new ones can be created; indirectly, the Internet thus contributes to creating new stimuli for organizational change" (Barbini, 2002: 75).

This stance was consistent with the prevailing literature of the time, which considered new ICT tools as powerful enabling factors allowing a (more or less broad) array of organizational change options.

Despite fully adhering to the dominant view in the literature, my theoretical framework left me dissatisfied on at least three fundamental issues.

First, the uncritical portrayal of the contemporary competitive environment as uniquely complex and uncertain, justified by comparison to an earlier era supposedly characterized by backwardness, slowness, and simplicity.

It is a typical attitude, and it suffices to consider the Fordism versus post-Fordism debate (Masino, 2005). However, the slavish acceptance of these assumptions becomes the basis for justifying the need to radically change an enterprise's strategy and structure and proclaiming supposed "paradigm shifts".

Also, a consequence of such representations is that classical organizational theories are dismissed as unsuitable for interpreting the contemporary world, thus fueling voracious cycles of developing and adopting new theories (which would end up being rapidly superseded). These new and up-to-date theories, generally bearing attractive and grandiloquent names, ultimately substantiate themselves as collections of practices and techniques. They repeat in a more naïve form concepts and interpretations already existing in the literature (for example, business process reengineering, or coopetition). They appear quickly, become popular quickly in scientific debate and business practice, and are quickly forgotten.

In my doctoral dissertation, I attempted to challenge these assumptions by posing a question, "Perhaps doing business in the Internet age is more complex than it was in the Middle Ages?" (Barbini, 2002: 10).

This intriguing question could have paved the way for an in-depth discussion of uncertainty-related issues. However, questioning the universal scope of the social and economic changes of the 1990s-2000s would have undermined the entire interpretive framework on which my thesis rested (the revolutionary changes in environment and technology that imposed and necessitated generalized organizational change), so the question was quickly dismissed: "In fact, conducting an online transaction is neither more complex nor more risky than importing spices from the Far East in the 1300s. The fundamental difference lies in the interconnectedness of economies, the global scope of opportunities and threats, and the swift pace of innovation" (Barbini, 2002: 10).

I even found in a folder containing the material used for the first chapter of the thesis a text note in which I had marked some events and changes between 1450 and 1520.

The Renaissance flourished in Italy and Europe during this period, influencing many social, cultural, and economic areas.

In 1453, Constantinople fell and the Byzantine Empire collapsed (after over a thousand years); among other consequences, it is essential to note that this event complicated trade between Europe and the Orient. In 1487-1488, Bartholomew Diaz rounded the Cape of Good Hope and opened a new route to the Indies. In 1492, Christopher Columbus discovered America in his attempt to open a western route to the Indies. In 1498, Vasco da Gama landed in India, circumnavigating Africa.

In 1494, Spain and Portugal signed the Treaty of Tordesillas, dividing the newly discovered territories in the Americas and areas of influence in the Indies.

Between 1454 and 1455, Johannes Gutenberg perfected movable type printing.

Finally, in 1517, Luther initiated the Protestant Reformation.

Also profound were the contributions in science and culture made by Raphael Sanzio, Niccolò Machiavelli, Lorenzo de' Medici, Filippo Brunelleschi, Leonardo da Vinci, Michelangelo Buonarroti, Erasmus of Rotterdam, and Thomas More. Shortly thereafter, Copernicus and Galileo would arrive.

Drawing on these historical elements, I considered comparing the scope and consequences of these events with those between 1930 and 2000 to put into perspective the magnitude of contemporary technical, economic, and social revolutions. Once again, this intent was abandoned for opportunistic reasons.

Another issue that troubled me was how Simon's (1947) theory of bounded rationality was treated. This theory was mentioned in almost every major theoretical contribution of the period. However, the concept was treated as ancillary and instrumental to the alleged ability of new managerial techniques and tools to overcome this "problem". The limitations of human rationality were attributed to the decision maker's poor computational capabilities and the

unavailability of a complete set of information and knowledge. Basically, the literature referred to limitations in means, never to limitations related to ends.

As a result, bounded rationality was interpreted as a constraint or, more precisely, as a potentially surmountable obstacle (*e.g.*, through enhanced computational capabilities provided by IT tools, or through access to "boundless" amounts of information via the Internet). Furthermore, these limitations were primarily applied to enterprise decision-making processes, while seemingly sparing those responsible for designing change. The latter were implicitly considered capable of making wise and optimizing decisions.

My final, and perhaps most important, source of dissatisfaction concerned the autonomy of enterprise decision-makers. Although entrepreneurs and top managers were celebrated in almost heroic terms at the time, the functionalist perspective seemed to diminish room for action and innovation.

If a successful enterprise is the one that more rapidly and effectively interprets changes in the competitive environment and adapts to them, then what margin of freedom remains for decision-makers? Is the successful entrepreneur /manager a creator and destroyer, a visionary, or rather a butler to the customer (*i.e.*, someone capable of understanding and fulfilling the needs of the dominus even before those needs are explicitly expressed)?

Although functionalist theorization argues that equilibrium between the firm and its environment can be achieved through different means and paths (equifinality), this does not result in asserting the decision-maker's freedom. The desired state of equilibrium is, in fact, predefined and prescribed. It is also worth noting that, according to this theory, among all possible adaptation paths, it is always possible to identify the most efficient, namely, the one that ensures optimal functional adaptation. Thus, for mainstream theory, the role of the "good" decision-maker is not to select an effective adaptation strategy, but rather to identify the best fitting one, the optimal adaptation strategy (in a decision-making context in which bounded rationality once again fades into the background).

To borrow the metaphor of the iron cage, initially formulated by Max Weber and later revisited by DiMaggio and Powell (1983), it is not difficult to imagine enterprise decision-makers trapped in a cage defined by the prescriptive nature of functional adaptation to rigid and unmodifiable exogenous constraints.

Indeed, alternative interpretive paths would have been possible in developing the dissertation, especially considering the popularity of subjectivist and phenomenological theories in the management information systems field (such as, for instance, the contributions of Ciborra, 2002). These theories rejected the prescriptive nature of organizational change and emphasized the agency of decision makers. However, they also denied the strategic intentionality of decision makers and tended to produce post hoc, non-generalizable interpretations. Although I felt uncomfortable with the mainstream interpretation, the prospect of embracing subjectivist alternatives was even more unsettling. Therefore, despite my methodological misgivings, the dissertation ultimately unfolded within the mainstream theoretical framework.

The encounter with the Theory of Organizational Action

In 2003, at the end of my doctorate, I was preparing to turn my dissertation into a monograph: the occasion was propitious for attempting to resolve the abovementioned issues.

The encounter with Bruno Maggi and the study of the Theory of Organizational Action (Maggi 1984/1990; 2003/2016) proved to be fundamentally important in this endeavor. Yet the consequences of engaging with the Theory of Organizational Action turned out to be far more profound than I initially expected.

Progress, social and economic innovations, and interpretation of organizational change

Maggi and Solé's (2007) discussion of Taylor's view of the world provided an enlightening contribution to my reflection on the theoretical development of the social sciences. In the conclusion of their study, Maggi and Solé state:

"This study demonstrates the need to return to the great authors by reading their original texts. This imperative concerns both teaching and research. It is so convenient and easy to use textbooks that disseminate secondhand interpretations, further widening the gap between what is taught to students (even doctoral students) and the content of the great classic texts. More than ever, we are fascinated by novelties and fashions, by the most recent articles published in the 'major international journals'. To this ease and fascination, we counterpose the hand-to-hand fight with the great texts. […] Moreover, we note the increasingly evident lack of historical perspective in reading the great texts. We mean, of course, long-term history. If teaching and research speak of so much change, if 'we see' so much novelty, is it not above all because we are suffering from myopia?" (Maggi, Solé, 2007: 23, *our translation*).

This conclusion is a warning and points to a research method. It is a warning toward the pursuit of easy consensus. For the researcher reflecting on enterprise change, presenting the "new" as a revolution and defining the past as old and useless is instrumental in making new "paradigms" and inevitable organizational interventions. Moreover, adopting mainstream interpretations finds quick acceptance in the scientific community, securing legitimacy and reputation. But what is the cost of this?

First, a loss of awareness, which generates genuine enthusiasm for interpretations and solutions that seem revolutionary despite essentially being recurrences of historical patterns.

Also, and more seriously, a loss of memory, which leads to investigating recurring phenomena as if they were new each time, and to providing interpretations and explanations similar to the classical ones, albeit expressed in different languages.

Even in the social sciences, scientific progress cannot arise from continuous "reinventing the wheel" but should occur by standing "on the shoulders of giants".

Building on these insights, in the book I published in 2007, I completely revised the historical framing of phenomena, taking dominant interpretations into account without endorsing them:

"Mainstream literature and managerial practice propose a true 'paradigm shift', asserting the superiority of the post-Fordist orientation: in a world characterized by rapid and continuous transformation, where the foundations of competitive advantage erode quickly, enterprises can achieve and maintain success only by fostering and institutionalizing the capacity to change, adapting in real time to the environment, that is, becoming flexible. It is, however, important to emphasize that there exist several critical interpretations of this supposed new 'paradigm'" (Barbini, 2007: 5).

And again:

"Virtually all of the foundational contributions to the theory of the virtual enterprise present this new 'creature' by strongly emphasizing its discontinuity with traditional models of cooperation. […] In contrast to a world populated by rigid, obsolete (Fordist) enterprises fighting one another for success, producing low-quality goods and neglecting customer needs, we are presented with an idealized world in which small and medium-sized enterprises, managed with high rationality and ethical integrity, cooperate in an atmosphere of trust and mutual respect, producing high-quality products and services aligned with the (more or less explicit) needs of consumers" (Barbini, 2007: 15).

My departure from functionalist interpretations finally allowed me to avoid falling into value-laden propositions and normative aspirations:

"The next step consists in eliminating the issue of desirability from the objectives of our investigation: the application of a scientific method does not allow us to assign ethical or moral labels to phenomena. Our analysis will focus on factual judgments, leaving value judgments to other forums. As regards innovativeness, it is important to emphasize that a combination of innovative (managerial, technological, and organizational) characteristics does not automatically result in an innovative product" (Barbini, 2007: 21-22).

Bounded and intentional rationality as an antidote to functionalist prescriptiveness

The Theory of Organizational Action adopts a definition of bounded rationality that aligns with Herbert Simon's (1947) original conception. In this framework, limitations on rationality are not only concerned with means; they extend to ends, highlighting the impossibility of precisely defining a complete and stable set of goals or establishing rigid preference hierarchies among different goals.

Consistent with Simon's original insights, human action and decision processes do not occur in a situation of strategic blindness. Still, they are guided by intentionality, *i.e.*, directed toward goals (albeit variable and imprecisely defined). An intentional and bounded rationality.

Under this interpretation, the limitations of rationality are not obstacles to be overcome, but instead constitute fundamental and inevitable traits of human nature, as had already been emphasized by Chester Barnard's classical theory (1938).

Drawing on these references, I placed bounded and intentional rationality at the core of my theory of the virtual enterprise, stating that: "Our theory of the virtual enterprise is also based on decision makers' bounded rationality, which prevents the complete predetermination of cooperative action, but acknowledges the intentionality and planning capacity of individuals, who are able to understand the key dynamics of cooperation and to orient its development" (Barbini, 2007: 25).

Adhering to the classical definition of bounded rationality had further implications regarding the issue of decision-makers' freedom.

Initially, I had attempted to resolve the tensions emerging from functionalist interpretations by referring to James Thompson's (1967) theory on domain and task environment. However, the decisive breakthrough came from embracing the bounded rationality perspective.

In particular, I realized that the functionalist "iron cage" is conceivable only under conditions of absolute rationality. Without a perfect capacity to

analyze the competitive environment and design appropriate (fitting) strategies and structures, the iron cage loses all explanatory meaning.

Moreover, functionalism interprets wrong choices and errors as the outcome of flawed decision-making processes (due, for example, to incomplete market analyses or inaccurate estimations of variables); in principle, then, errors and failures are always avoidable. Within this framework, the decision maker's task is to make the right decision. Hence, the iron cage: the decision-maker is conceptually trapped by the imperative to achieve optimal adaptation to rigid, supposedly non-negotiable external constraints.

In contrast, bounded rationality implies an imperfect knowledge of means and cause-effect relationships, and an incomplete awareness of the ends to be achieved. Therefore, error can be interpreted as an unintended consequence of intentional actions and decisions; thus, it becomes inevitable (Antiseri, 1995).

Under bounded and intentional rationality conditions, the decision maker cannot be anything but free. Free to make mistakes, free to change goals and the means used to achieve them, free to face uncertainty with strategies deemed plausible and promising, without any absolute certainty of their effectiveness. The limits of human rationality then represent the principal antidote to the functionalist prescriptiveness.

Organizational change in the organization conceived as the regulation of the action and decision process

Beyond helping resolve the inconsistencies described above, my encounter with Bruno Maggi and the study of TOA marked the beginning of a much broader process of reflection and learning.

At first, in my attempt to grasp the theory of organizational change as conceived within the TOA framework, I searched for specific essays in Maggi's books and articles published in journals or presented at conferences. I found none.

Although change appears repeatedly in TOA's foundational texts, and despite a research program (The Organization Workshop) dedicated to

enterprise change, an essay explicitly focusing on organizational change is simply absent.

The reasons for this absence were not immediately clear and only emerged through a deeper study of TOA's foundational principles. Only after understanding the conception of organization presupposed by TOA was I able to identify the logical connections between the concepts of rationality and freedom, as well as the distinctive interpretation of how organizational theories evolve.

Specifically, my gradual engagement with TOA's processual conception of organization allowed me to investigate three key issues:

- Hypothesizing why a substantive theory of organizational change is absent in TOA;
- Grasping the methodological rationale behind the rules and success of the research program L'Officina di Organizzazione;
- Recognizing the potential benefits of adopting the TOA's perspective for studying organizational change.

The outcomes of this learning journey far exceeded my expectations. In particular, beyond answering my initial doubts, I acquired alternative methods and conceptual tools for interpreting organizational change.

TOA and organizational change

The fundamental cornerstone lies in the conception of organization as the regulatory aspect of the process of actions and decisions (Maggi, 2011). Only by understanding this conception can the different components of the TOA be connected, and the absence of an explicit theory of organizational change be fully explained.

However, reorienting my research toward the TOA posed considerable challenges. The reason for these difficulties was not hard to identify: we are used to reflecting on reified systems, and our language is typically reifying; even when we try to focus analytically on processes, we tend to revert to thinking about concrete systems and their relations with acting subjects.

Personally, I believe I succeeded in adopting a truly processual conception by engaging deeply with the simplest of cases: the organization of a party. In this instance, the use of the term "organization" is, even in everyday language, processual: when we refer to the organization of a party, we mean regulating a process of actions and decisions oriented toward achieving a goal. This allows avoiding the traps of reifying language. Moreover, in this particular example, no pre-existing hierarchical systems or role systems might divert our attention from the processual dynamic.

The organization of a party is the regulatory process of social action, which unfolds over time and involves decisions and actions carried out by multiple subjects, each pursuing their own goals. The organization of the party involves decision-making processes made by many subjects: those who plan the event, those who provide the venue, food and beverage suppliers, musicians. It also includes invited guests and potential sponsors.

The regulation process encounters opportunities and constraints in relation to other processes of decisions and actions, as well as power and dependency relations between those processes.

Is there one single goal underlying and catalyzing the organization of a party? One might suggest that it is to organize a "successful" party. But what exactly constitutes success? In reality, the subjects involved in the processes of decisions and actions define success differently. Those offering the venue may be interested in making a good impression or ensuring that everything proceeds peacefully and without damage. For one of the initiators, success might mean guest satisfaction, the presence of particularly popular attendees, or a positive image shared across specific social media platforms. For the catering service, success might relate to the quantity, quality, or cost of the food consumed. And so on. These goals are not necessarily coherent with one another, and they are constantly evolving.

We can therefore state that there is no single goal underlying the organization, and that at any given time, there exists a vector of goals toward which the individual decision-making processes are oriented. The direction

taken by the organizational process depends on the evolving power-dependency relationships that emerge over time.

Moreover, the process of action and decision is always exposed to uncertainty; the regulatory process seeks to reduce this uncertainty, but can never eliminate it.

The organization of the party evolves. Paradoxically, even if the initiators of the party took no action at all, the organization would still change, as the constraints and opportunities defined by the decisions of others would change. In this view, time becomes a fundamental organizational variable, one that implies continuous change: "Time is central to the interpretation of human action when it is understood, precisely, as action, as a process of action, an open-ended, ongoing process, not as an accumulation of completed actions" (Maggi, 2013: 19).

A process is, by definition, in constant change.

So, does it make sense to refer to the concept of organizational change when the organization is conceived in processual terms? The answer is undoubtedly negative, since in this conception, organizational change is endogenous to the definition of organization. The question "When does organizational change occur in the organization of a party?" is logically wrong, since that organization is constantly evolving.

A different thing is the narrative, analysis, and explanation of the changes deemed most important in the organization of a party. Here we are dealing with the (subjective) narrative and interpretation (also subjective) of the organization's history.

This processual conception can apply to any organization: the organization of Fiat can be studied as the organization of the party. The only difficulty is generated by the large amount of reifying legacies and predetermined systems that a case like Fiat proposes as decoys to the researcher.

The Organization Workshop and the enterprise histories

The Organization Workshop represents a successful, decades-long research experiment initiated in the 1980s. Its methods and rules have remained

unchanged despite successive waves of managerial fads and technical and environmental "revolutions". At least three generations of corporate executives have participated in its sessions. A substantial number of researchers have interpreted the narratives of organizational change presented by executives through the lens of their respective theories.

The architecture of the Organization Workshop reflects a specific view of the world and a processual conception of the organization (Maggi, 2013; 2015): "According to the view of organization as a process of actions and decisions, the 'actor' and the 'reality' are not separated, the process of action and the acting subject are inextricably linked. There is no reality observable from the outside, either as predetermined or as objectified through its construction; rather, there are as many realities as there are acting subjects. In this view, the 'researcher' as conceived by objectivist and subjectivist perspectives does not exist; instead, every subject is responsible for analyzing and interpreting his/her processes of action. In other words, every process must be observed 'from within'. For this reason, the Theory of Organizational Action has developed a research strategy grounded in the analysis of the conduct of the subjects whose processes are being studied. The dynamics of the Organization Workshop come remarkably close to this goal and are based on this logic. In every case of organizational change discussed in the workshop, the protagonists' interpretations are the debate's starting point. These are then supplemented by the interpretations of 'peers', subjects involved in similar processes of action, and this 'cross-dialogue' activates new interpretive insights. Only on this foundation are the Program's research efforts built, producing the theoretical readings that result in the Program's published work" (Maggi, Masino, 2004: 12, *our translation*).

The methodological choices I adopted in my 2007 book on the virtual enterprise owe a direct debt to the methodological approach underpinning the Organization Workshop: the coexistence of competing interpretations aimed at explaining concrete phenomena, discussion, and confrontation of theories. These methodological foundations are stated in the book's introduction:

"In this contribution, we offer our proposal for defining and interpreting the phenomenon of the virtual enterprise. In the first chapter, we address the definitional problem that characterizes this concept by reviewing the most relevant theoretical contributions on the subject. Rejecting the idea of unifying the various theoretical proposals, we construct a theoretical framework for confronting the competing theories. […] In the following chapters, we will use the framework introduced in Chapter One to isolate and analyze the various interpretations that the literature on the virtual enterprise offers about key topics of interest" (Barbini, 2007: IX).

The reference was to Maggi's theory:

"To construct this theoretical framework, it is necessary to examine the underlying orientations presupposed by the various theories. In the follow, we will adopt the Framework of the conceptions of organization proposed by Maggi (1984/1990, 2003/2016), which, drawing on the methodological debates in the human and social sciences developed between the late nineteenth and early twentieth centuries, identifies three primary orientations in the study of organizations: the orientation of the system predetermined to the subjects; the orientation of the system produced by the interactions among subjects; and the orientation of the process of actions and decisions. We will use these ideal-typical orientations to explain and bring order to the numerous theories of the virtual enterprise" (Barbini, 2007: 22).

Adopting a truly processual conception of the organization

In the end, to resolve my doubts as a recent PhD graduate, it would have been enough to read carefully the Dispute on the conceptions of the decision-making process by Maggi and Solé (2010). In one remarkably lucid passage, the authors address a key issue that had underpinned my dissatisfaction with the functionalist explanation of organizational change:

"[…] the decision process is neither determined nor undetermined. Every decision constrains the following decisions, but such constraints are also the resources for the development of the decision process. In every circumstance

there is freedom and constraints. There is no single reality, there are always several representations of reality. According to this approach, actions and decisions are supported by intentions, even if the pursued goal is neither a given nor clear. It evolves, and it transforms itself while the decision process is developed. Actions and decisions try to deal with uncertainty, which while being always present, it can be more or less influential. There are no objectively good decisions, but one can assess the relationship between desired outcomes and available means in order to achieve them. Such rationality is bounded and intentional, just as bounded is human reason" (Maggi, Solé, 2010: 19).

This interpretation implies the necessity of adopting a conception of organization as the regulation of the action and decision process. It implies abandoning the safe harbors of systems, roles, strategic planning, and change management, and instead embracing a consistent view of the world.

A researcher and his/her theory

The interpretation proposed by the Theory of Organizational Action offers an innovative and remarkably effective way to study organizational change.

Personally, I believe that the most significant benefit I have derived for my research activities, not only about organizational change, has come from my direct acquaintance and collaboration with Bruno Maggi.

First, Maggi reminds researchers, even novices, of the need to become aware of their epistemological choice and point of view, of their theory. Everyone has a point of view (not necessarily scientific) on the phenomena they study. Researchers, however, bear the responsibility of becoming conscious of their theory to strengthen it, primarily by identifying and correcting its internal inconsistencies; and they should not be afraid to present it to the scientific community.

This does not involve complete autonomy or self-referentiality for the researcher: Maggi emphasizes that every theory presupposes a view of the world (and must therefore be coherent with it), and that it must take a position in

relation both to theories grounded in the same view of the world and to those that study the same phenomena from different views:

"Every theory is inevitably different from any other. In its construction, it refers to earlier theories and, in various ways, incorporates some of their elements; in doing so, it indicates its analytical perspective, which in some respects is indebted to the theories it references and builds upon. Every theory presupposes a conception of the phenomena it seeks to explain, a view of the world, and a conception of the interpretative criteria and methods it employs to observe and interpret its field of study. In short, a theory and the perspective it indicates presuppose an epistemology" (Maggi, 2015: 76, *our translation*).

Familiarity with alternative theories also implies respect for the interpretations they offer. Maggi has consistently advocated for tolerance: there are no "right" or "wrong" theories, no "old" or "new" theories, only different points of view competing to explain phenomena. The awareness of one's own theory and the commitment to improving it require deep knowledge of and respect for competing theories: "Theories and perspectives are confrontable, not comparable. Only from a dogmatically objectivist standpoint does knowledge advance through cumulative stages, and only within that view can one believe that a theory or a perspective is 'better' than another. Every theory is different from the others and must be evaluated solely in terms of its construction and internal coherence" (Maggi, 2015: 80, *our translation*).

The study and reflection on TOA and the view of the world it presupposes not only contributed decisively to the refinement of my book on the virtual enterprise but also helped me become aware of my theory on organizational change. This awareness allowed me to identify my theory's errors, inconsistencies, and missing elements. Moreover, it enabled me to position my theory within a broader theoretical perspective, identifying the scholars and theories to whom I am indebted (particularly Maggi, Simon, Thompson, and Barnard) and those with which my theory competes in explaining the phenomena of change in enterprises. This has been the beginning of an ongoing learning process.

Yet what Maggi taught me extends far beyond organizational change, or even organization studies; it concerns the methodology of research and, more profoundly, what it means to be a researcher.

References

ANTISERI D.
1995 *Liberi perché fallibili*, Messina: Rubbettino.

BARBINI F.M.
2002 *L'impresa virtuale. Modalità organizzative e tecnologie abilitanti*, Doctoral Dissertation, Roma: Luiss Guido Carli.
2007 *L'impresa virtuale. Teoria e pratica*, Torino: ISEDI.

BARNARD C.I.
1938 *The functions of the executive*, Cambridge: Harvard University Press.

CIBORRA C.
2002 *The labyrinths of information: Challenging the wisdom of systems*, Oxford: Oxford University Press.

DIMAGGIO P.J., POWELL W.W.
1983 The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields, *American Sociological Review*, 48, 2: 147-160.

LEWIN K.
1947 Frontiers in group dynamics: Concept, method and reality in social science; equilibrium and social change, *Human Relations,* 1, 1: 5–41.

MAGGI B.
1984/1990 *Razionalità e benessere. Studio interdisciplinare dell'organizzazione*, Milano: Etas Libri.
2003/2016 *De l'agir organisationnel. Un point de vue sur le travail, le bien-être, l'apprentissage*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.
2013 Storie di imprese e storia dell'impresa, in Masino G., Maggi B. (Eds.), *Storie di imprese*, Quaderno del Programma di Ricerca "L'Officina di Organizzazione": 1-23, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

2015 Nota sulla teoria e sul metodo, in Masino G. (Ed.), *Dibattito su Storie di imprese*, Quaderno del Programma di Ricerca "L'Officina di organizzazione": 75-81, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MAGGI B. (ED.)
1998 *L'Officina di Organizzazione. Un osservatorio sui cambiamenti nelle imprese*, Roma: Carocci.
2001 *Le competenze per il cambiamento organizzativo. Casi e dibattiti dell'Officina di Organizzazione*, Milano: Etas.
2011 *Interpréter l'agir: un défi théorique*, Paris: Presses Universitaires de France.

MAGGI B., MASINO G. (EDS.)
2004 *Imprese in cambiamento. Officina di Organizzazione: 20 anni. Casi e dibattiti 2000-2003*, Bologna: Bononia University Press.

MAGGI B., SOLÉ A.
2007 Société, entreprise, individu : la surprenante actualité de la « vision du monde » de Taylor, *Cahiers de recherche HEC*, 869 : 1-25.
2010 *Dispute sur les conceptions du processus de décision / A dispute about the conceptions of the decision process / Disputa sulle concezioni del processo decisionale*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MASINO G.
2005 *Le imprese oltre il fordismo. Retorica, illusioni, realtà*, Roma: Carocci.

MASINO G. (ED.)
2015 *Dibattito su Storie di imprese*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MASINO G., MAGGI B. (EDS.)
2013 *Storie di imprese*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

SIMON H.A.
1947 *Administrative behavior*, New York: McMillan.

THOMPSON J.D.
1967 *Organizations in action*, New York: McGraw-Hill.

WEBER M.
1922 *Wirtschaft und Gesellschaft*, Tübingen: Mohr (critical edition by J. Winckelmann, 1956).

New technologies and work transformations

Giovanni Masino

Introduction

Organizational change and, more specifically, the transformation of work organization, has been the central focus of my research activity since the beginning of my academic career. It is a particularly broad topic, open to interdisciplinary exploration and articulated in numerous specific themes. In this contribution, I will address some of the issues I have dealt with since the early stages of my research career. I will follow a thread that largely mirrors the trajectory of my own reflections, though its aim is not autobiographical. Rather, the primary objective is to highlight how encountering a theory and its proponent (in my case, the Theory of Organizational Action proposed by Bruno Maggi) can significantly influence and support a researcher's work. In fact, such influence may well go beyond research. A good theory can quite literally change a life: it can alter how one conceives of oneself in relation to the world, change the decisions one makes, and shape one's professional and personal journey. In today's world, where social sciences are often criticized for being self-referential, disconnected from reality, incapable of offering "useful" and "practical" solutions, and where critical thinking seems to be an increasingly scarce resource, I believe it is essential to reaffirm the importance of theorization. Describing a personal journey in which the encounter with a specific theory deeply changed one's way of acting and thinking can be an effective way not only to emphasize its relevance, but also to honor those who, like Bruno Maggi, have devoted their lives to theorization and research.

A secondary (yet still important) objective of this text is to offer some interpretive tools that I believe to be useful for understanding the transformations of work (especially from an organizational perspective) that have emerged over the past three decades. The goal is not to provide an

exhaustive description of these transformations, but rather to propose and exemplify a way of reasoning about them, one that is guided and informed by Bruno Maggi's theory. It should be underlined that what is presented on these pages is the result of my own, personal reading of Maggi's thinking, an interpretation that is inevitably subjective, personal, and certainly different from other possible ones. As Maggi himself wisely likes to say, "each person has her own theory", and this holds true even when one's own theory is explicitly grounded in the work of those who came before. To truly understand any author's thinking, it is always best to refer to the source, to read the author's own texts, and never rely solely on shortcuts or secondhand interpretations. It is therefore important to clarify that even when I will attempt to illustrate certain concepts proposed by Maggi, what I present will always reflect my own personal understanding of them, without any intention or presumption of summarizing them in a "faithful" way, or of being able to replace the original texts.

The starting point: new information technologies

My academic journey began, in the first half of the 1990s, with a research project proposed to me by Bruno Maggi on the topic of work transformations in the field of industrial design. At that time, the introduction of the first CAD (Computer-Aided Design) systems was emerging, and Maggi suggested me to study the changing nature of the work carried out by designers and draftsmen in the manufacturing industry, work environments where intellectual and creative contributions were central and, until then, considered irreplaceable. It is worth noting that, in the early 1990s, the digital revolution was still in its infancy, underestimated by most, or even dismissed as a transient and low-relevance phenomenon. A short article by Nobel laureate Paul Krugman published in 1998 (at a time when the growth of the Internet was already clearly accelerating) became famous for precisely this reason: in it, Krugman argued that the economic impact of the Internet would be comparable to that of the fax machine[1].

[1] I refer here to a short but provocative article that Krugman (1998) published in *Red Herring*, in which he argued that the optimistic predictions about the progress of information technology,

Maggi had already conducted a study years earlier on work supported by CAD systems (Maggi *et al.*, 1988), recognizing the relevance of the transformations that information technology would bring to the world of work without falling into the easy enthusiasm shown by many. I quickly realized that Maggi was not only proposing a cutting-edge research topic but also a "way" (that is, a proper theory) to study and understand the phenomenon, one that struck me as decidedly unusual compared to what I was encountering in the available literature. Over time, I came to understand that his theory was rooted in a radically different worldview from that of the mainstream and was grounded in a different epistemology.

The research on CAD turned out to be a fortunate starting point, as it involved work environments that had traditionally been considered impermeable to any real attempt at automation. Designers were, at the same time, workers of both mind and hand, part engineers and part artists, part calculators of measurements and geometries, and part creative geniuses guided by intuition and inspiration. Despite the ongoing process of automation that, since Ford, had never stopped advancing into new fields of activity, it was not even conceivable that a machine could replace the problem-solving capacity of these designers, let alone their creativity, which was seen as intrinsically human and therefore (at least seemingly) irreducible to programs that, no matter how complex, was at the time viewed as a mere set of codes and procedures. Certainly, there had already been some early signs: for example, experiments with the so-called "expert systems", which relied on highly formalized methods for codifying solutions to clearly defined problems. Although such tools were

which was already widespread in 1998, were wildly exaggerated. In another passage, Krugman writes: "A*s the rate of technological change in computing slows, the number of jobs for IT specialists will decelerate, then actually turn down; ten years from now, the phrase information economy will sound silly*". On the one hand, it's easy to poke fun at Krugman's glaring forecasting error (particularly striking because his prediction was framed in terms of economic impact). On the other hand, I think that Krugman's position can be better understood if one does not confuse the speed of technological progress with the growth of its actual benefits, especially when those benefits are assessed not just in strictly economic terms, but also in terms of human well-being and quality of life. These two aspects do not necessarily coincide, as I will argue later in this text. In that article, Krugman himself briefly mentions (though in a single sentence and without clarification) the issue of the *usefulness* of technology as distinct from the notion of technical advancement.

referred to as "decision systems", the complexity of the decisions they addressed was entirely contained within the developers' ability to match predetermined responses to precisely and exhaustively defined problems within the software's algorithms. Otherwise, the solutions provided by these systems would have been entirely ineffective. Nevertheless, these were the first interesting attempts to use computers to support human decision-making processes in specific, well-delimited work contexts. But the idea that such "expert systems" could even come close to being marginally useful in work environments (such as industrial design) that combined high levels of creativity and variability was, at that time, almost unimaginable.

However, from the 1980s onward, and even more clearly in the 1990s, the exponential growth of computing power gained momentum, allowing for increasingly sophisticated programming that was progressively less hindered by the slowness of early processors. Programming languages became more flexible and powerful, user interfaces more accessible and usable by a wider range of people, while other much more advanced programming techniques (neural networks, genetic algorithms, and later, the methods that underpin what we now call "artificial intelligence") developed rapidly. It is fair to say that advances in software added to the evolution of hardware, the latter often described in terms of the so-called "Moore's Law"[2]. These transformations directed the use of information technology into areas of activity that, just a few years earlier, had appeared largely resistant to advanced automation. The case of industrial design, therefore, offered fertile ground for inspiration, both in relation to what was

[2] The so-called "Moore's Law" is a prediction made in 1965 by Gordon Moore, co-founder of Intel, regarding the pace at which computing power would increase. Specifically, the prediction was that computing capacity (at constant cost) would double approximately every eighteen months, thus following an exponential growth trend. According to available data, the prediction remains valid today, albeit with a slight slowdown since 2010 that nonetheless does not change an overall trend of very rapid growth, which is essentially what Moore foresaw. It is important to notice that exponential growth leads to astronomical values in relatively short timeframes. However, the sustainability of such growth in the coming years is uncertain, since current technologies seem to be approaching "physical" limits to further development. Nevertheless, new and particularly advanced technological paths, radically different from traditional ones, are being explored (for example, quantum computing), making further rapid growth at least possible.

already happening in those early 1990s, and as a premonition of what would unfold in the decades to come.

From pencil to mouse and from free creation to constrained choice

My research on CAD clearly highlighted two distinct, albeit interconnected, modes of work transformation following the introduction of computers.

The first can be represented by the image of the designer's pencil being replaced by the computer mouse. This is the metaphor that illustrates the use of computers to make a certain human activity more efficient and/or more precise and/or easier - an activity that is essentially physical or material in nature or characterized by a low level of decision-making complexity. This is precisely the case with the manual part of the design process, the physical drawing on the board: the transfer of a human idea onto a material medium (paper, in this case) that allows for its reproduction and dissemination. The designer (who in this case is more accurately described as a "draftsman"), using simple tools like a drafting board, manually draw on paper (with the greatest precision that was practically possible, given the individual ability and the available tools) the design that would later be transferred to the workshop for the physical production of the object. The draftsman's experience and skill mattered: the quality of the drawing, its clarity and precision, could make a difference in its usefulness for production purposes. However, this was an activity (and a set of skills) whose output could be improved by a specific software: the precision of a line drawn on a screen with a mouse, where the software program corrects even the slightest imperfection of the human hand with absolute accuracy, far surpasses that of even the most skilled draftsman. There were, of course, other advantages as well, such as execution speed and the elimination of some of the physical constraints of traditional drawing (for example, the ability to instantly erase and modify any element without negatively affecting the quality of the drawing or the speed of execution). Today, all of this seems trivial: we are now deeply familiar with the multitude of cases in which work activities that once took place in the "analog"

world (made of matter, atoms, and physical manipulation) have been transported into the "digital" realm (made of information bytes). Information technology thus finds its most obvious initial application: *doing better what was already being done*. The draftsman remains a draftsman, but the tools change. The writer remains a writer, even if they use a word processor instead of a pen or an Olivetti Lettera 22.

This transformation, however, is not so straight-forward: with digital tools, new competencies become necessary, while others become obsolete, and this in turn changes the power dynamics within the organizational setting. Career paths change, jobs and roles change, and in some situations, the overall organization of work processes changes. In the case of industrial design, for example, the role of drawing gradually became marginalized in favor of pure creative design work - the activity of those who create, imagine, solve problems, find solutions. At the time, this could seem reassuring: what truly makes work "human" - hence, irreplaceable by machines - is the purely intellectual and creative part, because that cannot be codified into a software program. This was the prevailing belief in those early years. Physical drawing was becoming marginal, but intellectual, creative ideation remained intact. Or so we hoped.

The reality is that information technology has had an increasingly significant influence, even on those activities with high intellectual content, and that influence continues to grow at an even faster pace today. If we go back to the example of industrial design, as CAD systems became more and more sophisticated, designers no longer found themselves facing a blank page to be filled with their own inventiveness and expertise. Over time, CAD systems didn't just replace the hand and the pencil, they began to provide design "options" (involving shapes, materials, measurements, mechanisms, and more) that became increasingly intelligent: these options, eventually, became actual ideas, complex design solutions that were less predetermined and increasingly aligned with the specific design problems at hand. problems that the software could even anticipate and propose to the user before the user had consciously recognized them. Human intelligence and creativity were first supported, then integrated,

and finally, gradually but unmistakably, replaced by the machine. Design as free creation increasingly turned into *constrained choice among given options*. Of course, a boundary still persisted between what requires human intervention and what can be delegated to the machine. But it is important to notice that this boundary kept moving, and continues to move, further and further back, leaving human beings with increasingly smaller spaces of irreplaceability. The same phenomenon I observed in the 1990s in the specific context of industrial design was later repeated in a wide array of human activities – indeed, almost all of them, even those we would typically consider artistic or highly creative.

Garry Kasparov, the world-renowned chess grandmaster who was defeated for the first time by a software program (the "Deep Blue" program developed by IBM), commented on his experience by saying that, at a certain point: "*quantity becomes quality*"[3]. In other words: when computational capacity becomes sufficiently high, the solutions that emerge from algorithms acquire qualities and traits that we typically attribute to human creativity - and, at a certain point, they surpass it, as it happened in the game of chess. The ability to explore and evaluate an immense number of solutions or alternatives in a matter of seconds, or to analyze massive amounts of data in depth to uncover hidden and entirely invisible patterns and relationships (invisible to even to the most talented experts) is what Kasparov meant when he talked about this transformation from "quantity" to "quality". After they surpass a certain level of complexity and sophistication, algorithms become "creative", that is,

[3] This quote is from a *New York Times* article dated February 12, 1996, titled *In Kasparov vs Computer, The Chess Scorecard is 1–1*. The author, Bruce Weber, recounts the historic match between IBM's Deep Blue program and Garry Kasparov, considered by many the greatest chess grandmaster of all time. The article describes the second game of the first match (held in 1996 and eventually won by Kasparov 4–2), which was followed by a rematch a year later, in which Kasparov was defeated 3.5 to 2.5. In the article, Kasparov comments: "*What I discovered yesterday is that we are now seeing for the first time what happens when quantity becomes quality*", and then he adds that the strategy he had used against the computer in the previous game, lost by Kasparov, would have worked against any human being. He continues: "*The depth of this computer's calculation gives it its positional strength*". Kasparov's 1997 defeat caused a major stir, both because of his reputation as an almost unbeatable player and, more importantly, because of the complexity of the game of chess, which many believed required intuition and creativity beyond what computational capacity could ever match. In 2016, Kasparov declared that many common chess programs, easily run on any laptop, would now easily defeat Deep Blue.

unpredictable, effective, capable of learning in ways not predefined (and no longer necessarily based on human experiential data, as the case of AlphaGo Zero[4] clearly illustrates), and therefore ultimately opaque (in relation to their outcomes) even to the programmers themselves. The traditional idea that the code of a program necessarily produces predictable, standardized, rigid, predetermined, or otherwise knowable outcomes for the programmers is simply incorrect (perhaps not philosophically, but certainly for all practical purposes) when it comes to advanced self-learning programming techniques like the ones mentioned above and when supported by sufficiently powerful computing capabilities.

Information technology reveals, in this new phase, the reason for its historical importance and its uniqueness compared to all previous technological leaps: it is no longer merely a technology that allows humans to do better what they were already doing, but increasingly one that decides, creates, and learns. One that enables doing new things, where the subject of that "doing" becomes increasingly blurred, increasingly an ambiguous combination of human and machine[5]. The existence (however desirable) of a fixed boundary beyond which

[4] In 2016, a Google subsidiary, DeepMind, first introduced AlphaGo and shortly afterward a more powerful version called AlphaGo Master, programs capable of defeating the best Go players in the world. AlphaGo Master remains undefeated. Go is a board game characterized by a complexity that is orders of magnitude greater than chess and, like chess (before Kasparov's defeat in 1997), had been considered a domain where human creativity and intuition were unassailable by artificial players. It is noteworthy that AlphaGo Master was trained on data from human-played games, but in 2017 DeepMind introduced AlphaGo Zero, a significantly more powerful version than AlphaGo Master, which was trained without any human-derived data. AlphaGo Zero essentially learned the game of Go by playing against itself. It surpassed AlphaGo's level in just three days of self-training and then outperformed AlphaGo Master in twenty-one days. In 2019, grandmaster Lee Se-Dol, the only player ever to beat AlphaGo (the original version, later far surpassed by newer ones), announced his retirement, stating that it had become impossible to defeat AI programs (Vincent, 2019). I believe this is a troubling case. It is plausible that what demotivated Se-Dol and led him to abandon his profession and his greatest passion was not simply the inability to win anymore, but the realization that AlphaGo's arrival had stripped his professional identity of all intrinsic meaning. If a machine can perform better (actually, much better) the same activity that defines a person's professional or artistic identity, it is entirely plausible that the person may feel that their abilities are devalued, emptied of worth, and therefore meaningless. One might wonder in which and how many other work domains similar transformations will emerge in the near future.

[5] A recent example, among many, concerns the development of AlphaFold, an artificial intelligence system aimed at studying protein structures, a scientific domain of extreme complexity and vital importance for identifying new treatments for a variety of diseases. Despite major efforts, medical science had, for decades, failed to make significant progress in this area

machines will never be able to go has, to date, been refuted by history and facts. That boundary has continuously shifted, and the territory of what is exclusively human is steadily shrinking. Perhaps one day we will encounter that insurmountable limit. But, as of now, there is no clear evidence that such a limit even exists. It may be time to begin grappling with the opposite hypothesis: that the boundary does not exist at all, or that the exclusively human domain is much narrower than our intuition (or our desire) suggests. And, consequently, we must begin asking the questions that inevitably arise from that hypothesis. First and foremost: what might all of this mean (and what does it already mean) for the transformation of work?

Conceptions of work organization

The example of industrial design was useful in my research journey precisely because it allowed me to grasp both sides of the phenomenon: the less complex activities such as drawing, and the more intrinsically intellectual ones, often considered more deeply and fundamentally human. The question that arose then, and continues to arise today, is the following: how are work and its organization transformed in the wake of this new technological explosion? In my effort to explore this issue, Bruno Maggi's Theory of Organizational Action became my essential reference point, an alternative proposal to the ones that were more widespread but, in my view, inadequate for fully capturing the phenomenon.

On the one hand, the excessive simplification of the functionalist view appears unsatisfactory. Such view is entangled in the attempt to understand

due to its nearly insurmountable complexity. This changed in 2016 with the introduction of AlphaFold. Like AlphaGo Zero, AlphaFold was trained without relying on any specific human expertise in the problem of protein folding. It succeeded in more than doubling the effectiveness of the analysis in a very short time, leading to new and important biological and medical discoveries that would otherwise have been unreachable. According to Kissinger, Schmidt, and Huttenlocher (2021), this is an example of how technical evolution is becoming increasingly integrated into intellectual domains (such as research), where machines are capable of proposing "surprising" solutions – that is, completely unpredictable even to experts and surpassing them in a creative sense - thanks to programming and training techniques no longer bound by prior human knowledge.

reality through interpretive "models" based on hypothetical universal cause-effect laws that, no matter how elaborated, cannot grasp the complexity of a reality undergoing such rapid and radical transformation. Nor its obsession with prescriptiveness seems useful, especially given the evident heuristic limitations of the models it proposes. Moreover, the idea of technological determinism, which derives from functionalism and posits that social and organizational change is a dependent variable of technological transformation, completely misses a crucial point: the human and social origin of technology itself. It leads to a technocentric drift (and sometimes even a technophile one), which I find unacceptable in light of the constructively critical orientation that, in my opinion, should characterize social sciences[6].

On the other hand, the subjectivist view appears to me a kind of renunciation, a disheartening capitulation in the face of complexity. A surrender, as the only possible outcome is the adoption of a hyper-relativistic posture that results in a form of knowledge that is essentially self-referential: certainly rich and full-bodied in its narrative, but fragmented in substance, destined to evaporate into near-total irrelevance. Extreme relativism produces a view of human relations that I consider genuinely dangerous, even in moral terms: in the exaggerated triumph of subjectivity, where everything is unique and everything has equal subjective value, the inevitable conclusion is that nothing has real value. The exaltation of uniqueness and incommensurability (paradoxically) leads to the *irrelevance of difference* as a way to understand reality. This vision, too, therefore appears unsatisfactory, especially for the study of work organization, which I have always considered part of the broader study of human experience and, as such, cannot avoid engaging with ethical and moral considerations, no matter how complex or unresolved.

Bruno Maggi's theory, and the epistemology on which it is based, offered me an alternative path, a "third way" that has accompanied me ever since. Organization is conceptualized by Maggi as *organizational action*, and thus as *a*

[6] For a critical reflection on technological determinism, see Salento (2018).

process of regulation guided by intentional and bounded rationality (Maggi, 2003). In the chapter *Social Action and Organization*, Maggi emphasizes that the concept of "action" should be understood in the sense used by Max Weber (Weber, 1922), who used the term *Handeln* instead of *Handlung* to underline, with the use of the noun verb (*Handeln*), the interpretation of the *process* of action (not the *performed* action) - that is, its unfolding over time, and the social meaning attributed to it by the acting subject - with time considered a fundamental dimension. The idea of *regulation* is therefore central to Maggi's thinking, and it can serve as a point of reference in relation to various interpretive questions, depending on the specific goal being pursued. For example, one may inquire into the *source* of regulation - namely, the origin of the rules that guide action - and the implications of different sources of regulation for the process as a whole and for individuals as well. This is certainly one of the most interesting and important topics, not least because many other research questions depend, directly or indirectly, on it. This was the focal point in my studies on CAD-supported industrial design and, as will be discussed in the following paragraphs, remains one of my main conceptual reference points to this day, precisely because of its cross-cutting relevance across thematic and disciplinary interests, its pervasiveness across sectors and domains of human (not just work-related) action, and its significance both conceptually and practically. What opened up a particularly stimulating field of reflection for me was Maggi's distinction between the concept of *autonomy* (as opposed to *heteronomy*) and that of *discretion*, both of which pertain to the source of organizational regulation (Maggi, 1993; 2003/2016).

The notion of autonomy has been defined (and often misunderstood) in various ways throughout academic literature (Barbini, 2022). Maggi addresses the issue by starting from the term's etymology. Autonomy, he notes, literally means "self-regulation", and thus represents an appropriate characterization of a regulatory process in which the acting subject is the protagonist of the regulation itself, in the sense of being its source, the one who produces the rules (formal or informal, written or unwritten, explicit or implicit, even conscious or

unconscious) for their own action. Clearly, when defined so precisely, autonomy can no longer be attributed to the broad set of work processes that are nonetheless commonly (and often erroneously, even in academic literature) described as "autonomous". The concept thus helps disentangle many misunderstandings, particularly by distinguishing between situations in which the work process is regulated in radically different ways, which would otherwise remain indistinguishable due to the use of vague or imprecise terminology. In Maggi's writings it becomes evident that work processes not characterized as autonomous can be interpreted as *heteronomous.* In other words, situations (opposed to autonomy) in which the source of regulation is external to the action process: the acting subjects do not regulate their own actions but must comply with rules created by "others" - that is, by regulatory sources external to the observed action process. This is a radical distinction in the sense that it draws a clear, unambiguous conceptual boundary between *self-regulated* and *other-regulated* processes. It also provides fertile ground for studying a multitude of other important issues (regarding, for example, well-being, learning, work, and more).

Maggi's formulation does not stop there. Observation of reality exposes us to a multitude of work situations in which individuals retain possibilities of choice, even within a heteronomously regulated context of action. These choice options may vary: sometimes they are broader, other times limited to a narrow range of possibilities; in some cases, heteronomous regulation leaves no margin at all and becomes pure and simple imposition. A concept is therefore needed to help us grasp these differences. Moreover, it is also necessary to understand the "multi-level" nature of any process of social action: every human action (and thus every regulatory choice) is embedded within broader regulatory processes that generate more general rules (referring to a different level of analysis), which may constrain the subject's regulatory capacity. Consequently, there are various possible levels of analysis through which each regulatory process can be studied and understood. And only with respect to the appropriate level of analysis (which in turn depends on the research goals being pursued) one can determine

whether a given process is characterized by autonomy or heteronomy. To assist us in this interpretive challenge, Maggi introduces the concept of *discretion* (Maggi, 1993; 2003/2016). In everyday language (and once again, even in academic literature), the term is often used as a synonym for autonomy or confused with it, but the distinction is actually fundamental. Discretion, according to Maggi's proposal, refers to the presence of spaces for choice and action *within a heteronomously regulated process*. Thus, the concept has a dual interpretive value: on the one hand, discretion immediately evokes a context of heteronomous regulation and should be understood in opposition to autonomy; on the other hand, it points to margins of choice that are varied and variable, wider or narrower, depending on how pervasive the heteronomous regulation is and how much constraint it produces[7]. Therefore, the observation of discretion in a given work process does not in any way indicate or corresponds to autonomy. Naturally, variations in the breadth of discretionary spaces can have very different implications for people's experiences, their well-being, their learning capacity, the effectiveness of work processes, and so on. Significant differences can be observed even among heteronomous work contexts depending on whether they allow wide or narrow discretionary spaces, or, in extreme cases, none at all.

Work regulation and technical artifacts

There is little doubt that technology, especially information technology, is at the center of the debate on the current and future transformation of work. The research I conducted on CAD systems, later extended to other fields, led me to develop a proposal, together with Marco Zamarian (Masino, Zamarian, 2003), that was largely founded on the theoretical framework proposed by Maggi. This proposal focuses on how the presence of technical artifacts (of any kind, from the

[7] A detailed discussion of the concept of "constraint" (which is our translation of "costrittività", the original Italian term proposed by Maggi) goes beyond the scope of this text. For details, see Maggi (1984/1990).

simplest to the most complex ones) can be interpreted in relation to changes in work processes. Here, I will attempt to summarize its essential elements.

First of all, a technical artifact can be seen as a source (albeit, as we'll see, an indirect one) of regulation. In fact, it *must* be considered as such, or one would be unable to grasp its influence within the regulatory process. Therefore, work must be interpreted in light of the regulation in which the technical artifact becomes a relevant component. For this purpose, the conceptual framework we proposed (ibid.) distinguishes between three different analytical levels.

First, an artifact must be considered in terms of its technical characteristics (which can be physical, if it's a material tool, or digital, related to the interface and all points of interaction between the tool itself and the user, if it's a software application). These technical characteristics are the result of specific choices, which we can succinctly call *design choices* made by those who design and then produce the artifact. Any artifact, by definition, is the outcome of a design and production process that leads to its concrete realization: a set of technical features that inevitably generate constraints and opportunities for the end users. These features influence, in various ways, the users' ways of acting and thinking. In this sense, the influence of the artifact is not so far removed from what Gibson (1979) called *affordance*[8], although in our framework the focus is more specifically on the constraints and regulatory opportunities that the artifact's materiality creates for the users. The same reasoning applies to any type of tool, whether simple or complex: from a basic knife (the shape of the blade and handle, the length, the materials) to a sophisticated software system like a CAD program. Constraints can be interpreted, from the user's point of view, as heteronomous rules. Opportunities can be interpreted, again from the user's perspective, as potential

[8] The noun *affordance*, first introduced by psychologist James Gibson (1979), derives from the verb *to afford*, which means "to allow oneself" or "to be able to do something" (including in the economic sense, but not only). In short, Gibson's concept conveys the idea that the physicality of an object (for example, its shape) makes certain uses more or less evident than others, thus making some actions more or less "permissible" (to varying degrees and in different ways), and therefore more likely to be carried out by a subject. Davis (2020) centers her exploration of *affordance* on how technical artifacts constrain and enable human action in various domains and situations.

spaces for action that become possible thanks to the artifact's presence, spaces that the user may or may not choose to exploit. Thus, the materiality of the artifact must be understood, for the purpose of work analysis, as a set of rules for action. These may include both constraining (thus, heteronomous) elements that reduce discretionary margins, and enabling elements that increase or transform the possible spaces for action.

But the analysis cannot stop here. The materiality of the artifact is, in itself, "inert"; in other words, it has no concrete influence on the work process unless the work action is actually carried out. It is therefore necessary to examine what other types of regulatory choices come into play through the artifact's presence. On the one hand, we identify the analytical level of *adoption choices,* understood as the set of decisions regulating the general context in which the artifact is introduced and used within the work process. Just like a knife can be used in a multitude of different action processes, the same holds true for sophisticated tools like CAD systems. For example, CADs can be implemented primarily as drawing tools, or as tools for supporting ideation, or as both at the same time. They can be made available to certain groups of people and not to others. They can be designated for certain types of goals and projects, and not for others. All these examples (and many more) concern the ways in which the artifact is, in the language proposed here, *adopted* - that is, integrated into a work process (or into a set of interrelated processes). The variety and variability of these decisions naturally depend on numerous situational elements, but they are always choices that, in turn, generate constraints and opportunities: they generate both heteronomous rules for users, and opportunities for action as well. It is also clear that adoption choices and design choices are interdependent: those who design the artifact typically anticipate the work contexts in which it might be adopted, and based on that, they adjust the design and thus the artifact's materiality; meanwhile, those responsible for adoption choices must take the artifact's materiality into account. The temporal sequence between these two levels of decision-making can vary. We are more accustomed to thinking of design and material production as preceding the artifact's adoption into an action process

(as it's typical in the flawed functionalist notion of so-called "technological determinism"), but the sequence can also be simultaneous or even reversed. For example, future adopters might commission the design and development of a software tool by asking developers to implement specific technical features based on adoption choices they have already envisioned.

Lastly, we must consider the actual work action process: the actions carried out by those who directly use the artifact to perform their work tasks. Here, we speak of *utilization choices*, referring again to the regulation of action from the perspective of the acting subjects (the end users of the artifact). These subjects regulate their work process within a set of pre-existing rules, which include the implicit rules embedded in the artifact's materiality (stemming from the design choices) and the rules resulting from its integration into the work process (stemming from adoption choices). It is important to notice once again that the temporal sequence between design, adoption, and usage choices is not necessarily one-directional. Users thus find themselves in a regulatory environment altered (often significantly) by the presence of the new technology, understood here as a set of technical artifacts. And they inevitably interpret their situation through their own intentional and bounded rationality. Sometimes they simply accept the new constraints and thus are forced to operate under increased heteronomy or reduced discretion; other times, they attempt to produce their own rules, thereby asserting autonomy by taking advantage of the opportunities provided by the context (including, specifically, the new action spaces enabled by the artifact). And there is no necessary separation between the actors making these three types of choices: the distinction proposed here pertains to the *analytical level* of the choices, not to the subjects themselves. The same individual may, at different times, or even simultaneously, make design, adoption, and utilization choices.

It is important to clarify in what sense the presence of an artifact can generate not only constraints (as might appear at first glance) but also opportunities for action. It is also useful to note that the presence or the increase of constraints is not always a negative or disabling factor for the subject, and that

the absence or reduction of constraints is not necessarily positive or enabling. A few examples may help clarify these two points.

The simplest case is when the presence of an artifact enables the subject to perform actions that would be impossible without it (*e.g.*, I can't assemble a certain piece of furniture without a screwdriver), or when the subject uses the artifact for purposes not intended by its designers (*e.g.*, using the screwdriver not to build something but to threaten or injure someone). In these situations, it is rather obvious that the artifact creates new action opportunities for the subject.

Less obvious, but no less interesting, are cases in which the subject uses the artifact for purposes aligned with those intended by its designers and/or adopters, but asserts modes of action not anticipated, or even hindered, by the artifact's material features or by the context in which it is used (*i.e.*, by design and/or adoption choices). Let's consider, for example, the performance activity of a musician. The neck of traditional string instruments such as a guitar forces the musician to play only a limited set of notes[9] (typically the twelve notes of the chromatic scale, if we refer to Western musical tradition) - that is, the notes produced by pressing the fingers on the frets. The presence of the frets *constrains* (strongly) the variety of "playable" notes. However, consider the interpretive complexity of the matter: the frets' presence can also be seen as *enabling*, since it significantly reduces the chances of error such as playing out-of-tune notes relative to the musical context. At the same time, guitar players can assert different action spaces and, through special techniques, may produce notes the instrument was not designed to play (in fact, that the design - *i.e.*, the shape of the neck and the placement of the frets - explicitly tries to prevent, precisely to

[9] Here, for simplicity, we assume that the term "musical note" refers to the frequency of the sound wave produced by the instrument. In Western musical culture, the chromatic scale includes twelve notes per octave, each associated with a specific frequency. For example, the most commonly used tuning system assigns (by convention) a frequency of 440 hertz to the note "A". In reality, every single frequency produces a distinct pitch, and since the number of possible frequencies is essentially infinite (or at least extremely large within the range of human auditory perception), the number of possible "notes" (*i.e.*, sounds produced by a given oscillation frequency) is vastly greater than twelve. There is, in fact, a musical style known as *microtonal music* (and instruments adapted to perform it), where the number of playable notes is far more than twelve (although still few compared to the theoretically infinite frequencies).

facilitate intonation in musical expression). For example, on the guitar, techniques like bending are used to produce notes that are not "included" in the structure of the frets (this technique works by forcing the string with the finger to move beyond the limits set by the "design rules" embedded in the artifact's construction). This is not possible with a piano, which, when it comes to note variety, does not allow performers to assert new action spaces during execution (of course, the piano can be tuned differently before playing, but during performance, the player can only produce the notes that the structure of the keyboard allows). In this case, the piano's material constraint does not permit, even through creative or unexpected actions, the exploration of sonic spaces (in terms of generated frequencies) beyond those "designed" into it. The opposite is true of fretless string instruments (like a fretless electric bass, double bass, violin, viola, cello), which allow the musician to play an unlimited range of frequencies (notes) precisely because there are no frets. These instruments offer much greater discretionary action spaces (since fret absence doesn't limit the frequencies that can be generated), but they also don't reduce the risk of errors caused by even small inaccuracies in finger placement. As a result, the regulation of finger movements to produce perfectly "in tune" notes becomes much more difficult and requires highly developed skills in the case of fretless instruments.

In summary: design choices (and, similarly, adoption choices) produce constraints and action spaces for utilization choices, spaces that are sometimes consistent with what was planned or anticipated by the design and adoption choices, but sometimes are not. Both the constraints and the action spaces can have positive and/or negative implications for action effectiveness.

The interpretive framework outlined above helps us understand how the artifact transforms the work process by looking specifically at the regulation of that process across the three analytical levels of regulatory choice. It is therefore the overall interplay of these regulatory sources that produces the organizational (regulatory) outcome. An outcome that is never final, always in flux, always subject to new learning and new choices. And it is not a deterministic outcome, nor one that is predefined or necessarily aligned with a general narrative (such

as the idea of technological imperative), as functionalist approaches suggest. Nor is it an outcome that is inscrutable, unevaluable, or comprehensible only *ex-post* and from a purely individual perspective, as subjectivist approaches would argue.

New interpretive challenges for the work of today and tomorrow

The research I conducted on computer-aided design (CAD) in the second half of the 1990s led to conclusions that, in light of the key concepts in Maggi's theory, can be summarized as a general trend toward increased heteronomy and the reduction of previously autonomous activities to merely discretionary ones, though with differences that depend on specific circumstances. Many years have passed since CAD systems could be considered cutting-edge technology. Today, their use is taken for granted, widespread, and indispensable in many productive sectors; technical advancements have made them extremely sophisticated, capable of intervening deeply even in the most creative aspects of the design process. The boundary between action spaces that we consider "fundamentally human" and those that technology can occupy continues to shift, in every domain. In just two decades, work and economic systems have become tightly interwoven with information technology and its countless, ubiquitous applications. The interpretive challenges facing those who reflect on the present and even more so, on the future of work are numerous, significant, and often directly or indirectly tied to ongoing technological evolution.

On the one hand, we should pay attention to phenomena that, though already widespread, still demand fresh reflection. One example is the digitization of many work process contents and outcomes - texts, images, sounds, and even objects (via 3D printing). A second example concerns the spatial and temporal constraints typical of traditional work, which are being completely redefined by practices such as remote working. A third example involves the rise of business models that are heavily based on information systems (particularly in the online sale of goods and services), where human labor appears to be

replaced, made residual, or still present but tightly constrained by complex algorithms.

On the other hand, we should also focus on technical applications that are still limited but rapidly expanding, and whose implications could be of major importance in the near future. A clear case involves artificial intelligence (AI) techniques and advanced robotics, which promise (or threaten) not only to support and integrate human work (as it is already happening in many workplaces), but also to *replace* it in activities, such as complex decision-making and creativity, that until now have remained relatively untouched. Yet there are already early signs of change in these areas, including the advancement of CAD systems in industrial design, as described above. In all these cases, I believe it is essential to avoid simplistic narratives, whether optimistic or pessimistic, as well as passive resignation that abandons any attempt at critical analysis.

For instance, it is far from clear that digitization and dematerialization, which are often linked to the rise of new entrepreneurial opportunities and to the increased independence of an entire generation of "digital" workers (freelancers in the so-called "gig economy"), actually lead to improved working conditions, especially if we examine them through the lens of the autonomy–heteronomy distinction proposed by Maggi. In a recent paper, Pompa (2021) argues that legal independence and autonomy in regulating the work process (or, more often, the ability to exercise mere discretion) are separate, mostly non-overlapping issues. This is especially evident in various intellectual and creative sectors (graphic design, music, design, programming, consulting) where new "digital professionals" find themselves at the mercy of companies that, using complex information systems to channel their service offerings into the market, effectively eliminate their ability to assert autonomy and often leave them with minimal discretion (Masino, 2021). In these cases, the central issue is the power/dependence relationship between the client company and the freelancers, a relationship heavily skewed in favor of the former, because that imbalance determines each party's ability to assert their own rules. On one side, technology allows such companies to build information systems that manage service supply

and demand in efficient, pervasive, and centralized ways, favoring concentration even in highly fragmented markets. On the other side, open internet access offers freelancers only the *illusion* of autonomy, which instead becomes significantly reduced discretion within a heteronomous process. The internet expands the competitive boundaries for freelancers, making competition global and largely focused on price. This is because human skills become increasingly irrelevant, integrated or replaced by software that can handle ever-larger portions of the final product or service. Meanwhile, the end-market customers cannot, nor could they, appreciate these differences or assign them real value. All of this makes so-called "independent" workers easily replaceable: their bargaining power vanishes, their ability to find market outlets outside of centralized information systems is diminished, and these system-companies dictate the rules of the work process (timing, methods, prices, content) down to the smallest detail. Legal independence remains, while autonomy vanishes.

An even clearer example is the so-called *riders* (what we might call "digital couriers"), independent contractors who offer delivery services to companies that have computerized the entire process from customer order to product delivery. They, too, are in a situation of formal independence but near-total heteronomous regulation of their work process (Neri, Maggi, 2021).

One might ask whether these are fringe, non-generalizable cases, or whether they are symptoms of a broader problem that could worsen over time instead. We can consider two possible interpretations.

The first is that the phenomena described above should not necessarily be seen as negative or pessimistic, at least not in the long term, and perhaps not even in the short term. The technological imperative holds that technical evolution leads to greater efficiency and quality, and that short-term costs are minimal compared to long-term, overall benefits. According to this view, every significant technological shift causes radical changes in the labor market: old jobs disappear, new ones emerge, new skills become desirable, and others become obsolete. The net result, for the economic and social system as a whole, is always positive: the skills and jobs lost to machine substitution are more than compensated by new

skills and jobs related to designing the machines themselves and the new service and manufacturing processes they enable. For workers, the effect is equally positive: a comprehensive transformation occurs, leading to what is called *upskilling,* the abandonment of alienating and repetitive tasks in favor of the development and enhancement of higher-level capabilities and competencies.

This is the narrative that currently accompanies the rise of what is called "Industry 4.0": companies that integrate, in an organic way, a set of advanced technologies (artificial intelligence, advanced robotics, 3D printing, data mining, and others) into their production and control processes. These technologies promise to increase process control, dramatically reduce production costs, improve quality and flexibility, and finally, replace low-level tasks with jobs characterized by higher intellectual content. In a typically socio-technical logic (Emery & Trist, 1960), organizational choices (and more broadly, social change) should facilitate this transformation and ensure the best possible adaptation of the human and social context to technology, which is seen as the primary bearer of rationality and, ultimately, of progress.

The interpretation I propose here is different. More generally, it is not at all certain that what happened in the past can be extrapolated to predict the future. History sometimes repeats itself, but not always. Looking at the past, one might indeed be tempted to conclude that the skills and occupations rendered obsolete by technology were progressively replaced by others, typically in sectors dedicated to developing new machines or their applications, and that the net effect, from a long-term, system-wide perspective, has been positive[10]. Even if we

[10] The claim that the overall balance of humanity's progress through technical evolution has so far been "positive" is a general assertion which, although supported by some metrics, overlooks others, or overlooks elements that are not easily measurable in a universally accepted way (such as people's happiness, for example). Steven Pinker (2019), in *Enlightenment Now*, effectively illustrates a wide variety of reasons (not solely technological) and data to support the idea that humanity, particularly since the Enlightenment and thanks to it, has moved in a direction of progress and positive change. Even if we accept the plausibility of this narrative about the past (without thereby inferring that the direction of progress is inevitable or easily replicable in the future), one cannot ignore the fact that the superior technological power now available to humans has also created extremely high-risk situations - perhaps not strongly perceived in everyday experience, but certainly looming - and these should be seriously considered in any truly comprehensive assessment (for example, the risk of nuclear catastrophe, the risks associated with

assume this narrative to be true, the reason why history might not repeat itself in the coming decades is that once technology reaches a sufficiently advanced level, humans may no longer be able to compete with it in *any* field. What has happened so far, a shift of human labor from one domain to another, may simply become *complete substitution*. In some creative fields, it is already evident that this trajectory is not only plausible but highly likely. Even the design of next-generation machines could one day be handled by the machines themselves, once they exceed a certain level of capacity and "intelligence." The general point I wish to make is that the *upskilling* process - *i.e.*, improving work conditions by replacing low-level tasks with higher-level capabilities - is by no means guaranteed. The opposite scenario, once a certain level of technological development is reached, is at least plausible, if not likely. And the mere plausibility of this scenario should already prompt careful reflection and preventative action to mitigate its less desirable consequences. For this purpose, Maggi's conceptualization of work regulation represents what I consider to be an essential reference point. That's because phenomena like the potential loss of meaning in work and the retreat of the human domain in favor of technology are, in essence, transformations of the spaces of work and life regulation. In other words, they involve a progressive increase in the *intensity of work constraints* (*costrittività*, Maggi, 1984/1990), both through the reduction of opportunities for the affirmation of autonomy and through the increasingly extreme narrowing of discretionary spaces, until every possibility of personal expression and for the development of one's capabilities, one's aspirations, one's potential for self-realization, and ultimately of work meaning, is emptied. Moreover, the importance of these general elements (even though conceptualized in very different ways) is also highlighted by numerous studies in the field of psychology (Deci, Ryan, 1985; Locke, Latham, 2013; Amabile, 2012). More specifically, what I claim about the evolution of future work is neither an uncritically optimistic position (such as the one known as *upskilling*), nor an uncritically pessimistic one

genetic engineering and biotechnology, environmental risks, risks linked to social inequality, etc.).

(like the Bravermanian *deskilling* view). The criticism I raise concerns the conceptual and observational framework that is often used to interpret reality and to anticipate the most plausible future trajectories. On this point, I believe there are two essential aspects to consider, which are closely interconnected.

On the one hand, I believe it is necessary to place the issue of regulation, as proposed by Maggi, at the center of any interpretive effort. The overall effects of technical evolution must be assessed in light of changes in the regulation of work. It is certainly true that new technologies can liberate work from the constraints of space and time, that they reduce production costs, and that they allow to achieve results that would otherwise be unattainable. All of this is desirable but, at the same time, we must evaluate the "price" we pay – both collectively and individually, as workers and as clients/users - in terms of the reduced possibility to affirm autonomy or in terms of decreased discretion. This is the key point. If we do not pay attention to this, we risk overlooking profoundly negative consequences, well hidden behind superficial, short-term, and ultimately meaningless advantages. There are many concrete examples of this which already affect numerous and diverse fields of activity: commercial services, artistic production, education and teaching, technical consulting services, and much more.

On the other hand, the dissatisfaction with the current state of reflection on these topics also concerns the difficulty of interdisciplinary collaboration. I believe that the social sciences could provide a fundamental contribution to guiding future technological development through collaboration with engineering fields. It is important to notice, however, that this is not just a matter of defining application areas for "intelligent machines" that are compatible with people's goals of growth, happiness, and well-being (what is often referred to as the "alignment problem", *i.e.*, the consistency between the machines' goals and functions and desirable outcomes for humans). Rather, it is necessary to reason in terms of the overall regulation of work, and to consider technological development as a *regulation choice* (in the organizational sense) that, among other possible regulation choices, shapes human development, rather than viewing it

as a technological and/or economic imperative. More specifically, it becomes essential to evaluate in advance whether and how the regulatory framework of work implied by the pervasive use of "machines that decide" can be made compatible with the existence of new spaces for autonomous regulation.

My overall assessment, as of today, is not optimistic. On one hand, the influence of economic logic over both political and corporate decision-makers leads them to neglect any other kind of consideration. The economic and technological imperatives continue to prevail over the human imperative. On the other hand, the time horizon used by decision-makers seems to be dramatically short, which further reduces the possibility of making choices that prove rational, or at least desirable, in the long term. Finally, the intellectual (and practical) drive that could emerge from closer collaborations between technical and social disciplines is seriously hindered by the widespread distorted incentives in today's social science research landscape, which increasingly push toward fragmentation, isolation, incrementalism, and short-term orientation.

Conclusions: the need for knowledge and the importance of theory

I argued, in the opening paragraphs, that one of the messages I would like to convey with this text is the importance of theorizing. I then offered some brief examples and reflections concerning my ongoing "dialogue" with Maggi's theory in relation to my personal scholarly journey. These are examples that, inevitably, concern a single personal story, a single professional and life path, but which may perhaps prompt others to a similar reflection. In fact, I do not believe that the need to acquire and produce knowledge pertains only to those, like academics, who are professionally engaged in it. It is a need that concerns everyone. The necessity to understand is perhaps the most distinctive trait of human beings. And understanding can happen effectively only through a process of theorizing, whether conscious or not, formalized or not.

One of the current trends that I consider most dangerous is the spread of an incapacity for critical thinking and logical reasoning, the widespread acceptance of ideas lacking reliable empirical foundations and solid conceptual

references, the dominance of opinion over information, of incompetence over competence, of particular interests over the neutrality of facts, and even of superstition over rationality. This trend is further fueled by recent and rapidly growing phenomena, among them, undeniably, the explosion of social media acting as uncontrollable amplifiers and disseminators of any idea, no matter how unfounded. This drift must be resisted vigorously, at all costs, and in every context, and a good theory is one of the most effective tools for doing so. As I stated above, a good theory can quite literally change a way of thinking, a perspective on the world. That has certainly been the case for me, thanks to the guidance and teaching of Bruno Maggi and his theory, to whom I owe all my gratitude. I believe, and I hope, that the encounter with a theory, and with the noble exercise of conceptualizing and thinking critically, can help each person better navigate their own personal and professional path, regardless of their specific field of engagement or individual goals.

References

AMABILE T.M.
2012 *Componential Theory of Creativity*, Boston: Harvard Business School.

BARBINI F.M.
2022 L'autonomia distorta e fraintesa, in Masino G. (Ed.), *Autonomie nel lavoro negli anni 2000*: 12-27, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

DAVIS J.L.
2020 *How Artifacts Afford. The Power and Politics of Everyday Things*, Cambridge: MIT Press.

DECI E.L., RYAN R.M
1985 *Intrinsic motivation and self-determination in human behavior*, New York: Plenum.

EMERY F.E., TRIST E.L.
1960 Socio-technical Systems, in Churchman C.W., Verhulst M. (Eds.), *Management Science. Models and Techniques*, 2: 83-97, Oxford: Pergamon Press.

FEIGENBAUM E.A.
1992 A personal view of expert systems: Looking back and looking ahead, *Expert Systems with Applications*, 5, 3-4: 193-201.

GIBSON J.J.
1979 *The ecological approach to visual perception*, Boston: Houghton Mifflin.

KISSINGER H.A., SCHMIDT E., HUTTENLOCHER D.
2021 *The Age of AI And Our Human Future*, New York: Little Brown & Company.

KRUGMAN P.
1998 Why most economist's predictions are wrong, *Red Herring Online*, 55 https://web.archive.org/web/19980610100009/www.redherring.com/mag/issue55/economics.html

LOCKE E.A., LATHAM G.P.
2013 Goal setting theory, 1990, in Locke E.A., Latham G.P. (Eds.), *New developments in goal setting and task performance*: 3-15, Milton Park: Routledge.

MAGGI B.
1984/1990 *Razionalità e benessere. Studio interdisciplinare dell'organizzazione*, Milano: Etas Libri.
1993 Tradizione e innovazione nello studio interdisciplinare del lavoro, Introduzione a Terssac G. de, 1993, *Come cambia il lavoro*: 1-28, Milano: Etas.
2003/2016 *De l'agir organisationnel. Un point de vue sur le travail, le bien-être, l'apprentissage*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MAGGI B., DE FILIPPI F., FABRIS R.
1988 Prima e dopo il CAD: situazioni di lavoro impiegatizio a confronto, in *Obiettivo Ergonomia*, Atti del 4° Congresso della Società Italiana di Ergonomia: 389-403, Ischia.

MASINO G.
2021 Il lavoro nell'epoca delle piattaforme digitali, in Cori E. (Ed.), *Rider at work. Una lettura multidisciplinare*: 67-75, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MASINO G., ZAMARIAN M.
2003 Information technology artefacts as structuring devices in organizations: Design, appropriation and use issues, *Interacting with Computers*, 15: 693-707.

NERI M., MAGGI B.
2021 Analisi organizzativa dell'attività di rider, in Cori E. (Ed.), *Rider at work. Una lettura multidisciplinare*: 8-18, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

PINKER S.
2019 *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress*, Harlow: Penguin Books.

POMPA L.
2021 Autonomia e libertà nelle nuove occupazioni, in Masino G. (Ed.), *Autonomie nel lavoro negli anni Duemila*: 28-44, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

SALENTO A.
2018 Industria 4.0 e determinismo tecnologico, in Salento A. (Ed.), *Industria 4.0: oltre il determinismo tecnologico*: 6-23, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

VINCENT J.
2019 Former Go champion beaten by DeepMind retires after declaring AI invincible, *The Verge*, November 27th.

WEBER B.
1996 In Kasparov vs. computer, The chess scorecard is 1-1, *New York Times,* February 12th.

WEBER M.
1922 *Wirtschaft und Gesellschaft*, Tubingen: Mohr (critical edition by J. Winckelmann, 1956).

Organizational negotiation

Massimo Neri

Introduction

Thirty years ago, in 1992, I met Bruno Maggi while he was lecturing in the seventh cycle of the Ph.D. program in Business Administration at the University of Venice - Ca' Foscari and I was attending his course on social science methodology.

Maggi had already presented his *Teoria dell'agire organizzativo* (Theory of Organizational Action, TAO[1]) in *Razionalità e benessere* (Rationality and well-being, 1984/1990). He discussed the concepts underlying the study of organizations and its intrinsic interdisciplinarity and emphasized the importance of epistemological consistency.

The same year, in 1992, Giovanni Costa edited the three-volume work *Manuale di gestione del personale* (Handbook of Personnel Management), published by UTET. In that publication, Anna Grandori, who would become my colleague and friend at the Department of Business Economics at the University of Modena (later the University of Modena and Reggio Emilia) a few years later, offered an exhaustive essay on negotiation processes and strategies in organizations.

This interest, which later evolved into a concern with justice and the challenge of overcoming the 'structure-subject' dichotomy - a dichotomy that, in negotiation, takes the form of negotiation structure versus the behavior of the parties - was born at the crossroads of the study of Grandori's contribution,

[1] It is absolutely essential to emphasize that the term *Action* has to be used as defined by Max Weber (Weber, 1922), as clarified by Maggi in the chapter *Social Action and Organization*. Weber adopts the term *Handeln* rather than *Handlung* in order to underline, through the use of a verbal noun, that understanding social action means interpreting the *process* of action (not the action itself), its development, and the social meaning attributed to it by the acting subject, considering time as a fundamental variable.

which opened the door to the study of negotiation in our country[2], and Maggi's thought. In the eyes of a young researcher, Maggi's thought was a valuable guide to understanding the ways in which relations between subjects and organizations are interpreted.

Regardless of personal reasons, this text emphasizes the usefulness of exploring negotiation as a central element in the study of work regulation - a topic that has consistently characterized Bruno Maggi's work.

Over the past fifty years, negotiation theory and training have undergone considerable development at the academic and non-academic levels. The main objective of this chapter is to evaluate this development by examining the various proposed perspectives on this phenomenon. Bruno Maggi's framework (Maggi, 1984/1990: 179-190; 2003/2016: Livre I 28-34) is useful because it links the specificity of negotiation to organizational phenomena better than other proposals, such as the well-known interpretation of Neale and Bazerman (1985) or the less orthodox interpretation of Dupont (2006).

In the following pages, using the conceptual framework of organizational conceptions as proposed by Maggi (1984/1990: 190) to evaluate the characteristics of the main schools of organizational thought , negotiation will be conceived in an alternative way:

- in terms of the expected outcome of structural factors;
- as a particular decision influenced by behavioral factors, while constrained by structural factors;
- as a socially constructed phenomenon.
- as process of action that simultaneously regulates and is subject to regulation.

Bearing in mind Bruno Maggi's invitation to clarify the etymology of terms, it is useful to anchor the concept of negotiation to its original meaning before delving into its different applications. Negotiation is the opposite of

[2] That essay would later be included, in a much-enriched form, in *L'Organizzazione delle attività economiche* (Grandori, 1995; later *Organizzazione e comportamento economico*, 1999), a valuable work to which I had the honor of contributing. Anna Grandori then went on to study business behavior with expertise and breadth that have led her to be considered the most widely followed Italian management scholar abroad.

idleness (leisure) and contrasts with the latter as a different type of activity dedicated to commercial and economic action rather than study, contemplation, and artistic expression. Negotiation also refers to the "place" of action, where production occurs and economic processes come to life. Precisely using the etymological reference, we will question the separation between the place of knowledge and the place of practice.

Negotiation as a *structure*[3]

Initially, negotiation was considered a "specific" decision characterized by conflicting positions between the parties involved, the outcome depending substantially on the structural features of the negotiation.

This approach is reminiscent of the traditional theory, which straddles game theory and economic theory. According to this theory, agents maximize the known and stable expected utility function, and they are absolutely rational and conscious of it, under conditions of limited strategic interaction[4].

Structural characteristics are defined as the quantity (two or more) and quality (monolithic or grouped, with or without delegations) of the parties involved; the quantity (one or more) and quality (measurable or not, fungible or not) of the negotiation topics; the relative utility that the parties associate with the topics; and the type of relationship (*e.g.*, institutional or hierarchical) that can impact the decision, timing, and presence of a third-party mediator.

Given these "structural" characteristics, we can identify the solution - the agreement point - that maximizes the parties' utility and define its formalization. The object of analysis is thus the utility distributions along the parties' preference curve, the parties' reservation price (the so-called BATNA, Best Alternative to Negotiated Agreement) and the area of potential agreement. The availability and processing of this information makes it possible to identify the so-called negotiation types and the corresponding curve of efficient contracts.

[3] The more appropriate (but non concise) title would probably be: *Negotiation as a result of structural factors*.
[4] The starting points for this theorization in decision-making could be found in the works of Zeuthen, 1930, and Von Neumann-Morgenstern, 1944.

Essentially, this conception takes a prescriptive and "modeling" approach. According to this approach, given structural factors as data, it is possible to explain negotiation outcomes as a function of the relationship between the parties, a relationship whose characteristics can themselves be objectified.

Inspired by mathematical schools of thought, such as game theory, these modeling approaches have gone as far as proposing automated systems to support "conflict resolution", for example, by identifying computational procedures for managing offers and counteroffers (*e.g.*, in Baarslag *et al.*, 2015), under the assumption of optimizing the efficiency of the so-called "concession ballet".

This deeply rooted structural conception of negotiation implies consistent notions of power and justice.

From a structural perspective, a party's power, whether an individual or a group, is defined as an influence stemming from the possession of material and organizational resources, the position it occupies within the social/organizational system, and the availability of alternatives.

The notion of justice is defined in terms of agreement points that propose properties of equilibrium, referring to the fairness of resource allocation (items or issues that are subject of the decision). Among the (mathematically, objectively determinable) alternatives proposed (the so-called "non-dominated solutions"), the criterion that maximizes the product of the parties' utility, known as the Nash solution (1950), has certainly emerged as the most relevant.

Bruno Maggi's reflection (1990: 179-190; 2003/2016: Livre I 28-34) helps us recognize how this idea of negotiation stems from the objectivist and optimizing view of socioeconomic phenomena (particularly decision-making processes), which is based on the idea of absolute rationality: this view clearly inspires the conception of organization as *closed, predetermined, mechanical system*. By conceptualizing the organization in this manner, we posit the existence of an objective reality that serves as an immutable external constraint. Uncertainty can be disregarded because it can always be traced back to certainty via a "scientific" investigative protocol.

This view is associated with the concept of the economic man, who is hyper-rational, heteronomous, selfish, and uninterested in building meaningful relationships for their intrinsic value. This psychological simplification is justified by the fact that the functioning of the system dictates the needs to which humans must adapt (Neri, Perulli, 2021).

Negotiation as *behavior* [5]

Since the 1960s, the idea of negotiation as structure-dependent has been heavily criticized. The structural approach has been criticized for being unrealistic and oversimplifying strategic behavior while neglecting the cognitive-action processes of negotiators.

The work of many scholars (*e.g.*, Raiffa, 1982) led to the interpretation of negotiation as a decision-making process that does not take place between perfectly rational and super-intelligent people, but in the real world, between real people: many contributions have given rise to a fertile process of enrichment of the structural analytical framework, drawing mainly on the field of psychology to produce a conception of negotiation focused on the behavioral elements that characterize the negotiation process. This conception could be summarized by the following question: *what behaviors should be avoided so that the "actual" agreement point does not deviate from the "hypothetical" agreement point, (which is hypothesized on the basis of objective, structural elements)?*

Therefore, it would be a matter of inhibiting behavior considered dysfunctional in relation to the objectives of the (negotiation) system and reducing the costs associated precisely with inter/intra organizational exchanges (or 'transactions'; think of the school of Organizational Economics and the

[5] In this case, it would perhaps have been more accurate to title the paragraph *Functional, Constrained Behavior* to specify that this notion of negotiation, inspired by multiple theoretical proposals such as *Behavioral Decision Research* (BDR) qualifies for the indication of the most appropriate behaviors for the purpose of conflict resolution, with an obvious "attraction" to the functionalist approach. For a reconstruction of the BDR perspective in the context of the negotiation domain, see Van Zant-Kray, 2015.

proposal of Williamson, 1981; 1986). Not coincidentally, the most famous text of this research strand is called *Barriers to Conflict Resolution* (Arrow *et al*., 1995).

Inspired by Simon's (1947) critique of absolute rationality, many scholars have thoroughly studied the heuristics that characterize decision-making processes. In particular, studies of negotiation processes focus particular on distortions related to time pressure, computation skills, information on preferences (one's own and others') and, in general, all systematic errors of judgment (which manifest themselves in the framing effect) that may explain why negotiators fail to reach satisfactory solutions, even when they are potentially possible.

In recent years, scholars have further enriched this perspective by incorporating "psychosocial factors" into their analysis. These factors are considered useful for better understanding and managing the phenomenon. Examples include the quality of social relationships and the tendency to overestimate one's own contributions and abilities compared to others' (Tsay-Bazerman, 2009).

Although this conception still focuses on the exchange of resources between parties — not coincidentally, Grandori's aforementioned contribution appeared in the section of Costa's work dealing with "labor transactions" in the era of the Organizational Economics strand — the vision has broadened to include a more general field of organizational decisions, such as those concerning human resource management.

From this point of view, it is reasonable to question what constitutes fairness in negotiations, given that the answer cannot be fully expressed in mathematical or objective terms. There is an increasing body of work on negotiation ethics (Menkel-Meadow *et al*., 2004) and behavioral principles that qualify as fair, *i.e*., correct, although the term has more nuances. These contributions aim to prevent distortions that undermine the fairness of negotiations (Welsh, 2004). Justice also takes on a "procedural" character, making the sharing of the rules of the game a structural prerequisite for a fair negotiation path.

This approach has taken a distinctly consultative, managerial-oriented character, promising guidance for developing of "successful" negotiating skills (an example is the Fisher and colleagues' 1983 book, stimulatingly titled *Getting to Yes*): the assumption (more or less explicit) is that one can proceed in a positive direction if all parties involved are (more or less symmetrically) competent and if the process of exchange (informational in nature, but also emotional and consequently concerning the issues at stake) is well oriented northeast along the so-called "efficient contract frontier". Thus, there is a potential preference for negotiating with a skilled rather than an unskilled counterparty, with whom one can share a fiduciary relationship rather than an opportunistic one.

Accordingly, the meaning of power takes on changes: power is not generated exclusively by each individual's position within the system (*i.e.*, by the resources that a specific organizational position allows to control; a notion of power that we could define as "*hard*"), but it is a resource also based on relational and communicative skills and, in general, on the ability to manage uncertainty (thus giving power a "softer" meaning). However, as with the entire mainstream field of organizational behavior, the legitimacy of this mode of influence must be evaluated in terms of its functionality with respect to the needs of the overarching system. In other words, variability in behavior and possible deviations from absolute rationality are interpreted and justified to govern organizational exchanges in the interest of systemic ends (or equilibrium).

The concept of rationality also takes on a different interpretation. On the one hand, the inadequacy of the concept of absolute rationality is recognized, referring to Simon's idea of bounded rationality; on the other hand, the possibility of "managing" uncertainty is hypothesized, proposing a vision of the decision-making/negotiation process characterized by several predetermined steps: the analysis of the problem (premises of the decision and its associated information), followed by the phases of choice, evaluation, and so on. This constitutes a sort of 'reductionist' view of rationality and a clear reification of the negotiation process.

It therefore seems that this approach, which in turn has become *mainstream* in the field of negotiation studies, is consistent, according to Maggi's definition, with the conception of organization as an *open, organic, and predetermined* system: in this conception, uncertainty - which cannot be completely eliminated and addressed only in terms of pre-design - and the differentiation of interests - which are always partly complementary and partly conflicting - require joint coordination modes and mutual adjustments in actors' behavior through negotiation (here, the reference is clearly to Mintzberg, 1983).

Negotiation is therefore an organizational equilibrium-seeking tool, through which potentially divergent individual interests are harmonized in conditions of uncertainty that do not allow for prior regulation or hierarchical authority. "Emotional" behaviors, already interpreted as irrational by Mayo (1923; 1933), can be rationalized from an instrumental perspective, according to an "adaptive" logic. Thus, negotiation takes the form of a reified coordination tool that intervenes to reintegrate what has been divided. It matters little that the contributions on which this approach is based - as well as the entire field of organizational behavior - are often considered to be oriented toward subjectivism; it is the framework in which these reflections are embedded that "diverts" their orientation in the opposite direction.

This framework therefore also calls into question the issue of allowed *discretion*, which in the functionalist framework is linked to negotiable spaces of action, without empowering with autonomy.

Thus, it could be argued that the functionalist approach has influenced the study of negotiation. Bruno Maggi has repeatedly emphasized the characteristics and limitations of this concept and its implications for practical applications in terms of welfare and labor relations governance, helping us recognize that a complex phenomenon such as negotiation cannot be effectively understood through deterministic and reductionist views.

Negotiation as *social construction*

In the functionalist/positivist, deterministic, and objectivist view of social-organizational phenomena - as well as the corresponding conception of negotiation - the problems arising from the concept of rational (optimizing or satisfying) decision-makers are considered negligible or, at most, controllable through managerial programs. However, idea of rational decision-making has been increasingly questioned, leading to a critical perspective that conceives of negotiation as an unpredictable social phenomenon that cannot be reduced to its structural components.

These criticisms highlight that negotiators and social actors can only bring their unique experiences, cultural heritage, goals, and emotions into the negotiation arena. These contributions demonstrate an anti-positivist approach that focuses on interpreting and describing negotiation processes ex post to produce positive change, which can never be guaranteed.

In deterministic conceptions, subjectivity that produces distortions (bias) in rational behavior is regarded as a pathology because it prevents agreement from being reached despite structural conditions allowing it. However, in an anti-deterministic conception, subjectivity is interpreted as the true nature of the negotiating experience - a particular, unpredictable relationship between social actors empowered to make a joint decision. This perspective emphasizes the idea of actors as individuals (or groups of individuals) rather than negotiating parties. Generalizations are meaningless; studying personal traits to identify types of negotiating personalities is only useful for descriptive purposes.

Unlike interpretations of negotiation that presuppose an objectivist-functionalist view of organizations, there is no mature body of reflections traceable to a unifying, systematic explanatory framework. Subjectivist-oriented contributions are heterogeneous attempts to interpret a complex phenomenon not amenable to reductionist analysis.

Interesting proposals include contributions that focus on metaphors (Gelfand, McCusker, 2002), narrative studies (Federman, 2016), and interpretations that employ a constructivist framework to reconstruct the

discursive and persuasive dimensions of negotiation (Deitelhoff, Müller, 2005; Risse, Kleine, 2010).

In short, these studies are united by one key idea: negotiation is 'co-constructed' through communicative interaction between the parties involved, regardless of the analytical approach adopted.

From a non-positivist and anti-determinist perspective, power is primarily related to the language and dialogue individuals use to manage their relationships and understand their collective actions. Therefore, power is as important for understanding modes of influence and how resources are used as it is for controlling language and the rhetorical elements that characterize it. In other words, power is about the ability to make other actors accept one's interpretation of the negotiation process.

From a subjectivist perspective, ex post justifications are more reasonable than ex ante justice criteria. Criticism is directed at attempts to formalize the notion of justice in negotiations and at proposals that confuse behavior inspired by fairness with expressions of self-interest (Pillutla, Murnigham, 2003). The experience of the negotiating parties, which compels them to create a unique narrative about their experience, cannot be excluded from the system of justifications used to evaluate the negotiation.

For the purpose of this contribution, the most interesting aspect is the recognition of the "double level of analysis" that can characterize the negotiation phenomenon, as defined by Putnam (1989). Negotiation is *organized* through discussion of subjects, associated interests, and power positions. At the same time, negotiation contributes to *organizing*, shaping the overall organizational context, albeit within present constraints. In other words, according to Weick (1969), negotiation is studied by considering it to occur through the joint actions of participants, as well as the explicit and tacit messages that give meaning to those actions, and the reactions and counter-reactions to them. Negotiation is also a means of interpreting organizational experience and enacting organizations. In other words, it is a tool for giving meaning to organizational practices. Therefore,

we should bear in mind both the organization of negotiation and the fact that negotiation is an integral part of organizational sense meaning.

As stated previously, interpreted in this way, the study of negotiation requires an epistemological reorientation (Dupont, 2006). This reorientation explicitly abandons the prescriptive-utilitarian position and its emphasis on psychoeconomics. It also rejects the notion of ex ante rationality. This brings the study closer to the philosophical sciences.

Bruno Maggi also effectively presented the characteristics of this investigative approach. Intentionality should be the basis of coordinated action and the "organizational" justification of its analysis; when phenomena such as negotiation are considered in terms of "unrepeatable" objectives, languages, emotions, and "irreproducible" experiences, which can only be analyzed retrospectively and cannot be confronted, intentionality is ignored.

Adopting an objectivist-functionalist approach may "devalue" the work of organizational scholars by reducing them to "accountants" of actions constrained by external factors. Conversely, the subjectivist and anti-positivist approach jeopardizes the existence of the subject of investigation itself.

A *third way* to negotiation

Using Maggi's conceptual framework of organizations, two modes and focuses were identified for analyzing negotiation.

The first mode studies negotiation as an exchange (or transaction) and analyzes (and measures!) its usefulness in relation to the *system*'s proper functioning. This mode is divided into two research directions: a "structuralist" orientation and a "behavioral" orientation. Both orientations aim to provide normative principles, albeit in different forms.

The second mode focuses on an ex post facto understanding of the subjective experience of *social actors*. This way is descriptive and interpretive of singular phenomena.

Some more or less recent contributions address the issue of negotiation by proposing the overcoming of the duality of systems and subjects and by explicitly rejecting a deterministic approach.

For example, according to Strauss's (1978) reflection, there is no social order that is not negotiated. This stresses the importance of understanding the dynamics between the configurations of norms and values that frame negotiations and the factors that influence negotiators' intellectual activity, which conditions their negotiating actions (*i.e.*, negotiated frames).

The theories of conventions and French pragmatic sociology (*e.g.*, the work of Boltanski and Thévenot, 1991) approach negotiation (or disputes) in terms of regimes of justification, explicitly linking the topic to the moral question.

Equally fruitful and more fitting for this chapter, which relates to labor relations in depth, is Reynaud's (1995) Theory of Social Regulation. According to Reynaud, negotiation plays a central role because the rules that frame labor exchanges are created through negotiation, regardless of their nature or level.

These contributions, such as Remy's (1992) social transaction theory, are oriented toward overcoming the system-subject dichotomy. This only becomes unambiguous and effective when one makes the epistemological choice to reject both subject and system-based logics. This becomes evident when studying the negotiation phenomenon from the perspective of non-reifying processual organization, which we can call the "third organizational way".

In particular, Maggi's Theory of Organizational Action (1984/1990; 2003/2016) explicitly presupposes this point of view, together with Gilbert de Terssac's Theory of Organizational Work (2011) and Jens Thoemmes' study (2011), in which the latter addressed the very issue of negotiation.

A conception of negotiation, consistent with the third organizational way and derived from viewing social phenomena in terms of action and decision-making processes (Maggi, 2011: 68), can be broken down into the following elements:

- Working also means organizing; organizing and regulating (as well as structuring) are concepts that can only be distinguished analytically;

- Negotiation is a form of regulation that is clearly of a collective nature;
- The rationality of organizational processes is considered, not that of the negotiating actors or the negotiating system. The rationality of the process itself is bounded and intentional;
- The study of organizational processes - and therefore of the negotiating processes involved - has an anti-deterministic orientation;
- The negotiation process, characterized by bounded rationality, is oriented and guided toward objectives subject to negotiation with an evident recursive dynamic. The study of the analytical components of the negotiation process - including constraints and restrictions - identifies the domain of possible choices and the conditions of admissibility of decisions, as well as their consistency with the admitted objectives.

Negotiation as an organizational process (organization as negotiation)

In *De l'agir organisationel* (Maggi, 2003/2016), excluding bibliographical references and counting errors, Maggi uses terms with the root "négoc-" (négocier, négocié, négociable, négociant, négociation, et négoce) twenty six times - precisely, nine times in Book I, twelve times in Book II, and five times in Book III.

In two other recently published papers in the TAO Digital Library series - *On social regulation* (Maggi, 2015) and *The conceptions of autonomy* (Terssac, Maggi, 1996/2022) - terms with the same negotiation root (-negotiate, -negotiation, -negotiated, etc.) occur eight and eleven times, respectively.

Referencing these texts is certainly fundamental. However, I must acknowledge that Bruno Maggi's teaching on the subject goes far beyond the study of these works and the reference to quotations, as evidenced by his other writings, seminars, and our interactions over the years. That said, what follows is my personal, summarized interpretation of the concept of negotiation. This interpretation is strongly influenced by Maggi's teachings, but I take full responsibility for it.

First of all, dealing with negotiation means dealing with organization in a comprehensive manner.

The usual practice that, for example, situates the study of negotiation in the field of organizational behavior, on the borderline with social psychology, as if it were a skill "in support of organizational knowledge" is evidently misleading: negotiation stands 'in the round' to organizational knowledge in the same way - to cite two examples of constituent topics of knowledge itself - as structural analysis or performance evaluation.

This is not only because negotiation can be considered a costly mechanism for coordinating organizational action, as in the classical contingentist approach, but also because, if organization is regulated order, reflecting on rules and regulations recognizes that collective action consists of negotiated exchanges that originate from negotiation concerning the production of mutually legitimate rules. Organizational action is characterized by a continuous dynamic between negotiated exchanges and negotiation over the regulation of those exchanges. Maggi explicitly states (in agreement with Reynaud's Theory of Social Regulation) that negotiation is the main engine of regulation (*De l'agir organisationnel*, Livre I: 63) and that organization itself is the result of both explicit and implicit negotiation between different types of rules, giving rise to joint regulation (*De l'agir organisationnel*, Livre II: 24).

According to Maggi, Terssac, and Thoemmes, all work is organizational work, all action is organizational action, and all negotiating activity contributes to the structuring action and produces organizational change (Maggi, 2015: 23).

This conception of negotiation is connected to the interpretation of autonomy and heteronomy, one of Maggi's most distinctive and original themes. In summary, the expression of autonomy is the result of continuous negotiation among the subjects involved, and the process of action always involves both autonomy and heteronomy. No process can be completely autonomous because it is always in relation to other processes. Likewise, no process can be considered completely heteronomous since its regulation is the continuously changing result of negotiations among all agent subjects at different levels of decision-making.

In this regard, considering organizational action as independent of company boundaries encourages the observation of inter-company negotiations (Grandori, Neri, 1999) with a logic that reduces the emphasis on legal and contractual issues. This makes it possible to identify the substantive characteristics of regulatory action. For example, it is possible to 'substantially'reflect on who exercise coordination and control throughout the network of companies and must therefore take responsibility for the entire process.

Additionally, adopting this conception of negotiation changes how negotiation skills are understood and taught. It's not about adding relational and decisional skills to technical skills, as the traditional training view often claims. Rather, it's about redefining the meaning of knowledge. Referring back to Maggi's notable reflection on the topic, he points out that referring to process of action means recognizing, first of all, that organizational knowledge involves assessing the coherence of actions with respect to the process itself. It also means recognizing that the claim of autonomy at work is substantiated by negotiating new competencies. In terms of training conception, Maggi (2010: 23) states that "one cannot separate, but only distinguish, the processes that are mutually related, that are connected, intertwined: the action processes of working, teaching, learning".

This awareness convinced me that the Method of Organizational Congruences (MOC), proposed by Maggi in the 1980s (1984/1990: 103-126), could be an ideal inquiry procedure for preparing for and conducting negotiations. This is because the MOC can facilitate describing and interpreting the organizational situation in terms of actions and decisions. In fact, it proposes a joint analysis of institutional, technical, and structural dimensions and "trains" participants to consider (and act on) power in a non-reified way. This is consistent with the idea of active control of the organizational process (*De l'agir organisationnel*, Livre I: 61).

Returning to the definition provided in the introduction to this chapter, it can be said that, as far as negotiation processes are concerned, MOC eliminates the distinction between the locus of knowledge and the locus of practice.

The reference to the MOC and the objectives of the process, as well as the means by which these objectives are pursued, is food for thought. Processes of action, including negotiations, are goal-oriented, and both goals and the methods chosen to achieve them are always negotiable (*De l'agir organisationnel*, Livre III: 63). I have always interpreted this vision in terms of a focus on justice. If it is true that every negotiated process of action can be oriented, I believe that there is scope to orient it towards justice or associate its objectives with a shared sense of justice.

Take as a reference the research and reflection that Thoemmes (2011) makes, in my opinion in agreement with Maggi's conception, on the logic of negotiation processes in France in different historical periods. The author considers possible to identify a specific rationality (logic, orientation) as an attribute of the negotiation processes themselves, whether for welfare or profit; a logic that, according to the author, can and does change over time.

As a consequence, I believe that moving away from a deterministic position implies the possibility of recognizing an emerging logic ex post facto in a given period. It also does not prevent negotiation processes from being directed toward just ends (rules and agreements) within the limits of existing constraints, uncertainties, and unforeseen events.

Therefore, while a negotiation orientation toward justice can be justified, it cannot be imposed from the outside. Rather, it involves negotiating values, as is the case when processes of action are geared toward well-being.

It is a matter of recognizing the complexity of negotiation processes, which necessitate negotiating about what is being negotiated, agreeing on the legitimacy of the proposed conditions, and accepting that no negotiation is ever fully concluded. Just as structure is both a product and a producer of social regulation, subject to changes depending on the situation, the character of processuality also concerns the goals to which one is oriented.

Adopting Sen's (2009) processual conception of justice, I argue that if justice involves applying criteria to order organizational processes (as should be the case for everything in the world...), then it can be interpreted as a central process in the dynamics of negotiation (Neri, 2018). Contrary to conceptions of negotiation (or organization) centered on system logic, according to which justice is expressed through an agreement, a contract, or a procedure, or on subjective logic, according to which negotiated justice is essentially a subjective experience, I have come to believe that in a processual conception, the justice of a negotiation can be represented as a process of action in itself.

Lastly, in conceiving of organization and negotiation in this way, reference is made to the idea of humans as "conscious, proactive, and only partially heterodirected" (Neri, Perulli, 2021: 124), which considers "the inextricable interdependence between human action and its context" (Neri, Perulli, 2021: 128). Processuality informs both actors and the various structures to which interdependencies between actors give rise. There is no doubt that Elias's (1987/1990) concept of figuration helps us understand the entanglements (including negotiation!) that bind actors and their actions and decisions, which are neither completely constrained nor completely free. Elias's analytical tools can also allow one to "enter" the negotiating and relational dynamics. For example, with the support of the framework presented with reference to game models (Elias, 1978), one can observe how "players/negotiators" modify their positions during the game. This process cannot be reduced to individual "moves" alone. The unfolding of the negotiating game is influenced by "impersonal" conditions as well as individual motivations. The course of the game is partly uncontrollable because it is a consequence of the players' mutual dependence. For instance, when opportunities to exercise power are distributed among many people, it becomes difficult for each negotiator to predict the consequences of their own and others' actions and plan, and control the flow of information (Perulli, 2012). The same applies to the study of emotions. The procedural and figurational development of emotions can be related to the development of the negotiation process (Mastenbroek, 1999).

Conclusions

The idea of negotiation I have developed over time is inseparable from Bruno Maggi's teachings. His epistemology of organization and systematization of conceptions of organization allowed me to distinguish and compare different approaches to negotiation. In the early years of my education, I often found these approaches presented in the literature with a syncretic orientation, which I now consider inadequate.

His ideas about work processes and regulations are a constant reference point when dealing with organizational analysis, research, and teaching. Contributions from different disciplines, such as economics, law, sociology, and psychology, can converge on the concept of negotiation when understood in this way, providing epistemological coherence.

In particular, negotiation conceived according to this vision seems to me today to be a field of study in which it is not a question of "reconciling" aspects of the structural context with aspects of the subjective psychosocial context, but of understanding their nature without passively acquiescing to it, in order to guide its dynamics. When I think back to my early experiences of studying and supporting union negotiation and inter-organizational negotiation[6], I believe that I am now able to proactively "relativize" regulatory and contractual constraints - which should not be interpreted as "social facts" *par excellence* - together with the negotiating 'virtues' of the protagonists (acting individually or collectively) and to make a more effective contribution in the context of this form of organizational regulation, including in terms of historical reconstruction, albeit with constantly evolving analytical tools.

In fact, this "direction of clarification", whose value is invaluable to me, is just one part of an ongoing, complex, challenging working process of absorbing such teaching and translating it into knowledge in accordance with my own sensibility.

[6] I refer to my experiences as a trainer at the CIGL Trade Union Culture Training Center in the early 1990s and as a researcher at DHL, which also inspired a series of research papers, including Grandori, Neri (1999), Grandori *et al.* (2000) and which I drew on in subsequent reflections on organizational justice (see Neri, 2018; 2022).

References

ARROW K., TVERSKY A., MNOOKIN R.H. (EDS.)
1995 *Barriers to conflict resolution*, New York: Norton.

BAARSLAG T., AYDOĞAN R., HINDRIKS K.V., FUJITA K., ITO T., JONKER C.M.
2015 The Automated Negotiating Agents Competition, 2010–2015, *AI Magazine*, 36, 4: 115-118.

BOLTANSKI L., THEVENOT T.
1991 *De la justification. Les economies de la grandeur*, Paris: Gallimard.

CORTELAZZO M., ZOLLI P.
1999 *Il nuovo etimologico. Dizionario etimologico della Lingua Italiana*. Bologna: Zanichelli.

DEITELHOFF N., MÜLLER H.
2005 Theoretical Paradise—Empirically Lost? Arguing with Habermas, *Review of International Studies,* 31, 1: 167–179.

DUPONT C.
2006 *La Négociation post-moderne*, Paris: Publibook.

ELIAS N.
1987/1990 *Die Gesellschaft der Individuen*, Frankfurt: Suhrkamp.

FEDERMAN S.
2016 Narrative approaches to understanding and responding to conflict, *The International Journal of Conflict Engagement and Resolution*, 4, 2: 154-171.

FISHER R., URY, W. PATTON, B.
1983 *Getting to yes,* Boston: Houghton Mifflin.

GRANDORI A.
1992 Processi e tecniche di negoziazione nelle organizzazioni, in Costa G. (Ed.), *Manuale di Gestione del Personale:* Vol.1, 357-382. Torino: UTET
1995 *L'organizzazione delle attività economiche*, Bologna: Il Mulino.
1999 *Organizzazione e comportamento economico*, Bologna: Il Mulino.

GRANDORI A., NERI M.
1999 The fairness properties of interfirm networks, in Grandori A. (Ed.), *Inter-firm networks: Organization and industrial competitiveness*: 41-67, London: Routledge.

GRANDORI A., NERI M., ONDOLI C., SODA G. (Eds.)
2000 *Simulazioni di negoziazione delle relazioni di lavoro*, Roma: ISFOL.

GELFAND M., MCCUSKER C.
2002 Metaphor and the cultural construction of negotiation: A paradigm for research and practice, in Gannon M.J., Newman K.L. (Eds.), *The Blackwell Handbook of Cross-Cultural Management*: 292-314, Oxford: Blackwell.

HIRSCHMAN A.O.
1977 *The passions and the interests: Political arguments for capitalism before its triumph,* Princeton: Princeton University Press.

MAGGI B.
1984/1990 *Razionalità e benessere. Studio interdisciplinare dell'organizzazione,* Milano: Etas Libri.
2003/2016 *De l'agir organisationnel. Un point de vue sur le travail, le bien-être, l'apprentissage,* http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.
2010 *Peut-on transmettre savoirs et connaissances ?/ Can we transmit knowledge?/ Si possono trasmettere saperi e conoscenze?*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.
2011 Théorie de l'agir organisationnel, in Maggi B. (Ed.), *Interpréter l'agir: un défi théorique*: 69-96, Paris: Presses Universitaires de France.
2015 Su la regolazione sociale, in Thoemmes J. (Ed.), *Temps de travail et régulation sociale / Tempo di lavoro e regolazione sociale*: 18-30, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MAGGI B. (ED.)
2011b *Interpréter l'agir: un défi théorique*, Paris: Presses Universitaires de France.

MASTENBROEK M
1999 Negotiating as emotion management, *Theory, Culture and Society*, 16: 49-73.

MAYO E.
1923 The irrational factor in human behavior: The "night mind" in industry, *Annals of the American Academy of Political and Social Science* 110: 117-130.
1933 *The human problems of an industrial civilization*, New York: Macmillan.

MENKEL-MEADOW C., WHEELER M. (Eds.)
2004 *What's fair: Ethics for negotiators*, San Francisco: Jossey Bass.

MINTZBERG H.
1983 *Structures in five. Designing effective organizations*, Englewood Cliffs: Prentice Hall.

NASH J.
1950 The bargaining problem, *Econometrica*, 18, 2: 155-162.

NEALE M., BAZERMAN M.H.
1985 Perspectives for understanding negotiation: Viewing negotiation as a judgmental process, *Journal of Conflict Resolution*, 29, 1: 33-55.

NERI M.
2018 *Giustizia e organizzazione: concezioni a confronto*. http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.
2022 Ideas of organization and ideas of justice, in Faldetta G., Mollona E., Pellegrini M. (Eds.), *Philosophy and Business Ethics:* 197-232, Heidelberg: Springer.

NERI M., PERULLI A.
2021 La concezione di uomo, in Neri M. (Ed.), *Humans, resources or what else?* 119-131., http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

PILLUTLA M.M., MURNIGHAN J.K.
2003 Fairness in bargaining, *Social Justice Research,* 16: 3: 241–262.

PUTNAM LL.
1989 Negotiation and Organizing: Two Levels of Analysis within the Weickian Model, *Communication Studies,* 40, 4: 249-257.

RAIFFA H.
1982 *The art and science of negotiation*, Harvard: Harvard University Press.

REMY J.
1992 La vie quotidienne et les transactions sociales, in Blanc M (Ed.), *Pour une sociologie de la transaction sociale*: 83-111, Paris: L'Harmattan.

REYNAUD J.-D.
1995/1999 *Le conflit, la négociation et la règle*, Toulouse: Octarès Editions.

RISSE T., KLEINE M.
2010 *Deliberation in negotiations,* Journal of European Public Policy, 17, 5: 708-726.

SEN A.
2009 *The idea of justice*, Cambridge: Harvard University Press.

SIMON H.A.
1947 *Administrative behavior*, New York: McMillan.

STRAUSS A.
1978 *Negotiations: Varieties, contexts, processes and social order*, San Francisco: Jossey-Bass.

STRAUSS A., MAINES D.
1993 Negotiated order and structural ordering, in Strauss A. (Ed.), *Continual Permutations of Action*: 245-262, London: Routledge.

TERSSAC G. DE
2011 Théorie du travail d'organisation, in Maggi B. (Ed.), *Interpréter l'agir, un défi théorique* : 97-121, Paris : Presses Universitaires de France.

TERSSAC G. DE, MAGGI B.
1996/2022 *Les conceptions de l'autonomie / The conceptions of autonomy / Le concezioni di autonomia*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

THOEMMES J.
2011 La négociation du temps de travail, in Maggi B. (Ed.), *Interpréter l'agir: un défi théorique*: 259-278, Paris: Presses Universitaires de France.

TSAY C.J., BAZERMAN M.H.
2009 A decision-making perspective to negotiation: A review of the past and a look to the future, *Negotiation Journal*, 25, 4: 467-480.

VAN ZANT A., KRAY L.
2015 Negotiation and conflict resolution: A behavioral decision research perspective, in Keren G., Wu G. (Eds.), *The Wiley Blackwell handbook of judgment and decision making*: 828-884, Oxford: John Wiley & Sons.

VON NEUMANN J., MORGENSTERN O.
1944 *Theory of games and economic behavior,* Princeton: Princeton University Press.

WALTON R.E., MCKERSIE R.B.
1965 *A behavioral theory of labor negotiations,* New York: McGraw-Hill.

WEBER M.
1922 *Wirtschaft und Gesellschaft*, Tubingen: Mohr (critical edition by J. Winckelmann, 1956).

WEICK K.E.
1969 *The social psychology of organizing*, Reading: Addison-Wesley.

WELSH N.A.
2004 Perceptions of fairness in negotiation, *Negotiation & Dispute Resolution eJournal*.

WILLIAMSON O.
1981 The economics of organization: The transaction cost approach, *American Journal of Sociology*, 87, 3: 548-577.
1986 *Economic organization : firms, markets, and policy control*, New York: New York University Press.

ZEUTHEN F.
1930 *Problems of monopoly and economic welfare*, London: Routledge.

The interpretation of the relationship between work and health

Giovanni Rulli

Introduction

The aim of this paper is to show how Bruno Maggi's thought, his epistemological reflection, his theoretical and methodological work have provided a fundamental contribution to biomedical disciplines, in their search of conceptual frameworks and practical tools to analyze and interpret work situations, to reduce risks to well-being and promote primary prevention (*i.e.* interventions implemented before risk for health and safety arise). My encounter with his thought, during my time at the School of Specialization in Occupational Medicine at the University of Milan (1984-1988), at the Luigi Devoto Clinic - where he held for a long time a course of theory of organization an analysis of work - provided a convincing answer to my quest for tools to interpret work realities in a way that aligned with my emerging worldview.

From the 1994-95 to the 2006-07 academic year, I had the honor and responsibility of succeeding my Mentor in the teaching role at the School. This emphasized the importance of having a medical specialist to continue and cultivate, with an interdisciplinary approach, the training of colleagues in the organizational analysis for prevention in workplaces.

In order to emphasize the crucial value of Maggi's proposal for occupational medicine and other biomedical disciplines, it is necessary to summarize once again its distinctive elements, while directly relating them to their meaning and, consequently, to the choices that they allow such disciplines to make, so that their declared prevention objectives can be achieved. This relationship explains, first of all, my personal theoretical and research path in the field, developed over the last thirty-five years. Therefore, this is a story of the recognition of my scientific debt and, at the same time, the affirmation of an

original contribution as well as the demonstration of the interdisciplinary positive consequences of Bruno Maggi's thought.

Work analysis for prevention

The Theory of Organizational Action (TOA), originally *Teoria dell'Agire Organizzativo* (TAO), is based on an explicitly interdisciplinary scientific foundation and has been systematically developed by Bruno Maggi since the mid-1980s (Maggi, 1984/1990, 2003/2016). As summarized by Maggi in the chapter *Social Action and Organization*, the concept of "action" should be understood in the sense used by Max Weber (Weber, 1922), who used the term *Handeln* instead of *Handlung* to emphasize, with the use of the noun verb (*Handeln*), the interpretation of the *process* of action (not the performed action) - its unfolding over time, and the social meaning attributed to it by the acting subject - with time considered a fundamental dimension.

TOA has offered a crucial perspective for the development of biomedical disciplines - particularly occupational medicine - and ergonomics, in their efforts to promote prevention and well-being. It provides an interdisciplinary framework for interpreting organized work, consistent with the stated goal of primary prevention.

The keynote lecture delivered by Bruno Maggi at the 53rd National Congress of the Italian Society of Occupational Medicine and Industrial Hygiene, held in Stresa (Italy) from October 10 to 13, 1990, was indeed built around the premise that "occupational medicine is interested in criteria for the observation and interpretation of work situations [...] in order to develop its scientific knowledge and stimulate and contribute to the implementation of prevention measures that are as effective as possible" (Maggi, 1990).

Maggi also warned: "It is not appropriate for occupational medicine to uncritically borrow observational and interpretative criteria. It may end up adopting perspectives that are unsuitable for its purposes and its knowledge requirements" (*ibid*.). The lecture continued by presenting and analyzing different possible ways of conceiving organized work, demonstrating that most

of them were inadequate for the aims of occupational medicine. As a result, many common practices of work description and analysis for prevention purposes proved to be flawed, both because of their failure to identify the most critical elements of work affecting well-being, and because they were, in practice, subordinated to prevailing production logics. Consequently, they were inconsistent with the centrality of human beings (even if declared) and with the goal of achieving primary prevention.

In his presentation of the Theory of Organizational Action as a social interaction process - later summarized in a collective book discussing its significance for other disciplines such as ergonomics, ergology, psychodynamics, sociology, psychology, and linguistics (Maggi, Rulli, 2017a) - Bruno Maggi outlined the distinctive features of an epistemological approach aligned with the goals of primary prevention, particularly relevant to occupational medicine: "All human action, social action, is viewed as a process of actions and decisions, in continuous development and always in relation to other processes, of the same subject and of other subjects. *Organization* is a social process, the regulatory aspect of social interaction. Acting subjects are not separable from these processes: they are at the center, participating in their design and development. Thus, the well-being of subjects cannot be separated from the goals, regulation, and evaluation of any social process. The method[1] derived from this theory makes it possible to connect the analysis of organizational choices in social processes (particularly work processes) with the analysis of the consequences of these choices on the physical, mental, and social well-being of the individuals involved. Prevention objectives can thus be pursued alongside those of effectiveness and efficiency" (Maggi, Rulli, 2017a: 85-86).

But how can such a connection take place? What is the key concept, the keystone, the central element that, on the one hand, allows us to identify the elements necessary for describing the pathogenic potential of work, and, on the

[1] Method of organizational congruences. "Method is an ordered procedure of inquiry, produced by a theory; or, in equivalent terms, it is the research order of a theory, the set of criteria that the theory offers for observing and interpreting reality" (Maggi, 1984/1990: 105).

other hand, provides a foundation for biomedical analysis aimed at proposing prevention measures in which the centrality of the human being is prioritized?

As early as the 46th Congress of the Italian Society of Occupational Medicine and Industrial Hygiene (Maggi, 1983), Bruno Maggi introduced the stipulative concept[2] of organizational constraint to the biomedical field. Central to the Theory of Organizational Action, this concept refers to the reduction of the acting subject's freedom of choice within the process of actions and decisions.

Organizational constraint is intrinsic to organizational action, which, in order to generate benefits not achievable by individuals acting alone, limits the autonomy of the individual in decision-making and action. It reduces their freedom — relational, physical, and psychological (Maggi, 1984/1990: 139-158).

This constraint is both analyzable and modifiable. However, it should not be understood as a direct cause of illness, as has sometimes been suggested through occasional misuse of the term. As Maggi noted, such confusion arose, for instance, in INAIL[3] Circular No. 71 of December 17, 2003, which used the term to refer to "situations" linked to the "company organization" and to "conditions of occupational disease." According to Maggi, "this use would merely be laughable if it weren't so concerning, as it reflects a lack of familiarity with the concepts, and is above all misleading and harmful to anyone who must deal with that circular: occupational physicians and prevention professionals, judges and lawyers, company managers, and workers' representatives" (Maggi, 2015: 17). Naturally, one cannot speak, despite recurring misunderstandings, of "different types" of constraints (such as chemical, physical, or psychological). Rather, the analysis of organizational constraint enables the identification of specific organizational choices that may generate risk conditions in work situations.

[2] Following the epistemologist C. G. Hempel (1966), we distinguish between a "descriptive" definition of concepts, which specifies a commonly accepted meaning, in an established way, and a "stipulative" definition, which constructs a new term within the framework of a theory. The concept of organizational constraint is part of the development of the *Theory of organizational action*; therefore, its meaning originates from, and is grounded in, its relationships to the theory's other concepts.

[3] Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro (National Institute for Insurance against Accidents at Work)

These conditions may relate not only to places, materials, substances, and techniques, but also to the sensory, motor, mental, and social engagement placed on individuals.

According to the Theory of Organizational Action, the relationships between risk conditions, damage, and consequences for well-being are not understood in terms of necessary causality (*i.e.*, a linear cause-effect relationship between agent and harm). Instead, they are interpreted predictively, in terms of conditional and objective possibility (what the theory calls *adequate causation*) meaning the logically and scientifically grounded plausibility of a link between risk conditions and the possibility of harm[4]. Identifying potentially "pathogenic" organizational choices makes it possible to hypothesize and implement alternative organizational choices that can eliminate workplace health and safety risks at their source.

This applies both to the analysis of existing work processes and to the ergonomic design of new ones, by identifying and implementing alternative organizational choices that reduce or prevent harmful conditions.

Organizational constraint thus serves as the keystone, the crucial concept in organizational analysis for understanding the relationship between work as an organized activity and individual well-being (or malaise). Hence, it provides a foundational guideline for primary prevention efforts. In the early 1980s, the theory finally offered an organizational explanation for what had long been referred to, without convincing clarification, as the "pathogenicity of work as such".

Through the use of the method of organizational congruencies, it becomes possible, on the basis of scientific knowledge peculiar to other disciplines (especially occupational medicine) to identify the relationships between the "risk conditions" generated by organizational constraints (for example, organizational choices that lead to the presence of a pollutant in the work environment) and their consequences for well-being. This same method also enables the

[4] See Maggi (1984/1990, ch. 3; 2014) and the illustrative argumentation regarding risks and damages (harms) implied by asbestos exposure in Rulli (2014a).

identification of alternative organizational choices, including at the design stage, that are most effective in reducing or eliminating risk conditions before harmful effects materialize. This represents the only possible path to primary prevention in the proper sense.

The *Theory of Organizational Action* has also stimulated other disciplines to develop new theoretical perspectives and interdisciplinary reflections. My own encounter with this theory led me to reflect deeply on the concepts of well-being, prevention, risk, and stress, concepts that can themselves be understood and defined as processes. This reflection has shaped what might be called a "processual theory of prevention and well-being", and it has guided both my research and practical work in the field.

Health, prevention, stress and risk interpreted as processes

Let me begin by recalling that "the definition of health proposed by the Organization and Well-being Research Program is a *perfectible process of well-being,* a definition consistent with the chosen approach for assessing the relationship between organized work and health" (Rulli, 1996: 36). I have also argued: "Health, prevention, and stress are interpreted here through a processual lens, a shared logic and guiding thread that warrants particular emphasis. First, it is helpful to recall the etymology of the noun *process*: from the Latin *processus*, meaning advancement or progression toward something. The choice of this term is intended to highlight the dynamic nature of how variable elements and conditions influence one another in shaping possible alternatives. These alternatives may refer to choices, decisions, and actions in organizational processes, but also to physiobiological alternatives as they occur in the human body, which may manifest in specific or nonspecific ways in response to exposure to more or less harmful agents.

The use of the concept of process significantly differentiates this perspective from approaches that interpret reality or physiological phenomena using static terms such as "state" (*e.g.*, "state of health") or "outcome," often associated with linear cause-effect reasoning. In contrast, this view defines *health*

as a *perfectible process of well-being,* the evolving expression of the meeting between individual and collective aspirations and their environment (including the work environment). *Prevention*, then, is defined as a *constructive and iterative process aimed at avoiding any possible illness or harm* - not as a discrete action or intervention taken along the way. Finally, *stress* is defined as a *psychoneuroendocrinoimmune process*, emphasizing its developmental variability and multiple influences. This perspective entails a clearly articulated epistemological stance, one that draws upon the *Theory of Organizational Action*" (Rulli, 2014b: 28).

This perspective allows for a much broader - albeit complex, yet unified - reflection on both the understanding of reality and the practical means of guiding action. It offers concrete possibilities for making informed choices among alternatives and for modifying existing conditions, all with a view toward well-being and prevention. In discussing stress in particular, it becomes necessary to consider the issue of *non-specificity*, and to reflect on the deeper meaning of the frequently repeated notion of the "harmfulness of work as such", a concept often invoked but rarely examined in depth, especially in terms of its implications for primary prevention.

I also wrote: "This perspective should be understood as a way of viewing the reality of health and illness-not as a "model" of health and illness, to which such a conceptualization would be inapplicable. It also enables us to move beyond approaches that sharply oppose "objectivity" and "subjectivity". It is grounded primarily in biomedical reasoning, which is based on knowledge of the relationships between human physiobiology, and the various factors—whether direct or indirect, specific or non-specific—that can interact with human beings (including, though not limited to, cognitive involvement). At the same time, this perspective draws significantly on the conceptual and methodological contributions of the Theory of Organizational Action, which—as previously noted—provides the tools needed to describe, interpret, and evaluate both work processes and the organizational etiopathogenesis of risk (Maggi, 1984/1990). This evaluation is not limited to efficiency or productivity outcomes, but rather considers the relative congruence among process components, which are

inseparable from the acting subjects involved and their conditions of well-being" (Rulli, 2014b: 29).

Finally, the concept of *risk* can be appropriately defined in terms of the possibility of *dynamic, consequential, and mutually influential events - that is, conditions that may lead to the occurrence of harm* (Rulli, Maggi, 2018). One can therefore speak of *risk* as the *general possibility of harm*, and of *risk of* as a *way of specifying the type of harm that might occur* (*e.g.*, risk *of* injury, *of* occupational illness, *etc.*). Biomedical disciplines investigate the relationships between risk and harm through functional explanations and inductive probability. However, if we wish to understand the origin of risk and the human choices on which it depends, then interpreting the conditions that enable its emergence is not only preferable, but essential. It is beyond doubt that all the components of a work situation, or of life more generally, such as places, environments, materials, tools, and ways of acting, are the result of human choices. These choices must become the central focus of efforts to prevent risk - that is, of prevention itself (Rulli, Maggi, 2018: 12).

The element of *choice*, which is present in every aspect of organized work configurations, is of fundamental importance for at least two reasons. First, nothing should be taken for granted or treated as predetermined and exempt from responsibility. It is therefore misleading, even nonsensical, to speak of risk "factors" as if they were immanent. Second, the very notion of *choice* implies the existence of alternatives, both those already known and those not yet imagined. Accordingly, this opens the way for identifying and implementing a potentially unlimited number of alternative organizational choices that are more congruent with individual well-being and the goals of primary prevention.

The interdisciplinary research program "Organization and Well-being"

This body of public (and published) knowledge, stemming from the foundational work of Bruno Maggi, his Theory of Organizational Action, and the related method of organizational congruencies, has given a fundamental contribution to the rise of a processual theory of prevention and well-being. But

what fruits has it borne since 1984? Can the impact of this theoretical and methodological foundation be traced in the scientific development and publications of occupational medicine and the other disciplines concerned with well-being in the workplaces?

A reasonably objective answer can be found by examining the scientific publications associated with the interdisciplinary research program *Organization and Well-being*, which focuses on the relationship between work and health. Formally established in the 1980s, after more than a decade of interdisciplinary inquiry into work-health relationships, the program aims to identify the links between the organizational structuring of work processes and the health of workers, the latter understood, as previously discussed, as a perfectible process of well-being.

Coordinated by Bruno Maggi, former Professor of Organization theory at the University of Bologna, the program is firmly grounded in the Theory of Organizational Action. Disciplines from diverse domains - biomedicine, economics, sociology, psychology, engineering, and others - are brought together in a truly interdisciplinary framework through the application of the method of organizational congruencies. The outcomes of research projects, analyses of work situations for prevention purposes, and the seminar discussions they generate, are regularly published in books and scholarly journals, especially within the *TAO Digital Library*, an international publication series and digital platform established in 2010 at the University of Bologna. This series is dedicated to the analysis and transformation of social action processes, organizational change in enterprises and work practices, the relationship between work and well-being, learning processes, and related topics.

I recall that, already in the first ten years of the Organization and Well-being program's research activities, numerous work contexts were analyzed for prevention purposes, including hospital and community health care settings, construction, mining, the iron and steel industries, forestry, and work processes transformed by CAD-CAM technologies. All of these were subsequently documented in scientific publications (see Maggi, 1991). Further research has

since expanded into both new sectors within those original fields (*e.g.*, specific sectors within health care facilities) and entirely different domains, such as insurance, education, crafts and commerce, printing, supermarkets, laundries, and additional industrial processes (*e.g.*, welding in the nuclear industry). Each of these studies has generated specific scientific publications, all of which are freely accessible at www.taoprograms.org.

A sustained and recurring application of the Theory of Organizational Action and the method of organizational congruencies, which I believe is worth recalling, involved me directly in my role as national coordinator of occupational medicine specialists for the insurance company RAS S.p.A. (Riunione Adriatica di Sicurtà), which later merged into Allianz S.p.A. in 2007. This collaboration began in 1995 with a training initiative on organizational analysis for prevention, organized by the *Organization and Well-being* program and directed at managers, supervisors, and workers' safety representatives (RLS). It later evolved when I was appointed company occupational physician following the implementation of Italian Legislative Decree 626 of September 19, 1994, which enacted several EU directives, especially Directive 89/391, aimed at improving workers' health and safety.

The method of organizational congruencies was employed consistently over a period of seventeen years to support the risk assessments required by Legislative Decree 626. This included not only the initial implementation of the decree, but also every subsequent phase involving changes to activities. It was also applied to the assessment of "work-related stress" risk, as mandated by the 2004 European Framework Agreement and by Italian Legislative Decree 81 of April 9, 2008. In this context, it was used during the training of each new group of managers, supervisors, and workers' safety representatives (RLS), who actively participated in each cycle of risk reassessment. Additionally, the method was applied in targeted interventions, such as the organizational analysis aimed at improving the insurance document archiving process, and the ergonomic design of call center activities at Genialloyd S.p.A. (a company within the RAS group, later incorporated into Allianz). Risk assessments carried out using the

method of organizational congruencies also made it possible, consistently with European regulatory requirements, to identify groups of workers exposed to health and safety risks. This was achieved, in part, through targeted environmental investigations. These assessments enabled the drafting, updating, and implementation of a coherent company-wide health surveillance documented plan.

Due to the institutional role and responsibilities assigned to the company occupational medicine specialist - including collaboration with employers, managers, supervisors, workers' safety representatives (RLS), and the head of the prevention and protection service - I found myself at the center of the organizational-regulatory negotiation process within RAS-Allianz. This process aimed to ensure compliance with legal requirements while also achieving the shared objectives of the social partners in relation to workplace prevention and well-being.

Certainly, the shared understanding by the social partners of the criteria underlying risk assessment - namely, the epistemological and theoretical principles on which the method of organizational congruencies is based—made it possible to develop equally shared and coherent prevention strategies. These strategies require ongoing and systematic updates as part of a continuous improvement process.

Several of the activities carried out at RAS-Allianz have also been documented in scientific publications. These include: training in organizational analysis for prevention (Rulli, 1996); risk assessment and health surveillance practices (Rulli *et al.*, 1996), and organizational analysis aimed at improving paper handling processes (Rulli, 1999; updated in Rulli, 2020a).

If we look at the statistical data on access to the publications in the *TAO Digital Library*, we find that in the five-year period from January 2018 to December 2022 alone, more than 100,000 visits were recorded from all over the world. Of these, over 40,000 specifically concerned research on the relationship between work and health. In light of this evident interest, how can we explain the fact that we have not seen a corresponding diffusion of this approach to

analyzing and interpreting organizations, an approach that has clearly demonstrated its potential to support the design and transformation of work processes for the sake of well-being?

In Italy, after a period of positive trends (at least through the early years of the 21st century), the number of workplace accidents, fatal injuries, and occupational diseases has shown a moderate but steady increase. This is particularly evident in recent years, when measured in relation to total hours worked and excluding undeclared labor, according to periodic statistics published by INAIL and analyzed by Barbini and Marchiori (2020). The objectives of EU Directive 89/391, aimed at promoting improvements in worker health and safety through primary prevention, remain relevant, but have yet to be fully realized.

The 46th seminar of the Interdisciplinary Research Program *Organization and Well-being*, held on October 14, 2019, at the University of Bologna to mark the 30th anniversary of the European Directive, was introduced with the following questions: "How should we evaluate the legislation intended to achieve these goals? Are current occupational health and safety regulations truly adequate and effective? What is the state of prevention in enterprises? What realities emerge from the statistics on workplace injuries and illnesses? And, finally, how do these 30 years fit into the broader history of workers' health?" (Barbini, 2020b: 2).

In his contribution, Maggi observed:

"The message of European Directive 89/391 has gone largely unheeded over the three decades since its adoption. This is evidenced by data on occupational accidents and work-related illnesses. The 1994 decree was met with resistance and was poorly enforced. The 2008 amendment, already inadequate for true risk prevention, was further stripped of any preventive intent by the 2009 revisions. Strikingly, the message of the Directive has also been ignored in many contexts where its guidance could have inspired meaningful efforts to create safer working environments. The near-daily reports of fatal workplace accidents provoke expressions of disapproval and calls to recognize occupational safety as

a 'social priority', yet they rarely lead to concrete or effective initiatives" (Maggi, 2020: 7–8).

Despite evidence to the contrary, a narrative has nonetheless gained ground, one that presents a growing emphasis on "corporate welfare". This often consists of various benefit programs that are frequently tax-exempt and offer little meaningful improvement in the standard of living for lower-income workers. Nevertheless, such programs contribute to a positive corporate image and generate tangible benefits for companies, particularly in terms of employee engagement.

Partly as a result of "transformed" work arrangements (such as outsourcing, remote work, and elusive or precarious contractual forms) there has been growing popularity of workplace wellness interventions. These include fitness programs and initiatives aimed at promoting so-called "virtuous" behaviors such as quitting smoking, losing excessive weight, or increasing physical activity. Psychological self-help strategies are also being proposed, often emphasizing the need for "resilience" and encouraging behaviors designed to foster it - sometimes even attempting to shape attitudes believed to enhance it. Meanwhile, little attention is given to fostering workers' conscious reflection on their own perception of insecurity or the lack of real preventive measures. Instead, the prevailing approach promotes a notion of "well-being" that relies primarily on the individual worker's capacity to withstand or adapt to harmful working conditions (Rulli, 2020b: 74).

This rhetoric can have harmful consequences for employees' actual well-being, as corporate leadership may come to believe that the issue has been addressed simply through the implementation of such corporate well-being programs. In effect, companies may remove employee well-being from the agenda of critical concerns requiring sustained attention and meaningful intervention (Barbini, 2020a: 28).

The lack of decisive and lasting improvements in workplace health and safety conditions cannot be attributed solely to a misinterpretation during Italy's implementation of the EU directive. More fundamentally, it stems from decisions

and actions rooted in a dominant worldview that doesn't want to give proper weight to well-being and prevention. Every regulation is shaped by the values and ideals of the legislators who craft it, and its implementation is always open to interpretation which, in turn, reflects the worldviews of those responsible for putting it into practice.

Even the directive itself - and especially the accompanying EU guidelines for risk assessment - has used terminology that is often inappropriate or inconsistent with the stated aim of primary prevention. For example, the guidelines refer to: "intrinsic qualities" of "entities" with the potential to cause harm; "risk factors" treated as fixed data points, and assessment procedures based on the identification of inherently "risky tasks" (Rulli, 1996). Such language betrays a conceptual framework misaligned with the preventive logic the directive is meant to promote.

First and foremost, any evaluation of a law and its consequences for worker health must take into account the conception of work that underlies it, whether consciously adopted or implicitly assumed. This conception influences both how the lows are formulated and how concretely are interpreted in their application. As Maggi has repeatedly emphasized, interpretations of organized work typically reflect one of three underlying conceptions: as a predetermined system independent of the acting subjects; as the result of subjective interactions, or as a process of decisions and actions rationally oriented toward expected outcomes. Each of these views leads to fundamentally different approaches to prevention and to differing degrees of integration (or exclusion) of well-being within the design of production processes (Rulli, 2020b: 76).

Conceptions of organization, health and well-being

It is necessary to consider, analytically, how each conception - that is, each way of viewing the reality of work - shapes the interpretation of health and well-being (Rulli, 1996). Each conception also influences how prevention is understood, as it became especially clear during the ongoing COVID-19 emergency, and how it affects the way risk is assessed in workplace settings.

The objectivist / mechanistic conception assumes that work is governed by objective rationality and rigid coordination aimed at maximizing performance. Within this framework, health and well-being are treated as dependent variables. Health is assessed in terms of an individual's healthy and robust constitution, which in the past focused primarily on physical fitness, but now increasingly on mental fitness as well (see, for example, the emphasis on *resilience*). Fitness for work is understood as the stable assignment of tasks to specific individuals, who may be replaced if they are deemed "unfit" - that is, if their performance falls below efficiency standards or diverges from an accepted model of health. Prevention, in this view, is essentially reduced to assessing suitability as a protective measure. Adaptation of tools or the work environment may be considered, but only if the associated costs are deemed acceptable within a narrowly economic cost-benefit logic. Risk evaluation, finally, focuses on the impact of "factors" assumed to be inherent in the designed and optimized work itself—elements now considered "unconditional" and inseparable from specific tasks. Examples include heat and radiation in welding, noise in textile work, and stress in jobs that are precarious, fast-paced, and subject to multiple demands.

According to the objectivist / organicist conception, the guiding idea is the functionality of the system: each part contributes to its maintenance, homeostasis, and the preservation of its formal structure. Unlike the mechanistic view, this conception allows for some flexibility by encouraging alternative solutions when they enhance the system's adaptability and integration. Motivation, satisfaction, and the integration of individuals into the organization - understood as an "organic system" - are equated with well-being and health. As in the mechanistic view, however, these remain dependent variables. Health is understood in terms of the individual's ability to conform to an acceptable "model" that allows for physiological variation, but only insofar as it contributes to functional effectiveness and the system's capacity to adapt to its external environment. Prevention continues to rely on the assessment of suitability as a form of protection but also includes the promotion of widely accepted indicators of well-being (whether objective or perceived as such) such as resilience,

satisfaction, participation, and wellness. Adaptation of technology and the work environment may also be considered during the design phase, provided there is general congruence between costs and benefits, not only from an economic standpoint, but from a broader perspective. Risk evaluation again focuses on the impact of "ineliminable factors" associated with the designed and possibly adapted work. These factors are now considered "residual" elements that can no longer be separated from the job or the role itself.

The subjectivist conception views relationships as inherently unpredictable and shaped by a tendency toward subjective opposition to the system. In this perspective, well-being is conditioned by individual strategies - making it, once again, a dependent variable, though not in relation to a predefined system, but rather to strategic or contractual functionality. Well-being is seen as an individual or group "agonistic" goal, an expression of psychophysical freedom, shaped by cultural constructs. Consequently, health is not necessarily supported by scientifically grounded "descriptors". In fact, health "models" are impractical; at most, symbolic or "counter-models" of well-being emerge in their place. Prevention and risk assessment, within this framework, are not based on any a priori rationality. Prevention is not conceived as primary, planned, or design-oriented, as required by the EU directive, but rather as a form of negotiation and strategic affirmation. Its priority fluctuates depending on the value it receives in a given moment of social bargaining, in relation to other competing concerns (*e.g.*, wages, environmental protection, personal freedom, etc.). Risk assessment, still focused on the presumed "risk factors" inherent to each type of work, is shaped by subjective strategies of resistance or opposition to the system. As a result, assessments may reflect contingent cultural perceptions, sometimes underestimating, sometimes exaggerating, rather than accurately representing the actual conditions of risk.

According to the Theory of Organizational Action, organized work is a designable process, comprising decisions and actions, that is rationally oriented toward goals and shaped by values. Here, rationality is not objective or subjective, but intentional and bounded. In this view, there is no inherent

opposition between individuals and systems. Rather, the variability of locations, relationships, methods, and coordination mechanisms, shaped by continuous human choices, is seen as inevitable. Health, then, is fully compatible with collective action aimed at governing work processes to achieve not only efficiency and effectiveness, but also the well-being of the workers involved. Promoting health, from this perspective, is inseparable from the goal of reducing organizational constraint and minimizing the resulting risk conditions. It involves a continual search for congruence across multiple levels: between plans of organizational action, between process objectives and the protection of workers' health, and between individual goals and collective action, without privileging any dominant or independent variable (such as technology, costs, or the contractual power of particular social actors).

In this worldview, health is not a measure of one's adequacy to a functional task or role. Rather, it is conceived as a perfectible process of well-being, a dynamic expression of the evolving relationship between individual and collective aspirations and their environment, including the workplace. The variability of health conditions reflects the inherent psychophysiobiological variability of human beings, while indicators such as satisfaction, adaptability, or resilience are not necessarily direct or reliable measures of actual well-being.

"Since choices regarding goals, technical actions, and structuring are modifiable, the aim is not to ensure the interchangeability of individuals in the face of reduced adaptive capacities. Rather, it is to modify the design of the organized work process itself as health conditions evolve and as the well-being process unfolds" (Rulli, 1996: 40). Prevention, in this perspective, is a constructive and iterative process aimed at avoiding any possible illness or harm - not a specific, isolated intervention along the path toward them. Risk assessment is not based on the enumeration of "risk factors" assumed to be inherent in the nature of the work. Instead, it involves identifying, according to the principle of adequate causation, the possibility of dynamic, consequential, and mutually influential events and *conditions* that may lead to the occurrence of harm.

Finally, it must be emphasized that there is a striking inconsistency between the publicly declared collective intentions (promoting health, well-being, primary prevention, and risk reduction, while affirming the centrality of the human being) and the worldviews that are implicitly, yet clearly, adopted in practice. These are not necessarily articulated in explicit theories or methods, but they are evident in the widespread implementation of preventive and protective measures that, although pervasive, often prove to be ineffective.

Discussion

Ultimately, it all comes down to choosing a conception of reality and developing a coherent point of view through which to observe and interpret the world. This choice determines what form of well-being is considered desirable and compatible with other priorities, whether economic, environmental, ethical, or otherwise. One fundamental issue is too often overlooked: it is the way we observe and interpret reality, our worldview, whether explicit or implicit, that defines which forms of well-being and prevention are possible, not only in the workplace but also more broadly across society.

Not only work, but the entire human life cycle, according to the widely prevailing conception, albeit in various forms and not exclusively capitalist or Western, is viewed as being in service to production and consumption. Life stages such as growing up, preparing for work, performing one's job, retiring, and aging are all evaluated in relation to their productive utility: "globalization and the liberalization of markets, for both goods and labor, alongside the relentless pursuit of productivity through any available strategic means, have led to increasingly precarious working conditions. Work has been fragmented into forms and organizational units where the reduction in health protection is no longer just a risk but a structural feature. These are the pervasive 'rules of the game'. We are not only far from a conception of work designed by human beings for human beings, we are not even close to a minimal adaptation of work to human needs" (Rulli, 2020b: 77–78).

Even so-called "prospective ergonomics", particularly within the dominant Anglophone tradition, tends to treat the design of work as technically predetermined. This assumption is clearly reflected in the content of widely used ergonomics manuals and guidelines. One notable example is the comprehensive and authoritative The *Occupational Ergonomics Handbook*, edited by W. Karwowski and W. S. Marras (1999/2006) [5].

If this is, unfortunately, the prevailing way of understanding human work, then the choices that are the most consistent with it become clear. It is also clear the reasons why the vocabulary and the approaches to well-being (in general, and in the workplace) by the objectivist (mechanicistic and organicistic) and the subjectivistic conceptions are more coherent to such widespread understanding. In contrast, the processual conception of social reality represents a radical alternative. It challenges the foundational assumptions of the dominant system and, as such, must be recognized as fundamentally incompatible with the prevailing value structure.

Adopting the processual conception of social reality as one's interpretive framework brings with it both the clear advantages discussed above and the acceptance of certain "burdens". Referring to the Theory of Organizational Action, or any theory grounded in the same epistemological stance requires:

- a conscious adoption of an objectively "upstream" conception of organization, along with the recognition that genuine primary prevention is not possible within the dominant mainstream conception;
- a willingness, arising from the recognition of the need for change, on the part of each social stakeholder, to participate collectively in analyzing, describing, interpreting, and proposing alternative organizational choices that promote both production goals and workplace well-being and safety[6];

[5] For an extensive discussion of the proposals of the currents of ergonomics, see Maggi (1984/1990, ch. 3; 2003/2016, Livre II).

[6] Indeed, prevailing practices assume interventions in which standard protocols are used for equally standardized or functionally adapted solutions.

- a willingness to avoid treating any element of organizational action as an independent variable, including the very objectives of processes or phases of work and even the existing knowledge and techniques.

This choice may be considered "onerous", but only in terms of the need to shift deeply ingrained perspectives. It is not at all burdensome in strictly economic terms. On the contrary, acting simultaneously across multiple plans of organizational action enables the implementation of solutions that are both more articulated and ultimately less costly.

The broad and well-documented experience of analyzing diverse work processes and proposing timely alternative organizational configurations clearly shows that this choice is both viable and realistic. In conclusion, the path informed by the logic of organizational action, understood as a process, is certainly demanding, but far from impossible. In fact, it is considerably more effective than any alternative, both in terms of organizational congruence and the greater well-being of those involved.

References

BARBINI F. M.
2020a *Salute e sicurezza nelle imprese*, in Barbini F.M. (Ed.), *Lavoro e salute. Trenta anni dalla direttiva 89/391/CEE*: 19-31, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

BARBINI F.M. (ED.)
2020b *Lavoro e salute. Trenta anni dalla direttiva 89/391/CEE,* http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

BARBINI F. M., MARCHIORI M.
2020 *Gli infortuni sul lavoro in Italia*, in Barbini F.M. (Ed.), *Lavoro e salute. Trenta anni dalla direttiva 89/391/CEE*: 12-18, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

HEMPEL C.G.
1966 *Phylosophy of Natural Science*, Englewood Cliffs (N.J.): Prentice-Hall.

KARWOWSKY W., MARRAS W.S. (EDS.)
1999/2006 *The occupational ergonomics handbook*, London, New York, Washington: CRC Press, Taylor & Francis.

MAGGI B.
1983 Costrittività organizzativa e salute nel lavoro d'ospedale, in Gobbato F., Grieco A. (Eds.), *Rischi, patologia e prevenzione nel personale ospedaliero*, Atti del 46° Congresso della Società italiana di Medicina del lavoro e igiene industriale: 351-361, Acireale, Noto, Catania.
1984/1990 *Razionalità e benessere. Studio interdisciplinare dell'Organizzazione*, Milano: Etas Libri.
1990 Scelte epistemologiche per lo studio dei rapporti tra lavoro organizzato e salute, in Grieco A., Foà V. (Eds.), *La salute nel lavoro d'ufficio*, 53° Congresso della Società Italiana di Medicina del lavoro e Igiene Industriale, Stresa: 1-10, (invited talk), Bologna: Monduzzi Editore.
1991 *Lavoro organizzato e salute*, Torino: Tirrenia Stampatori.
2003/2016 *De l'agir organisationnel. Un point de vue sur le travail, le bien-être, l'apprentissage*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.
2014 *Come spiegare per prevenire?*, in Maggi B., Rulli G. (Eds.), *Quale insegnamento dalla "epopea" dell'amianto?: 71-81,* http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.
2015 *Il "vero paziente" è il lavoro*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.
2020 Un messaggio inascoltato, in Barbini F.M. (Ed.), *Lavoro e salute. Trenta anni dalla direttiva 89/391/CEE*: 4-11, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MAGGI B., RULLI G.
2017a *Su l'analisi del lavoro a fini di prevenzione*, in Maggi B., Rulli G.(Eds.), *Debate on work analysis for prevention / Debat sur l'analyse du travail pour la prévention / Dibattito sull'analisi del lavoro per la prevenzione*: 85-103, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MAGGI B., RULLI G. (EDS.)
2017b *Debate on work analysis for prevention / Débat sur l'analyse du travail pour la prévention / Dibattito sull'analisi del lavoro per la prevenzione*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

RULLI G.
1996 La formazione per la prevenzione e il D.Lgs. 626/94. Un'esperienza nel settore dei servizi, in AA.VV, *Formazione per la prevenzione, metodo delle congruenze organizzative e D.Lgs. 626/94*, Quaderno del Programma Interdisciplinare di Ricerca "Organization and Well-being": 13-67, Torino: Tirrenia Stampatori.

1999/2020a Analisi organizzativa per la prevenzione nella movimentazione di materiale cartaceo in grandi archivi, in Sperandio J.C., Rulli G. (Eds.), *Ergonomic analysis and organizational analysis for prevention:* 14-21 / *Analyse ergonomique et analyse organisationnelle pour la prévention:* 16-24 / *Analisi ergonomica e analisi organizzativa per la prevenzione*: 15-22, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

2011 Considerazioni biomediche sulle concezioni di salute, prevenzione e organizzazione, e sulle conseguenze per la tutela della salute e della sicurezza nel lavoro, in Maggi B., Rulli G., Pascucci P., Marchiori M., Salento A., *Salute e sicurezza nei luoghi di lavoro*: 167-202, *Sociologia del Diritto*, 3.

2014a *La riflessione e la pratica riguardanti rischio e prevenzione*, in Maggi B., Rulli G. (Eds.), *Quale insegnamento dalla "epopea" dell'amianto?*: 58-70, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

2020a *Analisi organizzativa per la prevenzione nella movimentazione di materiale cartaceo in grandi archivi*, in J. C. Sperandio, G. Rulli (Eds.), *Ergonomic Analysis and Organizational Analysis for Prevention / Analyse ergonomique et analyse organisationnelle pour la prévention / Analisi ergonomica e analisi organizzativa per la prevenzione*: 15-26, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

2020b Prevenzione dei rischi, concezioni del lavoro e benessere, in Barbini F.M. (Ed.), *Lavoro e salute. Trenta anni dalla direttiva 89/391/CEE*: 73-78, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

RULLI G. (ED.)

2014b *Theories on stress / Teorie sullo stress*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

RULLI G., D'ORSO M.I., DE VITO G., CERIANI G., MARTINEZ A., CORMIO P., DIENA V.

1996 La valutazione dei rischi e la sorveglianza sanitaria nel settore terziario assicurativo: primi risultati di una ricerca sul campo, in *Atti del 59° Congresso Nazionale della Società Italiana di Medicina del Lavoro e Igiene Industriale*, Folia Medica: 67, 3.

RULLI G., MAGGI B.

2018 *Well-being, Prevention, Risk / Benessere, prevenzione, rischio / Bien-être, prévention, risque / Bienestar, prevención, riesgo / Bem-estar, prevenção, risco / Wohlbefinden, Vorbeugung, Risiko*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

WEBER M.

1922 *Wirtschaft und Gesellschaft*, Tubingen: Mohr (critical edition by J. Winckelmann, 1956).

Rules, regulation, organization

Angelo Salento

Introduction

I first met Bruno Maggi in 1998. He was a speaker at the conference on "Conflicts and Rights in Transnational Society" (Courmayeur, September 10–12, 1988), organized by the National Center for Social Prevention and Defense, along with the Sociology of Law section of the Italian Sociological Association, which was then led by Vincenzo Ferrari. Ferrari himself, who supervised my doctoral dissertation at the time (focused on the relationship between organizational transformations and the "crisis" of labor law), introduced me to Bruno Maggi as a distinguished scholar, who made seminal contributions on the boundary between legal studies, sociology, and organizational theory. Since then, Maggi's work has profoundly shaped the way I approach my field, and the ongoing dialogue with him (and with the circle of scholars inspired by the Theory of Organizational Action) has offered countless opportunities for reflection, discussion, and study.

In this contribution, I aim to reconstruct – briefly and not exhaustively – the complex intersection that Maggi's work develops between organizational theory and reflection on normativity and law. I will also seek to show how Maggi's theory has helped me, as a legal and economic sociologist, to address some issues related to the connection between organizational changes and transformations in labour law. I will begin by examining two major aspects of Maggi's work: first, the analysis of the relationship between organizational action and legal action, developed in the 1980s, which includes a reflection on the possible collaboration between organizational theory and the sociology of law; and second, his elaboration on the constructs of *rule*, *regulation*, and *power* within

the framework of the Theory of Organizational Action[1] (TOA). In the second part, I will present several areas of scholarly engagement – pursued by Maggi himself and by other authors (myself included) – within the scope of interdisciplinary research and debate between the Theory of Organizational Action and labor law. In particular, I will consider the contribution that this theory offers to the legal qualification of employment relationships; to the debate on corporate boundaries and organizational power in inter-firm contexts and global value chains; and to discussions on the implications of the digitalization of work and production[2].

Organizational action and legal action: on the relationship between organization theory and sociology of law

Bruno Maggi's biographical and intellectual trajectory explains why his *Theory of Organizational Action* places such emphasis on the concepts of *rule* and *regulation*, along with a focus on the relationship between organizational studies, law, and the sociology of law.

In 1963, Bruno Maggi graduated in Law from the University of Milan, with a thesis in Legal Philosophy under the supervision of Renato Treves, the undisputed founder of the sociology of law in Italy (Treves, 1987). He then worked for several years as Treves's assistant. During the 1970s, Maggi taught Methodology of the Social Sciences at the University of Turin. Beginning in the 1980s, he went on to hold professorships in Sociology of Organization and Organization Theory at the Universities of Turin, Bologna, and Milan. During these years, he specifically worked on the relationship between normative-legal action and organization. His seminal essay on this topic, "Organization Theory and Sociology of Law", was published in 1984 in a Festschrift for Renato Treves,

[1] Maggi, in the chapter *Social action and organization*, reminds us that Action has to be used as defined by Max Weber (Weber, 1922). Weber talks about *Handeln* rather than *Handlung*, in order to emphasize, with the use of the verbal noun form, that understanding social action is a matter of interpreting the process of action (not the executed action), its development, the social meaning attributed to it by the acting subject, while integrating time as a fundamental variable.

[2] In this context, I will not address the contribution of the Theory of Organizational Action to the critical analysis of occupational safety legislation – a topic I have discussed elsewhere (see: Salento, 2013).

edited by Uberto Scarpelli and Vincenzo Tomeo (Maggi, 1984); this subject was subsequently developed further in the book *Razionalità e benessere* (Maggi, 1984/1990).

Here, Maggi first embraces Treves's invitation to develop a shared analytical ground between the sociology of law and organization theory based on common objects of interest. Judicial organizations are the clearest area of converging interests because, on the one hand, the sociological study of the judicial system requires organizational analysis to understand "structures and processes used to produce, interpret, and apply positive law" (Maggi, 1984/1990: 81); on the other hand, organization theory can understand judicial organization by utilizing "a theory of judicial action [...], which can only be produced by the sociology of law" (Maggi, 1984/1990: 82).

Though a sociological understanding of law is widely accepted in court studies, it is especially significant that this interdisciplinary lens yields insights applicable to all forms of organization. This is because no area of organizational action is exempt from specifically legal conditioning. The binding effect of legal norms can be observed at all levels of organizational action (Maggi, 1984/1990, par. 2.1). First, at the institutional level, which concerns the determination of objectives. The importance of legal norms at this level is particularly evident in organizations pursuing public interest goals, such as hospitals. This is especially true of organizations operating in the foundational economy, which are typically bound by a principle of *social license* (Froud *et al*., 2019), meaning they are subject to conditions that direct their activity towards satisfying social needs. The conditioning produced by the legal system also affects – albeit in different forms and degrees of intensity across organizational types – the technical level, which pertains to instrumental choices, and the structural level, which concerns the ordering of process elements (Maggi, 1984/1990: par. 2.1).

Ultimately, the relationships between the study of legal action and the study of organizational action are reciprocal: on the one hand, organization theory offers a decisive contribution to socio-legal analysis when it is called upon to understand work processes in organizations dedicated to the production,

interpretation, and application of legal norms; on the other hand, the sociology of law can contribute to organizational studies by providing tools for analyzing all types of organizations, insofar as their action is conditioned by legal constraints.

Organizational action, rules, regulation, power

Building on the relationship between organization theory and the sociology of law, Maggi broadens the analysis to a more general question: the connection – and distinction – between the objectives and the nature of the norms governing organizations (Maggi, 1984/1990: 88). In institutional settings shaped by legal norms – which both impose limits and confer formal legitimacy – organizations nevertheless continue to generate their own rules. In Sally Falk Moore's terms, every organization may be seen as a *semi-autonomous social field*, simultaneously embedded in external legal structures and engaged in the internal production of normative frameworks.

As Sally Falk Moore (1973: 720) argues, the analytical focus of anthropology must rest on the *semi-autonomous social field* – a bounded context capable of generating its own rules, customs, and symbols, yet simultaneously embedded in, and influenced by, broader external systems. Such fields not only produce normative frameworks, but also possess mechanisms to induce or enforce compliance. However, they remain situated within a wider social matrix that conditions and penetrates them. While this analytical problem arises in the study of tribal societies, Falk Moore contends it is even more central to the anthropology of complex societies – such as all modern nation-states – making the problem of normative autonomy a ubiquitous one.

What emerges, then, is not only the relevance of the relationship between organization and law, but the broader question of the plurality of norms – both heteronomous and autonomous – with which organized contexts must contend. In his 1984 essay on organization theory and the sociology of law, Maggi still frames the issue of normativity – within the organization and of organizational action itself – as a possible area where the sociology of law might contribute,

particularly to the analysis of structural action. Yet even in this early formulation, it becomes clear that the normative dimension is not peripheral but in fact central to organizational analysis – an insight that would remain a recurring theme throughout Maggi's work.

Structural action is defined as "the construction, the ordering of the elements of the process": a form of action that is "organizational in the strict sense, as it founds the very existence of the organization" – the "genetic moment of organizational action" (Maggi, 1984/1990: 77).

This *central core* of organizational action is not only subject to legal regulation – where the state monopoly on the legitimate use of physical force prevails, no organization escapes the regulatory demands of the law, even in defining its modes of control and coordination – but is also itself a space of normative production, albeit non-legal.

Structural action, Maggi argues, is in fact "action that produces and transforms norms" (1984/1990: 89): the very processes of control and coordination – whether of activities or of people – can only be understood as normative action. Organizational structure, accordingly, is the product of *internal norms* – more or less imposed or negotiated, more or less formalized. Whether this norm-generating activity falls within the scope of the sociology of law, Maggi notes, depends on how the discipline defines its own boundaries – specifically, whether it includes non-legal norms within its field of inquiry. What is certain, however, is that the production of norms remains a central and inescapable concern for organization theory.

The idea that organizational structure is the product of norms – and that the very act of organizing entails the production and transformation of norms – becomes increasingly central and articulated in Maggi's work. In his most comprehensive formulation of the Theory of Organizational Action (Maggi, 2003/2016), the constructs of *process structuring* and *regulation* are essentially equivalent: both refer to the coordination of actions. The concept of the *rule*, however, is defined in broad terms. On one hand, it refers to "the rule of action, that is, its mode of production and formation" (Maggi, 2011: 74); on the other, to

"the rule understood as an imperative, a normative prescription, or an indication for action" (Maggi, 2011: 74). Maggi proposes a stipulative distinction between these two senses: the former corresponds to *regulation* – understood as "the mode of production and development of the action process"; the latter to what might be termed *normative regulation* or *normalization* (Maggi, 2011: 74). Crucially, Maggi argues that action is never directly guided by the rule in its prescriptive sense: "though the regulation of action is influenced by norms and indications, it never coincides with them" (Maggi, 2011: 74). Regulation, in this view, is a continuous process of adjustment – an ongoing modulation of action shaped by norms emerging from various sources within the organizational space.

To navigate the complexity of a highly heterogeneous universe of rules, Maggi proposes a dual-level analytical framework, distinguishing between rules according to their *modal variability* and their *source of production* (Maggi, 2011: 74 ff). In terms of modal variability, rules may be classified as formal or informal, explicit or tacit, conscious or unconscious (from the perspective of the actors), and as either pre-existing or contextually generated, as well as intrinsic to the action itself. With regard to their source, rules are distinguished as either *autonomous* or *heteronomous*.

This latter distinction introduces a key theme in Maggi's theoretical framework – one that offers a powerful analytical tool, particularly relevant to labor law policy: the difference between *autonomy* and *discretion*. Within the lexicon of the Theory of Organizational Action, *autonomy* refers to the capacity to generate one's own rules (Maggi, 2003/2016: 139-158), whereas *discretion* denotes the space for maneuver intentionally left by (heteronomous) rules to those who act within the organization.

Finally, within the dialectic between the self-production and external imposition of rules, power relations come into view. Conceiving organizational action as a process of rule production aimed at coordinating activities makes it possible to observe and interpret the dynamics of social power in organized contexts. As Maggi notes, "it is through the analysis of action processes that the relationships between actors become visible, because it is the *control* of one action

process over others – or within the development of a single process – that establishes forms of authority and power relations" (Maggi, 2011: 82). This analytical capacity proves especially valuable in the interpretation and design of (legal) rules governing work – particularly where one accepts the premise, central to *classical* labor law, that labor law functions as an instrument for regulating social power within the enterprise (Kahn-Freund, 1972).

Crucially, the concepts of control and power advanced in this framework are freed from any naïve conception of control as mere surveillance. "What matters", Maggi clarifies, "is not the actual exercise of control, but the capacity and possibility of exercising it" (Maggi, 2011: 82). In this respect, the Theory of Organizational Action aligns with Thompson's (1967) insight that the foundation of coordination lies not in the act of decision-making itself, but in the *control of the premises of decision*. What ultimately matters is that actors behave *as if* control were being exercised.

The Contribution of the Theory of Organizational Action to unresolved issues in labor law

The concise yet conceptually rich set of analytical tools outlined above has, over time, allowed me to critically examine the transformation of labor law regulation from the perspective of the sociology of law and the sociology of work. My doctoral research coincided with a period of profound change in labor law – not only in Italy, but across many advanced economies. Following the major reformist impetus generated by the cycle of labor struggles and demands during the late 1960s and early 1970s – culminating in the promulgation of the law n. 300 of 1970 ("Workers' Statute"), which profoundly shaped both individual labor rights and collective labor relations – labor law entered, in the 1990s, a phase of significant doctrinal and jurisprudential revision.

Three decades later, the outcome of that trajectory is now clear: a general weakening of the protective framework of labor law, a marked deterioration in the economic conditions of workers – particularly those in de facto subordinate or precarious forms of employment – and a broader restructuring of labor

markets that has redistributed wealth in favor of capital. The wage share of GDP has fallen by over fifteen percentage points between the mid-1970s and the 2010s, while the incidence of in-work poverty and inequality has grown. At the same time, businesses have gained significantly greater room for maneuver, expanding their capacity to adjust labor forces flexibly, reduce fixed labor costs, pursue financial accumulation strategies, segment labor markets, and externalize or relocate production processes – all within an increasingly integrated global market environment.

While the outcomes of this transformation now appear alarmingly severe, the process through which labor law evolved was, at the time, predominantly framed as a necessary *adaptation* or *adjustment* of legal norms to fundamental changes in the organization of production and work. These changes were broadly characterized – so the prevailing narrative went – by an expansion of "margins of autonomy", both for firms and for workers. Within the legal community, this narrative did not go entirely unchallenged. Yet, overall – and with varying degrees of emphasis – it proved dominant. Its persuasive power likely lies in the fact that it was embraced, in its essential core, by perspectives that were otherwise quite divergent. On the one hand, interpretations aligned with managerial thinking, steeped in a functionalist worldview, viewed the so-called "post-Fordist" transformation as a generator of new forms of autonomy. As Boltanski and Chiapello (1999) demonstrated, the rhetoric of autonomy became a central trope in managerial discourse, celebrating self-initiative, the decentralization of authority, the networked nature of organizational structures, and the liberatory potential of digital technologies. On the other hand, this same *promise* of autonomy was also taken up by pro-labor currents, which sought to interpret these narratives as an opportunity for the renewal of labor law – particularly that strand of "classical" labor law which, for a variety of reasons, had come to suffer from a perceived legitimacy deficit. Even within the Italian post-workerist tradition, the emphasis on autonomy was reinterpreted as the possible realization of a long-standing revolutionary prospect: namely, the

reappropriation by the proletariat of the function of command over cooperation (Negri, 1989/2005: 53).

Ultimately, interpreting the so-called post-Fordist transformation as a shift toward a horizon of autonomy has served as a powerful legitimating device for a "neo-reformist" phase in which the very foundations of labor law were redefined. During this period, the most common justificatory framework employed by legal scholarship, jurisprudence, and legislators alike framed the radical revision of labor protections as a necessary adjustment. In the face of growing international competition, the removal of constraints and the expansion of space for the rationality of economic actors were presented as essential conditions for promoting prosperity.

Confronted with this narrative, it became both possible and necessary to articulate three levels of critical analysis. First, the notion that the law merely "ratifies" transformations already underway in firms and inter-firm relations appeared logically unsound. Such a conception presupposed a form of determinism that disregarded the constitutive role of law in social change. Legal norms – both in their production and interpretation – inevitably shape the range of possible actions available to economic actors. In doing so, they play a central role in defining the contours of managerial discretion and the relationship between the firm and its social environment. From this perspective, a sociology of economic regulation rests on the construction of a comprehensive analytical framework that encompasses both internally generated organizational rules and heteronomous norms issued by the legal system and the system of industrial relations.

Second, the very construct of autonomy required closer scrutiny. The widely held belief – particularly in functionalist accounts of post-Fordism – that there had been a general expansion of autonomy among workers and peripheral organizational units could not be taken at face value. It needed to be critically assessed in relation to the actual dynamics of power, coordination, and control within organizational processes.

Third, analysis had to extend to inter-firm relationships, specifically to the issue of corporate boundaries. This included the question of whether processes such as outsourcing and offshoring had truly dismantled vertically integrated models of production, and whether they genuinely implied an expansion of autonomy for peripheral units.

More recently, spurred once again by engagement with labor law debates, my research has taken up a fourth level of inquiry: the implications of the digitalization of production and labor. Here too, as I will discuss, the conceptual tools provided by the Theory of Organizational Action have proven especially valuable in framing the scope and nature of this transformation.

In what follows, I will trace the trajectory of my research across these four levels of analysis, with particular attention to the ways in which the Theory of Organizational Action has furnished decisive analytical categories.

A sociology of rules in the post-Fordist enterprise

As noted, during the 1990s labor law debate, a relatively widespread – if somewhat naive – view emerged regarding the relationship between socio-economic transformation and legal change. Labor law scholars increasingly saw themselves as tasked with the mission of rethinking the foundational mechanisms of the legal framework governing labor, beginning with the legal construct of *subordination*, upon which the entire edifice of labor protections ultimately rests. This work of legal re-foundation – sarcastically described by Castelvetri (1998: 450) as the endeavor of "new legislators" – was carried out according to a logic I have elsewhere termed the *canon of adaptation* (Salento, 2011). The underlying idea was that the purpose of legal reform should be to *adjust* the normative system to accommodate ongoing transformations in work and production – transformations often identified through empirical observation in contexts of highly specialized labor, such as in high-tech sectors.

This perspective fostered an understanding of legal norm production as external to the broader universe of rules that shape organizational action. In other words, the legal system was not perceived as itself a constitutive part of the

regulatory structure within which organizational processes unfold. Rather, law was seen as reacting to transformations already set in motion elsewhere – especially within the firm – rather than as a force capable of shaping those very transformations. In this way, the canon of adaptation naturalized a process in which legal reform was oriented primarily toward accommodating the presumed rationality of organizational change, rather than interrogating the social dynamics, power relations, and normative logics through which such change is produced and legitimized.

One of the earliest objectives of my research was therefore to construct a complex yet unified framework for understanding the regulation and governance of work and production within organized contexts. The theory developed by Bruno Maggi was an essential point of reference: it compelled me, so to speak, to conceive of organization not in a reified sense – as a fixed "organized context" – but rather as *organizational action in the making*, which encounters existing rules and, in turn, generates new ones.

In this spirit, one of my initial research efforts sought to observe organizational transformation as a transformation of the complex regulatory system of production. The aim was to approach this through a *sociology of rules*, analyzing the main normative tools employed by post-Fordist enterprise management and assessing their elements of continuity and discontinuity in relation to traditional forms of managerial and organizational power (Salento, 2003: 51).

Based on empirical fieldwork in then-operational Fiat manufacturing plants, I analyzed not only technical rules but also what was referred to as the "organizational model", the information system, the "system of coherences" (namely, internal communication and the ensemble of values, principles, and policies articulated by management), as well as industrial relations, all treated as regulatory devices.

The guiding question was how to interpret the prevailing characteristics of rule production in a period of deep transformation – one in which large enterprises were actively steering the transition to a fully post-Fordist structure

(at Fiat, referred to as the "integrated factory"). From this perspective, two features stood out as particularly significant: first, a renewed effort on the part of management to reassert control over rule production and to exercise this control *juxta propria principia* – on its own terms; and second, a tendency to concentrate normative production not on execution rules, but on *procedural rules* – often embedded in communicative machinery and digital interfaces – that would then govern the production of execution rules.

The possibility of accounting for this wide range of rules – including those elements that may not immediately appear as "rules" – relies, as I have argued, on the adoption of a theory that conceives organizational action as a form of rule production and embraces a pluralistic view of regulation. In this regard, the Theory of Organizational Action proved particularly well-suited, even when compared with the insights of French *sociologie du travail*, such as the distinction between formal and informal systems, or between prescribed and actual work (Reynaud, 1989).

Most importantly, the theory's reflection on the relationship between legal norms and internal rules helped to challenge the interpretative model that dominated much of labor law scholarship in the 1990s – a model in which legal regulation was seen as trailing behind organizational transformations, compelled merely to accommodate them. In contrast, the Theory of Organizational Action highlighted that the normative space claimed by management is not a given, but the outcome of a dynamic and ongoing dialectic of negotiation. Within this process, the countervailing power of trade unions plays a decisive role in asserting rules – protecting both workers and union prerogatives – that the legal system renders (more or less) available and enforceable.

Autonomy and discretion in the post-Fordist factory

The gradual transition toward a regulatory order in which the production and imposition of execution rules lose centrality – shifting instead toward the creation of procedural rules – can be described, using Gilbert de Terssac's expression (1992/1993: 287), as a process of the *decline of the prescriptive*.

The demands of flexible production – as I observed in the transformations occurring within Fiat plants – led management to engage in a decidedly innovative exercise of power: on the one hand, more space was left for the negotiation of execution rules, thereby reducing both the number and the degree of formal prescriptiveness of control rules; on the other, a directional logic was defined and imposed for such negotiation. Rather than projecting a predetermined rationality onto lower organizational levels, management constructed a local context that frontline actors understood better than anyone else. Action within this local context was given only a direction: a goal and a set of possibilities. At the same time, control and information procedures were established to "capture" the protocols and rules developed locally, with the aim of enriching the company's overall knowledge base through incremental improvement. Thus, while the discretion of operational actors was broadened, the control exercised by superiors and the competence of technical specialists were also simultaneously expanded (Salento, 2003: 87).

To understand such a transformation with conceptual clarity, appropriate analytical tools are essential. In particular, it becomes crucial to distinguish between the exercise of discretion and the acquisition of autonomy. Here, the contribution of the Theory of Organizational Action is especially helpful: it offers a clear account of how the boundary between discretion and autonomy is not simply quantitative – autonomy is not, so to speak, "broad discretion". While the term *autonomy* is often used to describe what is in fact a granted or even prescribed autonomy, in many cases *discretion* is the more appropriate notion. If autonomy denotes "independence, the capacity for self-regulation, the capacity to govern one's own action processes", then discretion refers to "spaces of action that an externally regulated process provides as unconstrained – within which the actor can or must choose among alternatives, but still within a framework of dependence" (Maggi, 1993: 10).

Autonomy and discretion coexist and are intertwined within organizational arrangements:

"While the distinction between discretion and autonomy is crucial to understanding regulatory modes, it is also important to recognize that autonomy – in the sense of rule-setting as opposed to heteronomy – is not opposed to organizational order, as the functionalist tradition suggests. Rather, it is an integral part of it. Reynaud (1988; 1989/1997) had already noted this […]. Moreover, as Reynaud warned, we must not conceive of a hierarchical opposition between heteronomy and autonomy, which would reproduce the Taylorist split between management and execution. We must further recognize that negotiation does not occur at a single level of decision-making. As Weber (1922) emphasized, heteronomy and autonomy are intertwined in every organization and operate at different levels of action and decision-making. Only by distinguishing these levels does their interaction become fully visible. The dynamics of regulation unfold across different decision-making levels of autonomy/heteronomy and discretion/imposition, and they are completed only in the complementarity between prior rules and contextual rules of action" (Maggi, 2003/2016, Livre II: 101).

This conceptual clarification is of enormous analytical value in understanding the dynamics of work and production in so-called post-Fordist contexts. One of the most distinctive features of the organizational transformations emerging from the 1980s onward is precisely the shift from a totalizing production of rules – which treated variation as deviation – toward a condition of attenuated formalization, or what might be called a "coexistence of formal process control rules with established possibilities for choosing among multiple solutions". In such a context, "the impossibility of prescribing everything – given the unpredictability of events – is acknowledged. The space for action is therefore structured both by delimiting a field of admissible solutions and by instituting a control mechanism" (Maggi, 2003/2016, Livre II: 25).

Frequently interpreted as an expansion of *autonomy margins* for executors and local units, this shift should more accurately be seen as a transformation in coordination and control mechanisms. It is within this ambiguous overlap

between discretion and autonomy that we find one of what Giovanni Masino (2005) has called the "illusions" of post-Fordism: namely, the illusion that contemporary enterprises have truly expanded workers' autonomy.

This issue might have remained confined to the domain of socio-organizational analysis if the term *autonomy* had not also permeated the long (and at times exhausting) trajectory of labor law discourse – where it served to legitimize the extended cycle of (counter-)reforms that progressively eroded the applicability of protections tied to subordinate labor status. Today, many work situations that show none of the characteristics of executor autonomy are nonetheless legally classified as autonomous or quasi-autonomous. This is the result of a prolonged process of reclassification – initiated by legal scholarship and jurisprudence, later taken up by legislators – which sought to adapt legal rules to what was, in fact, a misinterpreted transformation, wrongly framed as a gain in worker autonomy.

Unfortunately, this issue has not faded in relevance. The tendency to declare – and at times to celebrate – the alleged increase of autonomy in work has resurfaced with the emergence of a new phase of automation in production processes, as I will discuss later.

Inter-firm value chains, business networks, and organizational boundaries

Since the late 1990s, labor law scholarship has increasingly confronted the consequences of production fragmentation, driven by business unit divestitures and outsourcing. This process – part of a broader global reorganization of capitalist production – entailed the segmentation of production cycles and the geographical dispersion of their components. Unlike earlier instances of factory fragmentation in Italy during the 1970s, which aimed to circumvent statutory labor protections, this new wave formed a core element of transnational value chain restructuring. Two principal dynamics fueled the shift: first, the hegemonic integration of smaller (though not always small) firms into the operational architecture of large corporate groups, especially in manufacturing; second, the

strategic effort by firms to reduce fixed labor costs and reallocate capital toward financial activity (Salento, Masino, 2013).

This ongoing transformation includes diverse operations, ranging from the transfer of discrete production functions – often following portfolio logic – to the outsourcing of auxiliary services such as sanitation, security, internal logistics, catering, and accounting. Italian labor law lacked a general legislative framework aimed at curbing such restructuring practices, despite their evident effects on labor markets, employment conditions, and income distribution. Yet this legal silence did not imply an absence of regulatory counterweights. From the 1970s onward, legal scholars and courts frequently turned to Law No. 1369 of 1960, Italy's long-standing prohibition on "labor-only contracting". Although repealed in 2003 by the "Biagi Law", the statute had long generated two competing interpretations, each corresponding to a distinct regulatory philosophy[3].

The more restrictive interpretation saw the law 1369 as targeting only fraudulent intermediation – labor brokering by entities lacking substantive organizational structure. Under this view, sanctions (including the judicial recognition of an employment relationship with the actual user of labor) applied solely when the contracting entity was a legal fiction. By contrast, a broader interpretation sought to constrain outsourcing more generally: whenever a worker was functionally integrated into the user's organization – regardless of formal contractual arrangements – the employer-of-record could be disregarded.

The growing push for decentralization and cost reduction at the close of the 1990s – combined with the introduction of agency work via Law No. 196 of 1997 – fueled legal reform efforts aimed at liberalizing the employment relationship. A segment of legal scholarship, sympathetic to managerial prerogatives, endorsed the restrictive interpretation, once again invoking the "canon of adaptation" whereby legal norms ought to accommodate organizational evolution. Others, pointing to the clear indications of growing

[3] For a detailed reconstruction of both, see Salento, 2003.

labor precarity, argued instead for renewed emphasis on protective regulation, especially given that the main driver of fragmentation was not efficiency but control.

What was needed, in this view, was to demonstrate that identifying the "actual user" of labor services – a key requirement under the broader reading of Law 1369 – was not analytically or empirically unfeasible. Here, the Theory of Organizational Action offers indispensable tools: by conceptualizing organizational action as regulatory action that transcends legal-institutional boundaries, it allows for a more realistic understanding of where power and responsibility lie.

This marks a critical juncture for interdisciplinary collaboration between labor law and the social sciences. The fragmentation of production across multiple legal entities is frequently a deliberate strategy to dilute employer accountability and increase managerial leverage. But if workers across a value chain are coordinated and governed through a unified system of action and decision-making, then the organization is one – even if formal employment contracts suggest otherwise. As Dorigatti and Salento (2016: 255ff.) argue, "responsibility for what happens throughout the entire chain must lie with those who benefit from it: those who exercise coordination and control".

Such an interpretation is tenable only within a non-reified concept of organization – precisely the kind proposed by the Theory of Organizational Action. Here, "organization" does not designate a legally defined entity (*e.g.*, a firm or institution), but a system of coordinated actions and decisions oriented toward boundedly rational objectives. From this perspective, both the reach of organizational responsibility and the scope of employer accountability extend as far as organizational action is exercised – regardless of the formal legal boundaries separating one company from another.

Organizational action and digitalization

The question of regulation and power – as well as that of autonomy in work – is also central to interpreting contemporary processes of digitalization in

labor and production. These processes are broad, complex, and, in many respects, elusive. They encompass long-term trends such as the digitalization of cognitive labor (*e.g.*, accounting and word processing); the introduction of digital tools into professional practices (*e.g.*, in healthcare); the interconnection of digital machinery in industrial manufacturing (the so-called Industry 4.0); and the restructuring or creation of labor markets through digital platforms.

At least two major issues arise in this context. The first concerns the explanation of digitalization itself: do these transformations result from some intrinsic, self-propelling logic of technology – especially digital technology – or are they driven by decisions, and thus by intentionality? This question has direct implications for legal policy. When digitalization is viewed through a deterministic lens – that is, as a set of autopoietic phenomena – law is reduced to a reactive role: it merely rationalizes and accommodates transformations as they unfold. Conversely, if digitalization is understood as the product of human decisions – shaped by relations of power within and beyond the firm – then legal regulation can intervene not merely to accommodate, but to shape, steer, and even initiate change. Adopting a non-deterministic perspective thus carries not only analytical, but also normative and political significance.

As David Noble famously argued, technological determinism – the idea that machines make history rather than human beings – is not only incorrect but also obfuscating: "It is only a cryptic, mystifying, evasive, and reassuring explanation of a reality perhaps too unpleasant (and familiar) to confront directly." (Noble, 1979: 101). Rejecting this view opens space for democratic governance of technological change.

Importantly, the Theory of Organizational Action provides a robust analytical basis for this anti-deterministic perspective. TOA reorients the concept of technology by interpreting it as *technical knowledge* – not as a pre-existing, autonomous force, but as the outcome of purposeful action. As Maggi (2011: 78) puts it, TOA "assigns to 'technology' its etymologically correct meaning as knowledge of technique. There are no 'technologies' or 'technical objects' that

preexist and impose themselves on action; rather, it is action itself – by virtue of its instrumental character – that mobilizes artifacts as tools".

This understanding has two implications. On the one hand, it extends the concept of technology well beyond material devices, aligning it with notions of technical rationality (Masino, 2011). On the other, it reinforces the idea that no technical artifact is neutral: every technological object reflects specific choices and decisions.

Two further questions follow: what kinds of decisions are involved, and who makes them? Following Masino (2011; see also Masino, Zamarian, 2000), we can distinguish three levels of decision-making concerning technological artifacts: (1) design decisions, (2) adoption and integration into work processes, and (3) use. This typology supports a growing body of research that rejects technological determinism. Empirical inquiries can thus explore not only how workers use technologies (where they may exercise a degree of discretion), but also the dynamics that govern adoption and – more rarely examined – the design stage, where decisions often occur far upstream, and are deeply political, both in time and space (as shown by Noble's historical analyses).

These conceptual premises have informed collective work within *The Organization Workshop* research program, culminating in a theoretical-methodological book (Salento, 2018), and have more recently guided empirical research on digitalization in the metalworking industry in the Bologna region (Garibaldo, Rinaldini, 2021).

The present author has also sought to engage labor law scholars on these terms (Salento, 2017; 2019). In light of the "great digital transformation", labour lawyers are once again confronted with foundational questions of legal policy: should these transformations be passively accommodated as inevitable, or actively governed? The regulatory approach derived from TOA – according to which *organizational action is inherently regulatory*, and regulation always entails a legal dimension – leads to a view of law as constitutive, not merely reactive. Legal norms do not merely frame processes ex post; they co-produce them. From this

perspective, even the reification of "digital work" as a unitary concept is analytically misleading. As I have argued elsewhere:

"It is [...] substantially meaningless to try to elaborate a notion of 'digital work' on which a unitary interpretation of work transformations can be articulated. The task of the social sciences, and of law, is not to deal with digital machines as such, but to understand the regulation of work processes, of which digital machines constitute an instrumental element. What is hypostatically defined as 'digital work', therefore, should be understood as a heterogeneous set of processes, to be investigated with the analytical tools of organizational action and social relations of production" (Salento, 2019: 139).

The second major issue raised by digitalization concerns its implications for working conditions – particularly the autonomy of labor**.** In the still-limited but growing Italian literature on the topic, two contrasting interpretive frameworks can be discerned, each reflecting distinct normative orientations (and, often, the institutional or ideological positioning of research sponsors).

On one side, some studies (*e.g.*, Berta, 2014; Magone, Mazali, 2016) present digital innovation as a source of empowerment, promising increased autonomy and more meaningful labor. On the other, a more critical stream of research (*e.g.*, Gaddi, 2018; Garibaldo, Rinaldini, 2021) finds that digitalization – both in industrial contexts and on platforms – often reinforces hierarchical control and managerial surveillance, in line with the legacy of lean production. This second body of work is empirically stronger, and it avoids conflating *discretion* with *autonomy*. It recognizes that increased discretion – understood as a margin for decision-making within a hetero-regulated framework – does not necessarily entail greater autonomy, which requires the capacity to define and regulate one's own work process.

As Garibaldo and Rinaldini (2021: 193) observe, in certain industrial roles, there has been a genuine increase in responsibility and discretion. Yet this has not translated into autonomy in the sense of self-determined work organization.

In sum, especially from the standpoint of labor law policy, it is essential to resist the emergence of a narrative around digitalization akin to that which

accompanied labor "reforms" in the 1990s. It would be both analytically flawed and normatively regressive to construct a pseudo-ideal type of the "digital worker" – a disembodied figure abstracted from actual work contexts, built upon an idealized and deterministic view of technological change. The Theory of Organizational Action reminds us that technology is always an instrument, not a force of its own. In matters of regulating workplace power, the critical question is not whether one works *with* or *on* digital machines, but how organizational action is exercised: whether it strengthens or weakens external regulation, enables self-organization or reinforces control, enhances or diminishes workers' economic and political agency.

Conclusion

In the preceding pages, I have sought to reconstruct the significance of rules and regulation within the Theory of Organizational Action – or, more precisely, the relationship between action and rules. In my view, this relationship is a central thread that runs through Bruno Maggi's entire body of work and ultimately underpins its analytical strength.

One might reasonably suggest that Maggi's academic background – shared with a number of influential twentieth-century social scientists trained in law – played a decisive role in shaping his enduring interest in forms of regulation. Of particular importance in this intellectual development was his deep engagement with the work of Max Weber, arguably the classical sociologist who contributed most substantially to the study of law, organization, and the methodology of the social sciences. Maggi's thought, however, would go on to evolve in an original direction, synthesizing Weberian insights with foundational contributions from organizational theory – most notably the work of Herbert Simon (1958), James Thompson (1967), and postwar French sociology of work (Friedmann, 1946; 1951; 1956). The result is an analytical framework that conceives of organization as the coordination of actions and decisions oriented toward an objective, always within the constraints of bounded rationality.

Within this framework – which might aptly be described as *pan-regulationist*, insofar as the concept of organization ultimately resolves into the concept of regulation, including legal regulation – law assumes a significant place. Although legal questions remained largely confined to an early stage in Maggi's theoretical development, his work offers a crucial point of reference for interdisciplinary or even transdisciplinary inquiry.

The Theory of Organizational Action thus provides a solid foundation for renewing dialogue between law – especially labor law – and the social sciences. Such dialogue, at least in the Italian context, has remained relatively underdeveloped, with few institutional spaces for sustained exchange beyond the field of industrial relations. And yet, as a recent review of research has shown (Martelloni, Salento, 2022), this dialogue continues remains active among legal scholars and social scientists.

References

BERTA G.
2014 *Produzione intelligente. Un viaggio nelle nuove fabbriche*, Torino: Einaudi.

BOLTANSKI L., CHIAPELLO E.
1999 *Le nouvel esprit du capitalisme*, Paris: Gallimard.

CASTELVETRI L.
1998 Contratto di lavoro e qualità totale, *Rivista Giuridica del Lavoro*, 3: 431-59.

CROZIER M., FRIEDBERG E.
1973 *L'acteur et le système*, Paris: Seuil.

DORIGATTI L., SALENTO A.
2016 Rappresentanza del lavoro e democrazia economica, in Barbera F., Dagnes J., Salento A., Spina F. (Eds.), *Il capitale quotidiano. Un manifesto per l'economia fondamentale*: 254-264, Roma: Donzelli.

FALK-MOORE S.
1973 Law and Social Change: The Semi-Autonomous Social Field as an Appropriate Subject of Study, *Law and Society Review*, 7, 4: 719-746.

FRIEDMANN G.
1946 *Problèmes humains du machinisme industriel*, Paris: Gallimard.
1951 *Où va le travail humain?*, Paris: Gallimard.
1956 *Le Travail en miettes: Spécialisation et loisirs*, Paris: Gallimard.

GADDI M.
2018 *Industria 4.0 e il lavoro. Una ricerca nelle fabbriche del Veneto*, Milan: Punto Rosso.

GARIBALDO F., RINALDINI M.
2021 *Il lavoro operaio digitalizzato. Inchiesta nell'industria metalmeccanica bolognese*, Bologna: il Mulino.

KAHN-FREUND O.
1972 *Labour and the law*, London: Steven & Sons.

MAGGI B.
1984 Teoria dell'organizzazione e sociologia del diritto, in Scarpelli U., Tomeo V. (Eds.), *Società, norme e valori: studi in onore di Renato Treves*, Milan: Giuffrè.
1984/1990 *Razionalità e benessere. Studio interdisciplinare dell'organizzazione,* Milan: Etas.
1993 *Tradizione e innovazione nello studio interdisciplinare del lavoro*, Introduction to Terssac G. de, *Come cambia il lavoro*: 1-28, Milan: Etas.
2003/2016 *De l'agir organisationnel. Un point de vue sur le travail, le bien-être, l'apprentissage*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.
2011 Théorie de l'agir organisationnel, in Maggi B. (Ed.), *Interpréter l'agir : un défi théorique*: 69-96, Paris: Presses Universitaires de France.

MAGONE A., MAZALI T.
2016 *Industria 4.0. Uomini e macchine nella fabbrica digitale*, Milano: Guerini e Associati.

MARTELLONI F., SALENTO A. (EDS.)
2022 *Il lavoro e le regole. Scienze sociali e diritto del lavoro nelle crisi del nuovo secolo*, special issue *Sociologia del Lavoro*, 3.

MASINO G.
2005 *Le imprese oltre il fordismo. Illusioni, retorica, realtà*, Rome: Carocci.
2011 La technologie comme rationalité technique, in Maggi B. (Ed.), *Interpréter l'agir : un défi théorique*: 183-201, Paris: Presses Universitaires de France.

NEGRI A.
1989/2005 *Fine secolo. Un'interpretazione del Novecento*, Roma: Manifestolibri.

NOBLE, D.
1979 Social choice in machine design, in Zimbalist A. (Ed.), *Case Studies on the Labor Process*: 100-134, New York: Monthly Review Press.

REYNAUD J.-D.
1988 Les régulations dans les organisations: Régulation de contrôle et régulation autonome, *Revue Française de Sociologie*, 29, 1: 5-18.
1989/1997 *Les règles du jeu. L'action collective et la régulation sociale*, Paris: Armand Colin.

SALENTO A.
2003 *Postfordismo e ideologie giuridiche. Trasformazioni delle imprese e crisi del diritto del lavoro*, Milano: Franco Angeli.
2011 Pour une sociologie du droit du travail, in Maggi B. (Ed.), *Interpréter l'agir: un défi théorique*: 221-239, Paris: Presses Universitaires de France.
2013 Concezioni di organizzazione e regolazione della sicurezza del lavoro, *Sociologia del Lavoro*, 130: 15-32.
2017 Industria 4.0, imprese, lavoro. Problemi interpretativi e prospettive, *Rivista Giuridica del Lavoro*, 2: 175-194.
2019 Digitalizzazione delle imprese e trasformazione delle competenze. Quadro analitico e riscontri empirici, *Labor*, 2: 131-142.

SALENTO A (Ed.)
2018 *Industria 4.0. Oltre il determinismo tecnologico*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

TERSSAC G. DE,
1992 *Autonomie dans le travail*, Paris: Presses Universitaires de France.

THOMPSON J.D.
1967 *Organizations in action*, New York: McGraw-Hill.

TREVES R.
1987 *Sociologia del diritto. Origini, ricerche, problemi*, Torino: Einaudi.

WEBER M.
1922 *Wirtschaft und Gesellschaft*, Tubingen: Mohr (critical edition by J. Winckelmann, 1956).

Learning and organization

Marco Zamarian

Introduction

My encounter with Bruno Maggi's ideas on learning occurred during the course of Theory of Organization at the Ph.D. program in Business Administration at the University of Bologna. The "lectures" consisted of students presenting, for no more than ten minutes, the texts assigned the previous week. These were classics of organizational thought – fundamental readings for any scholar of the discipline. Bruno Maggi did not explain these classics. Rather, he commented on the students' exposition choices, prompting them to reflect on the priorities assigned to the key assertions of each theoretical proposal and the architectural construction of their presentations, highlighting only the most obvious omissions, which the students had often already grasped from the summaries offered by their classmates. He then accompanied the discussions on the relevance of individual themes within the different theoretical constructs, provoking them in the (rare) cases of complete paralysis. My debt to Bruno Maggi lies primarily in the outcome of these sessions: attention to the consistency between epistemological premise, methodological choices, forms of analysis, and conceptualizations is (or should be) the fundamental tool for anyone interested in social phenomena. Maggi has devoted much attention to the relationship between training and learning (Maggi, 1974; 1977; 1991; 2000; 2010; 2003/2016; Maggi, Prot, 2012). And he structured his teaching in full coherence with his Theory of Organizational Action. Maggi, in the chapter *Social action and organization*, clarifies that *Action* should be defined in the terms proposed by Max Weber (Weber, 1922). Weber talks about *Handeln* rather than *Handlung*, in order to emphasize, with the use of the verbal noun form, that understanding social action is a matter of interpreting the *process* of action (not the executed action), its

development, the social meaning attributed to it by the acting subject, while integrating time as a fundamental variable.

The choice of a text on organizational learning is not an obvious one, given the topics I have addressed in my research journey, sometimes with Maggi (for example, discussing the topic of work intensity and intensification, which has recently returned forcefully to the attention of organizational scholars in reflections on the consequences of the pandemic: Zamarian, Maggi, 2006), more often availing myself of his comments and reactions, starting with my doctoral thesis on organizational routines, continuing with works on cognitive artifacts (Masino, Zamarian, 2003), organizational change in large Italian companies (Zamarian, 2004), emergency management (Zamarian, 2022), and occasionally with his clear opposition (Zaninotto, Zamarian, 2012). However, the choice seems unavoidable for a fundamental reason: almost all the topics covered in twenty years of scientific activity have as their substratum an idea of individual and/or organizational learning. This idea, moreover, has changed over time.

My early works – experimental first and theoretical later – on organizational routines, had as their fundamental object a tension between an idea of individual learning and the very possibility of organizational learning, understood as a collective or social process (Zamarian, 2002), in line with the substantially reductionist position proposed by Simon (1991). Subsequent works on routines and cognitive artifacts further developed the theme of the relationship between knowledge and learning (Masino, Zamarian, 2003; Zamarian, 2010; Frigotto, Zamarian, 2015). The more recent research problems I have faced (Knowledge Management topics, as in Cuel *et al.*, 2012; and organizational resilience, as in Frigotto *et al.*, 2022) have marked a progressive shift of attention from the individual to the firm. The suspicion is that the interactions with Maggi and his Theory of Organizational Action (Maggi, 1984/1990; 2003/2016) are responsible for this change. The term "idea" was not used casually in reference to organizational learning (OL, in short): to date, the efforts made to produce a complete theorization of the phenomenon - however defined - have proven to be unproductive or barely productive. The reason is

offered in one of the most lucid works reflecting on the topic: "In large part progress in developing an OL theory has been impeded by lack of agreement on the ontological and epistemological basis for such a theory" (Crossan *et al*., 2011: 454). This observation is, on the one hand, true and, on the other, far too generous with much of the literature. For example, a fairly recent and widely cited review article states: "Although the question whether a theory of OL exists remains to be answered, we use the term 'theory' to indicate what organizations should master for effective OL". (Baste, Haamann, 2018: 2) However, it also hides a profound, though partially understandable, equivocation. That is, the attempt to reconcile contributions from theories that presuppose different *weltanschauung* that are, by their nature, irreconcilable.

The present contribution, thus, has as its fundamental core the discussion of the claimed necessity of a theory of organizational learning connected to the expression of a shared epistemological and ontological basis. In particular, it seems natural to propose the need for different theories of organizational learning, at least as diverse as the visions presupposed by such theorizations. This is not meant, however, to suggest some kind of relativism. On the contrary, a theorization of organizational learning must pass through a serious examination of consistency between visions of the world and consequent theoretical conceptualizations. We will not, therefore, try to construct a synthetic theory of organizational learning from different visions, but to present the consequences, in terms of heuristic possibilities, of visions that are irreconcilable. The text is structured into four sections. The first will briefly address the relationship between knowledge and learning in organizational studies. The following section will present the major theorizations having organizational learning as their object, highlighting the methodological difficulties present within them. The objective is to highlight the fundamental reasons for logical dissatisfaction with the prevailing theoretical proposals. The third section contains an interpretation that attempts to overcome these difficulties, while also presenting new ones. Finally, using this interpretation as a key, we will propose

an examination of some open questions within the broader framework of organizational theory.

Knowledge and learning

A first logical difficulty in constructing a unified theory of organizational learning in the sense proposed by Crossan and colleagues (Crossan *et al*., 1999; Crossan *et al*., 2011) is represented by the object – in other words, the purpose – of learning. In managerial disciplines, the dominating position is that knowledge, in the forms of "know-how" and of "know how to decide", is key to explain firm performance (see for instance: Coase, 1937; Barnard, 1938; Simon, 1947; Penrose, 1959, just to name a few classic masterpieces belonging to different traditions) and that, consequently, organizational learning should be understood as a tool to enlarge and expand the knowledge base that supports performance. This argument has been particularly successful in the context of the Resource-Based View of the firm (RBV). According to this theory, in fact, it is the possession of non-appropriable resources that makes a firm's competitive advantage sustainable (see, for instance, Barney, 1991). A knowledge base that is not easily codifiable, or, even when codified, not easily transferable, becomes, thus, the perfect example of non-appropriable resource (Kogut, Zander, 1992). This logical construction is widely accepted (Nonaka, 1994) and is responsible for the shift from an interpretation of the phenomenon of "knowledge in firms" in terms of information processing capability, prevalent in the 1960s-1980s, to the new label of organizational learning, which definitively established itself precisely in the heyday of RBV. The general agreement that this construction meets, obviously implies that the label "knowledge" takes on entirely asymmetric meanings in the different theoretical constructions. It is not, however a simple problem of "polysemy" of the term knowledge. Rather the same term covers different semantic areas in accordance with different theoretical visions. Maggi (1991; 2000) precisely accounts for this problem - it would perhaps be more correct to say characteristic - in the debate on the relationship between knowledge and training. Retracing the traditional distinction proposed in socio-psychological

disciplines studying corporate training between *savoir*, *savoir-faire*, and *savoir-être*, Maggi shows how they assume entirely different meanings in different conceptions of training, maintaining a clear semantic distinction within each conception and a total distance in meaning between the different positions. For example, it is easy to show how knowledge, know-how, and *savoir-être* can be understood as information useful for performing a well-defined task, within a rigidly defined job function attributed to the individual in a mechanistic logic of organization. This information can be acquired in several ways and is largely formally transmissible. Similarly, in constructivist theorizations, which see the social system as a product of interactions among actors (*e.g.*, Crozier, Friedberg, 1977; Weick, 1995), the three "levels" of knowledge will be oriented not towards the individual's adaptation to the system, but towards supporting their strategies towards other actors, with the aim of "winning the social game", to use Reynaud's (1997) terms. From the perspective of organization as a process of goal-oriented actions and decisions, knowledge in its articulations is necessary at the instrumental level to direct actions towards goals, to redefine goals, and to understand their interactions with the values underlying them (Maggi, 1991; 2000). Many of the antinomies and difficulties present in the literature on organizational learning are due to a particular form of myopia regarding the often unexplicit visions on the topic of knowledge. In the next section, we will try to explicitly bring out these difficulties.

Conceptions of organizational learning and knowledge

The fundamental premise for understanding the theoretical import of the idea of organizational learning must necessarily pass not through one definition, but through as many definitions as there are possible fundamental visions of the concept of organization itself. This necessary clarification is not without antecedents. Maggi (1991; 2000) himself identifies at least four distinct theorizations of in-company training, emphasizing that the descriptive differences between the dimensions of knowledge that are often proposed as analytical have valid implications for each possible choice. In general, the same

conclusion can also be formulated for conceptions of organizational learning (and associated idea of knowledge) that we can find in the literature, at least in the more theoretically aware sources. Such a stance is indeed maintained by Easterby-Smith and Lyles (2011) in the first chapter of the second edition of their Handbook. They recognize that the topic of organizational learning is fragmented and divisive, precisely because the rupture between different visions is of an epistemological nature. The value of the theme for the discipline lies precisely in the harshness of the debate on the essence of organizational learning, rejecting easy attempts at reconciliation as sterile. Among the many different proposals for systematizing the literature on organizational learning (it is worth remembering Easterby-Smith, Lyles, 2003 and Fabbri, 2003), two substantial tendencies emerge. The first is that there is no commonly accepted set of criteria to uniquely reconstruct the distances between the different theoretical proposals. The second is that classification methods based on combinations of analytical dimensions only partially describe the complexities of each theoretical proposal. For these reasons, in the following, we will propose a distinction between theorizations that directly refer to the connection between the interpretation of learning and the underlying organizational theory. We will therefore distinguish reifying theories of organization (of cognitivist and behaviorist matrix) from "reductionist" theories and network theories.

Reifying theories

Various theories of organizational learning identify the reified organization as the subject that possesses and produces knowledge. What unites these theories is the vision of the organization as a "thing" or entity. Organizational learning is an attribute of the organization as an entity. Therefore, it is not surprising to read in these contributions how "the organization can learn". Within this framework, we can actually place two distinct families of interpretations, based on very different beliefs regarding the nature of the organizational phenomenon. On the one hand, we have positivist interpretations, connected to the conception of the organization as a pre-existing social system

separate from the subjects. On the other hand, anti-positivist interpretations, which conceive the organization as the result of interactions among actors. Regarding organizational learning, what emerges is not only a reification of the concept of organization, but also a reification, at different levels, of the idea of knowledge. In the positivist approaches to the topic, knowledge is often recognized as a (logical) object to be possessed. Therefore, organizational learning corresponds to the idea of extracting knowledge from individuals, encoding it in symbolic form, and then distributing it in coherence with the needs dictated by the design of the structure. Such theories often find a parallel in part of the cognitivist theorizations in cognitive psychology. Anti-positivist theories, admittedly more articulated, often deny value to knowledge as something separate from its behavioral expression. Learning is therefore indissoluble from doing and from the bodily elements of the practice. Knowledge is embedded in artifacts in use and in practices. Many of these theories refer, for the analysis of organizational learning, to behaviorist analyses of cognitive psychology.

Representational theories

The prevailing idea of organizational learning in this stream of literature centers on the idea that knowledge can be represented in symbolic form. Symbols can be manipulated and transformed, provided that the knowledge system includes a vocabulary that allows for the encoding and decoding of symbol sequences. This interpretation is explicitly cognitivist in origin, meaning it argues that (organizational and useful) knowledge is produced by people through the mental manipulation of symbols (Newell, Simon, 1972), and that organizational learning results from the work of encoding and sharing knowledge. Knowledge, therefore, is an "object" that can be manipulated. Clearly a particular form of knowledge reification. Representational theories have a long history, in fact preceding the first systematic use of the expression organizational learning (Cangelosi, Dill, 1965). They evolved, under the influence of the contemporary explosion of cognitivist currents in psychology, into the view of the firm as an information-processing system (Tushman, Nadler, 1978), clearly part of the

contingency view of organizations. The proposal is clear. Given that the organization, in an open system logic (Thompson, 1967), must face uncertainty, it must be able to monitor the environment to identify its possible sources. Since the sources are numerous and complex, a fundamental task consists of collecting and systematizing information related to each possible source of uncertainty. Furthermore, the specialization produced by the division of labor entails the production of specialized knowledge that must, in turn, be collected and shared, at some level, to ensure coordination. Codification is the key to enabling the reproduction of knowledge and the practices that derive from it. The organization learns more effectively the more the codification and dissemination of information is interpreted as useful by the subjects and the more this transforms into a change in behavior and consequent improvement in performance (Huber, 1991). This is still the largely dominant approach and informs almost all contributions in the field of knowledge management, as we will detail later. Obvious criticisms of this approach lie in the observation that knowledge (it would be more correct to say information) thus collected and codified, and possessed by individuals, is produced and makes sense only in a particular context. Codifying and making such knowledge available outside that context implies the loss of its meaning, which is only full in a particular context, within a particular organizational culture (Duncan, Weiss, 1979). This criticism led to the development of behaviorist theorizations.

Behaviorist theories

Levitt and March (1988) brilliantly propose a manifesto for organizational learning in a behaviorist key. Learning is characterized by three elements. First, in organizations, behavior is based on routines (Cyert, March, 1963). Actions are governed by the logic of appropriateness - that is they are evaluated in relation to their congruence to context - rather than a consequentialist logic, where actions are assessed in terms of their ability to achieve goals. Secondly, organizational actions are history-dependent, meaning they are produced adaptively and myopically with respect to feedback received from the environment. Finally,

organizations move with respect to objectives. Organizational learning therefore consists in the perpetuation of inferences from experience into organizational routines that inform behaviors. The essential elements of this theorization are therefore a clear reification of the organization itself, which becomes the subject bearing knowledge, independently of the knowledge developed by individuals (and, in more sophisticated versions of the theory, potentially in open contradiction with it). This line of thought has undergone an interesting evolution in practice-based studies (Gherardi, 2009) which see practice - situated, negotiated, distributed, and fragmented action among different actors - as the locus of knowledge. The idea of a community of practice (Lave, Wenger, 1991; Brown, Duguid, 1991) focuses in particular on the social character of knowledge construction that allows overcoming the fragmentation of the individual actor's viewpoint. The very concept of a knowing organization (Blackler, 1995) highlights the distributed, situated, and local nature of knowledge anchored in practice, emphasizing its materiality as it is anchored in physical or logical artifacts (Bruni *et al*., 2007). Learning, therefore, can only occur through participation in practice and is exhausted within it. This position is emphasized by the replacement of the noun knowledge, which stresses the abstraction of symbolic knowledge, with the substantivized gerund knowing, which instead characterizes the incessant and contextual nature of knowing in practice (Cook, Brown, 1993).

The contradictions present in this theorization have been highlighted from the outset by the proponents of cognitivist (or mentalist) views. The most obvious one concerns the following observation - which, moreover, is accepted by most supporters of the concept of knowing: if knowing is knowledge embodied in action, and which action serves to produce, it is equally true that a basis of abstract knowledge is necessary to produce the knowledge that materializes in actions. It is also true that abstract knowledge can be obtained through the (mental) processes postulated by the cognitivist tradition, *lato sensu*.

Reductionist theories

Reductionist ideas are characterized by their explicit adherence to the principle that learning is a phenomenon that pertains exclusively to acting subjects (Simon, 1991). The perspective is cognitivist, as in representational theories. The distinctive contribution of the reductionist premise, however, is to view the reification of the organization, and of knowledge itself, as a logical impossibility. If knowledge is produced in individuals as a mental process that depends on cognitive capacities, usually translated into the ability to grasp and interpret co-variations of environmental variables (Holyoak, Spellman, 1993), then talking about an organizational level of learning is entirely misleading. What must be incorporated into the cognitive capacity of individuals, however, is the possibility of exchanging with other individuals and learning also through symbolic manipulation. The organizational sphere therefore becomes an effective vehicle for learning because it provides relationships (often implied by coordination processes) that direct and constrain the possibilities of exchange. We therefore expect, with Simon, that the knowledge produced by each individual has a strong correlate with what occurs among the subjects with whom they exchange.

Network or structurationist theories

A completely different interpretation is proposed by what we will call network or structurationist theory. In essence, the distance from cognitivist and behaviorist ideas is produced by a different identification of the locus of organizational knowledge. The latter does not reside in individual memories, or in artifacts that integrate or replace them, nor in community practice. Instead, it is distributed among individuals and groups but produces its high-level effects as a combination of local knowledge. In Hutchins' (1991; 1995) lucid theorization, knowledge finds expression through the interaction of practices informed by specific knowledge and individual cognition. This interaction produces behavioral modifications visible at the overall level, but connected to inductions - therefore individual cognitive processes - and local adaptive practices.

Organizational knowledge is therefore not the result of sharing, but rather the overall outcome of local interactions and relationships (Weick, Roberts, 1993). Similarly, the underlying hypothesis is that even the human mind is actually a combination of local elements that are unable to generate abstract representations if isolated. On the contrary, the structure of their relationships produces what in a cognitivist context we might define as the ability to manipulate symbols, and therefore representations. This idea has been translated since the 1980s into a series of techniques, the neural networks (Rumelhart, McLelland, 1986), which are capable of solving complex problems without possessing any ability to make explicit inferences. The system "learns" to interact with the environment by modifying its internal structure (the connections between its nodes) and the relative weight of each node in the network as a consequence of feedback from the environment itself on the solutions it produced. It should be noted that most of the perplexities in those years regarding the possibility of providing the neural network with all the knowledge necessary to produce "acceptable" behaviors in terms of precision and timeliness (a classic example is in Winograd, Flores, 1986) have progressively diminished with the increase in the computational capacity of machines. One element of dissatisfaction that remains in classic network theorizations is the inability of networks to explicitly memorize symbols or high-level representations, thus making the network's operation difficult to understand (Townsend *et al.*, 2019).

Towards a process conception of organizational knowledge

The proposals we have examined leave deep reasons for dissatisfaction. The conception of learning as sharing, as rightly noted by anti-positivist scholars, relies on an idea of knowledge as an appropriable object. The learning process is therefore a process of "extraction" and accumulation of knowledge. On the other hand, the anti-positivist proposal of knowledge embodied in organizational practice and propagated within communities of practice merely re-proposes the same antinomies present in the functionalist narrative: the organization becomes a community of sub-communities characterized by bases of practices and

artifacts that incorporate the knowledge they need (Fabbri, 2003). The network proposal is profoundly distant from the reifying proposals, especially because it proposes the relationship (which underlies an exchange) as a fundamental tool for producing new knowledge, which takes on meaning at a different level from the level at which the exchange occurs. In this case, however, as we have seen, the logical difficulties are not few. It is therefore necessary to try to construct a different notion of organizational learning that allows these difficulties to be overcome.

A proposal can be based on two considerations. The first reflection originates from the idea of intentional and bounded rationality proposed by Simon (1947). This idea is heuristically fundamental because it allows us to understand how organizational action is, on the one hand, informed by objectives, and, on the other, constrained by the limited capacity of decision-makers to cognitively control all the variables involved. The most direct implication is that, due to uncertainty, it is not possible to conceive of the organization as an entity produced by a design perfectly congruent with pre-established goals. On the contrary, goals produce always partially inadequate or incongruent decisions, which require a double adjustment, concerning the goals themselves, on the one hand, and the production of new decisions, on the other. The nature of organizational action must therefore be sought in its unfolding as a process, rather than in some form of reification (organization as an entity). It follows that the nature of learning manifests itself in the progression of the organizational process itself, in the form of its continuous evolution in the interaction between objectives and actions.

The second element - complementary to Simon's fundamental idea - is found in the Theory of Organizational Action (Maggi, 1984/1990; 2003/2016). The necessary clarification concerns the qualifier "organizational" used in reference to learning. In Simon's theoretical construct, the theme of learning plays an essential role, however, two elements are never made explicit. The first is the "level" at which the learning process occurs: it is not clear whether learning is the exclusive purview of individuals, whether it also involves sets of

interacting decision-makers through coordination processes, or whether it is a process immanent to the organizational process, and thus social. The second concerns the quality of organizational learning as separate and different from learning *tout court*. Maggi (1991; 2003/2016) clearly states that organizational knowledge pertains to the evaluation of the congruence of actions with respect to the process (and its outcomes). It properly concerns structuring actions, that is, the *agire* whose purpose is the control of decision premises and the coordination of tasks. Organizational learning is therefore a fundamental dimension of the unfolding of the organizational process itself.

Open problems connected with organizational learning and the theory of organizational action

The topic of organizational learning closely touches upon several central issues for theoretical development on organization, and thus is present not only in my personal research agenda but also in current debates. Each of these topics - organizational routines, knowledge management, resilience - has recently experienced or is experiencing considerable fortune because it represents an open challenge both interpretatively and in business practice. The interactions of each of these topics with the concept of organizational learning are obvious, as is the particular connotation that the consequences of these interactions assume when the concept of learning is inspired by, or read in light of, the Theory of Organizational Action.

Organizational routines and the Theory of Organizational Action

The relationship between organizational routines and learning has been present in the literature since its beginnings (Nelson, Winter, 1982). The topic is salient for two reasons. First, if we consider organizational routines as the engine for the production – at once – of knowledge and practice, we must consider them a fundamental logical element of how organizational processes manifest and evolve, and thus learn (Zamarian, 2002). The second concerns the always problematic relationship between knowledge and action present in many of the

established conceptions of organizational routine (see Becker, 2003, for an exhaustive treatment of the topic). The complexity of the relationship inevitably, once again, involves the problem of knowledge. In this regard, we have already described (Zamarian, 2010) the fundamental characteristics of "behaviorist" theorizations of routines – in which knowledge, predominantly tacit – is stored in the practices themselves (Nelson, Winter, 1982). The transmission of knowledge is therefore the transmission of practices, so much so that we could consider the plane of knowledge as theoretically superfluous. Practices are distributed, as they often involve interaction between different subjects. For these reasons, the subjects are, to a large extent, fungible. Given these premises, it naturally remains to explain how the routine can replicate over time, since it is trivial to observe that practices are, from time to time, also significantly different from each other in different iterations of the routine. This aporia is resolved by postulating the existence of a template, or a partially abstract model of the routine, to which practices refer (Szulanski, 2003). But in this way, the necessity of putting knowledge (and learning) back at the conceptual center of routines is evoked. This view is often contrasted with a cognitivist view of routines, which highlights the co-presence of tacit knowledge and explicit knowledge within routines. The extreme position, in this case, consists of considering the routine as a program that takes on a "condition-action" form, where each observed state corresponds to an action to be activated (March, Simon, 1958). In this scenario, the problem lies in the need to postulate an almost infinite capacity for reading the activation conditions of various routines. The Theory of Organizational Action, with its concept of regulation for action, can help resolve the fallacies inherent in each of the theorizations we have briefly recalled[1]. The connection between routine behaviors and routine defined as a representation[2] can be

[1] It should be acknowledged that these positions are not exhaustive of the debate on the relationship between organizational routines and learning. We refer to Zamarian (2010) for a more detailed examination. Here we limit ourselves to recalling the model by Feldman and Pentland (2005), later re-proposed and improved in Pentland and Feldman (2008).

[2] As Becker appropriately clarifies, the two levels must remain analytically distinct to avoid the obvious contradictions of the behaviorist position: "while talking about 'the routine' is

understood by analyzing the system of rules used to produce each action. Sometimes there is a complex of explicit rules (*e.g.*, formal rules). Other times, this level of regulation is absent, but there is a largely implicit level of regulation, born from observing the ability of a certain sequence of actions to achieve a goal. Even the implicit level of regulation is usually the product of an interaction between different guiding wills for action. Action is ultimately produced by interaction with at least one other level of rules: the rules that immediately structure the specific form taken by the behavior produced by a given acting subject in a given context, defined in time and space. Routines, therefore, on the one hand, are the outcome of a process of decision and action, meaning they are a partial product of it. On the other hand, they constitute elements that subjects include, and may explicitly consider, in the decision-making process.

The process through which this inclusion occurs is still an open direction of research. A tension present in the literature on routines is, in fact, between mindlessness - understood as the expression of routine behaviors without high-level reflection or thought activity - and mindfulness or effortful accomplishment - meaning the accompaniment of developments with reflection and judgment activities, even in the absence of the need to deliberately think about the unfolding of actions (Becker, 2003; Winter, 1985). One interpretive key to the problem can be found in the observation that routine practice produces two transformations. The first, of a substantive nature, is the transformation of the object consistent with the purpose of the process. The second is a transformation of knowledge, or rather the premise for such a transformation to occur: on the one hand, routine action frees cognitive resources, allowing acting subjects to reflect on the relationship between actions and objectives; on the other hand, it enriches the contextual knowledge of the process, favoring processes of abstraction and metaphor (Frigotto, Zamarian, 2015).

convenient from a linguistic point of view, we should at all costs avoid any kind of reification" (Becker, 2003: 649).

Knowledge management and the Theory of Organizational Action

In the mid-1990s, there has been a terminological rupture in the literature dealing with organizational learning, with the emergence of *knowledge management* as a separate expression. In its early days, it was, almost by definition, positivistic in inspiration. It started with the premise of providing the firm with a systematic way to improve the productivity and effectiveness of its members' work through the acquisition, organization, and communication of knowledge (Alavi, Leidner, 2001). The success of this new key phrase has, over time, led to the belief that knowledge management has definitively supplanted the idea of organizational learning (Castaneda *et al*., 2018). Not surprisingly, that proponents of knowledge management claim the role of continuators of the resource-based view of the firm, with a specific definition of what organizational knowledge should mean. Specifically, a majority current posits the existence of a clear hierarchy between data (understood as pure symbols), information (processed and systematized data), and knowledge (authenticated and certified information) (Vance, 1997). In fact, the main problems in terms of organizational learning are typically identified in the construction of an information base that integrates individual knowledge, formalizes it, and makes it available to other members of the firm. A substantial portion of the knowledge management literature, in fact, identifies knowledge as an "object" (McQueen, 1998) to be identified, formalized, and shared. Such knowledge is, inevitably, symbolically represented, given that it normally benefits from computer-based encoding and storage systems. However, other contributions (*e.g*., Fahey, Prusak, 1998) recognize that equating knowledge and information empties the very idea of knowledge of its meaning as a set of cognitive tools for making decisions that reside, in an absolutely contextual and situated way, in the decision-makers themselves (Alavi, Leidner, 2001). In fact, contrasting mainstream knowledge management research, a radical current of thought argues that knowledge management is nothing more than an oxymoron: the more codifiable and standardizable knowledge is, the less its value to the firm. The more situated and tied to acting subjects knowledge is, the less codifiable it is. As a consequence,

knowledge cannot be managed (Aidemark, 2009). In the case of knowledge management, the contribution of the Theory of Organizational Action is even more relevant. The ability to describe the organizational process cannot be significantly disassociated from participating in the process itself. The most obvious consequence is that the process of "extracting" knowledge from individuals for it to be formalized and shared proves to be a sterile exercise: the information thus collected will invariably be decontextualized and will somehow have to be re-appropriated by the acting subjects to regain meaning. Furthermore, the transformation implicit in the re-appropriation process creates new knowledge and modifies the meaning of knowledge as formalized symbolically in the information system that supports the firm's knowledge management (Tsoukas, 1996; Masino, Zamarian, 2003). According to this logic, the claim to build an architecture of shared and acontextual knowledge is therefore condemned to fail.

A stream of more mature work regarding the fundamental problem of knowledge management, informed by a less naive view of knowledge, have begun to produce interesting results. In particular, bottom-up theorizations are noteworthy, in which the participation of knowledge "producers" occurs on a voluntary basis and consists of producing solutions to problems rather than contributing to the growth of a knowledge base. The substantial difference lies precisely in the different heuristic capacity of the theoretical proposals being compared. Recognizing the substantial impossibility of firms appropriating knowledge leads to a delegation of creative activity to actors whom we could consider peripheral, who recombine knowledge without the mediation of a centralized and shared semantic structure as in classic knowledge management systems. Often, the firm proposes problems to a mass of potential solvers, as in evolved crowdsourcing[3] (Cuel *et al.*, 2012): the community of solvers finds

[3] Here, we define as evolved crowdsourcing the practice of delegating complex tasks to actors outside the firm. This practice often takes on the characteristics of distributed work coordinated locally by the participants. Traditional crowdsourcing is often dominated by a Taylorist control logic pushed to the maximum through the practice of micro-tasking (Deng *et al.*, 2016).

expression in the co-design of a language that governs exchanges, and in the structure of the exchange network itself.

Learning resilience and the Theory of Organizational Action

The topic of resilience has characterized a significant part of the organizational debate on structure, at least since the events of September 11, 2001 (Kendra, Wachtendorf, 2003; Tierney, 2003). It, then, experienced a true explosion coinciding with the COVID-19 pandemic (Bryce *et al.*, 2020; Barton *et al.*, 2020). In fact, the idea of resilience has a rather long history in organizational studies, at least since Perrow's pioneering works on the structural qualities of institutions operating in inherently risky situations (Perrow, 1984). The topic rapidly changed its centrality vis-a-vis the organizational debate at two points in time.

The first transformation occurred when resilience stopped being merely described as an important feature for a peripheral, and yet important, subset of organizations to become an interesting features for all organizations. The literature started to explore the problem of transferring successful practices from the world of High Reliability Organizations (HROs) to the world of firms *tout court* (Weick, Sutcliffe, 2001; Vogus, Sutcliffe, 2007). In this transformation, the connection with organizational learning is particularly visible: "learning resilience" in a moderately risky context is a process that we can read in parallel with the previous analysis of routines. The issue remains the transfer of capabilities and competencies from one context to another, often through the key of analogy (Bechky, Okhuysen, 2010).

The second transformation of the theme, which fully placed it in the mainstream of organizational theory, concerned the firm's ability to become resilient to its environment, as the environment itself is permeated by forces that make it particularly hostile and difficult, in part due to phenomena typical of HROs, such as wars, diseases, and systemic transformations (*e.g.*, climate change) (Taleb, 2007). In this second phase, learning has taken on a different meaning: it consists of practices that endow firms – and other organized realities – with the ability to recognize, anticipate, and structure themselves for resilience. This idea

has mainly involved studies informed by a concept of organization as planning and/or contingency analysis (Boin, McConnell, 2007; Levac *et al*., 2012).

An alternative proposal, consistent with the concept of organizational learning adopted in this text, considers the ability to revise decision premises (Newell, Simon, 1971), and consequently, to transform the representation of the problem, as the key to understanding rare and unusual events that otherwise take on the connotation of critical contingencies (Frigotto *et al*., 2022). The present chapter proposes an idea of learning as an analytically indissoluble aspect of the organizational process. It consists of the ability to dynamically modify the representation of the problem being examined (Simon, 1991) through a revision of decision premises (Newell, Simon, 1971). The change in behavior in the face of unexpected events depends on the ability to dynamically revise decision premises, and therein lies the difficulty. Decision premises are strongly conditioned by relationships and structural design (Thompson, 1967), and therefore represent obstacles which are difficult to negotiate for decision-makers. Consequently, information indicating the occurrence of an event that cannot be explained in light of the adopted representations is often simply ignored or underestimated, and the event has the opportunity to unfold all its effects undisturbed. The situation changes if we admit that the decision premises themselves, their formation, and their dynamics can be, and are, legitimate objects of learning. In this case, action becomes resilient because it incorporates a constant reflection on the decision premises that logically pre-order it.

Conclusions

As early as 1991, Herbert Simon clearly argued for two fundamental features of organizational learning. Learning is always and only an individual activity, which materializes in relational exchange. It is therefore social. To understand the essence of the meaning of organizational learning, one must resist the temptation to reify the organization. In this text, drawing on the interpretive framework of the Theory of Organizational Action, we have offered a theorization of organizational learning compatible with Simonian assumptions.

Alongside this theorization, we have proposed three applications of this idea to as many central themes in the organizational debate. The results of these applications are still partial and in the process of definition and refinement; however, the heuristic capacity of this alternative vision of learning appears well-suited to overcome many of the limitations of mainstream theorizations.

References

AIDEMARK J.
2009 Knowledge management paradoxes, *Electronic Journal of Knowledge Management*, *7*, 1: 1-10.

ALAVI M., LEIDNER D.E.
2001 Knowledge management and knowledge management systems: Conceptual foundations and research issues, *MIS Quarterly*, 25, 1: 107-136.

BARNARD C.I.
1938 *The functions of the executive*, Cambridge: Harvard University Press.

BARNEY J.
1991 Firm resources and sustained competitive advantage, *Journal of Management*, 1: 99-120.

BARTON M.A., CHRISTIANSON M., MYERS C.G., SUTCLIFFE K.
2020 Resilience in action: leading for resilience in response to COVID-19, *BMJ Leader*, https://bmjleader.bmj.com/content/4/3/117

BASTEN D., HAAMANN T.
2018 Approaches for organizational learning: A literature review, *Sage Open*, 8, 3: 1-20.

BECHKY B.A., OKHUYSEN G.A.
2011 Expecting the unexpected? How SWAT officers and film crews handle surprises, *Academy of Management Journal*, 54, 2: 239-261.

BECKER M.C.
2003 Organizational routines: A review of the literature, *Industrial and Corporate Change*, 13, 4: 643-677.

BLACKLER F.
1995 Knowledge, knowledge work and organizations: An overview and interpretation, *Organization Studies*, 16, 6: 1021-1046.

BROWN J.S., DUGUID P.
1991 Organizational learning and communities of practice: toward a unified view of working, learning and bureaucratization, *Organization Science*, 2, 1: 40-57.

BRUNI A., GHERARDI S., PAROLIN L.L.
2007 Knowing in a system of fragmented knowledge, *Mind, Culture, and Activity*, 14, 1-2: 83-102.

BRYCE C., RING P., ASHBY S., WARDMAN J.K.
2020 Resilience in the face of uncertainty: Early lessons from the COVID-19 pandemic, *Journal of Risk Research*, 23, 7-8: 880-887.

CANGELOSI V.E., DILL W.R.
1965 Organizational learning: Observations toward a theory, *Administrative Science Quarterly*, 10, 2: 175-203.

CASTANEDA D.I., MANRIQUE L.F., CUELLAR S.
2018 Is organizational learning being absorbed by knowledge management? A systematic review, *Journal of Knowledge Management*, 22, 2: 299-325.

COASE R.H.
1937 The nature of the firm, *Economica*, 4: 386-405.

COOK S.D., BROWN J.S.
1999 Bridging epistemologies: The generative dance between organizational knowledge and organizational knowing, *Organization Science*, 10, 4: 381-400.

CROSSAN M.M., LANE H.W., WHITE R.E.
1999 An organizational learning framework: From intuition to institution, *Academy of Management Review*, *24*, 3: 522-537.

CROSSAN M.M., MAURER C.C., WHITE R.E.
2011 Reflections on the 2009 AMR decade award: do we have a theory of organizational learning?, *Academy of management Review*, *36*, 3: 446-460.

CROZIER M., FRIEDBERG E.,
1977 *L'acteur et le système*, Paris: Seuil.

DENG X., JOSHI K.D., GALLIERS R.D.
2016 The Duality of empowerment and marginalization in microtask crowdsourcing, *MIS Quarterly*, 40, 2: 279-302.

DUNCAN R.B., WEISS A.
1979 Organizational learning, in Cummings L.L., Staw B.M. (Eds.), *Research in organizational behavior*, vol. 1: 75-123, Greenwich: JAI Press.

EASTERBY-SMITH M., LYLES M.A. (ED.)
2003/2011 *Handbook of organizational learning and knowledge management*, New York: John Wiley & Sons.

FAHEY L., PRUSAK L.
1998 The eleven deadliest sins of knowledge management, *California Management Review,* 40, 3: 265-2.

FELDMAN M.S., PENTLAND B.T.
2003 Reconceptualizing Organizational Routines as a Source of Flexibility and Change, *Administrative Science Quarterly*, 48: 94-118.

FRIGOTTO M.L., GAIO L., NARDUZZO A., ZAMARIAN M.
2022 Decision premises, learning and organizational resilience addressing novel adversities, in Pinheiro R., Frigotto M.L., Young M. (Eds), *Towards resilient organizations and societies: A cross-sectoral and multi-disciplinary perspective*: 43-64, London: Palgrave-McMillan.

FRIGOTTO M.L., ZAMARIAN M.
2015 Mindful by routine: Evidence from the Italian Air Force Tornado crews flying practices, *Journal of Management and Organization*, 21, 3: 321-335.

HOLYOAK K.J., SPELLMAN B.A.
1993 Thinking, *Annual Review of Psychology*, 44: 265-315.

HUBER, G. P.
1991 Organizational learning: The contributing processes and the literatures, *Organization Science*, 2, 1: 88-115.

HUTCHINS E.
1991 The social organization of distributed cognition, in Resnick L.B., Levine J.M., Teasley S.D. (Eds.), *Perspectives on socially shared cognition*: 283–307, Washington: American Psychological Association.
1995 *Cognition in the Wild*, Cambridge: MIT Press.

KENDRA J.M., WACHTENDORF T.
2003 Elements of resilience after the world trade center disaster: reconstituting New York City's emergency operations centre, *Disasters*, 27, 1: 37-53.

KOGUT B., ZANDER U.
1992 Knowledge of the firm, combinative capabilities, and the replication of technology, *Organization Science*, 3: 383-397.

LAVE J., WENGER E.
1991 *Situated Learning. Legitimate Peripheral Participation*, Cambridge University Press, Cambridge.

MAGGI B.
1974 La formazione apparente. Alcune ipotesi di ricerca, *Studi organizzativi*, 6, 1: 89-103.
1977 *Organizzazione: teoria e metodo. Guida all'indagine sui problemi organizzativi*, Milano: Isedi.
1991 Le concezioni di formazione. Un quadro per il confronto, in Maggi B. (Ed.), *La formazione: Concezioni a confronto*: 8-33, Milano: Etas Libri.
2000 Les conceptions de la formation et de l'éducation, in Maggi B. (Ed.), *Manières de penser, manières d'agir en éducation et en formation*: 1-32, Paris: Presses Universitaires de France.
2003/2016 *De l'agir organisationnel. Un point de vue sur le travail, le bien-être, l'apprentissage*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.
2010 *Peut-on transmettre savoirs et connaissances ? / Can we transmit knowledge? / Si possono trasmettere saperi e conoscenze?*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MAGGI B., PROT B. (EDS.)
2012 *Développer le pouvoir d'apprendre : pour une critique de la transmission en éducation et en formation*, http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

MARCH J.G, SIMON H.A.
1958 *Organizations*, New York: John Wiley.

MASINO G., ZAMARIAN M.
2003 Information technology artefacts as structuring devices in organizations: design, appropriation and use issues, *Interacting with Computers*, 15, 5: 693-707.

MCQUEEN, R.
1998 Four views of knowledge and knowledge management, in Hoadley E., Benbasat I. (Eds.), *Proceedings of the Fourth Americas Conference on Information Systems*: 609-6.

NELSON R.R., WINTER S.G.
1982 *An evolutionary theory of economic change*, Cambridge: Belknap Press/Harvard University Press.

NEWELL A., SIMON H.A.
1972 *Human problem solving*, Englewood Cliffs: Prentice-hall.

NONAKA I.
1994 A dynamic theory of organizational knowledge creation, *Organization Science*, 5, 1: 14-37.

PENROSE E.T.
1959 *The theory of the growth of the firm*, New York: John Wiley and Son.

PENTLAND B.T., FELDMAN M.S.
2008 Designing routines: On the folly of designing artifacts, while hoping for patterns of action, *Information and Organization*, 18: 235-250.

PERROW CH.
1984 *Normal accidents: Living with high-risk technologies*, New York: Basic Books.

RUMELHART D.E., MCLELLAND J.L.
1986 *Parallel distributed processing: Explorations in the microstructure of cogniton*, Cambridge: MIT Press.

SIMON H.A.
1947 *Administrative behavior*, New York: Macmillan.
1991 Bounded rationality and organizational learning, *Organization Science*, 2, 1: 125-134.

SZULANSKI G.
2003 *Sticky knowledge: Barriers to knowing the firm*, Thousand Oaks: Sage.

THOMPSON J.D.
1967 *Organizations in action*, New York; McGraw-Hill.

TIERNEY K.J.
2003 Disaster beliefs and institutional interests: Recycling disaster myths in the aftermath of 9–11, in Clarke L. (Ed.), *Research in Social Problems and Public Policy (Terrorism and Disaster: New Threats, New Ideas)* vol. 11: 33-51.

TOWNSEND J., CHATON T., MONTEIRO J. M.
2019 Extracting relational explanations from deep neural networks: A survey from a neural-symbolic perspective, *IEEE transactions on neural networks and learning systems*, 3, 9: 3456-3470.

TSOUKAS H.
1996 The firm as a distributed knowledge system: a constructionist approach, *Strategic Management Journal*, 17: 11-25.

TUSHMAN M.L., NADLER D.A.
1978 Information processing as an integrating concept in organizational design, *Academy of Management Review*, 3, 3: 613-624.

VANCE D.M.
1997 Information, knowledge and wisdom: The epistemic hierarchy and computer-based information system, in Perkins B., Vessey I. (Eds.), *Proceedings of the Third Americas Conference on Information Systems*, Indianapolis.

WEBER M.
1922 *Wirtschaft und Gesellschaft*, Tubingen: Mohr (critical edition by J. Winckelmann, 1956).

WEICK K.E.
1995 *Sensemaking in organizations*, Thousand Oaks: Sage.

WEICK K.E., SUTCLIFFE K.M.
2001 *Managing the unexpected: Assuring high performance in an age of complexity*. San Francisco: Jossey-Bass.

WINTER S.G.
1985 The case for mechanistic decision-making, in Pennings J.M. (Ed.), *Organizational strategy and change*: 22-113, San Francisco: Jossey-Bass.

ZAMARIAN M.
2002 *Le routines organizzative*, Torino: Utet.
2004 Cambiamento della gestione delle risorse umane e dei sistemi informativi, in: Maggi B., Masino G. (Eds.), *Imprese in cambiamento*: 29-42, Bologna: Bononia University Press.
2010 Le routine organizzative tra dimensione operativa e dimensione generativa: Modi di riproduzione dell'agire organizzativo, *Rassegna Italiana di Sociologia*, LI, 2: 233-253.
2022 *Noi per Genova. The coordination of volunteers in the Genoa flood of 2014/Noi per Genova. Il coordinamento dei volontari durante l'alluvione di Genova del 2014.* http://amsacta.cib.unibo.it, Bologna: TAO Digital Library.

ZAMARIAN M., MAGGI B.
2006 L'influence des choix organisationnels sur l'intensité du travail, in Askenazy P., Cartron D., De Coninck F., Gollac M. (Eds.), *Organisation et intensité du travail*: 137-144, Toulouse: Octarès Editions.

ZANINOTTO E., ZAMARIAN M.
2012 *Organizzare. L'impresa tra forme emergenti e progetto,* Bologna: Il Mulino.

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