**Doctoral School of
Social Communication**

MAIN THESES

of the PhD Dissertation

Cooperation, Uncertainty, Creativity

by

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Senior lecturer

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Institute of Behavioural Sciences and Communication Theory

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Contents

1. Theme and precedents

1.1. Focus

My doctoral research aims to explore the communicative dynamics of joint problem solving in situations characterised by some degree of uncertainty: interpersonal situations where the general frames of cooperation or the boundaries of the cooperating group are poorly or loosely defined.

While social theories give us valuable insight about the nature of the forces and dynamics that drive the selection for and sustenance of social structures and institutions, and acknowledge their constructed nature, explanations are largely restricted to established, stabilised forms, and different disciplines tend to lose sight of the processes that drive construction itself while focusing on sustenance. In addition to this observation, my study was motivated by the assumption that the perspective that I took could yield new insights about the nature of social change, conflict and conflict resolution, as well as the conception of human agents and the nature of their social motivations.

1.2. Theoretic input. The argument in short

The dissertation articulates the considerations surrounding emergent cooperation and argues the particular questions relevant to its point of view against a wider disciplinary setting, centered around evolutionary psychology and economics. Both of these disciplines rely on methods based on game theory to explore the dynamics of human cooperation, and both incorporate their insights in an overall explanatory framework of human behavior. Resorting to the game theoretic method is appealing because it is a highly abstract portable model suitable for revealing both general tendencies and individual factors across a wide range of situations. However, this explanatory efficiency comes with implicit assumptions that restrict the model to certain types of phenomena within human social existence. From the point of view of my main question, a striking

characteristic of the game theoretic approach is that it views the phenomenon of cooperation in fixed frames: the model can effectively explore and explain processes by making reference to either a relatively stable cooperating group with fixed boundaries, or a well defined event interpretation with fixed rules that govern the actions of the participants. This restriction and the limitations that it entails stay largely unreflected, and the model as well as the tendencies explored within the disciplines using it are often taken to be generalisable to the phenomenon of human cooperation in the broadest possible sense.

When we want to direct our focus on the dynamics of change, it seems evident and inevitable to regard the malleability of group boundaries and interpretative frames, and zoom in on micro level processes that come into play when these are shifted or undefined, and the conditions of cooperation are potentially brought to a new level. Explanations that have validity for stabilised circumstances and social settings have been adjusted and extended to a certain limited range of phenomena involving change, such as rule modifications based on negotiation. I am arguing that there is still a wide range of dynamics that these models tailored to established patterns of cooperation overlook, and aim to add new insights to a more general view by looking at cooperation from this alternative perspective of change. Furthermore, I am claiming also that the dynamics explored by taking this alternative perspective will not only be relevant for specific situations involving major change, innovation or transformation, but the factors involved are inherent in any strategic interaction, even if their presence is negligible in models explaining cooperation in stabilised settings. In formulating this extended view of cooperation, I consider some additional perspectives taken from disciplines addressing (1) the dynamics of creativity at a personal, social and organisational level (2) the ways in which knowledge and semantics are moulded between individual cognition and portable, shared and public forms and spheres, and how such processes might underpin experience and decisions, and (3) the ways in which change and the malleability of meanings is mediated by the symbolic dimension.

2. Methods

2.1. Theorising with empirical input

The method used in the study is in line with the constant comparative method aiming at grounded theory (Glaser 1965). I have done anthropological fieldwork applying the method of participant observation and action research in different settings which are characterised by loosely or poorly defined frames of cooperation, and in which interactions are targeted at establishing the basis for some evolving joint action. Using the existing theoretic approaches that offer an overall explanation of the phenomena of human cooperation as reference points, I sum up my insights about the theme while taking into consideration the game theoretic models used in economics for human decision making, the dynamics explored by evolutionary psychology about human cooperation, as well as a range of results in the vein of social psychology, and questions raised in organisational sciences.

Based on the fieldwork observations and their analyses, I am proposing a view which postulates an intimate relationship between communication and cooperation, the nature of which can be grasped through systematic qualitative descriptions. In elaborating this view and explaining the ways in which it adds to current game theoretic models, I rely on theories of creativity, social transition and the clashing of private and public worlds.

In the intersection of the theoretic explorations and the field analyses, the study has yielded a set of generalised guidelines, a kind of methodological tool kit for field studies aimed at addressing communicative strategies with a view to cooperation potential in a given setting. In analysing the connection between communicative styles and the potential for cooperation in human interactions, some of the descriptive tools will be transferable across different settings, some are specific to interpersonal interactions, and others may be unique to a certain situation at hand. In this regard the set of tools I am offering contains some axiomatic elements, while it is open for further exploration and can incorporate new insights about communication means and their connection to cooperative tendencies. It can be seen as a tentative first step towards a new direction in thinking about the theme of cooperation.

2.2. Method used in the empirical study

The empirical part of the study was carried out with the method of participant observation. It aimed at exploring the relationship between communication strategies and the dynamics of cooperation by collecting a rich and diverse set of data from real life situations. Therefore I made field observations in settings selected by criteria that were based on the research questions I raised. In the first phase of the field study I chose settings where different dynamics could be expected based on the structural characteristics of the situations and the nature of the activity and problems tackled by the participants. A common feature of these settings was that they all involved actors with diverse social or cultural backgrounds. I also wanted to choose settings where some kind of a coordination issue was expected to be present, in a broad sense that I defined during the theoretic explorations. In the second phase of the study, rather than being a mostly passive observer, I got involved with the action, that is, I planned, initiated and led activities with the participants to explore some insights about the dynamics that I gained in the first phase in more depth, and to generate a different kind of dynamic from what I had observed. Active participation, the ability to interfere with the dynamic gave a very different position to me as a researcher, and made it possible to experiment with different possibilities and questions that came up during the process.

All of the fields I chose also categorise as instances of cooperation and exploring cooperation potential. After some pilot explorations in different contexts, in the first main phase I did participant observation in two schools settings, visiting formal teaching classes in different subjects, informal activities and a course of regular extra curricular art activities led by guest visual artist instructors. During the pilot phase, I also visited project planning sessions, round table discussions and training events for enhancing joint planning skills involving representatives of Roma communities and non-governmental organisations. The overall objective in these events was to generate local cooperation projects involving minority and majority residents, public office holders and other stakeholders in different settlements in the countryside. I was also considering fieldwork in the KitchenBudapest incubator project. After getting acquainted with the structural characteristics of each of these situations and doing some pilot visits, I decided to do the in depth study in the school settings, as I

was expecting these to yield the best initial insights for the questions I was interested in. In the second, action study phase, I planned, initiated and led moderated events involving visual art practices with migrant and Hungarian participants living in Hungary, mostly in Budapest.

3. Most important results of the study.

Theoretic and empirical results

The dissertation sets out the problems raised and the results of the study in two main parts, one comprising the theoretic considerations, and a chapter devoted to presenting the empirical part of the study in the form of analyses of the field study in the framework proposed at the end of the theoretic part. The theoretic part is launched by setting out the problem of emergent cooperation in the disciplinary framework of evolutionary psychology and economic game theory. I introduce the treatment of relevant concepts, and the considerations that justify reconsidering some of the basic standpoints or implicit assumptions of these disciplines. I then argue for the usefulness of focusing on the communicative context, and present the ways in which the concept of cooperation has been treated in theories of communication, as a counterpoint to the relationship implied by the disciplines focusing on cooperation in the first place. After introducing some additional perspectives that inform the alternative view that I am proposing in the dissertation, I outline this extended approach, which focuses on communication dynamics and sythesises the arguments presented in the theoretic chapters. I close the theoretic part by explaining how this approach converts to guidelines for field observations, and how it can be operationalised as questions targeting the exploration of the factors involved. The theoretic chapters are followed by a presentation of the empirical part of the study, the fieldworks conducted with the method of participant observation and action research in situations that are characterised by uncertainty or transition regarding the frameworks of cooperation. The cases are analysed alongside the aspects outlined in the preceding chapter to demonstrate their explanatory power in practice. The descriptions present the analytic tools at work, and in some more detail. Although they were developed in interpersonal situations in mostly small groups, a number of these tools are abstract

and generalizable enough to be transferable to other situations, e.g. online contexts or public discourse as well, as I argue in the final chapter of the dissertation.

3.1. Coordination

Coordination is a central theme in the explanations of stabilised cooperation settings, which tend to focus on the dynamics involving group identity and normativity. Creating or identifying (sometimes alternative) ways to coordinate action for increased common and individual gain will come to the focus in the model that puts greater emphasis on communication and creative dynamics. In the game theoretic paradigm, coordination is considered relevant for a very specific subset of games modelling certain types of real life situations. Coordination games like the Battle of the Sexes model situations where the issue is not a conflict of interest between the players, but the choice of aligned strategies so as to achieve the best mutually desirable scenario from different options. The concept of coordination is understood in a broader sense for the purposes of the dissertation. Part of the endeavor of the study may be summed up as a quest for defining a broader range of coordination tools and offering an explanation and examples for the diverse ways in which coordination can be achieved in human interaction involving the dynamics of creativity and a variety of communication tools.

While it is easy to find evolutionary justification for following patterns that appeal to group level processes, different authors, from their respective perspectives, call attention to the fact that we know very little about the ways in which coordinated cooperation strategies and patterns are generated or evolve (Gintis 2009, Binmore 1994). In the dissertation I present an overview of the major treatments of the theme, basically at two levels: the cognitive underpinnings and dispositions and the social mechanisms that enable cooperation. What most of the approaches introduced here have in common is that they represent what we might call the static view of coordination, that is, coordination for scenarios of cooperation that are stabilised, established, institutionalised at some level. I present different views relating to common priors and common knowledge, and explanations of the way normativity, morale, leadership and socialised interpretative frames serve the coordination of human action. Some of these explanations and approaches point towards

alternative senses of coordination which are not necessarily in line with its basic game theoretic conception. I offer a framework for grasping coordination dynamics that involve a set of further factors, and argue that a grasp of coordination that places an emphasis on qualitative elements of the communicative environment is better suited for a constructivist view and for explaining processes of change, conflict resolution or the evolution or emergence of coordination tools or strategies. I also claim that such dynamics are an intrinsic element of coordinating human activities and knowledge forms on an everyday basis, even in a stable environment. At first sight, these dynamics do not seem to be compatible with the axioms and prevalent explanations of game theory. By their very framing – the reference to groups with relatively discrete boundaries or problems and well articulated rules –, coordination tools identified by economic game theory and evolutionary disciplines already set part of the coordination dynamics, fixing some of the potentially variable criteria for making human actions converge on common goals or according to shared means. The dissertation raises the relationship of these to the dynamics introduced in the qualitative descriptions as an open question, without offering a precise translation, or a way to incorporate such qualitative factors into the axioms of game theory. It offers a plausible framework with open ends for further investigation.

3.2. Assumptions inherent in disciplinary treatments of cooperation

The two broad disciplines forming comprehensive theories about and creating models for human cooperation – evolutionary psychology and economics – both address it in their distinct respective frameworks, from perspectives that are relevant to their standpoints. They make reference to either a well defined group or a system of rules that shape the frames and govern decisions about cooperation. In their explanations they take as their starting point either the description of a problem concerning several actors combined with a definitive description of possible actions, or a given group with clear-cut boundaries and a unified set of norms and morale, and explore the principles of the decision making processes or the evolutionary adaptations that support decisions about cooperation along these lines.

Both these disciplines, as well as social psychology, rely on game theoretic models for grasping the strategic situations in which humans interact and make their decisions about cooperation. The most basic and widely used model for a situation representing a cooperation decision is the two-player prisoner's dilemma. While a number of other game scenarios have been made up to model different social situations with different structures, and these models add qualitative insights about the different factors at play in human cooperative strategies and decisions, the prisoner's dilemma is still widely used both as a general measure for a cooperative disposition in laboratory settings, and as the basis of methods used to assess cooperation strategies in simulation protocols.

The validity of experimental results is frequently questioned on the grounds that subjects' behavior in the controlled laboratory setting may not be a good indicator of the kinds of decisions humans take among the complex circumstances of their daily lives. In the dissertation I present some considerations about what it might be that these laboratory experiments actually measure, and the implicit assumptions that are made when using this paradigm and interpreting the results. I also argue that while protocols based on the rational agent model can handle frames that are socialized or presented by an outside observer (authority), it seems impossible to grasp the emergent characteristics of interactions through solitary decisions made in a locked up mind. The models formulated as game descriptions are concise, frugal and plausible descriptions of the frames in which actors might formulate their rational considerations about the preferences and possible outcomes involved in strategic situations. Matrices of the possible outcomes are offered as unanimous event descriptions which are independent from communicative acts that might take place before, after or during their formulation. Strategic settings and their perceptions are not considered to be affected at the core by communicative interactions between participants.

The models of communication I cite and draw up in the dissertation allow the manipulation of the structural aspects of settings. I am implying that this could entail, in game theoretic terms, the rewriting of perceptions to the extent of altering game descriptions and decision matrices, though this question will be left open. I work towards a conception of common knowledge that is constructed not only in the sense that it requires mutual awareness of known facts, which is achieved by the act of making them public, but also in the sense that it enables the manipulation of perceived structural characteristics of events, and the conditions and outcomes of strategic actions

through technologies that are based on cognitive processes and events in the sites of communication. Intuitively, the logical structure of this definition will not be compatible with Lewis's (1969) conception of common knowledge, and the scope of communicative processes defined in this way go beyond the filling of information gaps in an objectively defined structure.

3.3. The concept of strategic interaction

Experimental investigations in the field of economics applying game theoretic methods are meant to model strategic interactions. In social psychology, experiments with the same paradigm are usually taken to speak about different aspects of cooperative and trustful dispositions as general traits and the way they work in different circumstances. The communicative aspect of the situation is often not reported in studies involving testing with the behavioral paradigm in the laboratory. The results are sometimes exerted in hypothetical situations with no interaction between the cooperators, only third party descriptions of the cooperating partner reported by or via the experimenter. In fact, the default setting of economic experiments measuring cooperative intentions is anonymity of the subjects. Based on just this feature, we might claim that such studies can measure, at best, a general conception of humans or a generalized other by different groups of people, or some structural dimension of trust and cooperative inclinations. Even if this dimension is part of individuals' cognitive processes and thereby plays a part in the dynamics of strategic interactions, the constellation of factors tested in this way is not necessarily at work in the same way in analogous real life events. In other words, we might be changing something essentially when extracting the communicative factors. The latter, being banned or inhibited here, may override such theoretic level cognitive processing in an actual communicative interaction.

I argue that conceptualizing strategic interactions in this static manner and treating the communicative environment as an optional factor rather than an intrinsic element of any interaction lacks ecological validity. It seems to be a consequence of the fact that the game theoretic approach is an extension of decision theory, which models the decisions of individuals taken in solitude against an objective reality. In theorising about human decisions taken in non-strategic action in a non-interactive setting, it is reasonable to neglect the communicative aspects by default. On the

other hand, in an experimental setting of strategic interaction, in fact every communicative aspect of the situation will be relevant, from the way instructions are given by the experimenter to the nonverbal elements of the interactions.

I cite a set of studies that break away from the anonymity paradigm and look at different aspects of communication with relation to cooperative decisions. These studies demonstrate that allowing some form of communication generally increases the likelihood of making cooperative decisions. The overall picture shows that humans are more inclined to cooperate given a greater likelihood of mutual cooperation that they can infer from the communicative environment. In addition to this general tendency, the results also point to further directions of inquiry relevant to settings of emergent cooperation. All of the experimental studies I cited operate with a unanimous game definition, assuming a unified and unchanging frame of the situation. In this view of cooperation, it is the rules regarding penalty, rewarding and the ability to communicate that can change, and affect inclinations to cooperate. General tendencies that are revealed relate to the richness and relevance of communication, individuals' disposition to cooperate, or to assume, in anonymity, a cooperative intention by a generalised other. In a real life environment, sustained communication is an asset whereby communicative intentions can be manipulated. It is expected to have a much bigger role and work in a variety of different ways, as there is always room for negotiating the grounds for cooperation or changing partnership relations.

3.4. Affective and cognitive dimensions in cooperation

The concepts of affective based and cognitive based trust are rooted in theorising about social phenomena and interpersonal relations. McAllister (1995) gives an account of the exploration of these concepts in the social psychological literature. While cognitive based trust is associated with external factors that help predict the behavior of a partner and is related to reliability, dependability, trustworthiness and evidence based rational choice of the trusted partner, affective based trust is based on an emotional disposition, and is associated with faith and care, as well as behavior that is perceived as chosen rather than role governed, while serving legitimate needs (McAllister 1995, p. 29).

It is worth noting that we can find some kind of analogy between the cognitive versus affective foundations of trust and a frame and rule based versus a group based conception of cooperation, though these distinctions will not directly translate into each other. Of course, both the affective and the cognitive bases of trust are at play in any human interaction or relationship. In line with my previous arguments, it is also worth noting that both the potential cooperation partners and the frames of the game are usually fixed in laboratory game situations. In real life, by contrast, we are very often in a position to decide about one or the other, or both at the same time. We can take our problem to another partner, or we can decide to redefine it with the same partner or someone else. In fact, this fact in itself opens up a whole new realm for the dynamics of cooperation when we are dealing with larger communities.

Evidence from the studies I cite shows that there might be a difference in decision strategies along the lines of the cognitive versus affective distinction. However, during my field studies I often observed dynamics that are the inverse of what authors observed in organisational environments. I am arguing that the findings might be highly context dependent rather than general tendencies. While it is very useful to look to these data for the kinds of dynamics we can expect in qualitative analyses of different situations, it would be misleading to attribute universal scope to the particular patterns explored. The studies I cite have not explored how micro-level communication processes might affect changes in one or the other dimension of trust.

Studies analysing these aspects have increasingly tended to dissect the aspects to demonstrate differences in cases where one or the other is more emphatic. In fact, this tendency is already present in the original paper that introduces the concepts (Lewis and Weigert 1985, p 972), while the understanding of the concepts seems to have undergone some modification in works by different authors. What is common in all these different understandings seems to be the distinction of a more calculable, structural dimension as opposed to a more fluid expectation about successful cooperation.

In the dissertation I make an effort to dissect these dimensions from the concept of trust, and treat them as aspects of cooperation. I aim to focus on directly observable communication phenomena,

and am looking for this kind of a translation of the concepts, which I find have good explanatory power. One of these aspects might more strongly involve considerations based on the feasibility of successful cooperation with a given problem and a certain degree of understanding of that problem among agents. The other implies that certain partners might be more likely chosen no matter what, even with a more fuzzy and malleable problem definition or poorer problem understanding, and more effort will likely be made towards enabling successful cooperation with them, through communication or otherwise. If we let go of preconceived, fixed frames and preferences and group boundaries in a communication setting, the description can operate with principles of seeking structure, establishing connections and alignment, which translate easily to affective and cognitive components, though the correspondence is not one to one, and the outlines we get in this alternative analytic framework will be different in important ways.

Observations about the cognitive and affective, or structuring and connecting aspects are especially relevant in a setting that has a non-hierarchical networked structure rather than a group based or hierarchical social organisation, as both kinds of considerations may come into play strongly in such a context, especially if there is room for changing frames and innovating in the bases of cooperation. In my fieldwork analyses I demonstrate that attention to these aspects enables a better grasp of the micro level communication processes that are involved in establishing the conditions for cooperation.

3.5. Alternative perspective on the relationship between cooperation and communication

A wide range of communication theories postulate an intrinsic relationship between cooperation and communication. In the dissertation I present a set of views that outline this relationship in different ways. I argue for a conception that is in line with Horányi's (2009) conceptualisation of the communicative as geared at integrating individuals into some community, and his concept of common horizons as perspectives shared fully or partially by agents participating in communication. This general framework supports a flexible view of cooperation principles and intentions, which is desirable for grasping the phenomena of change and uncertainty that I examine. It does not presume a coherence of common knowledge and frames. Whatever is publicly presented

in a scene of communication may be fitted in a shared meshwork of meanings, and adaptation to a coherent meshwork may be a matter of constitutive processes, while weak alignments and contradictions might also be sustained. On the other hand, coherence or the presence of common horizons for knowledge does not automatically entail a matching of more general cooperation principles. In terms of the treatment of the concept of common knowledge, I am taking the inverse perspective as compared to Lewis (1969): I claim that knowledge systems or common knowledge with varying degrees and strategies of alignment may also be taken to preexist cooperation frames, goals, problems, tendencies and patterns.

For the purposes of a qualitative description of communication settings, I initially hypothesized that whatever is manifested in communication might guide, but need not in itself determine the extent to which participants in an interaction relate to each other cooperatively and read or treat certain elements of the event as coordination tools. Experiencing or creating community, understood here as generating cooperative potential, though not necessarily on a group basis, is considered to be a prominent goal of communication. I looked at processes as geared at the simultaneous generation of links and connections pointing towards community, and structure pointing towards knowledge patterns and coordinated action tendencies. However I did not presume that such processes are necessarily geared towards group boundaries or coherent systems of knowledge or norms. A flow of private and joint experiences can be punctuated for cognition by communicative elements in a finely tuned way, but not deterministically, in a process which helps the establishment of common ground locally, and involves finding more or less portable coordination tools. Such processes inform the evolution of a knowledge pattern, different aspects of which are taken to be more or less universal or specific to certain groups or persons by their users, without them necessarily reflecting on this. Such communicative coordination processes can also, to a certain extent, work on a trial and error basis. In the above sense, every communicative situation can also involve an element of testing and experimenting with tried or potential coordination tools, as an instance of mediating between private experience and the public realm.

An important momentum in my research question and my approach is that besides seeking common horizons and structuring knowledge in joint schemes, humans also importantly draw on a capacity for innovation, expansion, the extension of knowledge even while sustaining a variety of

perspectives and some degree of indefiniteness. As they seek to align their knowledge, experiences and perceptions, part of the engagement in interactions is directed towards sharing individual explorations or participating in joint exploration. It is precisely this interplay of expansion and convergence that produces the wide variety of cooperation patterns. I looked at the literature of creativity ranging from more general theorising about innovation to psychological approaches to individual creativity, and reflected on how the dynamics at individual, social or even more abstract levels explored by different authors might be transferable to the community settings of my field study and to the general analytics that I was looking for. Points of portability are key in this dynamic. They are cornerstones or consolidation points in the continuity of emergent ideas, ideologies, occurences, and the kind of medium and the strategies of generating such points of portability plays an important part in the communication dynamics resulting in more flexible, malleable or fixed knowledge patterns.

A general, most often cited cognitive characteristic associated with individual creativity is the ability of divergent thinking. The dynamics I find most relevant for shifting the discourse about the relationship between communication and cooperation to a different axiomatic level are: (1) the dynamics of divergence as an element of creative processes; the game theoretic approach neglects it by working with consistent frames in its models, and evolutionary approaches operate with the idea of individual 'innovators' and 'conformists' in a given group, rather than an interplay of convergent and divergent dynamics, and (2) the semantic dimension of strategic interactions, which, as I argue in the dissertation, is an important factor in defining frames but also in making them flexible and malleable, unlike the frames implied by game theory, which are fixed, and their content is translated unanimously to numerical quantities.

When considering the principles of creativity with instances of cooperation and community problem solving, it is important to note that we should count on the dynamics of both divergence and convergence to be present at the private as well as the public levels. It is not a matter of one narrowing or enriching the other, but actually a highly complex dynamic of manifold processes. The private world is a source for new content, new combinations to be channeled into the public, and the public is also a rich resource of new content and new combinations for the private world.

At the same time, the need for convergence may emerge in either of these spheres, for example in the form of a personal or a community goal to order the content.

The work postulates a relationship between qualitative characteristics of a scene of communication and the potential for cooperation among participants. In addition to drawing up some general guidelines for operationalising its questions for qualitative analyses, I also explain some very general tendencies we might expect. In an environment where representations are presented in such a way that they are frequently adjusted to some unified common framework or horizon, finding links between individual worlds will be convenient but will happen on constrained routes. The divergent character of content in such a setting will be limited, and convergence will dominate. Finding ways of cooperating on familiar problems will require almost no effort given that the adjustment is successful. Adapting to new problems or cooperating with individuals who are not familiar with the unified framework might constitute greater challenge, and entail greater cognitive and communicative cost when the problem emerges. On the other hand, in an environment that allows for the presentation of a wide variety of private experiences in their original perspectives, without connecting them to some unified system, we could expect that orienting entails higher cognitive cost. In the meantime, such an environment enables a greater richness of individual experiences. Due to the lack or difficulty of convergence and a fragmented character, sustaining communication, creating a deep sense of community and generating content that is profoundly connected rather than loosely accumulated is more costly in an environment like this. Finding convergence, a common goal or common strategy for cooperative problem solving will constitute a challenge and require extra cognitive and communicative effort, while this kind of setting might allow for greater flexibility and ease in responding to a wider range of novel problems.

3.6. Operationalising the factors of the framework

In addition to outlining a framework that is suited to explaining dynamics of uncertainty and change and referencing it in my field analyses, I was also aiming to generalise the aspects of observation I used as much as possible. I identified portable analytic tools for qualitative descriptions that can be applied across diverse settings. These qualitative tools may also be used for assessing cooperative

potential in real life settings involving human strategic interaction. That is, beyond seeking an axiomatic framework, I am also aiming to provide tools that help describe the state of the communicative dimension for such an assessment. However, this relationship might be of a qualitative nature indicating tendencies, rather than quantifiable potential on a scale between high and low. While in the game theoretic approach the main constraints of decisions are defined by an individual's utilities, in this approach constraints might also be affected by the state of the communicative setting and the investment needed for consensus, a common framework. Instead of asking in what circumstances and with what kinds of partners humans are inclined to cooperate, my question is how they, or an outside observer, might reflect on situations in which cooperation might be desirable: what resources are available to them when picking or defining, simultaneously, the problem, the partners and the means. Part of the qualitative descriptions could also convert to some quantifiable factors that speak about the effort needed, the feasibility, ease, and resources available for emergent cooperative action.

One way of characterising social interactions is by the strategies of seeking and establishing connection, disconnection and different relations or attitudes between the participants and the bits of content presented (representations); in other words, generating some kind of structure through these relations. In terms of representations, a special kind of relational dynamic with relevance to the present investigation is that of adjusting content to a common horizon or joint horizons. This may happen with varying frequency, by different patterns or accidences. In turn, then, we can ask how the individuals and the private worlds of the individuals involved in these interactions connect with this common horizon. A focal aspect driving these descriptions is the frequency and ways in which adjustment of content and orientation to a joint perspective is sought, and various aspects of verbal and non-verbal communication can be relevant for grasping this dynamic.

The very same principles as those involved in aligning content also have a momentum of both connecting individual and public worlds, and structuring relations, representations and knowledge. They have a potential to create bondage, group type relations motivating affective trust, and a potential to align knowledge in shared systems to motivate cognitive trust. Mental attributions, normative expressions, rules, joint attention, categories, generalisations, propositional structures

all work along the lines of connecting and marking joint and distinct points of reference, and this dynamic can underpin cooperative potential in a variety of ways.

The framework and the open ended set of aspects I have drawn up for operationalising the core questions can be used in virtually any site of communication, including online contexts, political discourse, organisational settings, professional fields, small groups and communities, families, etc. It can inform inquiries related to cooperation potential on a specific problem or among specific partners, or speak about the possibilities of conflict resolution, as an auxiliary, more axiomatic grasp of a situation in mediation or conflict communication practices. Instead of offering rules for good practice, it provides an axiomatic grasp of situations whereby the characteristics of communication and different tracks of continuing action can be described as the underpinnings defining different styles of cooperation. It can also be used actively as a tool for the reflective planning of communication practices.

3.7. Visual creation and aesthetic means as mediators towards coordination

Due to the nature of the field studies I did, my research has become especially relevant to social practices and social problem solving involving visual art methods and the aesthetic dimension of social coordination. Thus it has yielded deeper insights about the characteristics and potential of aesthetic orders and visual signs of a specific kind that can make them special as tools of social coordination.

Visual signs are portable and instantly accessible, and thus are parsimonious in terms of the time invested in the communicative process once they are produced. Meanings carried by them, on the other hand, may sometimes be decoded as propositions, but they can also be non-propositional. They allow for a great deal of flexibility, and lend themselves to the direct expression of personal experience, while interpretations remain open, and can be unfolded and moulded gradually in a joint communicative process. Thus they support loosely defined meanings that are not necessarily of a propositional nature. They also allow for relational aspects to be left open; they carry meanings without generalising, expressing attitudes or a normative aspect. They can be continued, they are

portable and can easily be built on, and even allow several agents to work on them together simultaneously. As non-propositional signs, they can be free from the structuring tendencies inherent in grammar, e.g. propositional attitudes, specific or generic references that define horizons and the different perspectives, complex directionalities with relation to these. They can assume a kind of indefinite, suspended existence while linking intrinsically with the private worlds of their creators as well as everyone participating in the joint process.

The loosely defined semantic and relational aspects still enable the coding and recall of rich, layered meaning structures; non-rational, aesthetic ordering principles; direct personal expression and the possibility to lift the specific personal implications. These characteristics allow for swift movement between the concrete and the abstract, the personal and the general, individual and shared meanings, testing variations and different ideas in a process that is not halted or limited by the contradictory nature of these ideas, and allows for a high degree of indefiniteness. While preserving a variety of contributions, the visual medium also dissolves some aspects of the complexity inherent in the multitude of perspectives and relational aspects of the content, and facilitates their transformation. Thereby it does not only support divergent processes, but also yields a rich yet loose and flexible meshwork in which meanings, connections and relations can be reorganised and newly created. In this sense, the use of visual signs supports a process of transition and transformation by lifting the anchors that connect private worlds to common horizons by establishing social and semantic relationships.

These considerations are also relevant for paradigms that aim at social intervention by combining art methods with a social scientific approach. By introducing a theoretically and practically reflective communication science perspective, the study points towards a line of innovative practices and approaches in this field as well. Projects categorised as participatory art practices are characterised by the involvement of lay individuals, often members of a well defined group or groups in the process of artistic creation. While such practices are diverse in their approaches and outcomes, dialogue, or more generally, the communicative element is a key factor in all of them, and a lot of the relating critique focuses on its workings and role in the process. The critique of participatory art practices has been characterised by a divide along the lines of two main disciplinary perspectives: the social and the aesthetic. The former line of criticism takes

commitment to social impact as its main point of reference and measure of the value of resulting works, whether physical objects or processes (Kester 2005), while the latter tends to insist on expectations of artistic quality, and sees the role of the artist as the professional who can guarantee such quality rather than as a mediator of actual social processes (Bishop 2006).

While the element of disrupting existing patterns – even if at different levels or in different scenes – is emphatic in both critical approaches, the social approach appears to put greater emphasis on the generation of discourse. I am arguing that the works preferred by proponents of the aesthetically oriented paradigm may embrace a variety of discursive strategies and communication patterns, and these will affect the possibilities of the social impact that the works may exert. Inversely, discourse and communication can be mediated in a variety of ways in the more socially oriented works as well. In the dissertation I contend that the arguments based in the ethical and aesthetic approaches can be grasped as two perspectives on the same general relationship: that between communication styles and patterns, coordination strategies and the cooperation potential generated in the scene of communication. Both kinds of processes involve the extension of ground and some strategy for handling diverse perspectives and presenting them in new ways, while the common horizon achieved is not necessarily a direct ground or reference for joint action in both cases. The two approaches presented by critics as polar opposites mark two types in a wider space of possible specific patterns, the coordinates of which can be defined as qualitative characteristics of communication and emerging or enabled cooperation styles. In this framework, with the factors and qualitative tools presented in the dissertation, we may give an alternative analytic account of the treatment of dialogue and communication in a creative process. This perspective places the two paradigms in a single axiomatic framework, and in this light, we may regard the field of participatory art practices as a laboratory for experimenting with discourse and communication patterns and their possibilities with relation to patterns of social coordination and cooperation.

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