Cooperation, Uncertainty, Creativity

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Introduction

Focus

I started my doctoral research with the aim of exploring the communicative dynamics of joint problem solving in situations characterised by some degree of uncertainty. I planned to study mostly real life 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.[1] 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.

Driven by insights on social cognition from cognitive psychology and cultural anthropology, I wanted to find further connections between the modes of communication found in situations that match the above definition and the nature and possibilities of the evolving cooperation, and to establish some general guidelines for the qualitative analysis of instances of cooperation from a communicative point of view. For the purposes of the present work, I have done anthropological fieldwork in different settings applying the method of participant observation and action research. I chose 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. This definition was understood broadly: situations of enculturation including formal education and informal teaching, local project planning with actors representing minorities and local authorities, teams of experts with different expertise working on innovations, art activities involving participants with diverse cultural backgrounds were all acceptable candidates.

[1] I present a more detailed argument and some more background on this question in Kéri (2007).

During these fieldwork observations, I was looking for both the nuances of communication that may be lost in second hand accounts using different frames, and more large scale tendencies that characterise each of the settings and might yield generalizable descriptive tools. Based on the results, 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 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.

Given this framework of general questions and a strong theoretic orientation combined with field research, the study is in line with the constant comparative method aiming at grounded theory (Glaser 1965). As the questions I tackled converge on the most general theme of cooperation, I am using the existing theoretic approaches that offer an overall explanation of the phenomena of human cooperation as reference points. In summing up my insights about the theme, I take 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. I do not anchor my argument to the axioms of either of these disciplines; instead, I reflect on the ways in which the standpoints of the former two major disciplines, each seeking a unified view of cooperation, complement each other, and on how results from these disciplines, targeting numerous particular questions, can inform a large scale, overall view. By involving the dynamics of creativity and the clashing of private and public worlds in my argument, I am offering a synthesis that relies on the insights of these disciplines, while aiming at a better understanding of the dynamics of change in a unified view. In addition to the most important aspects of human behavior supporting cooperation highlighted by these approaches, I am pointing to creative dynamics as highly relevant factors in coordinating social processes and human cooperation in general.

Expectations, outcomes and relevance of the question

In light of the above, the study was expected to yield outcomes at multiple levels. The final form of the results, as presented here, has evolved through a series of stages in the back and forth process of reflecting on theory and accumulating input from the field observations. First of all, the study aimed to bring about first hand insights in an ethnographic vein about the unique cooperation and communication dynamics characterising the chosen fields. The theoretic input and reflections together with the new data from the real life observations in turn informed the selection of each successive field to study. The final fieldwork was implemented with the researcher's active participation, planning, interference and reflective moderation of the ongoing interactions, taking the interplay of theoretic and practical insights to the level of action research. Second, the study undertook a critical assessment of available theories with an interdisciplinary overview: on the one hand, comparing the standpoints of the main disciplines undertaking a general explanation of the phenomena of human cooperation, and, on the other hand, bringing and integrating new insights from disciplines that do not directly address the theme of cooperation but explore some relevant interpersonal and social dynamics and cognitive processes. Combined with the input from the field studies, this has enabled an assessment of the analytic powers and scope of existing models for real life phenomena, and yielded suggestions for ways of answering open questions raised about the models within the respective disciplines, as well as new tracks of exploration for refining the models in light of the field study analyses. The concrete field study analyses were guided by a set of more specific questions that are transferable across different fields, real life situations and various sites of communication. These have been articulated as 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. This third set of results is a practical application that draws strongly on the theoretic framework proposed, and the guidelines offered for operationalising such a study are informed by this theoretic background. Finally, due to the characteristics of the fields chosen for the present study, some of the insights have an explanatory scope that is in between ethnography and overall theory. They are generalizable beyond the specific events analysed here, to a range of settings and procedures of a certain type. These results relate to the potential resulting from some characteristics of visual signs, the use of art methods and creative production in mediating communication for emergent cooperation.

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. From the point of view of my main question, a striking characteristic of both approaches is that they view the phenomenon of cooperation in one of two fixed frames: their models 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.

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. In its current form, the game theoretic approach is actually effective in explainging the phenomena that are of interest to these two disciplines: reactions to different market situations and large scale evolutionary tendencies. However, this explanatory efficiency comes with implicit assumptions that restrict the model to certain types of phenomena within human social existence. Such restriction and the limitations that it entails stay largely unreflected, and the model as well as the tendencies explored within these disciplines are often taken to be generalizable to the phenomenon of human cooperation in the broadest possible sense.

The assumption that a strategic interaction has a single unanimous description that is unchanging and defines possible outcomes is implicit in game theoretic explanations. The argument that it is favorable to choose cooperation partners who are socialised to follow action patterns that are compatible with the agent's own action patterns is part of evolutionary explanations. In a sense, these two approaches complement each other and account for the same social phenomena in a stable environment from their respective points of view. However, 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 I 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.

Some results in developmental psychology have pointed to the role that the communicative environment plays in selecting a common frame for event interpretation (e.g. Király 2002), while theories of communication as well as human cooperation often presume an intrinsic relationship between communication and cooperation, even if the nature of this relationship is not fully explored. Game theoretic testing of cooperation, on the other hand, tends to disregard the essentially communicative nature of the modelled situations, eliminating communication or treating it as an optional factor mostly manifested in the ability to transfer information or make binding agreements. This seems a major oversight when modelling human strategic interactions, probably due, in part, to the fact that game theory is the extension of decision theory from solitary decisions to the former category of events. We relate differently to human agents than we do to an objective reality. Therefore it seems reasonable to take an approach that aims at a grasp of communication as an intrinsic factor in the dynamics of strategic interactions, with a view to providing feedback for enhancing game theoretic models. Their simple axiomatic form makes game theoretic models appealing, and they are powerful tools for grasping different relatively clear cut states of affairs in a way that is concise and widely adaptable. By directing our attention to communication as an intrinsic factor in all cooperative interactions, we can extend the explanatory range of this model to situations where event interpretations are ambiguous, malleable and shaped in communicative acts. The presence of such communicative factors may precede strategic moves or can be seen as a concomitant of strategic action.

A long standing debate in economics is whether rational agents have other regarding preferences, can be truly altruistic, or altruism will always be reduced to self interest. In a sense, the approach that I am proposing shifts the focus from this dilemma, and loosens up the drive to seek explanations for human rational action strictly along these lines. One of the earliest arguments that still stands strong and is often quoted against the rational agent model is that of

bounded rationality proposed by Herbert Simon (1982, cited by several authors, e.g. Gintis 2009, Good 1988). According to this argument, rationality is inevitably bounded by the sheer computational capacity requirement of accounting for all the factors present in any real life situation. A disposition for normativity and sympathy has been proposed to complement self regarding preferences in the model of rational agents. While normativity ensures the adjustment of decisions and actions to a common framework, sympathy may drive an inclination to cooperate with certain partners no matter what, or determine the degree to which this is desirable, notwithstanding the structural characteristics of the situation, and whether or not these are making cooperation easy to accomplish. In fact, as I pointed out earlier, these two aspects of group bias and normativity are often even claimed to complement and support each other, being two sides of the same coin. They help humans choose partners who are likely to follow the same or complementary patterns of action, that is, who are likely to be efficient cooperation partners. However, complex contemporary situations are rarely so clear-cut, and inclinations for sympathy and norm following do not necessarily overlap. I am arguing that while one or the other consideration may be more emphatic depending on the circumstances, most real life situations involve a combination of these two dispositions, and a third element is necessary to mediate between the often opposing forces that they represent. This element can be found in the human propensity for creativity, a cognitive competence that involves divergent thinking, among other factors. The inclination to generate new points of reference for their own sake, without immediate relevance for some rational consideration, plays an important and indispensable role in providing a certain padding, flexibility and malleability for the frames of cooperation that are generated, in part, on rational principles. These dynamics not only allow for the frames of cooperation to be molded and to take shape, but at the same time also generate added potential, give rise to the possibility of an abundance of cooperative arrangements beyond the equilibria characterising a strategic situation according to a given description, extending the field available for coordinated action. This potential is defined to a large part in the kinds of communicative acts that take place in a given scene, and characterising communication along these lines, with a view to this triangle of dynamics between the structuring, connecting and expanding tendencies yields an approach to communication that helps explain the generation of tools that coordinate human cooperative action. While such an approach might be especially relevant for phenomena in our contemporary societies, where these processes are increasingly complex and a lot of situations are characterised by a high degree of uncertainty in the frames of cooperation, I am also claiming that divergent and convergent dynamics are part of most strategic interactions, even where following stabilised patterns is more emphatic than change.

In these explanations, I have often found it more useful to rely on the concept of empathy rather than sympathy, as suggested by Binmore (1994). He makes a distinction on the grounds that humans can understand and empathise with the preferences of others without necessarily following a course of action that also favors those actors based on their situation and preferences. In this sense, I am claiming that the cognitive scope for decisions can be extended and opened up for creative dynamics, alleviating the possible tension between normativity and sympathy described above, while also lifting the restraining tendencies involved in these.

Creating or identifying 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. Coordination is also a central theme in the explanations of cooperation that focus on the dynamics involving group identity and normativity. In the game theoretic paradigm, coordination is considered relevant for a very specific subset of games modelling certain types of real life situations. In a game theoretic model, the general semantics, frames, roles involved in how a situation is understood are taken to be consensual and fixed, and the decision only involves considerations of how to cooperate or defect within those frames. The concept of coordination will be understood in a broader sense here. In fact, the endeavor of the present study may also 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.

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. This was a course the study naturally took as a result of the questions I was investigating. 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. 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.

Structure of the presentation

As the above considerations suggest, the clashing of economic and evolutionary approaches yields interesting insights about the dynamics of human cooperation in itself. Group dynamics and the maximization of benefit point to complementary forces in human motivations, and a joint perspective may highlight how these forces interact. In arguing these aspects, I also draw on the diverse particular results from investigations in social psychology and organisational science, which add a rich array of details to the whole picture. Adding the factors involved in human creativity, I am sketching outlines and offering points of reference that help integrate both the different perspectives and the particular findings in a unified view. I take one step further from proposing to consider such an approach, and also show some of the ways in which these tendencies might be integrated, explaining the dynamics involved, and the kinds of analyses that this can yield by focusing on certain aspects of the communicative acts involved in emergent cooperation. The structure of the dissertation follows this logic, with an in depth exploration of each of these points.

The first part of the dissertation sets out the problem of emergent cooperation in the disciplinary framework of evolutionary psychology and economic game theory, introducing the treatment of relevant concepts, and the considerations that justify reconsidering some of the basic standpoints or implicit assumptions of these disciplines. Such considerations have been raised both within the disciplines and from other fields, and some new arguments will also be presented. The second part argues for the usefulness of focusing on the communicative context. It presents several ways in which the concept of cooperation has been integrated into theories of communication, as a counterpoint to the relationship implied by the disciplines focusing on cooperation in the first place. A separate chapter is devoted to introducing the additional perspectives that inform the alternative view that I am proposing in the dissertation. I give an account of different approaches to the dynamics of creativity at a personal, social and organisational level; theories that address 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; as well as accounts of the ways in which change and the malleability of meanings is mediated by the symbolic dimension. As a synthesis of the arguments of the first three chapters, I outline an extended approach to cooperation that focuses on communication dynamics, explaining how these additional insights can be incorporated and what we might gain from a qualitative account of communication in

the context of cooperation. Before going on to the field study analyses, I draw up some general tendencies we might expect, and show examples of how the extended approach converts into 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. The final chapter points to some of the ways this can be done, and suggests some tracks for continuing the study and applying its results.

Chapter 1 – Disciplinary treatments of cooperation

The two broad disciplines forming comprehensive theories about and creating models for human cooperation – evolutionary psychology and economic theory – 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. In this chapter I give a brief overview of their most important concepts that are relevant for my argument, and highlight the shortcomings and open questions raised from within the disciplines themselves. I also point out how they relate to the types of situations I am investigating, and present arguments about why seeking an alternative or complementary framework is justified.

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. I am putting higher emphasis on the former two fields in this work because they aim at an overall, axiomatic explanation of the phenomena of cooperation, while social psychology builds its picture through highlighting particular phenomena related to different circumstances and aspects of cooperation.

Game theoretic models are based on event descriptions where participating actors (the players) have several different action possibilities or moves, the outcomes of which depend in part on an objective reality and in part on the action choices of the other player(s). Each player has preferences regarding the outcomes of the mutual moves. The possible outcomes are assigned numerical values corresponding to the payoffs or gains of each player, and represented in a matrix with all the possible combinations of moves. Players are assumed to act rationally towards maximizing their respective gains. The most basic and widely used model for a situation representing a cooperation decision is the two-player prisoner's dilemma. This model is suitable for describing any situation where choosing to defect while the other player

cooperates constitutes the greatest gain to the defecting player and the greatest loss to the cooperating player; if both players cooperate, they both achieve a somewhat more moderate gain, while mutual defection results in the greatest loss to both players.[2] Games with this structure have been the most widely used for testing the different conditions under which partners are inclined to cooperate both in one-shot and iterated game scenarios in behavioral experiments, and for testing the evolutionary success of different strategies in iterated scenarios in computer simulation settings. Choosing to cooperate in settings corresponding to the structure of the prisoner's dilemma has thus been used synonymously with cooperation in general, and even with trust, the cooperative choice being seen as the indicator of a trustful disposition. While the prisoner's dilemma has a certain appeal for representing a puzzling and paradoxical pattern due to the fact that while defecting is the best choice for both players by considerations of individual rationality, a better outcome for both can in fact be achieved if both cooperate. However, it can be and has been argued that it is not the best model for the kinds of problematics and dynamics that actually make cooperation work in a society (see e.g. Binmore 1994).

On the other hand, a number of other game scenarios have been made up to model different social situations with different structures. Based on Rousseau's parable, the Stag Hunt exemplifies a situation where joint endeavor to achieve a major goal (in this case, hunting for a stag) constitutes greater gain for each individual, but it also entails a greater risk, as compared to individual endeavor for a minor goal (hunting for hare on one's own), which entails a smaller gain with greater certainty. While the choice of cooperation or defecting in the Prisoner's Dilemma also speaks about the degree of trust in an interaction, the Trust Game has been proposed as a scenario that is more accurate for measuring trust understood as a player's assessment of the other player's intention to cooperate. 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. A comprehensive introduction to a variety of games can be found in syi

[2] The prisoner's dilemma takes its name from the most widely used imaginary scenario that corresponds to its structure. In this scenario, two suspects in a bank robbery are offered the same deal, without the possibility to communicate with each other. If one of them confesses against the other, charges againts him are dropped as long as the other remains silent, while the other gets a long prison sentence. If both of them confess, they both get moderate prison sentences, and they both get the mildest punishment if both cooperate (with each other, that is), and remain silent. The values in the prisoner's dilemma matrix will be expressed as positive payoffs in various other imaginary scenarios.

(2008). Gintis (2009) cites a number of models that are centered around the issue of altruism and trust, and examples for different social scenarios can be found in Binmore (1994).

While the different models add qualitative insights about the different factors at play in human cooperative strategies and decisions, the prisoner's dilemma is still widely used as a general measure for trust and cooperative disposition in different settings. A common feature of all the models is that, by the nature of the paradigm, they leave no room for semantic malleability: they assume a unified, objectively defined frame for interpreting the situation in which a strategic interaction takes place. Thus they help refine theories about the factors at work in established cooperation patterns, where participants' overall perceptions of the situation converge on some shared framework, and the factors that make them less efficient or jeopardise them. The scope of the active shaping of these frames by the participants is inevitably seen as limited in this view. In this chapter, I give an account of the conception of human agents that the different factors cited as involved in cooperation map out. My account is selective, its focus being set by the main questions of the dissertation: the dynamics of constructing and coordinating meanings, frames and strategies, taking coordination in a broader sense than that implied by the structure of coordination games.

In presenting the game theoretic models of economics, I rely strongly on Herbert Gintis' 2009 work, in which he sums up the basic standpoint of this disciplinary framework together with the main developments and criticism raised during the past decades, as well as on Ken Binmore (1994), whose account and critique of game theoretic models is motivated by giving explanations that are plausible from the point of view of the social dimension. They both raise a number of questions which are relevant for my investigation, and point towards solutions that integrate economic game theory with other social and behavioral sciences (sociology, biology, psychology). While this general standpoint, the results they quote and the answers they propose are largely in line with the perspective I am looking for, my point of view and questions are slightly different. As we shall see in the subsequent chapters, I am suggesting a set of further elements to be incorporated in the description of the dynamics of cooperation.

1.1. The conception of human agents

Self interest and other regarding preferences

Traditional economics operates with a conception of self-interested agents seeking maximum personal benefit in human interactions (see e.g. Bernard Mandeville 1924 [1705], Adam Smith 2000 [1759], Edgeworth 1925, cited by Gintis 2009). Selfishness is also a basic trait in the default conception of humans in the evolutionary disciplines. There is much debate about altruistic behavior in both fields, and the dilemma of the self-interested agent as opposed to altruism and other regarding preferences plays a central role in game theoretic approaches to cooperation. As the self-interested agent is the underlying conception in the model proposed by these disciplines, the study of the phenomena presented in the subsequent sections of this chapter has also been governed to a large extent by the dilemma around altruism.

Early evolutionary explanations of altruistic behavior rest on arguments of personal interest. Hamilton proposed an alternative, but related conception in the 1960s. According to this, the selection of the whole genetic stock, including relatives, counts towards fitness enhancement (cited by Burnstein 2005). Ethnographic research on altruism among relatives has actually revealed that more efficient and more lasting spontaneous associations are formed in times of crisis when the degree of the relation is higher. Humphrey (1997, cited by Wagner 2004) attributes the adaptivity of altruism among relatives to the transmission of the similar trait as well as the altruistic behavior itself. Among persons other than relatives, altruistic behavior is predominantly explained with the principle of reciprocity. Individuals tend to assess who they help based on rankings within the community, and, in reverse, willingness and ability to help factor in ranking members of a community. The relevant traits are decoded in the early phases of interactions (Hare 1976, Fisek, Ofshe 1970, cited by Burnstein 2005). Cosmides and Tooby (2005) suggest that social exchanges are regulated by a separate neuro-cognitive adaptation, which is not conscious but develops as a cognitive instinct. They claim that this is a non-generic, specialized kind of rationality found in all cultures, which represents the grammar of reciprocity or social exchange.

On the other hand, in experimental situations subjects often show a degree of generosity that goes beyond the principle of reciprocity. Although there is much debate about the plausibility of genuine altruism, what is interesting to us here is not the answer to that dilemma, but the

dynamics which are revealed by investigations into the survival of altruistic strategies. One evolutionary explanation might be that altruistic genes were selected for through group selection, or, alternatively, general altruism is driven by the same genetic principle as altruism among relatives. Helping may also be driven by the sustenance of equality, which serves the restriction of free riding. Inequality aversion is a motivation that has also been widely explored in economic game theory. [3] According to other explanations, helpers are simply exploited by their peers, as a kind of social parasitism (Wilson 1975, cited by Kurland and Gaulin 2005). Selflessness and cooperation may also be occasional, with reciprocity as a by-product, and selfless actions may be seen as expensive signals undertaken for the sake of reputation. Explanations of group selection are plausible because groups with helpers will grow and multiply at a higher speed, though in such a model we have to count with relatively impenetrable group boundaries, and a greater intergroup versus intragroup variability of altruism.

There is still a debate at many levels about the mechanisms that govern the selection of group behavior in general. Group selection was rejected until the 1960s (Caporael et al. 2005), and altruistic behavior was predominantly explained with kinship or strong reciprocity. According to the principle of strong group selection, on the other hand, group selection and group interests may override individual interests. It is possible to imagine these two mechanisms working in a complementary manner as well: groups where individualistic adaptations and ones that support the survival of the group as a whole are present side by side among members may be more adaptive (Wilson 2007). While participating in the life of a group may be seen as the result of calculating costs and payoffs in a given situation, it is consensual in evolutionary psychology to regard it as a disposition, a trait humans carry by birth (Caporael 2004).

Gintis (2009) suggests the terminology of self-regarding as opposed to other regarding preferences as an alternative to trying to dissect the motivations of altruism and self-interest. He argues that self-interested agents can still be other-regarding as long as they are concerned with the payoffs of other agents. Self-regarding agents, on the other hand, will only care about

[3] Some studies suggest that among self-regarding preferences, pure altruism, inequality aversion and strong reciprocity, the latter has the greatest explanatory power in certain scenarios. (Strong reciprocators cooperate first and continue to do so if the partner cooperates, and respond to non-cooperation with defection or punishment.) Charness and Haruvy (2002, cited by Gintis 2009) arrived at this result using a gift exchange labor market situation. The *gift exchange* model of the labor market, suggested by Gintis (1976) and Akerlof (1982) implies that employers pay their workers higher wages than necessary in the expectation of higher efforts in return. The *Experimental Labor Market Game* designed to validate the model was first performed by Fehr, Gächter and Kirchsteiger (1977, cited by Gintis 2009).

maximizing payoffs and regard the behavior and payoffs of other agents as long as these influence their own gain. He notes that other-regarding preferences have been largely ignored, even where supported by evidence from social sciences and psychology, until the first experimental results employing the game theoretic model were published in the 1980s. He cites a number of such results published since, the most prominent among these being the ultimatum game experiments conducted by Güth, Schmittberger and Schwarze (1974, 1975) and Becker and Murphy (1988). In the Ultimatum Game, two players are shown a sum of money, say 10 dollars, under conditions of anonymity. One of the players, the Proposer, is then instructed to offer any number of dollars to the Responder, who will either accept or reject the offer. If the offer is accepted, they share the money accordingly, if it is rejected, no one gets anything. Assuming self-regarding agents, the Responder's best strategy in a one shot game is to accept any number of dollars s/he is offered. Knowing this, a self-regarding Proposer should offer one dollar. However, in the actual experimental situations, Proposers tend to make offers around 50% of the total, and offers considered unfair (that is, those below 30%, with some cultural variation) are frequently rejected by Responders (Güth and Tietz 1990; Camerer and Thaler 1995, cited by Gintis 2009). Responders thus take into account the payoff of the other player in their response, even though they can no longer increase their own payoff by that in a one shot game. One possible explanation for this is the motivation of inequality aversion, which, in the above sense, is an other-regarding disposition. These as well as other results, including ones supporting strategies of strong reciprocity (e.g. Charness and Haruvy 2002, cited by Gintis 2009), question the conception of strictly self-regarding agents, and demonstrate that self-regarding and other regarding preferences can exist side by side in humans, even if the relationship of these dispositions or attitudes is debated and largely unexplored. Gintis (2009) points out that promise keeping, status seeking, guilt or addiction are equally as justified bases for theorizing about individuals' objectives as is choosing consumption goods against a budget constraint, and notes that preferences should be treated as a matter of fact rather than logic. In fact, maximizing utility is not even necessary for fitness maximizing.

As I noted earlier, I am also looking for an account of cooperation that moves away from the angle that polarises altruism and self-interest. Instead of trying to clarify the role of different factors along the lines of this dichotomy, my argument is centered around the issue of the coordination of actions, as it unfolds through explanations of group behavior, the concepts of common priors and common knowledge. Mechanisms that mediate between individual and group level considerations in interpersonal strategies are discussed in light of creative dynamics

and the malleability of the underlying semantics of event interpretations. While it is easy to see the evolutionarily adaptive gain in self-regarding preferences, it is also easy to find evolutionary justification for regarding group level dynamics, or following patterns that appeal to group level processes. This can be done without forming strong claims about the actual cognitive realities, such as conscious calculations or general dispositions, behind such patterns. On the other hand, 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). Answers may be sought at different scales of social existence. The subsequent chapters of the present work will take micro level processes as their starting point: the interpersonal dynamics, as expressed in cognitive and behavioral tendencies and characteristics of communication that might be involved in finding, generating, sustaining, disrupting and changing such patterns, or tuning strategies at the group level in general.

1.2. Coordination

Coordination is a key concept for grasping the dynamics by which humans exploit their capacity for cooperative action. In the context of social existence, coordination can be understood at different levels and looked at from many angles. Here 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, starting from the level that is directly relevant for the conception of human agents. In fact, the distinction is somewhat artificial, as the transition is gradual, and with every social mechanism the question may be raised whether it has an innate disposition that supports its working. Thus, the way coordination dynamics are conceived is intricately entwined with the conception of human agents. Therefore this section extends the account of different conceptions of rational agents, refining it with other aspects aside from altruistic traits. The discussion covers variations proposed within economic game theory, along the lines of the dispositions for coordinating action.

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 start with the cognitive dispositions attributed to decision making agents by game theory, and then go on to the adaptations for

sociality that have been cited as coordination tools in both the evolutionary and economic disciplines.

Common Priors

Gintis (2009) puts forward an argument in favor of a model of rational actors who make their decisions based on their beliefs, preferences and constraints, and have consistent preference orderings. In refining this model, he stresses that when they make their decisions, human actors take into account their current state, as well as the social situation they are in, which he refers to as frame. He proposes that such a model could be adopted by all of the behavioral sciences for greater analytical power, and he argues for the value of unifying the standpoints of the different behavioral disciplines. In the meantime, he articulates some criticism about the rational actor model, answering some of the questions raised, and leaving others open. The model of the rational actor proposed by Binmore (1994) is also aiming to account for social mechanisms better. However, he draws the picture with different outlines, suggesting that preferences can be malleable and putting an emphasis on decisions based in part by considerations of empathy.

One of the most quoted arguments that is used to reject the rational actor model is Herbert Simon's claim of bounded rationality (Simon 1982, cited by Gintis 2009 and Good 1988). This argument rests on the observation that information processing is costly, with precise calculations practically infinite even for the simplest real life problem, and claims that humans do not maximize the expected utility in their choices, but aim for the minimum requirements for a desired outcome. Gintis (2009), on the other hand, argues that humans with consistent preferences in routine choices can still be plausibly modeled to maximize their objective function subject to constraints. Instead, he points to another major shortcoming of decision theory when it comes to explaining strategic interactions. Given that a high degree of belief consistency among subjects is required for coordinating strategic interactions, he points out that decision theory has yet to account for how such consistency is guaranteed.

In support of a model that involves consistent preferences, Gintis (2009) notes that arguments for the inconsistency of the preferences of human actors often just fail to specify the preference functions correctly. Binmore (1994), on the other hand, argues that preferences need not

necessarily be conceived as cast in stone, especially when we look at social phenomena outside the realm of economics. He suggests the distinction of different classes of preferences, which are likely to change with different dynamics, through different temporal spans. Thus, evolutionarily determined personal preferences, such as a preference for fresh food, are more fixed, while socially determined preferences, ones shaped by education and imitation, are more variable, and he calls the latter empathetic preferences. In this conception, empathy is a capacity whereby humans can understand and empathise with another in a given situation, while it does not prompt them to act immediately in such a way as to favor the preferences of another.

The traditional model of game theory relies on the concept of equilibria, which are balanced, stable mutual strategy choices in a game. The most widely used definition is that of the Nash equilibrium, where it is not in the interest of any player to change his or her strategy as long as the other players also stick with their strategies. While the Nash equilibrium or equilibria of a given game can be easily found given the formal description, it has frequently been argued that these are not necessarily sustained or achieved in real life situations, and different authors suggest auxiliary concepts to account for the forces that help coordinate strategies towards such stable states. Gintis (2009) claims that the Nash equilibrium as defined in the traditional game theoretic approach will only guide the coordination of behavior in groups if the commonality of beliefs is given. In order to be able to select from possible equilibria in a given situation, one has to assume a commonality of beliefs, and this requires an external, higher level choreographer function. He argues for a model incorporating Aumann's (1976) concept of correlated equilibria, and proposes norms as emergent properties in social systems that serve as correlating devices. Binmore (1994) introduces the term empathy equilibria for the balanced states achieved by relying on empathetic preferences, which help individuals make a better assessment of the available equilibria through the capacity to imagine and calculate considerations from other individuals' point of view, based on their respective preferences.

Let us note that two distinct issues are raised here: that of the coordination of equilibria given the commonality of beliefs, and that of the commonality of priors itself, neither of which is guaranteed by game theoretic explanations. On one hand, several different equilibria may be equally attractive to individuals even if the frames by which they interpret the situations are common. Also, as Aumann (1976) points out, the choice of strategies corresponding to the Nash equilibrium is not evident even where there is only one such equilibrium available for a given game description. The choreographer function, correlating device or empathy equilibrium

working as different kinds of coordination tools are a response to the latter problem, the choice of the same equilibrium in the game theoretic conception. I am claiming that uncertainty and the multiplicity of choices is present at a more profound level in human strategic interaction, and this might affect the formulation of game theoretic models at a different level.

Common Knowledge

The concept of common knowledge as it is used in game theory is based in David Lewis' (1969) seminal work *Convention.* He gives an explanation for solving returning coordination problems where several alternative strategies can be equally or near equally favorable to all parties. He formalises a number of examples for coordination problems, and the most often cited coordination game, the battle of the sexes, is a somewhat more elaborate version of one of his examples. In this setup, a couple has the preference to spend the evening together, but they do not know where the other person is going. The man also has a preference for the baseball game, and the woman has a preference for the cinema. However, the preference to spend the evening together overrides the preference for the location, and this outcome constitutes a greater payoff. Thus, they both gain the least if each goes to the preferred place of the other. They gain somewhat more if they both go to their own preferred places but end up separate, and they gain the most if one of them goes to his/her preferred place, and the other goes to the spouse's preferred place, as they spend the evening together in this scenario, and thus achieve the highest payoff. In game theoretic terms, coordination problems have several Nash equilibria, and Lewis calls the coordinated solutions conventions. In his conception, conventions involve the common knowledge of rationality as well as common knowledge of facts. His definition of the concept of common knowledge has a strict propositional form: it is expressed as mutual beliefs of facts and beliefs about the beliefs of other actors about the same facts, in a sequence that goes on ad infinitum. This iterated propositional expression is not necessarily the form of any actual reasoning by the agents themselves though. In this sense, common knowledge drives mutual expectations about the behaviors of others, and he identifies the source of these expectations as agreements, salience or precedent. This starting point for the definition of common knowledge has been both adopted and criticised by communication theories, as I will elaborate in the next chapter. Here I am concerned with ways it has been treated in game theoretic approaches.

Drawing on Lewis's conceptualisation and its formalisation by Aumann (1976), Chwe (2002) points to the importance of manifestness – public presentation and representations – in situations of joint attention, arguing that irrespective of individual judgments, the very act of joint perception together with the recognition of such a situation promotes the coordination of participants' decisions. He offers an explanation of market decisions that is based on to the salience of certain phenomena. He puts forward an argument about the role that salience plays in making strategic consumer decisions when actors are aware of the range of other actors to whom the same facts are known. For example, if compatibility with a certain standard (and not others) is an important feature of a product, knowing that a large number of potential consumers are aware of its existence drives potential consumers to believe that the standard will be widely available, and thus drive their market decisions, while salience will not be an important issue with other types of products. Chwe draws on Victor Turner's (1969) accounts of the dynamics of the ritual process, and offers explanations for the forces that drive ritualistic events on the basis of rational considerations. This approach is important to my own argument about the role of communication in coordinating actions at the social level because it gives examples for some of the ways in which the considerations of other actors are incorporated in an individual's decisions. Importantly also, it finds the basis of aligning action in perceptions about patterns in the communicative environment. Although Chwe relies on Aumann's (1976) formalization of common knowledge, we might note that this approach does not necessarily entail the rigor and strict regression of the definition relying on beliefs about the beliefs of others as a prerequisite for such alignment and expectations about the actions of others. Inferences about common knowledge based on salience still play an important part, but the source is shifted from explicit assumptions with some certainty about the choices of others towards a kind of statistical likelihood based on the sheer fact extent of public access to the information. Instead of individual considerations corresponding to the syntax of beliefs about beliefs, the consideration that yields coordinated strategies which are adaptive and have rational basis can be grasped at a different level: from a social, group level overview. This observation links in with the social level of coordination that Klein and Osborne (2009) argue is based on different principles from interpersonal coordination, a distinction I will discuss in the next section.

The observation is also in line with some arguments about the characteristics of the communicative environment and their role in making rational choices in a social setting. Theories relying on Lewis's formulation of the concept of common knowledge have been criticised from the perspective of communication science by Sperber and Wilson (1986). They

draw on his concept of beliefs as facts that actors accept as true, while they question the explanatory power and plausibility of common knowledge as defined by an infinite regression of beliefs about the beliefs of others, and suggest an argument that relies more strongly on the mutual manifestness of certain facts and probabilities instead. I will get back to the conception they propose in Chapter 2. In Chapters 2 and 3, I further argue that while factors like salience and agreement indeed play an important role in coordinating knowledge and driving coordinated action strategies, factors in human communication other than those cited in these works might also be involved in aligning individual experience to common frames or horizons.

Alternative senses of the concept of coordination

We have seen earlier that the explanations about common priors imply at least two possible interpretations for the concept of coordination, which I will further elaborate here. Later in this section, I will cite a third sense which, as some authors claim, has been overridden by the game theoretic interpretation as a result of a gradual change of meaning in academic treatments of the term since the beginning of the past century (Klein and Osborne 2009).

In the context of game theory, coordination games constitute a special family of games with several equally or near equally attractive equilibria to the parties. These models presume a setting where actors operate with common priors and a unanimous event description, and coordination will mean a choice between different equally attractive equilibria. Such choice requires additional information about the choice of the other actor(s). In a coordination problem that is modelled by a coordination game, the problem description of each participant preexists, and is such that a solution exists which favors all participants. All that is required is expectations about each other's actions: consensus in the sense defined by Lewis (1969), to align these actions toward the favorable solution. Alternatively, we might argue that not all real life situations are such that each participant operates with the same frame for describing the situation, and coordination might also entail the alignment of knowledge forms, semantics, or altering game descriptions for better mutual solutions to strategic situations. At this point, I am simply raising the possibility that such processes may allow for emergent knowledge forms or coordination assets that go beyond, and are not compatible with the definition of common knowledge and the act of filling information gaps, as used in the context of coordination games.

In the next section, I give an overview of social mechanisms that are generally explained as solutions to recurring problems in the life of a given group (in evolutionary terms), or to coordination problems (in game theoretic terms). Multiple answers proposed by different authors from within these disciplines account for the solution of such recurring coordination problems by humans. As we shall see in the subsequent chapters, the perspective that I am raising goes beyond both the grasp of the problem as a multiplicity of equilibria, and the satisfying answer by solving coordination dilemmas for recurring situations. A common characteristic of the social phenomena presented in this section is that they make reference to mechanisms that mobilise either group processes or some centralized principle or agency that governs the actions of cooperating partners. Self-interest as opposed to altruistic behavior, and the mechanisms that make altruistic acts adaptive are at the heart of many of the debates surrounding these social institutions and assets. However, the question of true altruism or its reducibility to individual considerations is not a core issue of my investigations. As I have pointed out earlier, I contend that explanations referring to factors which do not necessarily reduce to self-interest are just as evolutionarily plausible. Selection for social assets by virtue of large scale mechanisms that give way to more adaptive solutions by eliminating the limiting effect of individual considerations, for example in prisoner's dilemma type situations, has good explanatory power, by whatever means these mechanisms can achieve such a shift. This view is in line with evolutionary explanations employing the argument for group selection, even if its scope is not limited to such processes.

In Chapter 3, I am offering a framework for grasping coordination dynamics that involve a set of other factors, and argue that a take on the question 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 and 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. The dissertation raises the relationship of the dynamics introduced in the qualitative descriptions to game theoretic models as an open question, without examining this question in pursuit of a definitive answer. It is not offering a precise translation, or a way to incorporate such qualitative factors into the axioms of game theory. Rather than offering an airtight system with proofs, it presents a plausible framework with open ends for further investigation.

Actually, the imperative to solve the puzzle of coordination is not new, but still a relevant issue in economics. Klein and Osborne (2009) date the question back to the 1950s and 1980s, and call attention to a shift in the use of the term of coordination that happened in economic literature since its first appearance in the late 19th century. They claim that the introduction of game theoretic models (e.g. of the battle of the sexes game) has overshadowed a previous use of the term, for which they reserve the phrase concatenate coordination. They review a vast amount of articles to demonstrate the complete replacement of the original concatenate sense, used for larger scale phenomena, like the arrangement of activities in a firm or the economic system, by the game theoretic sense, which they term mutual coordination, between the 1930s and the 2000s. Concatenate coordination has been described as a centralized process in some cases, and as an emergent phenomenon in others. The authors see the two types of coordination as distinct and sometimes even counteracting each other. In an argument that is more appealing than convincing, they connect concatenate coordination with a more openly aesthetic discourse, exploring dynamics which are driven at least in part by what is pleasing rather than what is instrumental or efficient in society. In the previous section I already noted that based on Chwe's (2009) account of certain coordinated strategies, we might contend that a large scale grasp of behaviors does actually inform coordinated strategies. With a bit of a leap and at this point just as a thought experiment, we might as well imagine that this large scale grasp could be based in aesthetic principles, thus connecting the aesthetic with the rational. On the other side, as I will argue later, from Chapter 3 onward, the aesthetic dimension may be an important tool for providing flexibility and room for diversity as a complement to rational considerations. Here I just note that beyond pointing to the pleasing quality, the authors do not give an account of how and why it might work and be a factor in coordinating social activities. In light of this distinction between concatenate and mutual coordination, Gintis's (2009) use of the term, as described earlier, seems to represent a third way. It is free from such a clear separation of interpersonal and systemic levels, and seems to presume the presence of the same processes at both levels, by presuming an external (choreographer) point of view rather than emergent processes in mutual as well as large scale dynamics.

Specific adaptations and social mechanisms seen as coordination tools

Caporael and colleagues (2005) report two crucially different accounts explaining the development of adaptations that regulate group behavior. According to one, the relevant psychological mechanisms were formed while humans adapted to circumstances in the past. According to the other, these are byproducts of the individual behavioral repertoire meant to maximize reproduction potential. A further question is that of which traits are inherited and at what complexity. While scenarios of gene-culture coevolution, according to which increasingly specialised traits will be inherited, are widely accepted, there are equally frugal and plausible explanations that are based on a concept of agents operating on simple principles and forming complex emergent systems by learning from their environments. Tooby and Cosmides (1992) argue for the existence of strongly specialized area specific, modal adaptations that the skills necessary for social behavior and culture are based on. Caporael (2004) stresses that the dynamic of group selection is not necessarily a steady upward progression. Instead, he proposes an experimental process, where selection is driven by adaptation to diverse environmental circumstances. In such a scenario, the kinds of low resolution modal adaptations proposed by Tooby and Cosmides are actually a burden in a rapidly changing environment. In a model they find more plausible, sufficiently general complex modules are paired with more fine grained elements and traits that can be easily reorganised. As I will explain later in Section 2.2., this latter model is more in line with the kinds of dynamics that I am exploring in this work. While I am not aiming to take a more precise position along these lines, the question actually has important implications for the nature of the processes and dynamics that I am concerned with here, as well as their scope and flexibility, and for the possibilities of the reflective modification of behavioral repertoires or responses in general.

Although coordination tools can be discussed without reference to communication, the latter is often a central element in evolutionary explanations of coordination. Some accounts find its evolutionary roots in the phenomenon of ritualization, which, in this sense, means the formalization of emotionally motivated behavior (Tóth 2001). I will discuss the different existing approaches to the relationship between cooperation and communication in some more detail in the next chapter.

The evolutionary disciplines are concerned with the synchronization and coordination of behavior at different levels, from the level of the organization to the level of the group or

society. While the underlying factors are often not independent from each other – for example, Tooby and Codsmides (2005) interpret emotions as higher level programs that harmonize lower level cognitive mechanisms, and emotions also play an important role in mediating cognitive processes at the interpersonal level – here I am only concerned with adaptations supporting the synchronization and coordination of group behavior. The most frequently cited adaptations include inherited common behavioral repertoire, imitation, theory of mind, emotional factors (e.g. attachment), and the ability to show and read signs of emotion, altruistic behavior, power relations, normativity and sanctioning and morale (Csányi 1999); the ability to distinguish group members from other members of the species (Kurzban and Neuberg 2005); stereotypes (Haselton et al. 2005); conformity (e.g. Boyd and Richerson 1995); hierarchies (Cummins 2005). I will discuss some of these in more detail, explaining the mechanisms that make them adaptive assets. Despite some existing disagreements about the details and the difference in the perspectives of the different disciplines, we can draw the outlines of a fairly coherent picture regarding the workings of coordination in stabilised settings, and even some emergent responses to instability, by describing the mechanisms frequently cited, and their interactions.

Normativity is generally taken to be a solution to coordination problems understood in the game theoretic sense. Gintis (2009) cites formalizations of some specific examples like property rights and conventions, and he suggests that viewing these as correlated equilibria answering recurring situations in a stable environment, rather than Nash equilibria, is a more plausible explanation of their dynamics. In this view, normativity is seen as an adaptation with a general scope, and is supported by a number of other adaptations that help individuals navigate the social space. Experimental evidence suggests that normativity is not directly dependent on self-interest: subjects in a laboratory setting keep it in force and demand compliance even when norm infringement does not directly harm their personal interest (Kurzban and Neuberg 2005).

The ability to distinguish group members from other members of the species has numerous advantages in group level coordination. These persons are expected to be in the environment later on, therefore one may count on the reciprocity of altruistic acts. The mind reading necessary for the implementation of cooperative behavior is less costly if we can distinguish persons who follow the same norms based on ethnic traits, uniforms, body paint, etc. (Kurzban and Neuberg 2005). Other methods of distinguishing individuals who are potential cooperation partners based on ethnicity, some category or coalition include perceptual similarity, or recognizing the cues of free riding and cooperative behaviors. A range of specialized cues serve

the recognition of kinship relations (Tooby and Cosmides 2005). Some biased cognitive functions, such as stereotypes, which may seem to be errors of design at first sight, have been argued to be cost effective solutions for these purposes (Haselton et al. 2005). Conformity is the tendency to imitate behaviors common within the group. Boyd and Richerson (1995) created a mathematical model demonstrating the adaptive gain achieved when the majority of a group chooses this strategy instead of uncommon behaviors. From the point of view of my approach and the role that I attribute to creative dynamics, it is important to note that the authors treat innovation and conformity as distinct general strategies adopted by different individuals, rather than forces that interact in individual strategies or in processes at social level.

From an evolutionary perspective, status has to do with an advantage in the access to resources and reproductive success. Persons perceived as dominant, on the other hand, also show better skills in deception, reading non-verbal signs, and interpreting intentions as well as leading. Hierarchies that structure social groups are based on status. Status has been claimed to be under direct hormonal control, and hormonal changes have been demonstrated to occur as a result of perceived changes in hierarchy and status (Cummins 2005). A number of factors in social interactions, from choosing a mate to sharing food and forming coalitions, are regulated by status. It also regulates reciprocity: a smaller contribution is required from persons of higher status for sustaining a partnership, which has been explained in light of the unequal access to resources. Humans also tend to relate differently to rule violation in case of persons with higher versus lower status. Csányi (1999) defines the rule as an impersonal form of dominance.

Leadership is the social mechanism which best accounts for emergent coordinated responses to new kinds of problems and instability. Van Vugt (2006) cites two strategies of theorizing about leadership, one based on dominance, and one based on coordination, referring to a range of findings that explore its dynamics. While leadership tends to emerge spontaneously even when groups determine to be leaderless, and there are numerous examples for dominant members leading the group, there is no direct link between leadership and dominance-subordination relationships or status. In human societies, dominance hierarchies are much flatter than in other species, and by promoting cooperation through coordinating behavior, leadership may actually counteract the dynamics of a single dominant individual monopolizing resources. There may have been a point in human evolutionary history when the two aspects were correlated, but successful leadership functions need to rely on tactics other than sheer dominance. Leadership roles are linked to such characteristics as intelligence, task competencies, generosity, and there

is also a connection to age, health and sex, and personality traits like assertiveness, extraversion, spontaneity and sociability. While the quantity of communication is a good predictor of leadership emergence, its quality correlates with effectiveness in the role. Although it is difficult to tell apart if assignment or a person's tendency to take initiative plays a key role in leadership emergence, there is evidence that group members are more likely to assign leadership to individuals who tend to take initiative. Studies using factor analysis have shown the initiation of structure, that is, facilitating a group to move towards a goal through planning and monitoring task success to be the most prominent leadership behavior. Evolutionary studies have shown that leadership tends to emerge only if substantial benefits can be expected from coordinated action, whether it is a response to threats or opportunities. Groups with leaders have been shown to have a competitive edge in intergroup settings. However, leadership does not necessarily emerge in groups, or it may be ephemeral rather than permanent. In some cases, the activity might be so simple and the coordination challenge so low that everyone knows what to do without a leader. Friendship or other types of groups where members have overlapping goals may actually do better without a leader. Technological improvements that enable direct communication without central coordination have also been claimed to render leadership unnecessary.

Morale can be seen as the most abstract form of coordination, serving to counter behaviors that undermine cooperation by giving advantage to some individuals at the cost of others. Kohlberg (1958, cited by Krebs 2005) distinguishes six levels of morality that organize cooperation in different ways. The range goes from fear based obedience to voluntary acceptance of abstract ethical rules, based on more sophisticated cognitive capacities. According to Kohlberg, fear of punishment has the function of protecting property or personal safety. It is connected to power relations, that is, it binds the subordinate in the face of the dominant member. The second level of morality involves the mutual satisfaction of interests. This corresponds to the evolutionary concept of direct reciprocity, which has been modelled in game theoretic approaches by the Tit for Tat strategy in response to prisoner's dilemma type situations. The third level is indirect reciprocity, which implies selectivity of cooperation partners based on more generic criteria like personality traits, values and reputation. Norms and rules that ensure the sustenance of a social system that benefits the individual constitute the fourth level. More general principles secure welfare at the fifth level, based on freely chosen social contract and rational considerations, and ethical principles are voluntarily chosen at the sixth level. Higher levels require the consideration of different perspectives and the use of the imagination.

Paradoxically, the above mechanisms are equally likely to lead to compliance with the norms or deserting from them, as cheating is a strategy with greater utility for individuals in most cases, as long as other actors comply. Conditioning and empathy are considered to be the psychological motivations of moral behavior, and punishment is a major factor that demonstrably plays a role in enforcing compliance with norms. Social learning, on the other hand, may also lead to either compliance or defection, and it only explains how norms and higher level mechanisms spread, and not their generation.

The concept of socialized frames by which humans grasp social situations in systematic ways was developed by Erving Goffman (1981), based on the theories of Durkheim and Parsons. Frames entail certain roles, as well as norms and routines of behavior. Gintis (2009) makes reference to this concept in his discussion of the immutability of individuals' preference functions and the tendency to conform to norms and morale. On the basis of this desire to conform to conventions that constitute a frame, he suggests that humans' preferences are situationally specific. The frame they perceive in a given social situation constitutes a meta-preference, and agents assume that it is the same default frame perceived by others, who also reason in the same way as they do. There is experimental evidence that framing effects influence the outcome of cooperative decisions, and even brief exposure to an unfamiliar social norm will affect behavior towards coordination. Cronk and Wasielewski (2008) made subjects play the trust game after introducing a Kenyan concept of gift giving, associated with mutual respect, restraint and responsibility. In one condition, the situation was framed with this concept by using the appropriate verbal label, while in the other condition no framing was used. Subjects in the framing condition showed different patterns of giving and accepting, which were in line with the Kenyan social institution associated with the term. Results with the same conditions were similar in both Kenya and the US.

As I noted earlier, authors from different disciplines including human communication and economic game theory as well as evolutionary theories tend to stress the importance of the simultaneous, joint perception of phenomena or joint attention in coordinating frames of perception and driving cognition and behavior in social situations (e.g. Tomasello 2008, Sperber and Wilson 1986, Chwe 2001). Salience is seen as an important basis of common priors, whether it is accompanied by reasoning based on mutual assumptions of common

knowledge, or different cognitive processes (Lewis 1969, Chwe 2001, Sperber and Wilson 1986).

1.3. Strategic Interaction

Experimental investigations in the field of economics applying game theoretic methods are meant to model strategic interactions and aim to explore general tendencies of human behavior. 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 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. Whether subjects understand the one shot character of interactions or just stick to the strategies they would use in their long term real life social relations is also a matter of debate (see e.g. Gintis 2009). Rather than citing arguments from this debate, in this section I am presenting 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 am also making a detour to present theoretic considerations and experimental results that are relevant to this question as well as the perspective that I am proposing, even if they do not directly target this issue.

Testing willingness to cooperate with the one-shot prisoner's dilemma paradigm is often treated as synonymous with testing the degree of trust in an experimental setting. However, authors sometimes understand the concept of trust in various distinct senses without reflecting on its meaning. So here I am first citing some of the more analytic approaches from the social sciences, and then get back to some more reflective treatments of trust in the game theoretic paradigm.

Some of the definitions of trust focus on the interpersonal dimension, and refer to considerations based on familiarity, reputation, social distance, emotions and former history of the partners when interpreting decisions of cooperation. Social scientific explanations, on the other hand, hold that there is a community level and cultural dimension of trust, which is distinct from individual interest, and represents a sovereign dimension that generates and shapes trust and

commitment by its own laws. Luhmann (1988) claims that trust generated in small communities and the family is not automatically transferred to the level of society. To explain the dynamics of transition between these spheres, he proposes a distinction between confidence and trust, based on the different experiences of danger and risk. In his conceptual system, confidence belongs to the sphere of the uncontrollable, while he reserves the term trust to situations where individuals recognize their responsibility, and commit to a choice against other choices by considering different alternatives. Thus, the scope of trust can change with the changing circumstances of familiarity, access, and the perceived power to influence the outcome of events. Fukuyama (1997) suggests that the workings of economics cannot be conceived in a pure form as independent from society, implying that there is continuity between the two. He maintains that the source of the factors that give rise to community – the sense of responsibility, reciprocity and moral obligations –, is not rationality but habit, and therefore trust is also generated at the level of the community even in a corporate context. Its degree, he claims, will ultimately depend on the rules, and it will be, at least in part, coded in the arrangements of a society or (organizational) culture. The notion that unconditional acceptance by virtue of tradition is the source of part of the rationale of human action has been raised by a number of authors from anthropologists through behavioral scientists (e.g. Bloch 2005, Tomasello 2002). Yet the micro-level processes through which this supports sociality and the coordination of human activities are understudied. I will get back to this when I discuss the relationship of cooperation and communication in Chapter 3.

Branzei and colleagues (2007) carried out an intercultural comparative study to assess the relationship between the characteristics of a society and the criteria by which trustworthiness is assessed. They reinforced, in line with Fukuyama's observations and similar earlier results, a difference between the criteria by which members of collectivist and individualist societies make their decisions on cooperation. In their study, members of collectivist societies relied more on situational signs and their choices depended more on benevolent, predictable interactions, while members of individualist societies relied on dispositional signs, and tended to decide based on perceived abilities and integrity. As reported by the authors, this result is in line with Bohnet and Zeckhauser's (2004) findings, who try to make a distinction between trust and risk taking by comparing choices between analogously structured versions of the trust game and the dictator game. The distinction between risk and trust is made based on whether the outcome is decided by nature or another person. They find that players define stricter conditions for trust, that is, they require a higher minimum probability of good outcome for the trustful

choice than for risk taking. The authors attribute this to the additional factor of betrayal aversion.

Communicative circumstances are not reported in any of these studies. The results are 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. In fact, conceptualizing strategic interactions in this static manner and treating the communicative environment as an optional factor rather than an intrinsic element of any interaction 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. I am devoting part of Chapter 2 to discussing results from studies that break away from the anonymity paradigm and look at different aspects of communication with relation to cooperative decisions.

1.4. Reflections on the critique

The coordination of cooperative strategies has been a core issue to be solved in economic game theory, raised as early as the 1950s. The puzzle can be grasped at many levels, ranging from picking the same strategy from different choices that lead to different equilibria in a game through using parallel social frames for interpreting the same event. Some authors have pointed to the possible difference of dynamics between interpersonal and system level phenomena (Klein and Osborne 2009), claiming that only the former can be grasped by game theoretic models, and the latter represent a different set of processes. On the other hand, solitary rational considerations are arguably insufficient for explaining some cooperative decisions even at the

interpersonal level. In this sense, we might, though need not necessarily presume the same forces driving coordination at the different levels, and Gintis (2009) suggests the extension of the game theoretic model by an outlook to an interdisciplinary framework. Solutions to the coordination problem have been explored in the social, evolutionary and psychological disciplines, and these inform us about settled strategies, mostly explaining the workings of norms, morale, common frames, group behavior and the selection of cooperation partners in a relatively stable environment. Emergence, on the other hand, remains difficult to account for in both of these basic points of view. Klein and Osborne (2009) refer to aesthetic principles and the pleasurable dimension in judgements about social arrangements, but they do not engage in further exploration about how this might drive the dynamics of coordination. Their argument refers to Adam Smith's conception, and seems to rest on the sheer persuasive power of the "loose, vague and indeterminate" aesthetic realm (Klein and Osborne 2009, p 184.). In the analysis of my second major field study in Chapter 4, I am introducing further arguments about the aesthetic dimension. Without aiming at a comprehensive theory, I am presenting, through these cases, a new discourse and some possibilities and potential in social dynamics that can be induced by the reflective use of aesthetic means.

Some of the recent findings cited in the chapter give important additional insights into the nature of coordination assets. Intercultural differences have been explored in the factors that subjects took into account when making decisions to cooperate. However, these conditions were tested in a protocol where cooperation was decided without communicating with the partners themselves. Experimental evidence elsewhere has shown that framing effects are not based on socialised frames only, but can also occur after brief exposure to an unfamiliar arrangement. The latter kind of protocol and result can be seen as one that implicitly demonstrates the impact of the communicative circumstances in experimental settings. In fact, it is a crucial point to state for my argument that every experimental setting bears a communicative dimension, whether or not it is reflected on in the description of the protocol itself. This fact should not be disregarded when the experiment is meant to measure factors that play a part in cooperative decisions. I have suggested in this section that experiments with the anonymous condition might measure some kind of general conception of a generalised other. However, even in an anonymous condition, the experimenter herself will play some kind of a coordinating, or choreographer role. In presenting the situation to the participants, she might use different labels, refer to rules, a game, a make believe situation, gambling, a market situation or a monetary transaction, all of which will imply a frame, while the experimental setting itself also represents

a kind of meta-frame, in a way putting all these other frames in quotation marks. She may use certain grammatical patterns, such as modalities or personal pronouns, or body language that might also imply event interpretation schemas or relations of partnership, leadership, collaboration or competition without explicitly stating so, or leave these factors indefinite. She might assign culturally determined roles to the participants in the same manner, while these characteristics of the situations may not be cited as factors in the decisions. Whether or not the frames suggested by these conditions are adopted by the participants is just a next level of the same issue. All this will be relevant even in an anonymous situation. These observations are in line with the criticism of the validity of game theoretic testing, also cited at the beginning of this chapter. More importantly though, they point to the fact that a basic assumption of the game theoretic model is that computations take place in the minds of the actors based on discrete and constant external factors. The rational agent model can handle frames that are socialized or presented by an outside observer. However, it seems impossible to grasp the emergent characteristics of interactions through solitary decisions made in a locked up mind. In other words, a host of these emergent joint options are just not accessible by individual cognition alone, not even by resorting to existing empathetic considerations as conceived by Binmore (1994), as described in Section 1.2. On the flip side of this issue, what seems impossible is in fact the endeavor to eliminate the emergent factor that lies in the communicative character of strategic interactions. The very nature of the issue at hand makes it unjustified to treat non-communicative settings anything other than a rare exception or sub-category; or probably more accurately, a theoretic extreme on a theoretic polarity which is never actually achieved in reality. I will elaborate this idea further in the next chapter.

Implicit assumptions in the treatment of game theoretic models

Before going on to a closer look at how the effects of communicative factors on cooperative decisions have been explored with game theoretic methods, I would like to sum up some of the more general implicit assumptions in the game theoretic approach. 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. This can be stated even though we might argue that agents might have different perceptions of a situation, use different frames and thus formulate different decision models. In a situation like this, the different perceptions can be integrated in a single

decision matrix as long as discrete values can be assigned to the possible moves available to the actors and their outcomes, although they might be mutually mistaken or uncertain about the respective values assigned to the outcomes by the partners. More importantly though, the matrices are offered as unanimous descriptions which are independent from communicative acts that might take place before, after or during their formulation. As we shall see in the next section, the scope of communicative acts in experimental situations is limited to making agreements, making reference to norms, frames and rules, and often the source of their effectiveness is not explored. Even when framing effects are allowed (e.g. Cronk and Wasielewski 2008), these are taken to alter the actors' choices based on cultural values assigned to different moves, without affecting the game description and the preference matrix itself. Strategic settings and their perceptions are not considered to be affected at the core by communicative interactions between participants. In a coordination game, the role that communication plays in increasing the likelihood of mutually favorable outcomes is that of filling the information gap, that is, achieving common knowledge and consensus understood in the sense defined by Lewis (1969). In a prisoner's dilemma type situation, agreements, signaling cooperative intentions and the increase of trust might be the relevant factors in the connection between communication and cooperative decisions. With true conflict of interest in the original description, the options are very limited within this framework. The models of communication I am presenting and drawing up in Chapter 3 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 am working 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 techniques 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 conception, and the scope of communicative processes defined in this way go beyond the filling of information gaps in an objectively defined structure.

Chapter 2 – The communicative context of cooperation

This chapter comprises two main parts, representing the point of view of the game theoretic approaches and communication theories respectively. Before going on to present findings, concepts and theories from these two perspectives, it is worth noting their basic mutual dispositions: namely, that each one of these approaches takes the phenomenon of its own focus for granted, and looks at the other as an auxiliary phenomenon that is either eliminable or is serving its purpose. While this might seem to be naturally resulting from their disciplinary standpoints, it also, in a sense, puts the two explanatory frameworks at odds when it comes to integrating them in the same big picture. I will first present these two viewpoints separately, and elaborate on the ways this seeming contradiction can be dealt with at the end of this chapter.

2.1. Communication as a factor in studies on cooperation

As I have pointed out in the previous chapter, the default setting in which game theoretic approaches test their hypotheses is with subjects who are often anonymous and not allowed to communicate with each other. Communicative acts are introduced as additional, optional variables, usually in a very regulated way, and the default communicative aspects (such as spontaneous nonverbal communication between subjects or by the experimenter) are not considered to be important factors in reporting the results. Testing in anonymity is often considered to be the trick for revealing the true drives of subjects (see e.g. Gintis 2009), and for eliminating factors like preserving or building reputation in one shot games.

As I have noted in Chapter 1, the neglect of the communicative aspects by and large (and by default) could also be an unreflected consequence of the fact that game theory is the extension of the paradigm of decision theory from individual decisions taken against objective circumstances to strategic interactions with human agents. In theorising about human decisions related to 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. A lot of the criticism on certain specific findings coming from other behavioral disciplines concerns exactly this aspect, the ecological validity of the experiments, claiming that subjects behave differently from how they would in the modeled real life situations due to the controlled nature of the experimental settings (Gintis 2009). However, there is evidence supporting that subjects are aware of and understand the frames they are presented with in the experimenal situations, and the results predict fairly well their behavior in analogous real life situations. On the other hand, we might note that the real life situations cited in favor of this argument are usually also controlled settings with binding agreements or normative expectations, or market decisions where actual interaction with the partners is not involved. Subjects tend to comply and cooperate by the same framing conditions in real life situations as they do in experimental settings. We can see the experimental setting either as an odd artificial construct with unreflected choreographer or authority roles and implied normativities, or as a setting that tests social constructs with strong cultural predetermination. This implies that the scope of factors present in strategic interactions that can be tested by these means is at least limited, and these settings model phenomena that involve more strategy than interaction. In the subsequent sections I am presenting some theoretic standpoints from communication science and experimental results from the behavioral paradigms that support the argument that communication might be a factor that cannot be disregarded or seen as not present or a negligible element of the environment when assessing any cooperative setting. The mere fact that one imagines a human actor on the other end triggers cognitive functions (such as mentalisation) that are inseparable from the concept of communication. Not only does the reading of the other person's expected willingness to cooperate or comply lie in the reading of the communicative context, but emergent phenomena are a possible concomitant of every interaction and these largely lie in the interactive quality of cooperative situations. On the other side, even anonymous market decisions, including the kinds cited by Chwe (2001), which I referred to in Section 1.2., involve common knowledge as defined by Lewis (1969), which is inseparable from communicative acts in the public realm.

As we have seen earlier, even experiments carried out in anonymity demonstrate that humans have other regarding preferences. Allowing some form of communication generally increases the likelihood of making cooperative decisions. In a meta-analytic review, Balliet (2010) cites a 1958 study by Deutsch as one of the first to demonstrate this effect, and notes that the

prevalent explanations for the effect had been expectations of cooperation by the other, the generation of norms, and the enhancement of group identity. A meta-analysis of 137 experiments that diverted from the anonymity paradigm by Sally (1995, cited by Gintis 2008 and Balliet 2010) has revealed that in comparison with other relevant factors, namely group size, the magnitude of reward for defection, and group identity, face to face communication was the strongest predictor of cooperation. Though the reviewed experiments focused on the ability to make verbal agreements and promises, lifting the anonymity condition may have entailed other effects as well. Ostrom, Walker and Gardner (1992, cited by Gintis 2008 and Balliet 2010) have found that even so-called cheap talk, where subjects could communicate without making binding agreements, supported cooperation to a high degree. Other authors confirm that the ability to exchange verbal information is the main factor to account for the increased cooperation (Bochet, Page and Putterman 2006; Brosig, Ockenfels and Weimann 2003, cited by Gintis 2008). A more recent meta-analysis by Balliet (2010) takes a closer look at the different factors involved in communication that affect cooperative decisions in social dilemmas. He finds that face to face discussion has a stronger effect than written messages, while there is no difference relating to when communication occurs: the size of the effect in iterated dilemmas is the same with communication during and before iterated games. He also finds a positive correlation between group size and the effect of communication. The author also discusses the cost of communication as a second order dilemma, noting that resorting to less costly forms of communication may resolve this dilemma.

More recent studies addressing the connection between the ability to communicate and the choice of cooperation over deserting shed light on a complex dynamic involving a range of different factors. They reveal relationships between cooperative decisions and personality traits; emotional intelligence; the use of different communication systems; language complexity; the type of information exchanged; disposition with regard to cooperation and the ability to signal and read such disposition (willingness). Most authors are concerned with one particular aspect of the dynamic, while some endeavor more complex analyses involving several dimensions (e.g. Hayo and Vollan 2012). I am presenting results from a selection of studies that are especially relevant for my own study, highlighting the ones that may contribute insights to the perspective I am offering for grasping phenomena of emergent cooperation with an element of innovation, evolving frames, changing group boundaries or networked organisation.

Miller et al. (2002) explore differences caused by the processing and language complexity inherent in different communication systems, and demonstrate systematic relationship between online, video and face to face communication and the observed behavior. Frohlich and Oppenheimer (1997) demonstrate that the difference between the effect of face-to-face vs e-mail communication on cooperation also depends on the complexity of the decision and of what needs to be communicated.

The concepts of the affective and cognitive foundations of trust were proposed by Lewis and Weigert (1985), based on previous efforts made at conceptualising trust in the social sciences, relying predominantly on Luhmann's work. In game theoretic terms, cognitive based trust is connected to the partner's ability to understand the dilemma and willingness to cooperate, while affective based trust implies a general confidence that the other will act in the individual's best interest because of the bond between them. McAllister (1995) explored the relationships of these dimensions with different factors in the context of organisations. I will elaborate on this distinction in the author's interpretation and possibilities of extending this line of thought later in this section. Rockmann and Northcraft (2008) base their study on these concepts and McAllister's results, and address the way affective based and cognitive based trust influences cooperation in different communicative environments, in relation to media richness. They speculate that lacking affective based trust increases the likelihood of deception, as affective based trust is connected to both relationship building and social conformity. The lack of cognitive based trust, on the other hand, will more likely lead to defection, as cognitive based trust is related to the expectations of successful cooperation with a certain other party. They explore how tendencies of increased cooperation with the increase of media richness are related to defection or deception, and how these in turn are mediated by cognitive and affective based trust. In line with the expected tendencies, they find that when non-cooperation is due to defection, its decrease with richer media is related to higher levels of cognitive based trust. When non-cooperation is due to deception, increased cooperation with richer media is related to increased affective based trust.

Cohen et al (2010) demonstrate that task related communication is more effective than task-unrelated communication in promoting cooperation. They contend that sending relevant messages is effective because it activates fairness norms, while receiving them activates trust norms. Andersson and Wengström (2012) find non-trivial connection between the credibility of pre-play messages and future communication opportunities: they present evidence that the

positive effect of the pre-play messages on cooperation significantly decreases when intra-play communication is allowed. Baum et al. (2012) designed an experiment to test for the different factors that might work towards increased cooperation when „cheap talk" is allowed. They find that cooperation is increased even by anonymous email communications, and conclude that this effect can be attributed to exhortations to cooperate, which they label culturally normal behavior, rather than reputation building.

Hayo and Vollan (2012) carried out a complex field experiment in Namibia to test for the effects of demographic factors, social interactions and different types of rules on group cooperation over time. They explore complex effects of the social dynamics based on demographic factors, and conclude that the introduction of rules has a positive effect on cooperation, irrespective of the type of rule or the original preferences of the players regarding the type of rule. While there is a tendency to choose certain kinds of rules according to cultural preferences, players are inclined to adapt to a rule and follow it even if it was imposed on them despite their expressed preferences, a finding which contradicts intuition and the original hypothesis of the authors. Thus the authors attribute the positive effect on cooperation to the actual social interaction among members of the group, and explore a dynamic that they explain with a combination of reciprocity, inequity aversion, temptation to free-ride, and competition.

Several studies have demonstrated a connection between the honesty-humility personality trait and cooperation. Zettler et al. (2013) present evidence that situational factors also play a role in the increased cooperation, and the connection also depends on whether cooperation is sensible. Hilbig et al (2012) re-analyse the connection and show that while honesty-humility contributes to active cooperation (non-exploitation), the agreeableness personality trait (but not honesty-humility) predicts reactive cooperation (non-retaliation). Relativising earlier results about the connection between emotional intelligence and the inclination to cooperate, Fernandez-Berrocal and colleagues (2013) find that EI is associated with the capacity to respond flexibly to others' strategies and to the interaction, that is, persons who are emotionally intelligent are not rigidly predisposed to cooperate regardless of others' behavior, and tend to act so as to maximize long-term gains. Brosig (2001) tested the ability to signal and read willingness to cooperate in face to face situations. While confirming that the ability to communicate generally increases the likelihood of cooperative behavior, she has also found that both signaling and reading capacities are connected to the individual's propensity to cooperate, as tested in anonymous situations.

Sally (2001) creates a decision model that integrates sympathy equilibria in the description of the game. He hypothesizes that sympathy may transform payoffs when the anonymity condition is removed. Sympathy is defined here as also dependent on sympathy directed on the individual by the other party, and not just on their own choice of feeling. Assuming that sympathy will lead to different choices, he creates a formula that incorporates factors like psychological distance, and transforms the decision matrix of the prisoner's dilemma game.

The overall picture showing in this set of studies supports the view that humans have other regarding preferences and 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 cited here 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.

Affective and cognitive foundations

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 grounded in 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).

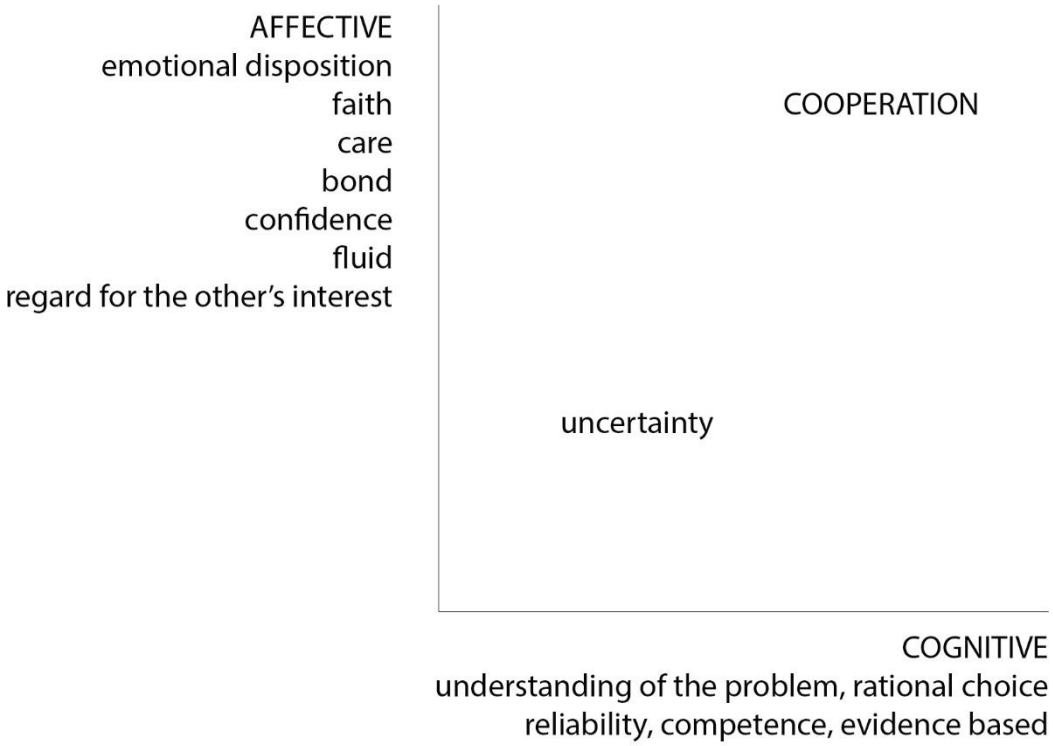

Figure 1. A possible perspective on the underpinnings of connecting. Cognitive and affective dimensions based on conceptualisations of cognitive based and affective based trust

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 or commitment 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. While both the potential cooperation partners and the frames of the game are usually fixed in laboratory game situations, in real life 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. Actually, this fact in itself opens up a whole new realm for the dynamics of cooperation when we are dealing with larger and more diverse communities.

Evidence from the studies cited in this section shows that there might be a difference in decision strategies along the lines of the cognitive versus affective distinction. However, the studies cited have not explored how micro-level communication processes might affect changes in one or the other dimension of trust. The available choices are often not as clear-cut as they can be in an organisational environment or the laboratory setting, and so the resulting dynamics can also be more diverse. So we should look at these results as tendencies relevant for special types of

situations, noting also that some of these might even be determined by the specific organisational cultures among which they are tested. It is very useful to look to these data for the kinds of dynamics we can expect in qualitative analyses of different situations, while it would be misleading to attribute universal scope to the particular patterns explored.

McAllister (1995) demonstrates that in an organisational environment, cognitive based trust drives the development of affective based trust and thus results in a kind of consolidation of the trustful relationship, setting a higher threshold for the loss of cognitive based trust in turn. In my field study in the formal education setting, I often observed an inverse dynamic. When the cognitive basis of connecting and aligning the shared content and knowledge was weak, effort could effectively be invested into demonstrating mutual care about each other's worlds and interests without direct link to the theme, problem or frame of cooperation, that is, establishing an affective basis for staying engaged in a communicative activity geared at reinforcing the cognitive basis. In the original study establishing the concepts, the authors talk about the cognitive, affective and behavioral aspects of trust as „interpenetrating and mutually supporting" each other (Lewis and Weigert 1985, p 972). 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, 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.

One might observe that I am increasingly avoiding reference to the concept of trust in the above description, and this will also be a tendency in my analyses. This is because 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. I have actually found a similar distinction between structuring and connecting

aspects useful in describing ways in which connections between private worlds and alignment of content are sought between participants in the field settings.

These 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. I will pick up on this argument again in Chapter 3. Attention to these aspects helped me to a better grasp of the micro level communication processes that were involved in establisghing the conditions for cooperation. In Chapter 3 I am also elaborating on the alternative viewpoint based on structural alignment and manifestness, which I have found a more useful abstract starting point for operationalising the questions that are at the core of my investigations. These aspects do not precisely overlap with the aspects of affective and cognitive based connections, but they translate easily to them, while they provide a matrix in which we can grasp the kinds of movements or changes relevant to cooperation in the social environment that can be generated by communicative processes. (See Figure 2. in Chapter 3.)

2.2. The cooperative dimension of communication

Grice introduced the concept of cooperation as a normative expectation into theorising about communication (Grice 1975). He saw it as a presumed or desirable attitude by the speaker, a set of rules that support efficient communication. Sperber and Wilson (1986) draw on the principle of cooperation, but articulate a critique of the subsequent conceptualisation by Clark and Brennan (1991), and develop their explanation in a cognitivist vein. In this view, the cooperative stance serves the success of communication, but, unlike in Grice's theory, this is not a normative expectation: communication requires a cooperative attitude as part of a specialised cognitive process. When perceiving a situation as communicative, an automatism is triggered and this determines the receiver's cognitive processes at a profound level. The receiver will assume cooperation on behalf of the speaker, and her own cooperative stance involves the reading of intentions (especially the intention to inform), inferences, and interpreting the utterance within the communicative context mutually available to the participants. While rejecting the availability of common ground as proposed by Clark and Brennan (1991) in all such events, Sperber and Wilson operate with a concept that presumes a

high level of accord and helping intentions between the participants of communicative acts, which is always present in the cognitive processes at this profound level. This approach is reductionist in the sense that it explains the phenomenon of communication in terms of the cognitive processes of participants, which are geared at enhancing knowledge about the world, and highly optimised towards that end. As we shall see later on, the framework that I am proposing allows for a higher degree of trial and error, and postulates a process that is non-deterministic and involves several players in the dynamic. Importantly to my argument, Sperber and Wilson's approach suggests that social situations trigger a different mindset from individual strategising in an isolated setting, one could say that mechanisms of cognitive processing in social interactions are not governed by the same principles as 'solitary' cognition. These assumptions are in line with some research findings from the field of cognitive development, as we shall see in the subsequent sections, as well as with the criticism I articulated earlier in connection with game theoretic approaches.

Habermas (1987, 1990) operates with the clashing of two broad patterns when theorising about morale and the ways of coordinating human social action. He proposes a distinction between communicative and strategic interactions as distinct ways of coordinating action, linked to discursive and authoritative styles respectively. It is worth noting here that this distinction recalls the arguments I presented about the possibilities, or, rather, the impossibility of subtracting the communicative factor from the concept of strategic interaction. I continue to elaborate on this observation later in this chapter. Habermas understands communicative interactions to be ones based on consensus, as defined by an agreement on and recognition of claims to truth and rightness. In his conception, discourse is a rational process based on strongly argumentative relations. As I will outline later in Chapter 3 and argue in Chapter 5, these two strategies might be specific distinct patterns in a much wider space of possible processes, including ones that are not necessarily rationally based, whereby communication might drive coordination and cooperation styles.

Tomasello's conception of human communication rests on an argument that is, in a sense, the inverse of the Gricean theorem: here, cooperation is the end, the motivation of uniquely human communication (Tomasello 2008). He stresses the importance of certain cognitive capacities, like understanding joint intentions; the ability to represent complementary actions, roles and goal hierarchies leading to a common goal, and the ability to take alternate roles during the process of attaining a goal. The underlying mechanisms that motivate humans for engaging in

these special interactions with others, and are already present in infants, include monitoring the activity of the other and reacting in an alternating manner (social contingency), as well as mirroring and sharing emotional states in diverse ways (Tomasello 2005). A number of authors see the definition of common goals paired with this emotive and cognitive background as important factors in cultural learning as well as the active process of generating culture (e.g. Gergely and Csibra 2005; Richerson and Boyd 1989).

A cluster of studies in developmental psychology highlight some important ways in which information processing in social situations may differ from the processing of similar events in a non-communicative setting in infants. They point to mechanisms other than explicit verbal communication which drive effective social learning by helping infants and young children exert a shared interpretative frame of an event in interactions (e.g. Gergely and Csibra 2005, Király 2002). These studies, based on the imitation paradigm, reveal a relationship between both verbal and non-verbal aspects of communication by the adult and the reenactment of series of actions by infants. This can be done, for example, by verbal labels highlighting the goal of an action, in which case infants tend to imitate only the actions relevant and directive to the goal, or emphasizing the interaction in general, in which case infants more frequently imitate actions which are redundant or irrelevant to attaining the goal (Király 2002). Alternatively, the overall nonverbal repertoire, its gestural elements, the facial expressions and tone of voice trigger systematically different imitation strategies, with redundant steps of a series of actions included or omitted depending on the communicative circumstances of the presentation (Gergely and Csibra 2005). Based on these results, the authors form a theory that is in line with the modularity hypothesis of the evolution of norms proposed by Tooby and Cosmides (1992) explained earlier under 1.2. They claim that a relatively fixed repertoire of cues, which they label pedagogical, has evolved as a module supporting the fast transfer of evolutionarily adaptive knowledge elements in large chunks, without making the rationale behind them transparent (Gergely and Csibra 2005).

While these experimental results are important to highlighting my point of view, I contend that there is more room for flexibility within the outlines proposed by their authors, and argue for more fine grained dynamics in the relationship between communication and cooperation frames or potential. This might be more in line with Caporael's (2004) evolutionary conception outlined earlier in Chapter 1: namely, that the interplay of more generic adaptations yields responses most fitted to a given situation in a changing environment. In the present study, I

tried to find candidates for the axioms of the dynamics that shape communicative strategies and the resulting cooperation patterns.

The conception I present here 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. In this conception, I do 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. It is important to note here that coherence or the presence of common horizons for knowledge does not automatically entail a matching of more general cooperation principles. In this sense, we could say that I am taking the inverse perspective as compared to Lewis (1969), and according to this view knowledge systems or common knowledge with varying degrees and strategies of alignment may also be described as preexisting cooperation frames, goals, problems, tendencies and patterns.

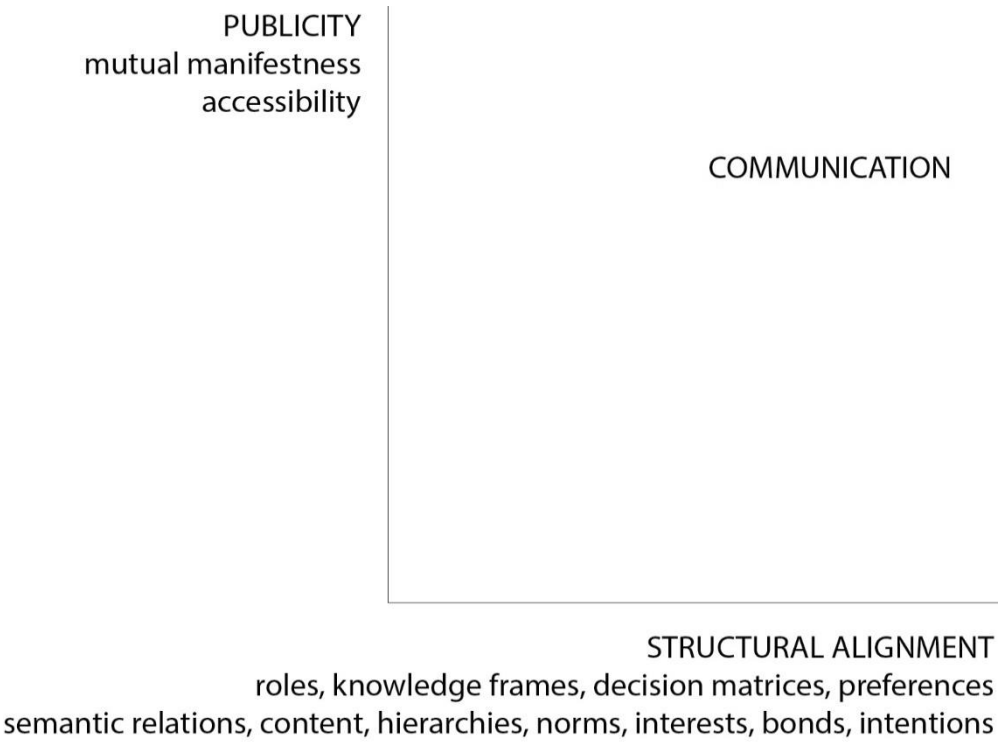

Figure 2. Moulding cooperation potential through processes in the communicative environment. The dimensions of manifestness and structural alignment in communication.

When drawing up the aspects of observation for my initial field studies, I 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. Unlike in Sperber and Wilson's account, extending knowledge is not taken to be the ultimate or sole aim of communication: experiencing or creating community, understood here as generating cooperative potential, though not necessarily on a group basis, is considered to be a prominent goal. I looked at processes as geared at the simultaneous generation of links, connections and alignment 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. I will elaborate on this framework further in the next chapter.

Chapter 3 – Creativity, Change. An interdisciplinary contribution

3.1. Creativity

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. Therefore I have found it relevant for my investigations to look at the literature of creativity ranging from more general theorising about innovation to psychological approaches to individual creativity, and see 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.

Exploring the community and social aspects of creativity is a timely topic, whether it means thinking about tendencies at the level of society, the social aspects of individual creativity, or group processes in management science (see e.g. Florida 2001, Csíkszentmihályi 1998). At the level of society, processes related to creativity are generally thought of as phenomena affecting the creative industries. In social problem solving, exploiting creativity also generally implies the application of art methods, like drama or visual arts. The concept of creative problem solving, on the other hand, implies exploiting the dynamics of creative processes understood in a more general sense. Good practices applied in different industries may insert a brainstorming phase or exploration in the ethnographic vein before going on to structured planning. These processes copy the scheme of the individual creative process as conceptualised by authors in psychology, and shift it to group level. On one hand, some of my field investigations were

targeted at exploring what kinds of challenges such a shift raises for those involved, resulting from the fact that some of the private cognitive processes will have to be brought to the public scene. On the other hand, I wanted to bring elements of the creative dynamic to my explanatory matrix at a more axiomatic level, using them in a generalizable way, rather than composed into procedure scripts representing more good practices of the kinds explained above. In the meantime, the last phase of my fieldwork did yield a set of practical procedures using visual art methods that are somewhat specific and adaptable to different settings. Inversely, certain principles can also be derived from these specific procedures for defining and generating a wider class of practices.

A general, most often cited cognitive characteristic associated with individual creativity is the ability of divergent thinking. Mednick (1962) attributes this cognitive capacity for giving unusual responses to the characteristics of the hierarchies of association. Persons who are less creative work with steep hierarchies, meaning that they are inclined to give the same dominant answer to a given stimulus at different times. On the other hand, people operating with flat association hierarchies are more likely to give divergent responses. Traditional psychometric testing of creativity relies on measuring the components of divergent thinking: fluency, that is, the number of ideas given for a certain task; originality, that is, divergence from common answers; and flexibility, that is, the diversity of responses, the variety of categories or tracks of thinking that they represent (Guilford 1950, Eysenck 1994). Some authors also emphasise the importance of convergent thinking and the ability of critical evaluation in the creative capacity. Explorations in the social dimension of successful innovation at the individual level stress the need for the ability to make innovative ideas relevant, to adapt them to the social setting of the time, to current goals, problems or challenges (Csíkszentmihályi 1999, Csíkszentmihályi and Sawyer 1995). In fact, the Remote Association Test method designed by Mednick to measure association hierarchies (Eysenck 1994), though an artificial tool, can be seen as some kind of model for the integration of divergent and convergent tendencies: contrary to other measurement tools of creativity, it comprises tasks that have a single solution, but finding this solution depends on responses that are loosely associated to different verbal triggers. In this respect, Csíkszentmihályi's concept assumes a similar pattern of creativity as the Darwinian evolutionary approach, which claims that change is the result of "blind" variation and selective keeping of certain variations.

It is important to note here that there are at least two distinct ways of shifting the exploration of individual level creativity to the group or social level. One way is that represented by Csíkszentmihályi's research referenced above: to look at how innovations by individuals become relevant at a social level, how they can be incorporated into culture or foster social processes. Another way is to draw analogies between the dynamics explored at the level of the individual, and see if they can be transferred to the social level, whether the processes will be similar or different and how. Some authors have made efforts to make such comparisons, and others have theorised about processes that are transferable between different levels. I will present examples for these in the following section. So far, the most relevant point to my argument about social coordination is that divergent processes and the dynamics of divergence and convergence or selection described above can easily be transferred to community level by analogy, and at this level, some of the decisive factors driving cooperative potential and decisions are communicative in nature, can be directly observed in the communicative scene, and described as part of a qualitative analysis of communication.

Based on research relying on self-reports of great minds, introspection and biographical data, interviews and laboratory experiments, authors have identified three phases of the creative process: the collection of relevant facts (preparation), then directing attention away from the problem (incubation) to reach a solution (enlightenment). While incubation is often seen as a solitary process where one focuses on things unrelated to the matter, it is also present in problem solving processes at group level, and is especially helpful in catalysing the solution when participants represent diverse fields of expertise. (Boden 1994)

Several authors stress the importance of diverse influences in the emergence of innovations. Csíkszentmihályi (1998) recounts how a diverse social and cultural setting can ferment creativity. In his comprehensive work on creative action, Koestler (1964) claims that at all levels of life, from the biological to the social, the forces that drive innovation can be described by the same principles. He grasps this process as the clash of matrices: coded, rigid frames of thinking or biological mechanisms that operate with mathematical accuracy. When different matrices collide, mechanical operation is disrupted and there is a pressure for the integration of the two principles at a new, more complex level. It is tempting to directly apply this model to the stabilised mechanisms described in Chapter 1 for explaining processes of change. However, the model only accounts for the triggers and possible outcomes of change, and does not give generalisable, fine grained qualitative accounts of the kinds of processes that implement it. It is

also probably limited to a subset of change processes: ones with a dramatic script rather than a gradual transition.

Among the traits explored by studies of the creative personality are openness to the unknown and unimaginable, skepticism, which can be paired with gullibility, the simultaneous presence of high level abstraction and practicality, independence, dominance, introversion, asocial attitude, a good grasp of social norms, radicalism and the rejection of external boundaries, selfishness, the rejection of rules and cooperation, uncontrolled behaviour, impulsivity and carelessness. This list seems to reinforce an assumption that we might intuitively formulate about creativity: that, if we look at these phenomena in a certain angle, it goes against the grain of cooperation, at least the kind that is based in normative expectations. Apparently, some of these personality traits point towards deviance, and the idea to connect creativity with madness has already come up in ancient times, and been studied for centuries (Eysenck 1994). By analogy, the social level equivalent of the disruption of thinking patterns or order and consistency at the level of the personality is social crisis, change and transition. In the next section I reflect on some accounts of the dynamics of such processes, and highlight some of the ways that forces mediating between private and public worlds have been described and might be involved in processes of transition.

3.2. Transition as mediated by symbols

Mediating between the public social realm and private worlds has been described by social scientists as an important factor in social change and key to the dynamics of social institutions. Turner (1969) conceptualises ritual events as social functions which serve transition from one state to another or heal dysfunctions in society by temporarily suspending the structural basis of community. He grasps the dynamics of change through the use of symbols. Relying strongly on indigenous accounts, he determines that symbols are bipolar in that they have a social and a physiological meaning at the same time, and that they are multi-layered, representing some principle in different meanings, connected to different experiences. They are also ambivalent in that they have both a positive and a negative aspect. In his analyses of ritual events, he explains the process of transition as it is actively mediated through mobilising symbols and relying on these characteristics. What strikes the reader about his descriptions of these events is that while supporting the transformation of meanings to subvert and then restore social order,

the use of symbols is not consistent throughout the whole process. It is not a logical narrative that unfolds by the translation of the symbolic expressions to some literal, everyday terms. The meanings, modes of operation, structures of society do not just reorganise seamlessly, although in another language. In the suspended state, there seem to be moments of chaos when symbols get isolated from their meanings while, in a way, still provide a sense of security just by their constant presence. Turner's thick descriptions suggest that what happens is a kind of jugglery where linearity is actually lost, and what holds it all together is the intense physical presence and involvement of the participants and the constant mobilisation of the familiar symbols. Other anthropological analyses of ritual and religious symbolism have also pointed out that there need not be a continuity or consistence of meanings for symbols to fulfil a coordination function (e.g. Obeyesekere 1981, Medick 1987). They have the potential to integrate private worlds into a public realm, and this can happen by varying degrees of continuity of meanings, or connection between individual experience and public representation.

3.3. Sources of complexity and convergence

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 channelled 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. Mihály Polányi's (1994 [1958]) theory of implicit knowledge and Gerhard Schulze's (2000; see also Éber 2007) theory of experience communities provide some interesting insights relevant for this dynamic.

In his explication of implicit knowledge, Polányi (1994) argues that personal knowledge is highly complex, never as schematic as its descriptions or expressions, and often not even of the same form as the reflections we have about it. He claims that certain elements of our knowledge are inarticulate, indefinite, while they are constantly on the periphery of our attention when we perform the practices connected to that knowledge. These are practical wisdoms that are

manifested in our activity. Often they cannot be coded, only demonstrated by a master, and this is also the basis of their survival: they will be extinct if not practised for a generation. They do not lend themselves to formalisation, or the formalised version is different from the form of knowledge we actually resort to in practice. He cites the example of riding a bike: how any calculations involved in the physics of maintaining speed and balance would be a useless and unnecessary distraction during the actual activity. Common law, where the principle lies in the decision and not its analysis, is another instance that demonstrates this point. He also presumes a latent element in conceptual knowledge acquired verbally, which is exemplified by the doctor who is able to recall a large part of her knowledge even if she has lost the ability to use technical expressions. Experience, and even knowledge will take schematic forms at a personal level as well, while it still preserves its density and complexity. This, as I am claiming, allows for a reorganisation that goes beyond the restructuring or rearrangement of its schematic form, or its publicly accessible, shared or common forms for that matter. Regarding the public formalisation through symbols and other functions, Polányi calls attention to the important role of emotions in reaching agreement about these, in addition to the fact that we encounter them in similar socialisation contexts. These public formalisations, reference points, common representations and shared schemata are still not necessarily the same as the schemata used at a personal level. In this light, then, private worlds can be a rich resource for divergent dynamics.

In his theory of experience society, Schulze (2000) explains ways in which experience might be moulded at the level of the individual through cognitive processes, and then converge at the level of the community through processes that are communicative in nature. He uses the concept of fundamental semantics to describe the basic frame of reference that individuals use in their orientation within the social world, and the interpretations they form about it. He claims that while the fundamental semantics of a society of scarcity is of an economic nature and is characterised by strict hierarchies, the semantics of societies of abundance are of a psychophysical nature, that is, they are adapted to internal aspects, and they are not organised by strict hierarchies. An important point in this grasp of contemporary semantics is that experiences are subject to processing: a kind of testing, reflection and learning process. This process results in experiences that are singular and highly unique. As individuals in contemporary society learn to “own” their experiences in this way, the author claims that they also increasingly form their communities along these lines – the ways of acquiring experiences.

Generating these experiences at the level of the individual involves remembering, storytelling, interpretation and evaluation, and the same processes go on at the level of experience communities to ensure the convergence of these experiences among members of the same group. Society thus loses the unified sense of constructed reality. Milieus formed in this way have stereotypical pictures of other milieus, and a major degree of similarity is restricted to general levels such as the knowledge of traffic rules. By Schulze's view, then, we may conclude that while regular acts of communication ensure convergence at the level of experience communities, discrepancies and incommensurability of experiences may characterise society as a whole, making transition or translation between communities, as well as coordination on non-generic matters, a challenge. Schulze's conception implies that there is always some room and flexibility at the cognitive level for determining what is desirable for the individual, and to some part preferences are set and consolidated during continued social interactions, by manipulating the semantics.

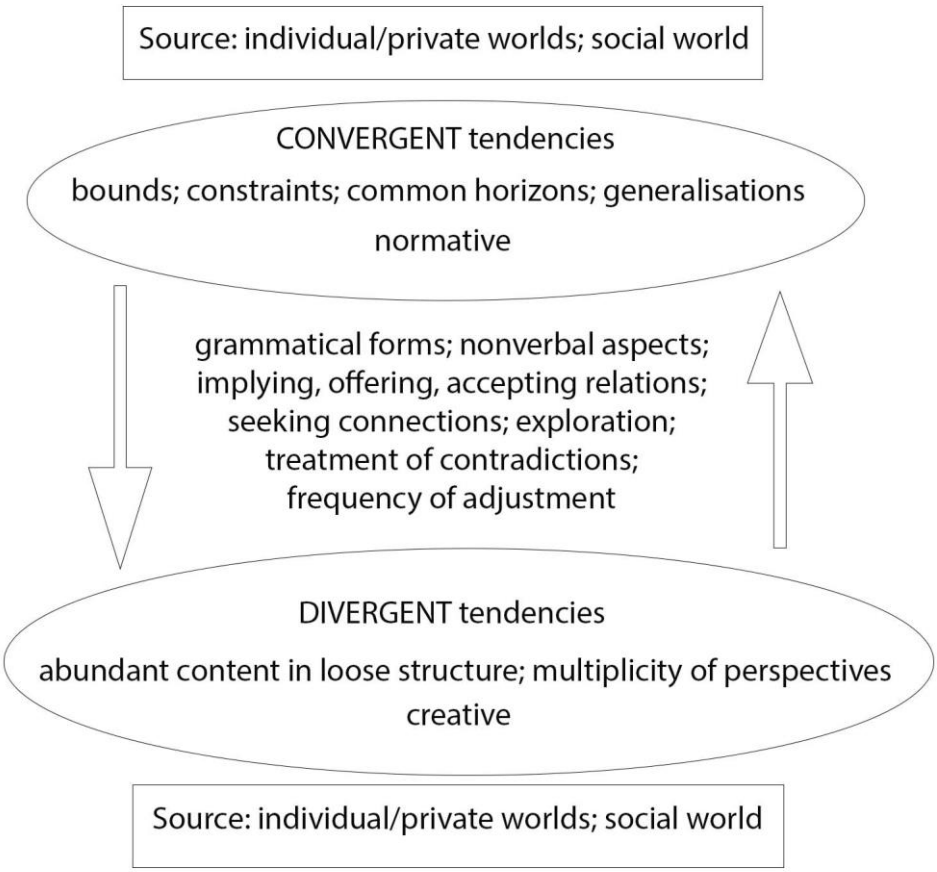

Figure 3. Constant interplay of convergent and divergent dynamics. Processes in both directions can be launched from either the private or the public worlds, and are governed by a variety of verbal and nonverbal aspects of communication.

Importantly to our present argument, Schulze endeavors to account for a transition from thinking in terms of scarcity (which also characterises a majority of game theoretic models and reflects the economic mindset) to thinking in terms of abundance and alternatives, in terms of the concomitant social dynamics. Schulze's standpoint is in line with Binmore's (1994) view of malleable preferences and some of the arguments in which he suggests that these are learned and altered through time, while Schulze's account adds more qualitative detail. Though the scope of his explanations is the dimension of shared preferences of experience, the communication dynamics and cognitive processes that he references will be equally relevant to the general semantic underpinnings of cooperation. We can look for similarities and draw on his descriptions when characterising more general communication processes in a community with a view to emergent cooperation potential, but we should count on a more diverse range of dynamics than those present in the predominantly convergent tendencies of forming experience communities.

3.4. Summing it up. The problem with emergent cooperation revisited.

In the first part of this work I have drawn on the approaches of different disciplines to highlight a set of questions surrounding contemporary theoretical explanations of cooperation, and to import inspirational insights from a variety of disciplines not directly related to theorising about cooperation. This was done with a view to the aim of crafting a general framework that is suitable for grasping the dynamics of cooperation in situations characterised by a high degree of uncertainty. I was looking for a framework that can lead to a useful extension of existing theories, increasing the range of phenomena that could be explained by them. The main concern that I articulated in connection with current approaches of economics and the evolutionary disciplines, relying largely on game theoretic modelling, was that these explanations work with some fixed framework, and make reference to closed groups or a well defined problem to be solved by strictly set rules. While these approaches are effective in modelling human cooperation and making good predictions in a wide range of settings, I am claiming that they may lose sight of important aspects which, if incorporated in these explanations, might both enhance their accuracy of prediction and extend the range of phenomena they can model.

The importance of coordination tools has been emphasised in both disciplines, and a number of candidates have been presented that fill this role, and their dynamics explained. However, by

their very framing, the reference to groups with relatively discrete boundaries or problems and well articulated rules, these represent a limited range of coordination dynamics, fixing some of the potentially variable criteria for making human actions converge on common goals or according to shared means. In other words, they explore a discrete set of evolved tools, rather than the axioms of some dynamic, which might concern translating between individual cognition and social realms, and rely on divergent processes for finding common points of reference in an opportunistic way.

I am aiming to shift the discourse about cooperation to a different axiomatic level by introducing principles from other disciplines that I find relevant: (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 different dynamics at the interpersonal level, and (2) the semantic dimension of strategic interactions, which, as I have argued, 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.

Finally, I am claiming that this grasp of cooperation can be achieved by reference to the communicative dimension. In the present work I was aiming to identify portable analytic tools for qualitative descriptions that can be used 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 claiming that there is a relationship between cooperation potential in a given setting and the state of the communicative dimension. 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 or for establishing a new 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 made available to them in the communicative environment 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.

3.5. Pulling it together: an analytic framework

General outlines

In a rather general grasp, my field studies were geared to the purpose of finding a set of analytic tools that describe the unique interplay of the two principles described in the previous sections – the creative exploration of possibilities and the alignment of strategies and knowledge – in the situations I observed and initiated. As a second step, I aimed to make these aspects of observation general enough to be portable to different kinds of settings and events. The study was informed throughout by the considerations outlined in the preceding chapters, and I kept in mind the factors offered in the explanations of the different disciplines, looking for ways to complement, rather than refute, those explanations. In a sense, I am incorporating the tools offered by the different disciplines in a new syntax, representing a special perspective and including some new additions. This investigation can be seen as a quest for a new grasp, a new way of speaking about social dynamics in human (strategic) interactions.

My working method has yielded a framework comprising, in practical terms, a set of questions that can be asked about social interactions, and an open ended inventory of descriptive means to characterise the use of the whole repertoire of verbal and non-verbal tools. Answering the questions by means of these descriptive aspects can yield an account of the unique dynamic of any given real life situation with respect to the patterns or potentials of evolving cooperation. In this section I am giving an outline of these analytic tools, and in the next chapter I am showing them at work, presenting my field study results using this framework.

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, in different patterns or accidences. In turn,

then, we can ask how the individuals involved in these interactions, or their private worlds 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. Various aspects of verbal and non-verbal communication can be relevant for grasping this dynamic. The most general question concerning the verbal aspect is how different perspectives are handled. Utterances can have personal relevance, claim joint or general scope; may assume hypothetical, possible or make believe status as expressed through their grammatical form. At a next level, as complexity increases, these different perspectives can comprise a consistent system or get contradictory. Their sources and relationships can be well articulated or fuzzy, open, undecided or ambivalent. Private worlds can be represented personally or by others through reference to joint experience or by different mentalisation strategies, that is, by attributing mental states to others. These attributions can be based on prior acquaintance, stereotypes, generalisations or conjecture, etc. The repertoire of nonverbal communication can also be aligned to answering these questions: bodily orientation, distance, gestural communication, intonation, eye contact can inform about interpersonal relations, as well as about the intended scope of the content (general, personal, make believe, etc.) presented verbally, imply personal perspective on an experience or make an attempt at offering a common frame. The variety of perspectives presented in this way can be left intact in their complexity, or ways of aligning them may be sought by categorising, generalisations, joint, mutual or complementary perspectives, common points of orientation. Frames may be offered for adjusting or incorporating the presented content, accommodating roles and attitudes. The joint or convergent perspectives and frames may be expressed explicitly or stay implicit, and can be (implicitly or explicitly) rejected or neglected by participants of interactions. Ambivalence and conflicting perceptions may be sustained deliberately or as an incidence, or ways of eliminating them may be sought. Some aspects of this dynamic show a divergent tendency, enabling the accumulation of knowledge articulated from a variety perspectives, while others point towards convergence. A thick description of the various aspects of communication can be directed towards answering questions about the formation of content, portable signs, common knowledge and cooperation potential through answering related questions and a thereby giving a focused, selective account.

The alignment of content does not necessarily entail an immediate alignment of action strategies; a very important aspect of its effectiveness lies in the frugality of cognitive

processing. The diversity of perspectives and frames adds a new dimension to the complexity of knowledge and information to be processed. Without frequent adjustment to common horizons, handling a meshwork of faithfully represented personal perspectives demands high processing capacity, while it may be less conflicted, free of contradictions and psychologically convenient for the participating individuals, making it easy for them to connect with a system of knowledge presented in such a way. On the other hand, frequent adjustment to common frames, or to use the terminology of Horányi (2009), to common horizons, also demands cognitive capacity. If a lesser effort is invested in this work, participants risk losing a sense of continuity and coherence of personal knowledge with the knowledge of others or common knowledge. Such tendencies will be highlighted with examples from the field studies in the next chapter.

Some of the communicative assets characterising these dynamics lend themselves easily to being categorised as signifiers (or initiators) of dominance-subordination relations, or will readily cluster as instruments of authority or a pedagogical repertoire, as explored by the Gergely and Csibra (2005) study cited earlier. I am decomposing such specialised clusters and going down to a more basic level in hope of revealing a set of more axiomatic principles that communication can build on to create cooperation potential. This focus can be seen as a unique approach to social dynamics, centered around the question of how communication strategies handle individual perspectives, and ways in which the latter can be moulded communicatively to generate common horizons.

In some of my analyses, I am putting a higher emphasis on the role that the visual dimension, more specifically certain kinds of visual products might play in connecting and aligning private and public worlds. Visual art pieces produced individually or in a joint process can play a special part in such a dynamic. They can carry complex meanings in a form that is instantly accessible, which makes them economical in terms of the time invested in communication on the receiver's end. The meanings they represent are often non-propositional, which makes them capable of supporting open, flexible, loosely defined interpretations and perspectives, while still offering points of joint reference and orientation. They also enable ordering meanings through relations in physical space or arrangement by aesthetic means. One of the case studies presented in the next chapter highlights the way these capacities can be mobilised to generate special social dynamics and extend the space for creating cooperation potential by adding flexibility and loosening the rational dimension of common knowledge.

By reflecting on this set of characteristics, then, one may arrive at a grasp of the communicative state of situations which has relevance to strategic reactions to problems that might evolve in a community. A description is possible from an external point of view, while we may also claim that such a grasp is part of individuals' cognitive environment when making strategic decisions. Thus, at a next level, this approach can inform the game theoretic paradigm. New hypotheses may be formed in the framework presented here about how different factors of the communicative environment play a role in strategic decisions, and new models can also be formed for exploring strategic interactions and their possible outcomes.

Principles of aligning and connecting

All of the above mentioned principles 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 resulting knowledge and orientation structures can be hierarchical or comprise non-hierarchical networks, or a transition between the two. In my field analyses I sought to describe how these operate in a given setting; whether any tendencies can be observed; if any unexpected mechanisms can be explored; how we can account for a less strictly structured, changeable, flexible setup that allows for innovation in cooperative means and principles; how different elements of the dynamic affect such processes, to what extent they support them and what difficulties or, in the game theoretic terminology, what kind of cost and expected gain they represent.

Some experimental paradigms revisited

In light of the framework outlined above, I am proposing a thought experiment using one of the experimental designs to demonstrate the kind of difference that this alternative approach might bring to analysing different settings. This though experiment is not meant as a critique of the experiment itself, but as a demonstration of the difference between different ways of reflecting on communicative situations. The line of thought presented here can be relevant for a variety

of situations in which we might draw conclusions about human interactions. Let us take a fresh look at the Gergely and Csibra (2005) study. When considering the communicative elements as tools that comprise a specialised repertoire, these accounts regard the interactions they analyse only from one side at a time: rather like actions that trigger some response, and not as a true interaction that involves actions by both participants taking place simultaneously, moreover, in an interconnected manner. Eye contact is not taken up by the experimenter alone, but is an event that implies mutual actions. Synchronous or harmonised body movements might also be involved. While the experimental descriptions are geared towards segregating a connection between the adult's generalised repertoire and tendencies to imitate, a description as communicative act involving both parties might yield different, further insights with the same event. Let us consider, as a thought experiment, what we might find if we applied such a thicker description to the experimental setting. It might reveal how the infant responds to the experimenter's communicative intiatives, how their behavior during demonstration implies acceptance or rejection of the frame offered or any other attitude, or how the experimenter reacts to the child's communicative behavior, and possibly further connections between these aspects and the subsequent imitative behavior. In a sense, these experiments look at the likely outcome with one party, the experimenter investing deliberate effort into structuring the cognitive environment. A difference between a one-way and a symmetrical view of the same event is nuanced, but basing a qualitative description in the perspective of the site rather than one or the other individual has important implications for the kinds of explanations we can come up with.

Earlier in Section 2.1., I have presented an argument about the inevitable presence of communicative aspects in any experimental situation, even in the anonymous setting. In hope of establishing more points of connection between my argument about communication styles and the critique of game theoretic approaches presented in Chapter 1, I am now inviting the reader to consider another thought experiment by inverting the paradigm of decision with no communication and looking at the decision situation at the other end of this spectrum. Let us imagine a decision situation where communication itself is at stake, that is, the decision to be made concerns engaging in communication or taking a strategic move without further interaction. An actual event where this consideration is present in such a pure form is just as extreme and absurd a case as interaction without communication, but we can take this step of abstraction for the sake of the argument. We might imagine a random encounter between two strangers or two parties involved in a strategic situation who can decide to make the next move

or engage in further negotiation, discussion or other forms of communication. They may or may not be using the same frames for describing the situation, yet if they choose to proceed by their solitary considerations, the payoffs of their actions will be calculable, and may lend themselves to be modeled by some decision matrices from an external point of view. In real life situations, on the other hand, engaging in communication often does not only affect access to information about the state of affairs, preferences or intentions, but it may also alter the frames in which participants conceive a situation, their own preferences and possible courses of action. Conflicts resolved by mediation practices or other means are examples for a situation like this.

Given such a setting, the frames that the participants end up with if they choose to communicate, including the perceived payoffs, may differ crucially from the frames they started out with, and so the possible outcomes of engaging in communication will no longer be calculable in terms of payoffs, and the decision to engage in communication will not lend itself to modelling by a decision matrix. On the other hand, one will readily contend that engaging in communication entails a certain cost, and one might attempt to estimate the magnitude of this cost and even the expectable tendencies towards a solution by making a qualitative assessment of the communicative actualities: the setting and the precedents. In any specific real life situation, we might count on actors being engaged in an interplay of forming hypotheses about decision matrices that describe that situation and acting towards possible outcomes as defined by them, and communication geared towards alignment tendencies, which may or may not result in finding more favorable matrices for the actors involved. Such efforts towards alignment, I am claiming, could change the description of the strategic situation at a profound level, and by affecting the matrices involved, we can argue that this takes coordination to a level that goes beyond forming conventions about alternative coordinated choices in the same matrix. We might, however, raise the possibility that a dilemma like this can be incorporated into game theoretic descriptions of strategic interactions in some form. While the thought experiment has presented the dilemma through theoretical extremes, we could say that the forces it represents, a pressure between elaborating or changing the frame and acting on it, is present in every strategic interaction. Also, we might note at this point that for the sake of this thought experiment, we have treated communicating for the sake of communicating as a class of strategic moves instead of a factor in making a decision. Such hypothetical, distinct alternative perspectives are not just auxiliary tools for this kind of theorising though. They can also be part of the cognitive processes in which participants themselves tend to grasp the situations (their naive theories of rational action), and this in turn can interfere with their respective strategies.

One might claim that in a real life scenario, the preference to cooperate, the desirability of cooperation itself can be part of a decision matrix and trigger greater or lesser inclination to communicate if the partners' mutual perceptions of the situation are discrepant or unclear. Explanations on such grounds have frequently been quoted by individuals involved in the field situations I encountered. Communication in such cases may, but need not necessarily be limited to mutual clarifications of the frames in which the participants perceive the situations, and involve the generation of new frames or common knowledge, while the effort invested in doing so may, in part, depend on the desirability of cooperating with a given partner.

We have seen in Chapter 1 that gathering information from the environment in general, or processing the information necessary for full rationality in itself requires large cognitive capacity, and there is a balance or bounds to making solitary rational decisions on account of this. Similarly, further communicative exploration and enhancement of cooperative potential is costly, and there is an added depth of complexity to this task due to the diversity of perspectives (possibly implying different frames, norms, etc.) involved in this act. The possible outcomes range from no change in the perceived state of affairs through an endless variety of possible changes in the decision matrix by manipulating the semantics that define the mutual perceptions of the situation. As much as rationality is bounded by computation capacity constraints, the potential of cooperation is bounded or balanced by the capacity constraints of decreasing risk or increasing potential gain through communicating. While the outcome of engaging in communication and thus the change in the payoffs will always be uncertain and poorly calculable, the estimation of the magnitude of cost can be supported by a description of the state of affairs in terms of the ordering or structuring of perspectives, semantic patterns, covering verbal and non-verbal aspects of the communicative setting along the lines described above. Such estimations can be made from an extern perspective, while we may also argue that communication cost and potential gain might be part of the considerations of participants about strategic interactions, too, even if different aspects of the situation would be relevant for their respective calculations, as defined by their individual perspectives. An extern description can also inform about participants' expected willingness to engage in communication in the given setting.

These qualities of the communicative environment are just a factor in the dynamics of cooperation, and so their predictive powers may be limited. In fact, the argument for the presence of creative dynamics introduces not only a solution that bridges uncertainty, but also

one that makes the possible outcomes less calculable. As I noted earlier in outlining the framework for grasping these tendencies, different arrangements constitute different advantages and face the participants with different challenges. Let me highlight this point further with roughly sketching up a few possible general tendencies with the advantages and problems they face the participants with. Naturally, the tendencies I present here are simplified and schematic, and we can expect much more complex dynamics in real life situations.

Let us consider a communicative environment where representations are presented in such a way that they are frequently adjusted to some unified common framework or horizon. We can assume that in such a well ordered system of public content and common knowledge, orientation will be cognitively convenient, fast and effortless. On the other side, as individual experiences may be diverse and complex, the process of adjusting may entail constant communicative and cognitive cost, as well as a reduction of the complexity of individual experiences. In reverse, perceptions of other individuals' worlds will be coded through these adjustments, and if such communication is sustained, the same might happen with time in individuals' coding of their own worlds. Therefore finding links between individual worlds will be convenient but will happen on constrained routes, and might be less direct and more culturally or socially mediated. An environment like this may still support or discourage the incorporation of the richness of individual experience into the unified framework; in either case, due to this channeling element, the divergent character of content in such a setting will be limited, and convergence will dominate. Such an environment may promise that 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. Such tendencies were dominant in the formal educational settings that I observed. It also seems plausible to associate such tendencies with strict hierarchies in organizations and societies, though I am somewhat wary of such generalizations at this point.

Alternatively, we could imagine 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 assume that orienting in such an environment entails higher cognitive cost. In the meantime, such an environment enables a greater richness of individual experiences. Connections still may or may not be sought between individual experiences by frequently

finding some degree of common ground or creating common points of reference. In such an environment 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. 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 accummulated is also more costly in an environment like this. I have observed more of these tendencies in the extra curricular art workshops and during informal activities in the school setting.

Operationalising the factors

Based on the above considerations, then, we can draw the outlines of a general approach and sum up a set of aspects for characterising a variety of communication settings with a view to the underpinnings of cooperation among the participating agents. Such an inquiry can be targeted at a wide range of communication phenomena, including micro and macro level processes or verbal and non-verbal aspects. I have collected some guidelines and questions relevant to cooperation potential below. By giving an account of these characteristics of communication, we can start looking for a connection between the pattern we find and the potential or obstacles entailed by them. Considering the nature of the field observation method that was part of generating the following set, it is best treated an open list, a guideline that can be continued and extended through insights from other settings.

The aspects that might be considered for assessing cooperation tendencies and potential are:
- Strategies of mobilising private worlds, e.g. frequency and means of exploration
- Seeking connection between private worlds and public representations
- Generalisations as opposed to predominantly individual perspectives
- Adjusting content to common horizons
- Complexity
- Variety of perspectives
- Strategies concerning discrepancies and contradictions, e.g. neglecting, avoiding, eliminating, and the means by which this is done
- Means of achieving order, reducing cognitive burden

- Strategies of offering common horizons, ways of accepting or rejecting them, and ways in which unfitting content is treated
- Portability of the presented content
- Permanence of meanings
- Flexibility of meanings, relationships, etc.
- Instituting relationships and roles. Offering, accepting, rejecting, suspending them
- Structural consistency of content and relationships
- Relationship of local processes to other levels of cooperation and community formation
- Halting and conflicts, reaction to these
- Ways of manifesting and emphasising structural alignment
- Ways of manifesting and emphasising connections and commitment

Chapter 4 – Field studies presented in the outlined analytic framework

4.1. Selection of the fields

The empirical part of the study was aimed at exploring qualitative connections 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, cultural or professional backgrounds. I also wanted to choose settings where some kind of a coordination issue, in the broader sense defined earlier, was expected to be present. 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 observed in the first phase in more depth, and to generate a different kind of dynamic from what these sites represented. 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 options and questions that came up during the process.

Naturally, 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 aimed at 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, which was aimed at generating collaborations among people with diverse expertise. 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. In the following section I am describing each of these events, settings and practices as instances of evolving cooperation, and the element of uncertainty or transitional character in them. I am also making a mention of the fields where I did not do in depth study in the end, to give a better idea of the considerations I had in mind and of why I picked the settings on which the actual analyses were based. Then I go on to presenting the most important general facts about the fields that I am analysing in this chapter: the school settings and the art workshops with migrants.

4.2. Different settings as instances of evolving cooperation

The fieldwork consisted of three major phases in three different types of fields. I picked the first setting, the informal teaching events, from several candidates I was considering, and the other two settings were selected and planned based on the kinds of questions raised and the directions set by their respective preceding settings. In order to suit the logic of the analysis better, the detailed account of the field findings will not follow this temporal sequence. I will start with presenting the formal teaching events, and move towards a comparison with the informal workshops and activities in the school context, then go on to analysing the third set of field findings.

Among my initial plans had been to do some of the fieldwork at Kitchen Budapest, an interdisciplinary project incubator program that was launched around the time I started this research. I was expecting this setting to be a kind of laboratory where people from different professional backgrounds get together with the loosely defined aim of generating innovations, where the problem to address and the means are undefined or loosely defined at the outset. However, based on my preliminary inquiries I found that this program applied a basic pitching process and leadership model for implementing its projects. Individual owners of ideas would do a presentation, and those that were voted in by the team would then be supported and realised in a team effort, with the owner of the idea acting as a leader. This means that the conditions of coordination, the frames and drivers of cooperation would be well defined at the outset after a phase of competition, a lot like the way they are in an organisational environment. This pattern

does not carry much of the emergent community planning element that I was looking for, as it involves a well defined division of roles and leadership, and a relatively well articulated problem and idea definition at the outset. As we shall see in my subsequent analyses, leadership is a factor in almost all of the dynamics I have explored, and its elements can be traced even where no leadership roles are explicitly assigned. However, in most of the cases studied it is entwined in a complex dynamic, where other factors of my explanatory framework play more prominent roles.

The community planning sites I picked for some pilot observations were supposed to be genuine bottom up cooperation initiatives. The reason I picked these locations was that they all had Roma minority as well as non-Roma majority residents, and were characterised by a situation of explicit or latent conflict between these groups as well as the local leaders and stakeholders. The joint planning initiatives were meant to address long standing problems where the perceptions, frames of interpretation of different participants were supposedly widely varied and not easily harmonised or translated into each other, and at times were even conflicting. These settings were promising prototypical examples of the kinds of dynamics I was aiming to explore: a high degree of uncertainty in terms of the goals, roles, and frames involved in community action in a social setting, at the level of a local community. In each of these cases the initiatives were supported by external facilitators who were familiar with the local settings and most of the time also knew a lot of the actors involved. During my initial visits at the locations and different preparatory planning events, I observed some basic tendencies of how these processes were beginning to unfold. Innovative ideas, problem formulations and solutions were highly encouraged by the initiators of the processes. Local participants and stakeholders, however, often gravitated towards copying already existing solutions and project patterns that seemed to answer problems in their respective contexts more or less adequately. Ideas, as well as the frames for describing local situations often came from established community leaders or the external initiators of the processes. These sometimes lacked substantial exploration of specifically local phenomena that defined local problems, and opinions or insights that were less systematically articulated proved difficult to incorporate. Following up on these processes with the hope of coming upon an initiative with a more complex dynamic was appealing, even as an opportunity to do comparative analyses of the different settings. However, this also seemed a risky choice, as the chances of some project actually showing a truly innovative pattern were highly uncertain, and doing such an extensive field study with the possibility of exploring nothing more than these relatively predictable patterns did not seem like a productive

alternative plan. In comparison, yielding to dominant or leader perspectives was more contested in the teaching situations, and the dynamics and challenges of adapting to readily offered horizons were more openly played. While patterns of adjusting differing perspectives often stayed latent in the short term in the project planning contexts, the school setting shed more light on the resulting knowledge structures and cooperation potential.

Teaching situations are institutionalised practices of knowledge construction, even if they are traditionally seen as a process of knowledge transfer. They can be seen as instances of jointly generating cooperation frames of different levels. There is a situational level of coordinating knowledge and behavior patterns; then there is an institutional level which fits in a larger institutional framework, and eventually, we can claim that the aim of participating in the educational setting is to integrate the manifested knowledge and align the cooperation patterns it entails with the overall patterns characterising the given society. The form of the shared content and the cooperation patterns at these different levels is seen as normative from some of the perspectives, though not necessarily from others. Even if teaching events are conceived as biased in that the teacher is assumed to have a leadership role and authority, intense efforts towards the adjustment of the perspectives of participants are part of the process in any school setting. For my field observations I chose settings where there is a wide gap between the social and cultural backgrounds of the teachers and the students, and adjustment is expected to be especially challenging. The majority of the students were Roma with a small number of non-Roma students, while the teachers were largely non-Roma with diverse motivations for teaching disadvantaged children, and with different professional backgrounds. This meant that a greater gap and divergence could be expected in the experiences of participants, and less continuity could be assumed between the presented knowledge and the knowledge of the students than in a setting with middle class majority students, for example. The frames of cooperation at different levels, probably contested in any educational setting, are expected to be less consensual and less easily adjusted here than in other teaching environments. Grasping these situations as instances of emergent cooperation is an alternative to categorising them as knowledge transfer, the latter framework itself actually being a desired normative cooperation frame. The paradigm of emergent cooperation allows a wider angle view. Instead of reducing the perspectives of all the actors to the normative of the institutional expectations, it offers an approach that is balanced in these terms, and enables a different grasp of the social dynamics.

While bearing some of the features of the formal educational setting, the informal educational settings were expected to be different in some relevant respects. They were not compulsory school activities, which entailed different incentives and dynamics of participating, and their content was more flexible, not part of the regular curriculum, and less normative. Their design was also meant to be reflective of the special characteristics of the social setting and the cultural differences, and the art method played a part in serving this end.

The formal and the informal classes I observed took place in two different schools. The general dynamics and overall challenges were different in these two types of settings. As I pointed out in the introduction, an important characteristic of both settings was sustained uncertainty and a kind of extended transitional state the community lives in. It is not evident that the teaching content or even this form of teaching is continuous with the children's experiences and expectations, or seems consistent with prevailing or successful life strategies in their environment. Taking a joint framework for granted without reflecting on it can (and often does) preserve incompatible perspectives and leads to the recurrence of stalling and conflict. These general points are equally true and relevant in both the formal and the informal teaching contexts in the Roma communities. I will give a more in depth review of the overall dynamics in the next section, before I go on to the more detailed micro analyses.

The community events that were the site of the third part of the main study were meant to respond to a specific social issue. The area of concern is the strategies of migrant communities in Hungarian society. As demonstrated by a number of sociological studies (e.g.: Örkény and Székelyi 2009b, Göncz, B. et al 2009), the degree of integration and the strength of migrants' ties with their own diaspora vary widely. Some groups tend to sustain stronger ties with the diaspora, and members of these groups may have difficulties in forming supportive social ties outside this network. Migrants often report difficulties in forming new trustful relations, as explored by Örkény and Székelyi (2009a). A number of civil programs exist that address burning issues by providing language learning opportunities and helping migrants to better opportunities in the labour market. We can look at these as efforts towards engaging migrants in the cooperative system of our society through a kind of secondary socialization. In the studies cited above, migrant strategies as well as local cooperation routines are seen as forming more or less coherent respective systems, built and working through a variety of micro and macro level processes. These may involve, for example, diverging trust building strategies, differences in the general tendencies of adapting, and the choice of new or existing cooperating groups and

partners. Some of the challenges faced may be described as knowledge gaps of the kind that corresponds to game theoretic notions of common knowledge, while others will involve differences in framing or preferences, and therefore efforts towards generating common knowledge understood as gap filling can lead to dissonances or may not create connections and alignment in any relevant way. While certain basic needs that relate to desirable new patterns of cooperation will be recognised, and some of the preferences will be rearranged accordingly, the efforts may leave a more subtle dimension of cooperative routines, structures and tendencies unaffected. Discrepancies at these levels may still become relevant to overall cooperative potential. In a sense, the situation is similar to the school setting, though the differences were not limited to the facts that in this case the participants were grown ups, and cultural differences were of a different kind. In this field study, I could take one step further from the study conducted in the school settings. Relying on the experiences, observations and analyses from that setting, communication strategies could be used reflectively to respond to the special characteristics of the situation. In the context of the events themselves, no specific joint goal was set, and the most general pragmatic aim was to catalyse the generation of informal supportive ties and networks among the migrant and Hungarian participants, supported by a flexible, adaptable pool of common knowledge, as defined in Chapter 2. Translated to the language of cooperation, the aim was to maximise cooperation potential while keeping the frames as malleable as possible. In the communicative dimension, then, connections and commonality of knowledge needed to be generated in such a way that it could be adjusted to a variety of different perspectives and life situations. In practical terms, a vast amount of content was jointly generated with lots of portable elements, with a view to these requirements, in the context of moderated art workshops. The practical circumstances and general data of the events are described in Section 4.3., and their in depth analyses are presented in the subsequent sections.

4.3. Circumstances of the fieldwork, general data of the fields

Participant observation in the school settings, basic data

The greater part of the school study took place during a two-year period, and comprised the observation of formal and informal teaching events. Formal teaching events were observed in a public school in Budapest, educating students of ages 6 to 14, in an area with a high proportion

of Roma residents.[4] The majority of the classroom observations were made in two classes with students aged 10-16[5], with several different subject teachers. The informal teaching events were extracurricular art workshops that took place with groups of Roma children at two locations, and were all held by the same artist and her variable crew. The two locations were another public school and a neighboring community center in the same area, where the workshops involved mostly Roma students from the public school. The context outside the actual teaching situations was also extensively studied and is taken into account in the analyses to a degree that seems relevant to the subject.

Data in the formal setting was collected during three consecutive semesters: focused study of teaching situations began after a preparatory phase, in the second half of the second semester. A total number of 23 teaching classes were observed, 45 minutes each, taught to groups of 8-10 children by subject teachers supported by an assistant teacher. The subjects taught were mathematics, literature, history, English, natural science and drawing. The classroom observations were complemented by informal data collection from the school staff about the school's program and their own methods and views; a questionnaire filled by volunteering members of the teaching staff; and informal conversations with the children. In addition to the formal teaching events, I spent a day with one of the classes in a „forest school" event, and participated with them in extracurricular events and some of the morning „discussion circles" held by the assistant teacher responsible for the class, focusing on daily matters.

Apart from observations at the teaching sites, I conducted an extensive exploration of the wider context of the two settings during the two-year period. I met with the families of some of the children participating in the informal workshops, obtained information from community activists including a social worker responsible for the area, and accompanied the social worker on several visits to families in the neighborhood.

The study in the informal education setting was based on participant observation, complemented by data collection from the families of the children and the leaders of the

[4] Theoretically, the school is integrated, recruiting both Roma and non-Roma students. However, given the free choice of schools in Hungary and the reputation of certain institutions for a high proportion of Roma among their students, non-Roma parents almost invariably choose other schools within the district, which results in a vast overrepresentation of Roma students in this school.

5 A significant number of the students fail and repeat one or several grades, and stay in the elementary school beyond age 14.

workshops. I visited the weekly art workshops for one semester, and followed up the process by conversations with the lead artist of the instructor crew and occasional visits to the site later on. The informal setting was flexible enough to allow me to engage in much interaction with the children during instruction as well as outside the workshops, and even facilitate the workshops when it seemed adequate. As participation in the workshops was optional, there was a small degree of fluctuation, with 6-10 children of ages 10-14 participating each time. During the semester when I followed the workshops closely, they took place in a classroom and a computer lab in the public school, and later they moved to the neighboring community center, still recruiting students from the same school. Outdoor locations within the school and in the neighborhood were sometimes chosen for shooting videos and taking photos.

Data in both school settings was usually recorded by handwritten notes, as I was aiming at the least possible interference. Due to the nature of the art workshops, a large amount of photo documentation was prepared as part of the activity, and this, as well as the physical products created during the art activities could sometimes also be used for reference when analysing the processes.

Action research in the community project setting, basic data

The project activities consisted of 4 series of workshops, with 8 sessions in each series. Two project leaders, including myself, were responsible for the professional planning and implementation of these series, and each leader took the main planning role in two of the workshop series. The series were planned to run with the same group of participants, but a certain degree of fluctuation within and between the groups was expected. We worked with mixed groups, and initially recruited about 5 Hungarian and 5 migrant participants to each group. As a result of the flexibility allowed for fluctuation and participant numbers, a total number of 64 people were involved in the project activities, with varying numbers of participants at each session. Among the participants there were migrants from Iran, Russia, Georgia, Afghanistan, Australia, Vietnam, China, Mexico, the US, Greece. A small number of the participants were artists themselves. The groups were highly diverse in terms of the cultural, social and professional backgrounds of the participants, and the migrant groups the participants represented are generally characterised by different integration strategies and face different problems resulting from their migrant status and experience. Most of the workshops took place

at two cultural locations in Budapest in a single workspace, and external locations in the city were also used on some occasions.

We relied on questionnaires, personal interviews and observations to measure the pragmatic outcomes of the workshops in terms of the goals set at the beginning of the project. By the end of the project, altogether 23 migrant and 41 Hungarian participants were actively involved in the activities. It is important to make a clear distinction between the pragmatic aims and results of the project and the research questions, methods and results. The methods listed above were strictly just used for evaluating the pragmatic results of the project, and the method for answering questions relevant for the present study and operationalised according to the guidelines presented in Chapter 3 was primarily participant observation. The two aspects however are also inseparable, and therefore it is essential to present some of the pragmatic results briefly to provide a backdrop for the presentation of the research.

4.3. Field study in the school settings

4.3.1. The general framework: a more detailed account

Some general characteristics that affect cooperation dynamics in the school settings

The two types of school settings have some features in common and differ both from each other and the action study sites in ways that affect the researcher's approach to some extent, and make operationalising the questions somewhat specific to each of these contexts, within the general framework of the inquiry. I will explain these characteristics and researcher attitudes for the teaching settings in the following sections.

I am going to start my analyses with a brief general introduction of the school settings, relying on my chosen paradigm of cooperation patterns. During my inquiries among families living in the neighborhood, I have found that, as a general tendency, they did not report histories of success through complying with the education system, and few of them reported success through complying with overall normative social structures of cooperation. Their life strategies varied widely, members of the older generations often reported deserting strategies, truancy, sometimes even approved by the family, from their childhood. Dropping out before finishing

the eight-grade general school had also been very common with the older generations. On the other hand, parents of school age children showed a general positive and cooperative attitude towards schooling at this time, and most of them were expectant in connection with the potential that schooling held for the careers of their own children. In the school where the formal teaching events were observed, nearly all children are admitted to a trade or vocational secondary school upon completing the 8th grade every year, which is seen as a considerable success by the school staff and is not a typical tendency with members of the Roma minority.

On the side of the institutions and the wider social context, a tremendous amount of effort was generally invested in sustaining and reinforcing cooperative attitudes and a sense of community. This happened at many different levels, from extra curricular activities through social work and the responsibilities assigned to specialized staff within the school. The children themselves alternated between expressing and demonstrating willingness to cooperate and outright defection, or anything in between, like negotiating or expressing reluctance, to cite just two examples. Defection was sometimes connected to a general provocative attitude, at other times it was due to fatigue and repeated failures or seemingly unsurmountable difficulty.

The school where I observed the formal teaching classes used a special set of incentives, rules and daily schedule designed for the integration of disadvantaged students, and they continuously adopted new methods and came up with innovative practices towards this end. Some of these incentives had an economic, quasi monetary design: children got credit points in a local currency that they could convert to items from the cafeteria or extra curricular spare time programs. Teachers relied on this system in the classroom to varying degrees to motivate children. A morning discussion circle was held every day to kick off a day, focusing on every student's issues at the school, and also allowing time and attention for the private lives and concerns of the children. Each class was assigned an assistant teacher, who moderated the morning discussion circles and was present at all of the teaching classes, with the general responsibility of facilitating the teaching activity by keeping up order and attending to children individually if needed.

The extra curricular art activities that constitute the second part of the school study were run in another school, and mostly targeted children who were more motivated in their school activities. They were held weekly in the afternoons by two visual artists, one of whom is also an anthropologist. Rather than aiming to teach children art skills in a formal manner, they aimed

to face them with different genres, approaches and techniques from cartoon through collage and various digital applications to photography and film scripting. After a few semesters these workshops moved from the school to the neighboring community center. I also visited some of the activities there, and became familiar with their end results.

There are two important differences between the formal and the informal settings which were clear at the outset. The first has to do with the conditions of participation in the teaching events: while both situations are embedded in the institutions of formal education, that is, a social context meant to generate an overall sense of community and establish cooperative dispositions (as described above), the basis of cooperating locally in the two types of settings will be different. The formal teaching situations are part of compulsory education, while the workshops are optional, and do not lead to obtaining any kind of formal certificate. Therefore, as I noted earlier, children's general motivations and pressures to participate and stay involved differ in the two settings. The other major difference has to do with the kind of common knowledge expected to evolve as a result of the teaching process. In the formal education setting, the knowledge structure and elements owned and manifested by the teacher are expected to dominate and be preserved: common knowledge should eventually be manifested by the children according to set criteria, with restrictions to the variability of its form. The extracurricular activities represent greater freedom in terms of content: they enable a high degree of flexibility, and this will in turn support the evolution of different dynamics. In the former case, the challenge is to facilitate connection with institutionalized knowledge while preserving and reproducing its form. The latter types of situations have a greater potential for the generation of new forms of common knowledge (as defined in Chapter 2) and the shaping of social space with its own roles and norms at the same time, and they will be posing different kinds of challenges. Both of these differences entail further structural differences, which I will characterise in the framework outlined in the previous chapter.

Overall guidelines of the observations in the school settings

In collecting qualitative data aimed at answering the focal questions of the study, my overall guideline in these settings was to look for the general strategies used by teachers as well as students for establishing community, finding common ground and building common knowledge, with attention to both the verbal and non-verbal aspects of communication, and the

interplay of these. As the other side of this dynamic, I also looked at the ways boundaries might be set, attitudes shaped and coordination strategies and frames (along with commitment, community and cooperative intention) offered, accepted, neglected or refused. The more specific questions asked at the outset were: how are points of joint reference made mutually available and taken as common ground; who are they manifested by, and how are they accepted, or how and why are they rejected or neglected by participants; what sources are offered and enabled for the emerging common knowledge, joint problem definition or art product, with special focus on personal knowledge or experience of the students and the teachers; the ways in which these enmesh or stay separate; which of these sources the portable forms of knowledge is eventually based on; how a consensual public representation is built from the contributions of different participants; what verbal and non-verbal aspects of communication are brought into play in the process; how does all this shape the structure of community and knowledge, including joint, complementary and discrepant perspectives; whether in these situations there is always need for translating and exploring the other's background, and by what conditions shortcuts can be generated to community and connectivity on the spot; how coordination tools emerge as local or portable; what determines whether certain norms, values, frames of reference, etc. are flexible, malleable or rigid; in what terms and framework the sources of conflict can be explained; and how consensus is sought and achieved throughout. I will start the next section with zooming in a bit more on these guidelines, based on some considerations about the teaching situations in light of the theoretic framework outlined in Chapter 3.

Subject teaching: seeking involvement and common horizons

A possible approach to both the formal teaching settings and the informal workshops is to consider the instructors to be the bearers of a vast pool of knowledge, which they transfer to the students drop by drop during these events. Grasping the situations in this way is in line with traditional communication theories that operate with information transfer, and is especially fitted to the traditional frontal classroom setting and conception of education.

If we take the perspective of cooperation, a classic game theoretic account can also be given in terms of establishing the frames of cooperation, tools of coordination – conventions – for the future and at the various local levels. In this conception, there is no flexibility and negotiation about these terms, they are just shared, manifested and replicated, and cooperation can happen

at multiple levels, from paying attention and replicating or owning the patterns through adjusting fresh experience and complying with these frames of knowledge and cooperation in the future. Reference to coordination games is the most relevant here of all the settings studied: we could say that these events are about establishing convention for complex grown up situations.

However, we might argue that in order to generate a common horizon to which the presented content will be adjusted, connections with the children's private worlds and previous experiences need also be sought, and we might like to look for a more adequate alternative grasp that takes this insight into account. Instead of seeing content as something that is manifested and thereby transferred, we can contend that it is inevitable to forge this content, construct it on the spot in such a way that makes sense to all the participants, has continuity with their private worlds, however different they might be, for it to actually turn into common knowledge. We can still look at these situations as instances of cooperation and establishing common horizons. However, we need not conceive these horizons as inflexible structures, such as frames sourced entirely from the instructors' knowledge base – which is taken to be identical to some part with a common knowledge pool shared across members of society – but can think of them as points of orientation with a compass linking them to the children's private worlds as well. They might be invented and negotiated locally, sourcing from the worlds of the children as well as the instructors – still seen as representatives of some sort of common knowledge – and adjusted through a communicative process. This view is more in line with a constructivist approach to communication, and allows for the manipulation, the moulding of the semantics to a greater or lesser degree, in a process which in turn affects the private worlds of all participants. This approach can embrace explanations in the terms set out in the previous chapter, attending to divergent and convergent tendencies. While certain aspects of this dynamic might be driven by the nature of the subject taught, the subject does not fully determine the possible dynamics of divergence and convergence, and the way this dynamic unfolds depends in a large part on the instructor's approach to the interactions with the children. Broken down to guidelines for observation, we can look for patterns in the ways the instructors present content: the extent to which this content is articulated in terms of the private worlds of the participants or generalized; the way content offered by the children is regarded as relevant or irrelevant; how connections are sought with children's experiences; how frames related to the content are offered by both the instructor and the children; how these are handled; for example, how much diversity and flexibility is allowed; how frequently content is adjusted to some common horizon, and what

happens if there is discrepancy or poor matching, as can be expected, with the way in which children frame their own contributions. This constructivist grasp may actually go beyond the classic coordination problems of game theory even in the formal setting.

Focusing mainly on subject teaching, I have identified some verbal and non-verbal aspects of communication on the side of teachers and students as ones that potentially support the establishment of common horizons for the knowledge that is manifested, or help create links for a more general sense of community. Probably most of the tools listed here are general to many formal teaching situations. I will also give an account of some specific local patterns that evolve by the combination and tuning of these basic strategies in the following sections.

The procedures and examples listed here do not aim to be a compendium of successful or failed instances and practices, or point to particular imperatives for practitioners. Instead, I intend to highlight ways in which different factors in the verbal and non-verbal aspects of communication interact to ferment or hinder consensus on joint horizons and help community to be experienced in an uninterrupted flow. By taking the constructivist stance on these matters, I contend that I can highlight systematic ways in which certain strategies support coordination of knowledge, flexibility or the sustenance of some frame. I do this to a large part through a qualitative analysis of how bits of content from different sources interact and get tuned, without aiming to judge if one strategy is more creative or more normative than the other in general. In fact, as I noted earlier in Section 3.5., flexibility, reliable frames and consistent horizons are complementary aspects of the same dynamic, and strength of one aspect may often, though not necessarily, be achieved at the cost of another.

An interesting fact to note is that occasionally, the actors involved also give explanations of the behavior of others by implicit reference to some cooperation framework. I will cite some of these meta-explanations, and elaborate on them in the terms outlined here.

Art workshops in the constructivist approach

While art instruction can also be seen as a regular tuition activity, where institutionalised knowledge is transferred partly through practice, and expected to be reproduced in a given form, art workshops lend themselves more readily to the constructivist approach outlined above. Due

to the general approach of the instructors of the workshops in this study, the constructivist take is in fact is not just another tool with different explanatory powers, but actually a more handy one for the qualitative descriptions in this case. My observations were guided by the same set of aspects in the two settings, and I am presenting the results in comparison, citing examples for the different dynamics from both settings where relevant, and highlighting the differences between these.

4.3.2. Strategies and tools frequently used in the teaching settings

Relying on experience, general tendencies

Connecting the manifested knowledge with children's private experiences is a way of forging a joint frame and common horizons, and importantly to our focal question, a variety of strategies are used to this end in the formal teaching setting. It can happen through generating joint experiences and making reference to them; through explicitly exerting accounts of children's experiences; through using typical practical examples that the children may or may not be familiar with; or through offering more or less elaborate interpretations for children's contributions by applying mentalisation, that is, making assumptions about their mental worlds, based on prior knowledge about them and their worlds or independently of such knowledge. I describe the ways this is done in the formal and informal settings, citing and analysing examples in the subsequent sections.

In a most general sense, children's private experiences and preliminary assumptions are often treated as a basis for the articulated knowledge, as long as they are considered to be in line with its approved, well formed manifestation. In most cases, this is only done in the phase of learning. Knowledge as it is expected to be finally manifested by the children will no longer include the personal elements. The relevant and portable part of the teaching content should be left intact from personal experience. This aspect is markedly different in the case of the extra-curricular art classes, and somewhat different in regular art-related classes (including literature). The ways in which these private experiences are sourced also vary widely. I will highlight this with examples later in this section. The analysis of the formal settings is structured along this latter aspect, the ways in which content is connected to private worlds. Other aspects, like divergent and convergent tendencies, adjustment to frames, assessment of cooperative

intentions, are discussed along these lines, as such strategies are diverse in this setting. As the extra curricular workshops are held by the same team each time, I give an overall analysis of nonverbal communication and adjustment strategies in this setting separately in Section 4.3.6., and make a comparison between the two settings.

Exerting experience

Explicitly exerting children's own accounts of their experiences has been surprisingly rare in the formal teaching situations. One example is that of a history teacher, who inquired the students about their own stories relating to religion when the subject in question was Reformation. She established connection with their private experiences by asking them about their own denomination and religious practices. Then she framed the theme around the concepts of discontent, poverty, inequality and hypocrisy, launching the conversation from the private experience and talking about these in a suggestive tone and gestural repertoire that appealed to the children's empathy with the motivations of the Protestant movement. She used rhetorical questions and occasionally let the students finish her sentences, implying that some aspects of the content might be familiar to them, and relying on these aspects in her explanations. In fact, this strategy implies that she formed hypotheses about the students' private worlds, and elaborated these hypotheses by explicitly asking for more input from them. She set a direction to the discourse that was of relevance to the theme, and extended the surface of connecting private worlds with subject matter along that track. As I will point out through examples later on, forming hypotheses can happen without further elaboration, and strategies employing such hypotheses without even confirming them have faced the participants with difficulties of connecting. This teacher generally used a tone and body language that was engaging. She would lean in towards the students, and her hand gestures were inviting: she would occasionally stretch her arms open towards them, implying a circle in which they were included. While sustaining engagement and keeping up order seemed very laboursome and often futile in other classes, students were relatively more disciplined and eager to participate in this context.

Sharing private experiences or extra knowledge for their own sake during class with subject teachers was not frequently initiated on either side. Refraining from opening up private worlds may seem to be the natural professional attitude in the formal setting. However, seeking connection through private experiences may support engagement with the teaching material, as

we have seen in the above example. To put this in the terms described in Chapter 3, enabling the sharing of content that does not strictly fit the frames of the presented knowledge supports a divergent dynamic, and provides extra surface for private worlds and public representations to be connected. In the case cited above, sharing was specifically targeted at creating connections with the teaching content, but spontaneous sharing of less directly connected content may also be used to similar ends. Lack of down to earth knowledge of the children's actual experiences may in fact become an obstacle to engagement. I will demonstrate both of these tendencies through some examples later on in the subsequent sections.

When children are given time for activities that are not an integral part of teaching during class, a lot of random content from their private worlds or the teacher's knowledge base may be shared. However, the need for engaging with them is often suspended at these times, or such initiatives are rejected. This happened when a math teacher proposed to share extra subject related skills in the computer lab at the end of instruction. He opened a MahJong computer program, and started to explain the game to one of the more interested students. He met lack of interest. In the meantime, the children watched YouTube videos of their musician relatives without them or the teacher seeking to engage with one another. The assistant teacher, on the other hand, seemed to be familiar with and interested in this aspect of their lives.

In this school setting, assistant teachers have the function of attending to children personally and engaging at the level of their private worlds. Their responsibilities include being aware of the everyday lives and concerns of the kids, and providing extra attention and a kind of „padding" to help keep up order and focus at teaching classes. At the beginning of each day at school, they hold a morning discussion circle, which is an informal but somewhat focused activity with a duration shorter than a regular teaching class. On these occasions, some private experience is also elicited. The rhythm and atmosphere of the discussion varies among the classes. On one hand, somewhat less discipline is required and enforced than during a teaching class; on the other hand, enforcing the expected degree of discipline happens in a more targeted manner with special techniques, as if this was occasion for a general practice of behavioral patterns. The focus is mostly on particular school related issues like upcoming events, the duties that the children undertook or the goals they set for themselves and how they are meeting these, while contributions from them are sometimes made and accepted without adherence to any particular order or frame, and information about their daily lives is sometimes directly elicited. We could say that some degree of divergence in the topics is allowed and even encouraged here.

However, the knowledge about the kids' private backgrounds that is revealed here is rarely used when the assistant teacher is helping out during teaching classes.

Generally speaking, although subject teachers sometimes mobilise personalised knowledge that they have of the students during class, institutionalised forms of knowledge and less formal community are generated at distinct levels in the school setting, and no continuity is sought or realised between them: the „caring" and the „knowing" functions are separated to a high degree, and teachers tend to focus on one of these at a time without drawing on the other at most of the teaching classes. We might say that the connections that are established on the affective basis within the school serve as a kind of place holder: they secure a degree of commitment to cooperation and patience to engage in communicative activity by the students when the chances of success seem low otherwise. Thus the subject teacher is, so to say, allowed some room for keeping the kids engaged, and for experimenting with communicative means to create connection and alignment at the cognitive level with the high degree of discrepancy and uncertainty that characterises these interactions. The success of the latter, then, depends largely on the strategies of the subject teachers during class, and by success sometimes the staff means just keeping the kids disciplined. Alignment through the cognitive dimension sometimes remains weak, and mismatch between private worlds and teaching content may also have a tendency to get reinforced. This latter aspect is closely related to the way spontaneous contributions are treated and adjustment to knowledge frames happens. I will discuss these aspects in the next section.

The few examples I witnessed for subject or assistant teachers making reference to students' private worlds during class sometimes also demonstrated the above tendency to establish affective based commitment. On one occasion, a boy was late for literature class. The teacher remarked that he was preparing for a running competition, and that was the reason. His tone and general attitude was telling of respect, which generated an overall friendly attitude instantly in the classroom, and this helped everyone's engagement in the tasks at hand.

Assumptions about the children's private worlds are sometimes expressed as negative preconceptions, in the form of statements like „They do not bring their own culture", or „They do not know how to handle books". These preconceptions actually also affect the cognitive dimension, as they establish a distanced attitude based on negative assumptions about the potential to engage with the presented content. In their respective contexts, both of these

remarks gave voice to a low perceived likelihood of establishing successful cognitive connections and alignment, as part of an explanatory reflection about how children connect with the subject matter, and as justification for one teacher's distrustful strategy.

Spontaneous contributions, tight and loose frames for content

How teachers handle the frames of the presented content and how they relate to spontaneous contributions from the children varies widely. As I pointed out earlier, allowing a wider variety of contributions adds to the divergent dynamic, and increases the number of ways in which connections can be established between children's private worlds and the content at hand. This is of course balanced out by the need for convergence of the content on the desired elements and forms of presentation. I will highlight this dynamic with examples for some distinct strategies in this section.

Some teachers present the content in a very tight frame, and disregard contributions which are not of the desired form or reference altogether. The teacher at a natural science class that I observed applied this strategy. His presentation of content was extremely dense, he regularly instructed the children to take notes and sometimes write down long sentences word for word. While he sketched up some drawings and passed around objects like the fruit of a tree to illustrate his explanations, he was sticking to technical terms throughout when explaining about these to the children. Even the hands on experiences were referred to in an extern perspective rather than the children's, and very little information about how they perceived them was elicited. In the meantime, he also had a laissez faire attitude and allowed diverse contributions from the students, mostly as replies to his questions. However, he only reacted to the ones that were precise and relevant to the question, or getting at least part of the answer right. Such hits were rare, and he let all else go, with the occasional remark that all the kids were doing was guesswork. The kids' eagerness to participate and answer correctly fluctuated, while they did not seem to have a good grasp of the content. The teacher occasionally also remarked that the kids were not being cooperative and probably doing it deliberately, though he seemed generally optimistic about the possibility to collaborate with them. Seen in the constructivist-cooperative approach, this dynamic can be grasped as one where divergence is enabled on the side of the children but not utilised, and diverting from the offered frame is actually seen as defecting. If we take the students' angle, offering up the divergent, even if incorrect answers can just as well

be seen as a sign of willingness to cooperate or perform. To me, this seemed a more likely explanation at the time than provocation, even if a provocative attitude was not foreign to these kids in general. Overall, the kids were attentive and somewhat more disciplined than usual, which translates as a degree of cooperation. The teacher had a confident, even, strong presentation style, while he was also calm, had a benevolent air about him, and disregarded provocations. All of this, together with the fact that he had a natural positive attitude about the collaboration and took it for granted, probably contributed to the children's acceptance of his authority and leadership role. The presentation was not only dense but also very structured and kept in the same perspective throughout. The teacher was offering up a tight frame, and the expectation of convergence to this frame was constant: one could say that the adjustment of children's own perspectives was expected to be done by them alone, and in a process that was not communicated in any way. With this strategy, no bridge was found between the abundant content, and despite the openness towards it, only weak links could be established. While the cognitive demand of adjustment placed on the kids seemed higher than in other strategies, the kids stayed mostly cooperative, actually complained less, and did not give voice to their frustration.

A history class held by the same teacher as the one I cited earlier, was characterised by a similar dynamic to the above in the initial phase. The presentation was given in a slower pace than at the natural science class, while some of the kids opened the book and expressed helplessness when they saw the amount of content they were expected to cope with. The teacher followed the same strategy with the children's contributions – mostly answers to her questions – for some time, only responding to correct or near correct answers. However, after a while she was beginning to make sense of the diverse and less relevant contributions too. At first she highlighted contributions that had at least something to do with the topic, and started to sort of collect and arrange them as loose associations. She was more actively grasping on any contribution that could be connected to the content somehow, while most of the irrelevant contributions were left suspended. Later on at some point she even responded to some highly irrelevant contributions by one of the kids, who was generally very eager to participate, and kept repeating two concepts which were completely unrelated to the topic. The teacher took time to explain the question to him in some more detail, and even tried to guess why he was repeating those two answers, making a connection with what she thought might be going on in his mind. By allowing looser alignment and elaborating on the weak links, she created extra surface for connections between the children's private worlds and the content. Interpreting the

children's irrelevant answers as willingness to cooperate prompted her to make use of the divergent answers, expand on the semantics of the content and achieve stronger structural or cognitive basis for coordinating content. In this process, she engaged with the children's perspectives, and ended up continuously weaving together the different perspectives, ordering and adjusting them to the teaching content.

In both of the above examples, the teachers only responded to content that was at least subject related in some way. The criteria for this seemed pretty clear, even if one of them allowed more flexibility for relevance within these criteria. In fact, all other communications, unless they were direct provocations or expressions of intent to participate or defect, were addressed to other students, and not the teacher.

One might expect the situation to be different with art related subjects: a wider range of life experiences might be connected to the subject, as looser alignment can be enabled. This tendency has been utilised to varying degrees by teachers of literature and visual arts in this formal setting. At one literature class, a wide range of associations was allowed and encouraged by the teacher, and he was giving interpretations to every contribution the children made, connecting it to the topic at hand. Some of the associations brought up, for example ones relating to birth, bore apparent connection with the everyday lives of the children, and some were even said with an undertone of cheeky inappropriateness. While some of these contributions were disregarded due to lack of capacity to respond to all, there was no apparent selectivity based on appropriateness on the teacher's side. Similarly to the history teacher's strategy, he was continuously drawing on them, and he was engaging even more with the kids' perspectives, giving a lot of explanations, forming hypotheses of what they meant and how they might find it relevant, as he was entwining their perspectives with the desired form of the teaching material.

In another literature class, the students offered associations to the topic in a similar manner, though they were somewhat at loss and reluctant at the beginning. The teacher responded to their initial attitudes by forming hypotheses about their willingness to participate cooperatively. At one point, a student offered a contribution that was practically empty in terms of content. He replied „Something!" to the teacher's question „What are they doing?" This student was generally very enthusiastic and eager to participate cooperatively in all of the classes I observed, while he was apparently facing more difficulty than his peers. He had a highly disadvantaged

background and was living in a foster home. This incident escalated into a minor drama. The teacher did not pass by the comment, but interpreted it as defection, and an expression of unwillingness to cooperate. The boy was sent to the head teacher's office and received a written warning. Both the assistant teacher and I had a different perception of what had happened. We both took the boy's interjection as a sign of willingness rather than defection, even if it did not fit the frame that the teacher had in mind. It could be seen as an act of offering a wide, even if indefinite, platform for sharing content. While the teacher translated it as something like „Whatever it is, I do not care", it could just as well be translated as „Whatever it is, I'm interested". In fact, the kid's reaction showed that he was not accepting the framing of the event as offered by the teacher, leading him to interpret it as defection. When the teacher claimed „You don't want to [cooperate]", he said, „Why, isn't that an answer?", and seemed frustrated and angry rather than provocative or cheeky through the whole event. Later on, the teacher also changed his interpretation and settled the issue with the boy another time, outside the classroom. By engaging with the child communicatively and changing his interpretation of the event, he was able to use the conflict as an opportunity to extend the basis of cooperation with this boy. While the contribution of the boy was not relevant to the original frame and was therefore taken as defection, in an extended platform it could qualify as an expression of the intent to cooperate, which invited not only increased trust and extra communicative investment, but also further exploration for diverging content, and a reinterpretation, at least locally, of what qualified as an act of cooperation and relevant content contribution. During the rest of the class, the course of communication was very similar to that described in the previous example. The teacher actively took the perspective of the students, encouraged analyses of the work in question based on empathy and by drawing on the children's experiences. The kids spontaneously found connections between the work and their movie and reading experiences from popular culture. In this strategy as well as each of the above, forming hypotheses about the students' mental worlds, thoughts, experiences and attitudes played an important role. I am elaborating a bit more on this aspect in the subsequent sections.

Responding to children's personal requests for content was rare. I observed it once at a visual art class in the formal setting where a very unique dynamic evolved, probably due to the fact that this was the teacher's first time with the students, and she was subjected to a kind of initiation, with lots of provocation on the students' side. The class instantly gave the impression of a very tight community, mostly girls. They asked the teacher to draw non-figurative tattoo motives for them right at the beginning. The teacher drew them some figures, which seemed to

be a kind of trial and error, see what happens strategy, good enough for making acquaintance with no particular purpose stated or implied. The group was sitting in a circle around a cluster of desks, unlike in other classes, which followed the frontal arrangement. Some of the girls took a hostile attitude, resisting cooperation and even conspiring against the teacher verbally and by creating wicked drawings. The teacher, as I had learned before the class, had been a student at the same school, so the prevalent culture of provocation was not foreign to her. She disregarded the provocations, and proceeded in a calm but deliberate manner, finally managing to engage the girls in a more cooperative attitude as they switched to further subjects, such as graffiti, which was also a response to the children's general interests. In this case, there was no pre-determined form and content that the teacher was trying to stick to. In fact, the challenge of cooperation lay in the affective rather than the cognitive dimension here. Cognitive barriers were in part eliminated the instance the requests for content were met. She was offering a horizon to which the students could easily adjust their knowledge should they choose to do so. This did not even really require a preliminary divergent dynamic, as connection to the students' knowledge was readily offered based on their explicit requests. She was, however, provoked in her authority and role as professional leader. Demonstrating her skills and simply refusing to engage in the frame that the girls were offering – putting her in an outsider and rejected position – probably both contributed to the more mutually cooperative attitude that finally developed.

Forming hypotheses about experiences and mental worlds

One of the tools used for mobilising children's private worlds is by verbally referring to experiences, knowledge and attitudes attributed to them, and making these part of the context of communication. I have already cited some examples for forming judgements about attitudes, like the kids' willingness or reluctance to cooperate, in the previous section from the literature, history and natural science classes. These judgements, whether correct or erroneous, were eventually a motive for further communicative exploration of ways in which the students could be supported in connecting with the material, through reference to their perspectives and experiences. Even when working with spontaneous contributions by the children, attributions or guesses about their mental worlds are often inevitable and successfully used in interpreting and complementing that content. This can be done more or less sensitively, using empathy, questions, exploration, and with leaving more or less space for children to discuss and negotiate. Teachers may rely on their actual knowledge of the children's backgrounds and experiences,

on assumptions formed locally, or on preconceptions. These strategies are closely connected to finding common ground, moulding common frames and horizons. As the examples cited earlier have demonstrated, some of the teachers attend to contributions by the children, rephrase, elaborate and expand on them, and sometimes even interpret why certain answers will not fit the structure of knowledge they manifest. Pointing to the relationships between the private worlds and the manifested content helps the students in orienting. However, mental attributions can also be a source of confusion, as they were in some of the previous examples, and some more cases that I am describing in this section.

Sometimes a teacher will just take certain experiences for granted without eliciting information from the children, and try to use these as common ground in the explanations. An example is a natural science class where the teacher asked a question about amber, and tried to help the kids by mentioning the stone that they might have seen in Jurassic Park. A math teacher used plenty of examples from experiences that he thought the children might have. These were related to motorway signs, measurement routines, the zero kilometer stone in Budapest, buying a TV, or taking a loan. He incorporated attributed experiences of this kind into the discussion of certain topics as familiar examples. In this way, he sometimes facilitated engagement, while a number of his examples were of experiences that the children very likely did not have. He almost never checked back with the children if they had real life knowledge of these things, and sometimes just witnessed the dispersion of attention as a result. For example, I have often faced the fact that few of these children ever move out of the district, so many of them are unlikely to ever travel by motorway or have ever seen or heard of the zero kilometer stone. In such cases, this math teacher is using a strategy that stays convergent on the content but aims to create divergence to enable easy connecting and adjusting. He is spreading out a range of possible anchor points, yet he often fails to hit the ones that might actually work and connect with experience.

When the students' perspective is taken into account, attention to it is kept up and new information is elicited during the discourse, attributed experience can not only complement other tools of engaging, but may actually be a starting point and a powerful tool of engagement. That was the case in the history class cited above, when the teacher successfully relied on their empathy with poverty, inequality and injustice.

The treatment of perspectives

Dealing with different perspectives, including personal, joint and imagined ones can be an intricate issue, and it poses special challenges. As I explained earlier, a diversity of viewpoints and the complex structural relations they create can be cognitively costly and difficult to sustain for a longer time. Common horizons and joint perspectives do not only support cooperative strategies by orienting participants and coordinating their perceptions of situations and actions, but they also alleviate the cognitive burden of juggling many different perspectives and their often fuzzy and undefined relations to each other. While formal teaching in its current state comes with ready made and authoritative horizons of convergence, we do sometimes encounter this kind of challenge in this context, too.

At one of the math classes I saw an especially tricky example, which also demonstrated the how choosing (or spontaneously enacting) the adequate nonverbal style and gestures plays a part when a variety of perspectives are at play. Failing to coordinate these aspects may cause the flow of communication to be disrupted. On this occasion, the math teacher cited a mix of examples to make his point, including knowledge that had been a great revelation to him sometime in the past, such as the physics of the light bulb. So while introducing his own perspective, he was also introducing his mental state of awe at the time. Properly orchestrating these complex perspectives while keeping the students engaged seemed to be a complex exercise that required continuous attention to the reactions and feedback from the children while acting out this memory. His explanation was accompanied by non-verbal gestures and intonation that would be used with novel and intriguing facts, perhaps even make believe. The children had difficulty engaging with this perspective and the state of awe, and so the gestures did not seem to correspond to the audience's perception. This led to fuzzy orientation, he lost the connection and their attention.

Precise management of the perspectives does not always seem inevitable for sustaining involvement though. A general enthusiasm on the side of the teacher paired with personalized attentive communication, independent of content, could often support building a general cooperative disposition. Most of the time, the flow of communication was easier if nonverbal styles corresponded to the perspectives implied, provided that participants easily adapted to or accepted these perspectives. Even when the single perspective of the teacher was kept up for most of the class, as in the case of the natural science class cited earlier, orientation seemed

easy and this helped keep up a somewhat steady attention, even if connecting and aligning private worlds to this perspective was poor.

4.3.3. Shaping the social space

The techniques cited in the above sections are mostly tools for enhancing cognitive connections and alignment, that is, the structural basis for participation and cooperation. In the meantime, a lot of the work of engaging all participants in the interactions and the cooperation is about shaping the social space rather than refining these cognitive foundations of cooperation. Naturally, as I noted earlier, the two aspects are inseparable, and especially perspectives represent a middle way in this respect. While they support connecting cognitively by ordering content along the lines of private worlds and public representations, they also play a part in shaping the social space, situating the actors in it and forming relationships and roles.

The communicative tools that are involved in shaping the social space are diverse, and range from the use of grammar to non-verbal aspects including gestures and spatial relations. Like the aspects defining the structure of content, these can also be kept tighter or looser, with room for movement and change. The use of personal pronouns can imply we-relationships and you-relationships, joint and separate perspectives. The use of space and gestures may imply inclusion or separation, to give just a few simple examples. When the history teacher leans in and forms a space of inclusion with her gestures and posture, she is not only demonstrating ways of connecting the private worlds with the frames she is offering, but also creating a sense of care and safe connection with this community. When the natural science teacher is explaining the material in a single perspective, while keeping up a strict frontal arrangement, a confident posture and gestures less inviting but still open to the students, he is assuming a role of authority, leadership and competence, which is inviting and appealing, even if hard to adapt to for the children. An English teacher was using a non-verbal strategy that was very similar on the surface. She kept a steady but more distanced upright posture. The kids were sitting in a circle and she was walking around, never once disrupting the sense of authority. She did not engage in any way, and in the meantime, her verbal communications were very rejecting. She represented a beauty ideal that was nonetheless appealing to the girls in the class. Her dominance seemed unquestionable, but the acknowledgement of her leadership role rested on a different basis. She and her knowledge, which she actually manifested very little of, seemed

to be in the realm of the unreachable, and the kids sought connection in the affective rather than the cognitive dimension, dropping compliments and making effort to behave in the expected manner. The visual art teacher in the class cited earlier, on the other hand, lifted the manifestation of her authority when she sat with the kids in a circle, while she still assumed the role of the leader. In fact, these leadership roles are very often subject to provocation from the children, not through the non-verbal dimension, but by declarations of non-compliance. „I am not going to do this" is often heard from them, usually resulting from a combination of frustration and resistance. Regarding the use of space, they generally feel very uneasy with the required order, keep fidgeting, standing up from their seats and moving about. Shaping the community of participants is always part of manifesting knowledge, and it can ferment or hinder the import of personal experiences whether they are shared or not, and whether they are seen in diverse or joint perspectives. As long as it is done consistently and the manifested relations are approved by the participants, it may help them in orienting. On the other hand, latent disorderliness or discrepancies may be present for different reasons, and this can disrupt the flow of experience, as seen above and demonstrated by some further examples later on.

We could note that these dynamics represent the ways in which affective and cognitive foundations are laid down for cooperation. However, seeing these aspects as separable or alternating is somewhat problematic from the start. A possible interpretation of the interactions between the English teacher and the girls would be that perceiving her as manifesting a beauty ideal is grounds for cognitively based trust in that it is linked to a competence. This is in turn is obviously converted to other areas of her competence and authority, which are less transparent to the girls and therefore we could say that the cognitively based trust has converted to affective trust to some degree. Then the girls seek structure and points of connection for reinforcing a cooperative relationship: they make comments of praise on her hair, and try to meet her demands, which mostly relate to conduct. It is tempting to see the sense of connection and the ordering, alignment, coordination functions as separate from each other. However, as I tend to assert and these examples also demonstrate, these two processes are intricately intertwined, and play a part in forming common horizons to which participants can jointly orient. Exploring the ways in which these two aspects are intertwined is an important momentum in moving away from a static view of coordination tools underpinning cooperation. When connection or alignment at the cognitive level is not immediately found, a general sense of community might prompt participants to put extra effort into creating it. In this way, the frames of the shared content are constantly moulded: they are disrupted and expanded, and thereby the shared

knowledge gains new dimensions, even if its represented form is not significantly transformed in the meantime. On the other hand, affective foundations for cooperation and the sense of community need to be complemented by alignment along some common principles, patterns of thought and behavior in order to translate into joint cooperative action. The interplay of these two aspects of cooperation is mediated by creative dynamics of disruption and divergence combined with convergent tendencies. Thus the creative tendencies involved in establishing cooperation and coordinating knowledge forms and action are not just an auxiliary tool reserved for special cases of discrepancy, but an ever present element that gets greater or lesser emphasis in different situations. As I noted earlier in Section 1.2., Binmore (1994) conceives empathy equilibria that are built in the preferences of individual agents, where the underlying considerations are not necessarily part of the calculations in making decisions about each unique event. An account of events in the communicative setting that involve the different elements of cooperative drives, including the generation of empathy potential in conjunction with the manipulation of semantics should shed light on ways in which such consolidated patterns can be generated and transformed from time to time. On the other hand, as I noted earlier and am elaborating later in Section 5.1.1., not all bases of finding aligned structures are necessarily reducible to rational considerations, and other factors, such as aesthetic principles, may also play an important part.

4.3.4. On the degree of uncertainty

The examples I cited so far represent cases where commitment, the willingness to cooperate and the perceived feasibility of coordination are relatively stable or clearly expressed on one or both sides. Wavering of the cooperative intentions and motivation probably characterises any educational setting, and here it is increased due to structural discrepancies that may be present in the life strategies as well as at the level of common knowledge and shared content. In some cases a determination to learn new life strategies is clear. For the majority of the children in this school, involvement in the school as a cooperative community and as an effective preparatory context for advancement and involvement in future cooperative contexts is desirable, but involves a degree of uncertainty: they tend to alternate between expressing strong willingness and sincere reluctance, disinterest and a will to defect. Statements like „I really want to do this, I want to be good at it"; „There is no way I can do this, it is making no sense to me at all"; „No way I am doing it, why should I?" are frequently heard. In some cases, the discrepant life

strategy of a family is actually the basis of a life that is seen as successful from the perspective of the family and thereby the student as well, and so there is no real motivation for change and involvement. As demonstrated in some of the examples, teachers may also alternate between offering wider common ground or less, partly based on the perceived cooperative or reluctant intentions. Creative dynamics are not only costly, but also a force that go against existing coordination patterns. So in order to divert from them when capacity and time is scarce, one need not only acknowledge that adjustment to the frames that are offered will be problematic, but should also perceive some likelihood of success, based on knowledge of or interaction with the other party, from which they can infer their willingness or find some cognitive basis for connecting. I only once saw a boy act extremely uncooperatively during a literature class. He was looking reluctant and making faces, commenting that he had no intention to be there or get involved in any way. As the teacher and the assistant teacher were trying to urge him to participate, he stormed out of the classroom. The assistant teacher told me about his background. His family was making a fine living from illegal activities. Apparently, no one was making extra effort towards engaging him beyond this point. The assistant teacher commented that they considered him to be a hopeless case. We could say that both the affective basis and the structural conditions for connecting seemed to offer narrow ground, and the alternative prospect was a very low likelihood of cooperation at very high communicative cost. In fact, the explanation presented was a sophisticated argument involving empathetic considerations (in the sense explained in Section 1.2.), where no mutually favorable strategies could be found without substantial moulding of preferences, while the constraints of the situation did not allow for immediate creative exploration and the extension of the available ground.

4.3.5. Joint experience: informal activities in the school

I discuss joint extra curricular activities at the school separately, because these are not directly targeted at the coordination of knowledge forms, and so they represent the dynamics of coordination in a more complex way. In non-teaching joint spare time activities, community is generated on a different level, and very different communication strategies are employed. Private experiences, issues and problems are more emphatic topics than general knowledge or skills. Another interesting type of joint experience to observe would have been the traditional routine of experimental or explorational demonstrations. I did not have the chance to participate

in such events, though there was reference to some, e.g. studying the structure of fruits, during instruction at a natural science class.

In an afternoon cooking event where the girls prepared lasagna together, the source of the recipe was brought up as a family background story. Meanwhile, assistant teachers discussed and compared their own recipes only among themselves, while sitting separately at the dining table. They participated as curious observes, supervised and took care of the necessary conditions, but did not get involved in the cooking activity themselves, or initiate the mutual sharing of tips with the students. This episode is not necessarily representative of the nature of informal relations between children and the carer staff. In this particular case, however, while there was a general air of acceptance, no informal knowledge was actively shared between the two groups, and new dimensions of community were not opened that would have called for significant divergent dynamics in the communication. The event seemed to be running in a routine course that had been formed earlier or needed no negotiation, and had its own coordinated patterns of action. There was implicit consensus about the roles: only girls took part in the cooking, though not all of them, so traditional gender roles were followed, and the teachers acted as the providers and friendly supervisors. Any significant merger between private worlds was running on two distinct tracks, among the girls and among the teachers, and while the teachers provided the general framework for this joint event, the two worlds remained separate. Later on, the teachers also spent some time with informal conversation with the boys and the girls who did not take part in the cooking, and some former students who arrived in the meantime. These conversations were very casual and had an easy going flow, mostly covering updates about the former students' life events.

4.3.6. Joint and exerted experience: the extra curricular workshops

The workshops represent a very different attitude to children's private experiences and their incorporation in the task at hand. Private experiences were seen as a desirable resource and an integral part of both the work and the outcomes.

The social space created was also a focal element of the activities and was treated somewhat reflexively by the teachers. When she spoke about these events, the lead instructor's general rhetoric often involves references to social strategising by the children involved, and hypotheses

formed about their preferences and private worlds. These relations, as shaped also by the workshop process itself, were sometimes also manifested in the final products.

The frames for creating the works were set in advance by the instructors in most cases. They came up with some general outlines or a genre which they explained to the kids, usually one that they thought would be somewhat familiar, and let them fill it with content. Regardless of its reception by the kids, this frame defined in advance was not negotiated by the instructors, but was kept stable throughout each process. The instructors might bring up verbal arguments or use other means of persuasion to engage the kids, but they did not modify the genre they had decided on during the events that I participated in. One might say that it provided the unchanging link with the worlds of the instructors. The genre was sometimes also the result of a consensus between the instructors and the children, reached at an earlier point in the process. Starting from simple projects, each event and product was also part of an explorational process, through which the instructors learned about the private worlds of the children, building on this knowledge as they proceeded to the subsequent exercises and shaped their frames according to the assumptions they formed about what the kinds might connect with more easily.

I had observed the same team leading art workshops in other contexts before. In comparison, some groups of children took the framework offered by the artists for granted: the general definition „work of art" or the more specific genres were treated as a kind of sacred entity. Other groups were more inquisitive, and there were ones where kids even provoked and questioned the set goal. In this context, the exercises that were most easily interpreted were technical skills demonstrated by the instructors and then reproduced by kids in their own works. Even if they faced a lot of difficulty with grasping the method of using these skills properly, they easily made sense of these kinds of tasks and readily got engaged.

The crew sometimes increased the complexity of the works as they could incorporate more content sourced from the children and adjusted to the frameworks in an earlier phase, in a joint process. The artworks produced jointly have been short animated works on video, posters, comic strips using photos of the children themselves and their artworks, works generated with computer apps, and the most complex project was a video piece, a short movie with the children acting in it. The creation of this piece was a long term process through several occasions and involved a lot of exploration, experimenting and negotiation.

Children could import as much private experience as they wished to fill the different genres, and could use whatever kind of experience they liked, as long as they could adapt to certain expectations of its frame. Continuity with their perspectives was secured by this imported private content, which was explicitly called for by the instructors. An important fact that shaped the end result was that while teachers brought the framework and the professional skills, children filled it up with story: matching was facilitated, but teachers' private histories or perspectives were not merged with the content. While encouraging the import of private content and facilitating its adjustment to the common horizon that the genres represented, they were engaging in a process of exploring a separate and intact social world, represented by the children, in increasing complexity. In the meantime, the frames were shaped to a high degree by the continuously refining hypotheses they formed about the children's worlds. These were expressed in terms of identity, social relations and strategising, and their perceptions of the context they live in. The instructors formed these hypotheses based on information shared by the kids spontaneously during the process, and let this input inform their decisions about what frames might be easy for the kids to align their experiences with. I have not seen them double check their hypotheses with the kids, rephrase their contributions in similar or any other terms, or engage them in explicitly discussing their own perceptions of these aspects of their lives. During the events, they took contributions at face value. However, in discussions outside the events or when reflecting on the content and the situations that emerged, they would often use mental attributions, assumptions about social relations and about the kids' preferences. Synthesizing what they saw along these lines, they decided on genres like mental maps, photographs expressing the kids' identities, a cartoon or a soap opera. When these genres and frames were introduced to the children, they were simply offered the chance to contribute to them. This was not accompanied by verbal explorations of what might be adequate for content: all the exploration was done by way of visual production. Sometimes, when kids were uncertain if their idea or production was right for the given frame, they would just ask if it was OK, and usually get the approval.

As the verbal dimension played no significant part of the exploration on the spot, the different perspectives were not reflected on through rephrasing and consistent use of grammatical forms, which gave the representations a sort of up in the air, unanchored character. Based on this observation, I reflected and elaborated on this characteristic of visual signs, and used it deliberately to evoke a different dynamic in planning the action study, combined with verbal

strategies of moderation. I am elaborating a bit more on this aspect of visual production in connection with the analysis of the action study.

The situation was different with the movie project, which required strong collaboration and the coordination of different roles. In this case, several little dramas emerged, and the leaders of the workshop let these dramas run their own course, using the social dynamics together with the visual production as part of a progressed exploration process, making relationships and spontaneous tendencies manifest through the work itself and the related documentation. As in all of the settings presented in these analyses, a meshwork of goals and cooperation networks were at play here, too. The instructor was also present here in her role as a visual artist. In this capacity, she formed another problem description independent from her goals as an instructor. This description was in some part posterior, and made sense of the process and articulated the experience in the language of the visual arts, as a participatory art project. This represents a distinct horizon into which the presented perspectives were integrated in a unique way, and it was meant to be aligned with the horizons of canonized contemporary art. It is not necessarily a horizon communicated with the other participants, and the alignment of their perspectives took place at another level, even if they became familiar with the resulting artworks or some of them. At the local level, the horizons of adjustment were the different art production techniques, genres and procedures. The kids were not only expected to become familiar with these, but they could also invent their own unique strategies of using them. In this sense, while the activities did not divert from the genre or frame set for each session, these tools of coordinating the different perspectives were themselves flexible to some degree. This distinguishes the activity from processes that are easily described as the transfer of knowledge or content, and makes it an instance of genuine joint content and knowledge construction. The ultimate horizon of adjustment that overarched these levels and went beyond coordinating individual worlds with these frames was the film production. The different individual worlds and even strategies of participation were at play jointly in this activity. The original frames of cooperation were challenged, disrupted and new ones were constructed in the process. While a background of interpersonal relations unfolded, possibilities of new conditions were also brought into play and acted out. Though the plot remained fictional, it was seen by the artist instructors as reflecting actual social dynamics which were also relevant to the lives of the participants. An alternative analysis of these events from the artist's point of view can be found in Soós (2011).

Ways of connecting and shaping the social space non-verbally

One way of creating a general air of community is by adapting style to the children's informal manners. In the school setting, this frequently occurs with assistant teachers and other staff members, and is almost never seen in the case of subject teachers. Subject teachers more often use an enthusiastic, suggestive tone with exaggerated intonation. This style, even though it may strongly suggest inclusion, also emphasises the theatrical character of the frontal situation and reinforces its separation from the everyday flow of experience. The frontal teaching setting in itself signifies a hierarchical relationship, the role of the teacher as leader, and the dominance of the knowledge forms that he/she represents. It also reinforces the distinction of the world of knowledge as it is manifested from informal manners of generating common knowledge forms and community, which I referred to earlier. When informal adult-child communication took place during class, it was much more frequently between the assistant teacher and the children. Assistant teachers also tended to use a more intimate tone, seeking connection in the affective dimension even while helping out with content.

Body posture is also often used for marking interpersonal relations and shaping the social space in general. It can signify involvement or separation, irrespective of the frontal or circular setup of the classroom. Although many subject teachers maintain an upright posture when using the frontal arrangement, some of them complement suggestive speech with intense movements of emphasis or sit on a desk and lean forward to imply and gradually create a kind of circular setup with hand gestures of inclusion. Theatrical movements are sometimes simultaneously demonstrative tools and sources of humor or invitations for more verbal interaction. Passivity can also actually be a nonverbal tool in the face of provocations, whether their neglect is inadvertent or deliberate. Non-reaction has been a way of neutralising hostile behavior in both the formal and the informal settings, and it can be combined with a higher or lower degree of inclusion or separation through other aspects of communication. The outcome of this interplay of alternative frames offered by different actors to govern social relations is affected in part by the appeal or strength of their mutual competence. As I demonstrated in examples earlier in Section 4.3.3., a gender ideal or successful life strategy can be as good a source of appeal or strength as subject knowledge in this regard, and these are part of determining the desirability to disconnect or connect and work towards structural alignment of roles as well as content.

In the extra curricular art classes, proxemic arrangements and non-verbal elements of communication play a lesser role in the manifestation of leadership. Initially, its acknowledgement is grounded in the appeal of the theme itself and the professional authority of the instructors. This authority and some degree of hierarchy is supported and reinforced from time to time through verbal and nonverbal means. In general, participants freely use their casual nonverbal styles, and the kids are not expected to maintain a particular classroom order. They move about freely as required by the task at hand, except when the workshop is held in the computer lab. Discipline becomes an issue only when outright expressions of aggression or hostile reluctance occur. The instructors behave casually, and use an informal storytelling tone even during longer explanations or demonstrations presented frontally. They generally stay in their own style and tempo, and they occasionally adapt to or imitate the children's style in a teasing or friendly way when they face reluctance and try to get someone to perform a task or come up with an idea, or when praising the kids' products – as if presenting self-praise or a remark coming from a peer. This convergence on style involves modifying their tone of voice, manner of speaking and body movements to a slight degree, or in a playfully theatrical way. This acted out change of perspective can be seen as a switch that translates value judgements from one cultural realm (imported by the instructors) to another (the students' own), and thereby generating some kind of continuity between the two systems of valuation. A general sense of community sometimes seems to be missing for greater involvement and enthusiasm, while the instructors seek other ways to connect: lots of negotiation about the pieces, occasional teasing. When they approve of content based on children's own experiences and articulate it in the children's verbal style and from their perspective, it is not an approval coming from an authority. This is in line with the invisible social structure and dynamic that they create by other means, as described above: they bring the children's world into play, display an attitude of acceptance and facilitate them in articulating their experiences, but tend not to merge their own worlds, apart from the professional expertise.

4.3.7. General tendencies in the formal and informal settings

Based on the analyses of the teaching settings, we can indentify some general tendencies of applying strategies supporting convergence and divergence, adjusting different perspectives, moulding the content and frames of cooperation and shaping the social space. These have shown moderate variation within the formal setting, though the communicative strategies that

were employed to achieve connection with the content were diverse. On the other hand, the two kinds of settings were markedly different in the overall degrees of divergence and convergence, as well as the patterns of content and dynamics of cooperation that the related communication strategies have yielded.

The basis of initial engagement in cooperation and communication in the formal education setting, within and outside the classroom, is established through different system level motivators. Locally, in the micro level communicative processes, convergent tendencies were dominant during the teaching activity, as could be expected. This is in line with the general role of the institution, as the frames of the knowledge to be constructed jointly are set, and the problem itself is the adjustment of perspectives to those frames. Engaging too much with the individual perspectives would require excessive capacity, so the cognitive work of adjustment is largely left to the students. This context is characterised by a high degree of discrepancy between private and institutionalised knowledge forms, and so engagement with the manifested knowledge requires extra effort. On one hand, a basic level of engagement was established in the affective dimension, by extra attention to individuals in non subject related matters, regarding school life and their everyday lives, and this almost exclusively happened outside the subject teaching times. On the other hand, teachers did use a range of tools to initiate divergent tendencies and they allowed the frames to be disrupted to some degree, thereby facilitating adjustment and creating connections between the content and the private worlds of the students. While more divergence was enabled in visual art and literature classes, the degree of divergence and the tools depended on the teacher's choice and personality as well as the theme. In this communicative environment, tendencies of creativity meant extending the frames of the content to a certain degree, and finding ways of connecting that could not be coded in the desired form of the knowledge, as they were sourced from the private worlds and unique experiences of the children. In fact, genuinely private experience was rarely mobilised in the formal setting, and the use of preconceived patterns was much more common. A lot of the time, spontaneous contributions were disregarded unless they were information recalled from the textbook or the teacher's presentation, and these often already represented an extern, objective perspective rather than the student's or the teacher's. However, when experiences of any kind were imported, they tended to support connection with the material, helped to make it integral to the worlds of the children. As the common horizon was always manifested by the teacher, the adjustment of perspectives was not actively sought in a symmetrical way in a lot of the cases. Sometimes an easy flow of random content contributions was enabled in connection with a

particular theme that was discussed, without highlighting any of the content as more or less relevant to the desired frame. Sometimes relevance was highlighted by some sort of selection from the content that was imported by the children. Any content that was not part of the original form of the manifested knowledge was ephemeral though, it was never referred back to, and was not expected to be incorporated into the final form of knowledge in any way. Divergent tendencies were temporary and only served to support connecting and healing discrepancies between knowledge frames, rather than changing the frames, the form of knowledge or the content that was generated, or rather, reconstructed jointly.

Strong manifestation of leadership with little effort made towards disrupting frames, adjusting private and joint perspectives and merging perceptions has been successful in sustaining interest and a general cooperative attitude, while the success of reproducing content by the children was meagre in such cases. In one of these strategies, children were seen as potential cooperation partners, and a wide surface for connecting was offered on the teacher's side in the cognitive dimension. The students sustained a willingness to cooperate despite the repeated frustrations, which were due to the fact that no points of connection were made manifest on their side, in their own realm of experiences. In another strategy, very little connection was sought in the cognitive dimension, and a lot of the teacher's communication expressed her pessimism about the possibility of cooperation. In this case, children tended to seek connection in the affective dimension, while they seemed to acknowledge her dominant position and leadership role due to factors that were unrelated to the teaching content.

The adjustment of different perspectives was more symmetrical in the informal setting, where most of the content to be coordinated along some common horizon was sourced from the children's private worlds. While the institutional background played a role in establishing the foundations of initial cooperation and keeping the children engaged in communication, the emphasis during the activities shifted from sustaining a predefined cooperation framework and form of knowledge towards letting new content and forms of knowledge evolve. In this case, while still in a leadership position, the instructors deliberately took on a more auxiliary role, that of the initiator, and to some limited extent, of moderator. They did not interfere much in how the frames they offered were filled or how the content was structured: they gave technical support, and let the content be coordinated through interpersonal processes among the children. They approved of the products without making reference to the individual perspectives they represented or to the ways in which they might relate to other perspectives or be integrated into

common horizons. In the most complex exercise of film scripting and shooting, they let the social dynamics unfold freely, and the film itself was a catalyser of this process. All the content that was generated was fresh, and though the frames in which it was moulded was fixed to a high degree, the process still left a lot of room for shaping relationships and playing around with the different perspectives represented. All of this happened in partly planned and partly spontaneous interpersonal processes among the children and the instructors.

Even with the highly regulated content, the role of communication in supporting cooperation was not limited to promises and filling gaps of information. A variety of strategies were employed to manipulate the perceived frames of cooperation towards the goal of adjusting individual perspectives, even in cases where these frames could not be significantly or permanently altered in the process, which was the case in formal education. By strategies supporting divergence and manipulating semantics, participants created new surfaces for connecting and coordinating individual worlds with common horizons. In the context of formal education, it was the creation of connections that required more extra effort and constituted the greater uncertainty, as it required diverting from the content structures that were meant to be kept in place, and investing cognitive effort to create the connections. The participants could rely on very little knowledge about their mutual worlds, so in cases where no explorational strategies were used, cooperation had a tendency to be limited to sustaining mutual intentions to stay with the interactions at a behavioral level. As the structural alignment was found to be weak in these situations, the foundations of initial cooperation were in part laid down at the affective level, by assistant staff, and teachers could build on an increased general willingness to stay engaged when establishing more structured connections in the cognitive dimension.

In the informal context, the challenge was of a different nature. The unchangeable part of the content to be constructed in the joint process was limited, and a variety of ways for adjusting imported personal experience were allowed. So in this setting, finding the method of adjustment, deciding about relevance and making sense of the product as a vessel for private experience were the main sources of difficulty. In the film production, where the participants were involved in a more integrated joint process, it was finding and agreeing on a common tract, that is, coordinating that content to a common horizon within the genre by selection and moulding the semantics and social relations that caused most of the difficulties and gave rise to conflicts. In short, the need not invest extra communicative effort arose on account of connecting to a predetermined horizon in the formal setting, while finding common or

compatible structures required extra investment in the informal setting. The imported private content had an ephemeral presence in the formal setting and was not integrated in the portable part of the jointly reconstructed content and knowledge, in the art workshops it was conserved and became part of the generated content and portable forms of knowledge.

In both kinds of settings, assumptions about cooperative intentions were often a core part of considerations leading to conflict and defection. However, these perceived intentions could sometimes be moulded through divergent tendencies initiated in the cognitive dimension, thereby lifting certain limits to or expanding the frames of cooperation. The intentions, as well as characteristics of the situations that determine the cognitive foundations of cooperative potential were often implied rather than explicitly referred to, and were sometimes treated as givens that had fixed value, rather than malleable parameters.

The contexts analysed in the next section represent a third dynamic, part of which involves meanings, knowledge frames and horizons which are suspended, fuzzy, undefined throughout most of a several months long process. Through the analyses I show that it is possible to work with such uncertainty in the semantics towards coordinating private worlds and meanings, while diverse strategies are involved in moderating the communication. I have summed up the main patterns observed in the three settings in Table 1. below.

Communication strategies	**Resulting cooperation patterns**
Formal teaching	
non-verbal aspects suggest strong leadership status; dense, highly structured verbal content, generalised and representing the teacher's frame the whole time; demonstration of competence and unhesitation, accepting children as cooperation partners, general optimism about their competence; only relevant content related contributions are considered valid, no exploration, no connections sought between content and children's own worlds	mostly continuous cooperative intentions on the kids' side; no connections found, lots of guesses, erroneous answers and irrelevant contributions, very few hits; kids do not give voice to fatigue and frustration, stay engaged; cognitive connections with content are weak; considerable alignment of roles; acceptance of authority
strong non-verbal demonstration of dominant status; creating boundary through body language; very little content, mostly instructions; pessimistic remarks concerning the possibility of cooperation; questioning of adequate skills and attitudes;	kids seek connection in the affective dimension, they seek approval by their behavior; order is sustained, the strategy is successful from the point of view of the outside observer (e.g. program coordinator); no connection at the level of content; behavioral subordination

preconceptions about private worlds, no exploration; outward appearance is an attractive feminine role model for the girls	
seeking connection and engagement through body language; exploration through hypotheses about the kids' private worlds; selectivity with spontaneous contributions, then collecting them, encouraging some degree of divergence, sometimes verbalising relationships with expected content; children's own perspectives are manifested, but do not become part of the final form of knowledge	interest, sense of achievement; continuous engagement; no significant frustration about failures; trial and error contributions with progress; cognitive connections with content are found; connection in the affective dimension as well, responsive body language
lots of explanations in detail based on hypotheses about the kids' private worlds; generalised experiences that most of the kids do not actually have; teacher's perspective projected on the kids; no exploration; obvious cooperative intention on the teacher's side: notices apparent connections with content; seeks connection as well as authority position in the non-verbal dimension	interest alternating with confusion, loss of focus; authority is accepted; varying degrees of cognitive connection; sometimes frustrated when not successful; general willingness to cooperate
Informal setting	
leaders offer loosely defined genres as a frame and surface to fill with lots of personal content; minimal conditions for relevance; alignment to the genre characteristics; kids' contributions actually imported as part of the final form of generated knowledge; social and interpersonal relations, conflicts acted out	the source of crisis and difficulty is the recognition of relevance and the setting of common directions amidst the divergence of private worlds; spontaneously evolving social dynamics; relational aspects and ordering of content defined to a high degree by the genre itself
Workshops	
launched from private content based on concepts and direct experiences; lots of private meanings presented; abstract visual content; distancing from concrete meanings; layering, experimenting with meanings; verbal explorations kept tight in personal perspectives; avoidance of normativity; generalisations are tentative and ephemeral; avoiding unified rationally based structures; aesthetic ordering principles; experimenting with possibilities of ordering	alignment of content without unified common horizon; process tolerant for discrepancies; convergences ephemeral; leadership roles temporary; converging on common goal is a challenge; occasionally emerging need for standardised, measurable achievement; continuous engagement with the process and mutual private worlds; accepting moderation as leadership

Table 1. General tendencies of communication strategies and the resulting cooperation and knowledge patterns in the teaching settings and the workshops

4.4. Extending ground through joint visual production. Action study

The setting I am analysing in this section is similar to the teaching contexts in that the primary driving force of the activity is the joint creation of content, which entails the creation of knowledge patterns and the active, reflective construction of relations among these and the private worlds of the participants. In the sense defined in Chapter 2, these constitute commonalities that are characterised by structural properties that go beyond the basic fact of the mutual accessibility of knowledge elements to all. The setting is different from the previous ones in two major ways. First, the requirement of aligning knowledge and private worlds to some overall, unified system is lifted here. Second, the aspects of communication explored in the previous settings are used reflectively to produce the kind of connectivity that is defined as desirable in this context. This definition is based on the pragmatic aims of the project as described at the beginning of this chapter (Section 4.2.), and elaborated throughout the analyses.

Of the four series of workshops, two were designed and led by me, and two were designed and led by my artist and anthropologist colleague. While we were both present at all of these events, each series represented its leader's distinct approach of planning and moderation. In these analyses I am focusing on the events that I was in charge of, in which I relied on the reflective use of the aspects and dynamics of communication explored in the first part of this study, as well as on the special potential inherent in the creative processes using visual art methods. In moderating these events, I was aiming to interfere with the spontaneously evolving social dynamics of the situations: resist the sustenance of leadership roles, dominance hierarchies and generalised common knowledge adjusted to common frames or a unified horizon, even group identity, as much as possible. In other words, I was downplaying the dynamics of group formation, as the aim was to generate connections and communication strategies which are portable and productive outside the workshops, rather than pursuing some common goal or forming a group boundary with strong internal bonds. Naturally, the groups experienced tendencies for these to emerge anyway, and they were not unwelcome, but in general, I was aiming at a non-hierarchical network of connections where the cognitive and affective basis of forming supportive relationships is established without a high and stable structuring of content and interpersonal relations, and models are given for working further on such connections.

4.4.1. In light of the social issue addressed

The explicit pragmatic aim of the activities analysed in this section translates to the point of view of the study as the shaping of the social dimension with a view to maximising future cooperation potential. Apart from this, there was no specific short term local pragmatic goal to be achieved that could not be suspended or altered. The participants expressed diverse motivations for attending the events, so a number of different frames were relevant from their respective points of view. While all of them expressed the intention to establish new connections with Hungarians and migrants, some were also interested in learning new artistic skills, others enjoyed the free flowing nature of the creative process that was different from their academic and professional experiences driven and also constrained by expectations and standards. The possibility of creating individual or joint works that could finally be exhibited, or forming cooperative teams on some other grounds also came up from time to time. However, these different aims did not override the basic overall objective. The process did however support taking connections to other platforms and letting them develop there. A blog and different Facebook groups were created, and participants did carry forward connections and patterns of collaboration to other areas of their lives.

We could say that the communication technologies used to achieve these ends were geared at generating a corpus of common knowledge of a very specific kind. We might consider the nature of this knowledge against the basic conception of common knowledge as defined by Lewis (1969), based on classic game theoretic coordination problems. Those coordination problems are formulated within specific circumstances involving a desired frame for cooperative action. In this case, the situation is inverted. We could say that the desired high cooperation potential means that one is looking for common knowledge of the kind that supports finding common frames and affords a certain ease of coordination for a variety of situations, without rehearsing, simulating, outlining or even identifying such situations during the activity of generating the knowledge. With these considerations in mind, the method chosen for generating shared content relied on the presentation of private worlds and arranging and rearranging content along aesthetic means. The process supported complex and divergent content to be presented, while offering different means that supported convergence only for the sake of ordering and compressing for cognitive support, rather than structuring along the lines of rational considerations subordinated to pragmatic ends.

The most important tools and general strategies that the process was built on were (1) the presentation of private worlds in individual perspective (2) inhibiting convergence on value systems and group identities originating within and outside the groups (3) different means of deconstructing the syntax of experience, including, for example (4) the use of abstractions (5) aesthetic means of ordering (6) decontextualising the visual products (7) different techniques for playing around with perspectives and layering representations (8) relying on raw, primary experiences (9) merging the quality of recalled and presented sensual experiences with the sensual aspects of the creative techniques used (10) ordering and coordinating content for cognitive support and frugality through non-rationally based, aesthetic arrangements and means (11) elaboration without rational structuring subordinated to pragmatic ends (12) achieving portability while maintaining flexibility (14) avoiding the generation of dissonant and conflicting systems and horizons.

In more general terms, the process overwhelmingly operated with fluid, malleable meanings, and relied on an intense interaction between the participants' private worlds, experiences and public, mostly visual presentations produced abundantly, recycled, rearranged and put in new contexts. As a result, the meanings generated were characterised by lots of loose ends, complexity and sustained uncertainty, where adjustment to a common horizon was sporadic. (The latter concept is treated here in the same sense as used in Horányi (2009), in his treatment of communication I referred to in Section 2.2.). The above techniques and strategies will be described in more detail in the following sections, with examples for how they are realised through the visual signs, the verbal and nonverbal aspects of communication, and explanations of the way they relate to the kind of knowledge, content and interpersonal connections and social space, and the nature of the common ground they helped to generate. Without defining a specific problem or partnerships and roles by which to cooperate, the communicative activity is geared at supporting another level, the general underpinning of cooperation. The communication strategies at the different levels were developed along considerations about the limiting and enabling effects that different strategies might have, as will be explained in the following sections.

4.4.2. Communicative strategies for creating the general underpinnings of cooperation

Some relevant characteristics of visual signs

In designing the communicative aspect of these events, some important characteristics specific to working with visual methods were kept in mind. 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 importantly to the process induced here, 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. During the workshops, these characteristics of the visual signs are reinforced by planning the communicative characteristics of the discourse and creative activities initiated.

Mobilising experience at the personal level

When sharing content in both the verbal and visual modalities, a point in mind was to launch the content production from the personal dimension of experiences, and stay between the personal level and the suspended perspectives described above as much as possible throughout the process. Visual production was often relying on basic sensual experiences that were either generated on the spot or recalled from memory and discussed in subjective point of view. Some generalisations were initiated, but these were restrained to a minimum degree and deconstructed again from time to time. The aim was to eliminate the cultural dimensions as much as possible,

while some obvious cultural and other studied differences were naturally present in the subjective presentations as well. However, this strategy enabled participants to relate to these at a person to person level, and not ideologically. In this sense, the generalised or ideological bases of experiences were deconstructed. In the following sections I will go into the techniques used in some more depth, with examples.

Discussions kept in the personal perspective

On some rare occasions, the events focused on the production of more verbal than visual content, though this was usually done after some visual production phase, or when a substantial amount of visual content was accumulated and we worked with it on different levels. So discussion never preceded visual production, which meant, on one hand, that first hand encounters with each other involved very little verbality and, on the other hand, that these more in depth verbal encounters had preliminary reference points in the visual products and joint activities.

On one such occasion, we reflected on participants' experiences with art, as audience and as makers. The conversation was moderated, and kept in the form of first person accounts throughout. This involved a deliberate resistance to normative value judgements expressed in generic form, and the discussion was not targeted at reaching some sort of harmonised view or consensus. As it turned out, the dynamics emerging during this sharing of content were in sharp contrast to other subsequent occasions, when the same or similar themes came up again, and a conversation emerged without moderation.

The main difference in the moderated event was that the themes were raised with questions targeted at the participants' experiences rather than their views, and this perspective was sustained through grammar conscious verbal strategies, with careful attention to the modal characteristics of the questions and contributions. Through the consistent treatment of propositional attitude expressions, the moderation encouraged the sharing of mental worlds in terms of first hand experience, rather than value judgements or opinions. Rather than asking what might be good art, memories of viewing visual art were exerted, and questions were asked about the qualities of these experiences, for example, when the participants considered the art they were viewing to be good. In this way, a range of different perspectives could be

represented, and by sharing them in private perspectives, we arrived at a rich and complex collection of content, which was not cognitively frugal, but lacked the contradictions that might have been entailed by generalisations. This content was characterised by a meshwork of individual perspectives, rather than a unified view. Participants from the Middle East emphasised the craftsmanship, expertise and work invested in a piece of art; the little details and good similarity to the original object, while European and American participants reasoned about the psychological impact, the ability of the artwork to inspire and expand their understanding, and whether they find connection with their own experiences, and about qualities like humor, texture, geometry, complexity or simplicity. In the same manner, participants were also asked about their own creative experiences, and what they felt at the point when they considered an artwork complete. Again, the questions were targeted at subjective experiences rather than judgements about artistic accomplishment in general, and a variety of stories and personal dispositions were shared. Participants mentioned the preliminary vision they had and whether the result was associated with the picture in their head; deadline pressure and the final touches, technical tricks that make an accomplished piece; taking the point of view of the audience or some kind of objective observer and assessing the work from there; the importance of the process rather than the result and that any random point can be considered an end; being able to let go of the piece; working methodically towards some end; pushing the work to some limit. Despite the large pool of ideas and the relatively more cognitively costly navigation, curiosity and openness was kept up during this process. Being presented in personal perspectives, contradictory ideas could be contemplated and elaborated without causing tension, cognitive and thereby social conflict.

In the non-moderated conversations, there was a general tendency to gravitate quickly towards a common horizon, a normative view of these questions. A contest of contradictory views emerged, aiming at a kind of hierarchy, and the formation of more studied or expert opinions in the face of subjective, lay perspectives. Some of the participants who considered themselves to be more competent were inclined to aspire for opinion leader roles, while others either withdrew if they were not particularly eager to debate, or engaged in arguing their point too. On these occasions, views were expressed in generalised terms using the appropriate generic grammatical forms, as judgements about what is considered art and good art, rather than accounts of alternative personal experiences. These dynamics may support converging on a common view that has the benefit of more frugal cognitive processing than the presentation of a meshwork of different perspectives. In the meantime, in this spontaneous process, divergent

tendencies get mostly stifled, and a common horizon is generated through arriving at a hierarchy and elite selection of fairly articulate personal views, rooted in cultural preferences and/or personal experience. This strategy does not leave much room for contemplating and sustaining a variety of accounts representing alternative perspectives, or the creative moulding of ideas based on a diversity of verbal content. In the terms I proposed in Chapter 3, this spontaneous sharing of ideas resulted in a pattern where offering a common framework was frequent and there was a high expectation of tight adjustment to a common horizon. Even the clashing of conflicting views was subordinated to this end: no room was given for elaborating the different accounts, and legitimacy was not assigned to more than one view at a time. In game theoretic terms, this inclination to converge on common normatives can be seen as a process geared at the establishment of coordination tools, both as means of ordering knowledge and as aids in navigating joint action. The pressure towards quick selection and reaching common ground resulted in the sharing of a much smaller pool of ideas argued in a more frugal, tighter framework, through the instant clashing of contradictory views. The emerging social dynamic was characterised by seeking leadership and finding more passive, follower roles or disengagement.

Attention to and reflective use of communication strategies makes a big difference in the emerging social dynamics while discussing general views and experiences on different themes, for example by lifting or increasing the pressure towards convergence. However, the propositional nature of verbal communication still poses certain restrictions on the ways content can be moulded. As we shall see in the subsequent sections, visual production holds a variety of different possibilities due to its non-propositional nature, as well as other characteristics described at the beginning of this section.

Visual production and open meanings

The pool of content generated by visual means held very different opportunities for moulding common knowledge. The characteristics of visual signs cited earlier were heavily exploited in this process. The main features the process relied on were their non-propositional character; permanence and portability; instant accessibility; loosely defined semantic and relational aspects that still enabled 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 is similar to the use of symbols in Turner's (1969) description of the ritual process, with the observations I made about the inconsistency of meanings in Section 3.2. It is meant to support a process of transition and transformation by lifting the kinds of anchors that connect private worlds to common horizons by also establishing social and semantic relationships at the same time. The process used here differs from ritual process in its open-endedness both at the beginning and the end points, as well as the nature of the signs that are mobilised. While a ritual process operates with socially determined meanings coded in symbols and mediates transition from one familiar and stable state of affairs to another, here uncertainty is played at multiple levels and is sustained to a certain degree throughout. The disruption of social and semantic potentially affects a more profound level, and the transformation draws on private worlds and interpersonal dynamics in a way that is not predetermined, calculated or institutionalised.

Deconstructed experience; Abstract bases of content

Launching the creative process from abstractions and direct local sensual input, and creating ambivalence by linking the sensual modalities to the media used in the creative activity served to deconstruct the complex syntax of experience, depriving it from its cultural embeddedness, or at least offering a fresh perspective on the cultural implications and connotations of the different impressions, ideas and meanings. Rather than being expressed as identity narratives, descriptions of habits and norms or expressions of value systems, cultural aspects could be presented here as layers of very basic, raw personal experiences. During the continuing work with the pieces produced by the participants, the visual creations served as cognitive aids,

anchors to the ideas while lifting the ownership of these ideas, and were later also used as building blocks in more complex physical spaces. In these spaces, the visual signs constituted external points of reference that linked to joint and individual experiences while not demanding the rigor of coding and preserving their exact original perspectives and meanings. Parallel to the developments in the physical space, a joint social space was also formed, starting from joint and shared experiences, continuously narrated by verbal and visual means. In the moderated process, relations, attitudes and interpretations connected to the themes and the works were elicited through the external signs, while interpersonal relations and attitudes remained implicit, and the expression of opinions and normative means of coordination was not encouraged.

4.4.3. Implications for cooperation strategies

This kind of communication did not yield frames of interpreting strategic situations and did not inform about expectable action strategies, rules or codes for cooperating. In the local flow of communication, all acts that were content contributions qualified as cooperative, and even engagement with the theme was loosely defined. Instead of making adjustments in case of perceived deviations, a wide range of content was enabled and given free way. While the communicative strategies were in some sense regulated and moderated, participants had a chance to make sense of any contribution without being strongly directed. Even the authors themselves were not granted sustained authority, and a variety of meanings could emerge later on, based on the visual content produced. Non-restrictive aesthetic procedures and principles were the bases of any adjustment and convergence that occurred, and these were the means by which ordered content was constituted. In the meantime, the emergence or generation of rationally structured horizons and rational bases of convergence was delayed. This strategy enabled moving away from owned, shared and learned perspectives, opinions, preferences, and thereby extended the range of possible interpretations for future situations and events. This kind of open ended exploration helped expand the space in which cooperative paths and frames could be selected rationally. Rather than standardising the alignment of represented and cognitive structures, this strategy yielded fuzzy, partially defined possible connections. In this context, the difficulty was not that of finding relevant matching between private and represented worlds, but that of choosing between a multitude of possible ways of connecting, all partly indefinite.

One might argue that this kind of setting and this strategy lifts the distinction between affective or group-based and cognitive or rational, competence based modes of connecting, and draws on the intrinsic connection between these two dimensions. Through the generation of interconnected content, both the cognitive and the affective sides are reinforced: malleability is maximised so as to enable finding connections as well as diverse ways of alignment adaptable to different problems. The term empathy, in the analytic sense defined by Binmore (1994) and described in Section 1.2., is comes handy in describing the situation in this regard. We could say that the potential for empathy and the space for finding courses of action that favor the greatest number of participants is extended. However, the rational grounds and separate perspectives on which Binmore's definition rests are also suspended at some point during this process. Divergent tendencies are dominant due to the accumulation of content, and also supported by emphasis of the possibility to rewrite the semantic dimension mobilised during the practices, as well as the constant experimentation with individual and joint perspectives. On the other side, inhibited convergence and the limited nature of local achievements repeatedly set a challenge for engaging with the process. However, engagement and curiosity remained strong overall, mostly on account of the strong personal engagement, the joy of artistic production, the technical learning involved, and the social dynamics that emerged.

These principles of the process lend themselves to a variety of themes and more or less specialised situations. In accordance with the general framework of the particular workshop series, the themes raised in this case were general enough so that all participants could connect to them, irrespective of their backgrounds. One of the workshop series focused on themes surrounding food and the kitchen, and the other on different ways of living and perceptions of the good life. A different degree of conflict in participants' views could be expected with relation to the two topics. However, this did not affect the principles by which they were approached, as described above. I will cite some specific examples to illustrate these in the following section.

4.4.4. In practice

In one of the practices centered around the theme of food, we started the work with a variety of powdery and grainy materials: pigment powders, spices, seeds, sugar, coffee, sand, small beads, ash, etc. Some of these were similar to each other in color and consistency, and participants

were engaged in an exercise that involved direct close-up sensual encounter with these materials in order to distinguish the edible and inedible among them. While trying to identify each material, they also verbalised their experiences, referring to the sensual impressions that helped them in doing so. During this process, some cultural differences were also revealed, for example crushed rose petals were categorised as inedible by Europeans while the Afghan participant moved it to the edible group. Such differences were mostly just noted, but not emphasised, so the demarcation was not given special significance. These same materials were then used for making collages on the theme, expressed in abstract concepts relating to flavors and other sensual experiences with food. Taking this leap of abstraction was made easier by the diversity of the materials, allowing a smooth transition from the medium of cooking to making art. The resulting creative strategies were diverse, from more literal interpretations to abstract or figural pieces that played with the consistency of the materials as well as different associations that they triggered. After participants commented on their own finished pieces, these were collected in a common pool, arranged and rearranged, and further reflections were exerted on them from other participants. This continued through several occasions alongside further creative production, with new participants involved from time to time, while the works were incorporated in different spatial arrangements and installations. Some of these corresponded to different semantic matrices representing categorisations, free associations or other semantic relations. In this phase, the works were referenced as pieces disconnected from their original ownership, while the different meanings associated with them, including the original commentaries, were recalled and recycled, sometimes by referencing authorships as well. Thus private worlds were mobilised and represented in a joint experience and then the joint dimensions were extended and elaborated in the public space. Groupings and spatial relations were created in part on rational bases like oppositions and categories, and in part on aesthetic bases like color or form, sometimes involving affective aspects, such as appeal. With the visual products as external reference points, cohesion of ample content could be achieved without deciding on any rational basis, common ground and basic relations, or agreed on truths. The same kind of verbal facilitation accompanied these events as that used in the moderated discussions described earlier. Generalisations and convergence on normatives were avoided, and if rationally based orderings emerged during the process, these were repeatedly disrupted by relying on the visual method.

Starting from the joint local experiences, the process naturally elicited personal attitudes, preferences, habits, memories, stories. Being launched from raw sensory experience helped

deconstruct the syntax of complex cultural constructs naturally carried in every personal experience, and free it from the load of reasoning about choices, value judgements or action strategies. The resulting shared content was instead woven together loosely by visual analogies, rhymes, colors, the quality of experience, oppositions. The elements of the accumulated visual content could originally easily be translated into propositinal form, e.g. “X likes unusual, piquant tastes, and a combination of the colors blue and black, uncharacteristic of food, remind him of this experience”. Its subsequent transformations, such as a color map, still reference the different sources, but also distance the works produced individually from their original perspectives. The aesthetic quality, the open ended and playful nature of the process, the freedom from expectations and the moderated communication helped keep up continuing curiosity. The common ground of the content created in this way was not a narrower common denominator or an accumulated compendium of shared personal or cultural content, but an organically interconnected meshwork characterised by lots of loose ends that enabled continuing work, change, and the creation of further connections and ways of aligning. The presentation of a diversity of private worlds was accompanied by communication strategies that supported switching points of view and taking alternate angles on the content. This resulted in an alignment of perspectives that was not dependent on a hierarchical order or an external common horizon. The complexity inherent in the diversity of individual perspectives was preserved, and in the meantime empathy potential was taken to a high level.

Alternating between different perspectives was supported by a number of other methods and practices used at the workshops. In one exercise, tasks were divided between participants, one of them observing an object and instructing another from whom it was concealed, so they could do a figural drawing of it or mix a color sampled from the object. In these exercises, we relied mostly on spontaneously evolving dynamics of cooperation, exploration and alignment, with very little moderation. Especially in the first round, before turn taking, attitudes were not necessarily accepting and cooperation was not always spontaneous and smooth in these situations. On one hand, participants were forced to reflect on their own strategies of perception and representation, as well as the ways in which this can be translated for another person. On the other hand, they were asked to align their own actions to the strategies verbalised by their partners. Sometimes works were created jointly based on concepts like tactile experiences, the visual representation of which required lots of reflection and discussion of basic experience in ways it is rarely verbalised in other circumstances. The semantic dimension that was generated

was sometimes layered by letting participants continue each other's works, and discuss their alternative interpretations of the often abstract pieces produced in this way.

These processes are analogous with known dynamics of individual creativity, while experiencing them in a social context, at group level requires a different disposition. Contents and cognitive processes that are not made public or even reflected on in an individual process have to be communicated, and moderation and reflective communication strategies can help channel conflicting ideas, handle the abundance of content without the limitations of normative structuring, and make the joint creative process run smoothly.

Tentative convergence on possible goals

While the aesthetic and creative qualities catalysed engagement, sustained uncertainty and the lack of some kind of hierarchy of goals sometimes seemed difficult for some of the participants to relate to and maintain in the long term. Though the process overwhelmingly supported divergent strategies, the possibility of converging on more rational terms, like finding common goals or agreeing on a joint set of categories or values was raised from time to time. These tendencies remained temporary, and were more often just introduced as possibilities with several alternatives, as if to show and test how convergence can be sought in this space. For example, the possibility of creating joint works of art of a larger scale, and organising an exhibition at the end of the workshop series was raised from time to time. During the resulting joint planning, participants took and accepted leadership roles alternately, and sometimes several of them took initiative simultaneously. The disruption of emerging initiative and leadership added to the transitional and transformative character described in connection with the visual products themselves in Section 4.4.2. This is in line with a more general dynamic of rites of passage described by Van Gennep (1960 [1909]), involving the subversion of hierarchies and roles at the level of actions as well as in the symbolic dimension. Working towards a common goal never took the place of the divergent tendencies described earlier, as convergent processes were often deliberately disrupted after some time. Rather than reaching common ground on some rational basis, convergence on joint frames was only shown as a possibility, and not as an expected or desirable course towards action or values reached consensually. Similarly, hierarchies and roles were not consolidated, and social dynamics within the groups remained fluid.

The process finally converged on two major common goals that were actually realised. One of them, a cooking event at the end of the kitchen themed workshop series, was initiated during the event series itself, while the other, a joint exhibition with works of participants, was more like an afterthought, initiated independently based on themes emerging during the events. The preparations of the exhibition were moderated only insofar as conflicting views about roles and responsibilities emerged, so here I am giving an account of the cooking event, which was an integral part of the moderated process. A more detailed analysis of the exhibition and its preparations can be found in Kéri and Soós (2015).

While the idea of one or several joint cooking events was constantly on the horizon during the kitchen themed workshops, the actual initiative and the concept by which it was realised came from the moderator. In collabration with an invited chef – herself also a migrant – the menu composed for the event was inspired by the abstracted content created from the paricipants' contributions during the process. Prominent or recurring themes were incorporated, and the colors, tastes, preferences, random comments, stories, observations became part of a composition shaped by personal stories from the chef's private history. Participants readily connected with this content, and this fostered a sense of open community, intimacy and engagement during the event. Rather than individual dishes representing nationalities of the participants, this kind of curated menu stood for the entwined, connected content that resulted during the moderated joint activities.

4.4.5. Art workshops in the school setting and in the project compared

The differences in the evolving social dynamics in the action project and the art workshops in the school setting lie in a large part in the communication strategies and the use of the visual methods, rather than the circumstances or requirements of the settings and situations themselves. While there is no dominant expected common knowledge in either case, the horizon for converging is defined differently. In the school setting, the immediate goal of the activity is to practise creation with visual art methods, and a concomitant is the exploration of private worlds and social relations. Each phase of this exploration is defined by the genre offered by the workshop leaders, and this genre defines the frame of convergence for the content. The genre, for example a soap opera, also shapes the kinds of social relations that can evolve to a

large extent. While this frame is based on the knowledge or hypotheses that the workshop leaders gain or form about the private worlds of the children, the genre offered as frame precedes the actual content that it is filled with.

In the action project, the process is not meant to explore existing relationships, but aims mainly to mould and construct them. While some criteria for the content produced are set at the beginning, the horizons of convergence are temporary and emergent, that is, they are based on the finished pieces and reflections on them. The produced works are predominantly abstract, and the principles of aligning the accummulated content are mostly aesthetic rather than rational, and even initially rational structures get translated into aesthetic orders. In this way, new rationally based structures can be found or emerge spontaneously in a pool of common knowledge that is characterised by a high degree of flexibility. This pool of knowledge is not connected to or structured by any problem or recurring cooperation pattern other than that of the sustenance of communication and content sharing itself. In this sense, the process of generating common knowledge against a script of cooperation as described by Lewis (1969) is inverted. Coding any cooperation problem other than generating common knowledge does not precede the act of communication. This experimental, open ended and aesthetically based coordination strategy is not subordinated to a game or problem description, or structurally linked to a complex meshwork of established procedures relating to preexisting social and personal realities. Every possible anchoring point of symbolic representations and roles is lifted at some point, taking the room available for moving and moulding meanings and different individual and joint perspectives to the maximum. In this sense, the process represents the other extreme as compared to what I have called the static view of coordination earlier in this work. This strategy might be desirable in situations where establishing a cooperation pattern or cooperative disposition is desirable, and we can expect there to be narrow grounds available for connecting through rationally structured presentations of the private worlds, due to major discrepancies or poor alignment in the respective formalised knowledge patterns of the individuals concerned.

Chapter 5. Reflections, implications and tracks for further study

5.1. Overview and applications

The core of the present work is a new perspective on the concept of cooperation, which incorporates the communicative dimension as a necessary concomitant of strategic interactions. As opposed to the most general grasp of cooperation formulated in game theory, this framework does not consider communication to be an optional factor that can be auxiliary to some core principles in operation, which we can regard without considering the communicative aspect or by even eliminating communication in cooperative acts. In articulating this framework, I have taken a fresh look at the concepts of common knowledge and coordination, and mobilised an interdisciplinary framework involving theories of creativity and transition. I have proposed this conceptual framework for grasping communication dynamics in a variety of situations with a view to assessing the foundations and potential of cooperation, and also outlined aspects along which this framework can be operationalised for qualitative studies of real life settings, including but not limited to ones involving fieldwork with participant observation.

I presented the framework in operation, analysing three different settings in which I conducted field studies with participant observation. As implied by the original question raised, namely, of finding a grasp of cooperation that lends itself to situations with a higher degree of uncertainty, the new framework has been especially suited to accounting for the dynamics of situations where, at some level, cooperation emerged on a non-normative basis, or without prior consensus on the conditions, frames, and in the knowledge patterns.

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, and it supports the assessment of the investment needed for choosing different tracks or achieving specific results.

The results of the study are the outcome of theoretical critique and data collection and analyses based on field research, which have in turn been used as feedback informing the theoretic considerations. While the first two field studies were conducted in found situations, the third involved active participation by the researcher. Explanations in the vein of the classic game theoretic model of cooperation, or what I have called the static view of coordination, operating with fixed frameworks and discrete group boundaries, have proved more useful for grasping the former set of situations. Strategies of finding coordination patterns often actually follow the broad pattern of offering fixed, relatively elaborate horizons or frames and accepting or contesting them. Some of the lay accounts of these events and conditions as told by the participants themselves were also found to be in line with this grasp. In the meantime, the descriptive framework and some of the proposed new factors were helpful in highlighting some crucial ways in which strategies differed from each other in the teaching settings studied, the ways in which different dynamics entailed different sources of conflict and halting, and how these were successfully handled or stayed latent or unresolved. The analyses also demonstrated how dynamic processes involving creative, divergent tendencies are intrinsic to these more regulated or stable circumstances as well. The third setting, on the on the hand, represented the other extreme, which we might call a highly dynamic strategy of finding coordination, and in a sense magnified some of the factors that might play a part in processes involving change and emergent patterns. Due to the fact that this field allowed for some reflective planning, innovative practices could be used, and this has yielded a set of new insights, related to the specific kinds of practices and communication strategies through which these joint art activities were mediated. Being a situation with high levels of uncertainty in the grounds of cooperation and discrepancies in the semantics characterising the private worlds of different participants, this third setting also shed more light on the element of uncertainty in general, its nature and role in cooperation, and the kinds of dynamics creative processes can trigger and support in such extreme cases.

5.1.1. Principles and patterns

Tight and loose adjustment

The analytic tool set I proposed hinges on the description of the communicative setting along the lines of the presentation of private worlds, the room allowed for divergent tendencies, and the ways in which coordination is sought with joint perspectives, perceptions and common horizons, frames or orders. The most basic polarity that emerges in this view is between tight and loose adjustment to these. Tight adjustment provides a level of certainty and stability due to a high level of convergence. This stability and certainty can be weakened by a tendency to inhibit divergence, and as a result, narrow down the surface for finding links between private worlds and common horizons, or keep highly discrepant perspectives latent. On the other end, loose adjustment may more readily invite divergent tendencies, which allow for finding ample common ground, and making distinct perspectives visible. This may however create uncertainty as to the preferred cooperation strategies if no extra effort is invested in coordination, which may involve reaching agreement from time to time or moulding the semantic basis for greater alignment of horizons.

While convergent and divergent tendencies may characterise communicative settings overall, we usually witness a unique interplay of the two, and this is modulated by a range of factors that define the consistency, openness or fuzziness of semantics, and various strategies that point towards creating community, establishing roles, we-relationships or sustaining an intricate meshwork of individual worlds. Different settings may be characterised by varying degrees of seeking unity or universality through generalisations and rules, or enabling the presence of conflicting views or ambivalences, whether latent or explicit. Such tendencies will be coded in preferred propositional structures as well as body language and other non-verbal aspects of communication. Sourcing content may also involve a range of strategies from exerting stories through generating joint experience to using stereotypes and hypotheses about other actors' mental worlds. While adding to the diversity of content, these different strategies may also affect the character and sustainability of the alignment achieved.

Rational and aesthetic ordering

Achieving some kind of order and alignment is an important part of keeping up a sense of community in communication, and aesthetic means have been demonstrated to be an alternative to more rationally based strategies. While reducing the cognitive burden of accumulated complex content, certain aesthetically based strategies can effectively support divergent tendencies by sustaining flexibility and malleability while not necessarily pointing towards consistency on rational grounds.

Leadership

Offering and accepting leadership has been found to be key in coordinating both content and roles in a communicative setting, while a variety of patterns were observed based on its permanence and different leadership strategies. Teachers and instructors held an institutionalised leadership role in the school settings, while this was challenged by the children from time to time, and its acknowledgement was achieved by diverse means like demonstrating competence in the study field, empathy and personal care, or manifesting a role model that was not related to the teaching content in any way. In the action study setting, leadership roles were deliberately kept temporary and hypothetical, though it must be stated that the event moderator herself played a specific kind of leader role, and the acknowledgement of this by the participants was key to generating the unique dynamics that evolved in these processes.

Sympathy, empathy, structure

There is a tendency in the game theoretic literature to grasp the underpinnings of cooperation in the interplay of its structural and affective bases, the cognitive or normative foundations and sympathy or empathy (Gintis 2009, Binmore 1994). While these factors are seen as interacting in their original conceptualisation (Lewis and Weigert 1985), with one or the other more emphatic in different social settings (Luhmann 1988), the cognitive and affective foundations have been increasingly seen and operationalised as separate factors in the related literature (e.g. McAllister 1995, Rockmann and Northcraft 2008). The affective aspect is conceived as a fluid, emotional disposition, while the cognitive aspect is seen as rationally based, and related to

understanding the problem. We might note that this conceptualisation is rooted in thinking of cooperation in a closed system with a well defined problem and fixed cooperation partners, where the questions of whether one is ready to regard the other's interest and invest trust based on perceived competence with relation to a certain problem is relevantly raised in this manner. In fact, these factors have been part of lay explanations of cooperation and deserting tendencies in the fieldwork settings, and I have also found them useful analytic tools for grasping certain strategies that I observed. On the other hand, I have suggested that if we let go of the closed-system view and shift the focus to communication as creating the general underpinnings of cooperation, a slightly different view along similar lines will prove more useful for grasping cooperation dynamics.

Binmore (1994) notes that economic game theory tends to operate with the concept of sympathy when explaining preferences that regard the interests of others in cooperative decisions. He suggests that we might be stating too much by anchoring the explanation in this concept, and introduces empathy instead in his conceptual framework. In his sense of the term, the capacity for empathy, that is, the ability to put oneself in another's shoes and consider their preferences from their own point of view does not necessarily imply an inclination to adjust one's own preferences, but is a prerequisite for it. In the meantime, it is a strongly structural and rationally based asset, which can effectively be incorporated in calculations of the strategies of others and the possible outcomes of events. He argues that a certain malleability of preferences lies in the tendency to develop empathetic preferences. On the other side, he operates with the concept of intention to cooperate, its signaling and reading such signals, as a way of decreasing the risk and cost involved in conflict. While intention is also perceived as rationally rooted, we might note that it is a more general attitude that does not necessarily entail further structural elements, it does not speak about the ways in which coordination might be implemented. It relates to the likelihood of making cooperative choices, and thereby the inclination to cooperate may drive the transformation of preferences.

Binmore's conception proposes a seemingly nuanced rearrangement of the factors that are involved in rational considerations behind cooperation strategies, which, on the one hand, offers an efficient analytic account of transformation at the level of preferences, and, on the other hand, might imply a crucial difference in the cognitive processes of decisions that actually lead to different outcomes from processes that would be explicable along the lines of sympathy. We might note, however, that this account still operates within a relatively rigid system which,

while allowing for some movement and transformation for the sake of coordinated action, does not involve the kinds of manipulations at the semantic level that are described by Schulze (2000) and suggested in the accounts of Turner (1969) and Polányi (1994 [1958]), which I summed up in Section 3.3. Furthermore, as I have argued in the dissertation, not all kinds of processes that support the transformation of preferences and cooperation patterns, which I have grasped with a focus on the capacity for creativity and the interplay between divergent and convergent tendencies, are necessarily reducible to preexisting rational considerations in this manner.

One aspect of the processes in the third field setting, meant to generate interconnected shared content linked to private worlds, was to enhance the kind of cognitively based empathy potential described above. This in itself does not guarantee cooperative intentions, yet it increases the likelihood of finding common paths of action, based on coordinated preferences. The jointly accessible content, in this respect, qualifies as common knowledge in the wider sense in which I have used the term from Section 1.4. onward, while it is meant to support the generation of common knowledge underpinning more specific cooperation patterns, as in Lewis's (1969) definition introduced in Section 1.2.. Unlike in the teaching settings, the process here is not linked to predefined problems. It operates at a kind of meta-level, towards the generation of common knowledge not geared at any specific coordination issue. This entails a certain flexibility, while the divergent dynamics launched are complemented with further techniques that point beyond the concept of empathy understood as the mutual translation of private worlds. It works towards the moulding of semantics and experimenting with transitions between individual and joint perspectives as well as common horizons in a joint creative activity. Thereby the moulding of preferences can break away from the possible patterns outlined by participants' original preferences.

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, illuminating a wider range of phenomena. We might also note that any set of the principles cited here can be present in these real life interactions at different levels of reflection. Thereby, for example, lay theories (reflections or hypotheses that form part of their strategies, if you like) that participants hold

about the frames and processes involved in cooperation will also in turn affect the communicative process and its outcomes.

5.1.2. New insights for theoretic reflections on different practices

The above considerations and descriptive framework offer an alternative to traditional or common frames used for grasping the situations that were analysed in this work, and I am claiming that they are also transferable to other situations of the same type as well as a variety of other communicative settings. As I explained in Section 4.2., teaching situations are frequently grasped as instances of knowledge transfer, and this is largely in line with the classic view of communication seen as information transfer. By looking at them as instances of joint knowledge construction, with a view to communication strategies and their relationship with emergent cooperation and established cooperation potential, I have arrived at an analytic framework with a different explanatory power.

The joint activity implemented in the third fieldwork setting bears a relation to the paradigm of participatory art practices. It does not aspire to fit this paradigm, as no final artwork in the form of canonised art resulted from these activities. However, its general framework lends itself to analogies, and we can claim that it did establish a new approach that can be used in implementing such practices, incorporating a reflective use of communication strategies.

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. These alternative, and in a sense competing views have been prevalent in the past several decades (Kester 2005, Bishop 2006). While both of these approaches have a normative and evaluative tendency and regard certain artworks more or less successful by their respective standards, the approach applied in the present study offers a third way, a perspective and a neutral descriptive framework that is adaptable to such practices in general. I would like to elaborate a bit more on the prevalent approaches and the difference that this alternative approach constitutes.

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. One line of art criticism adopts commitment to social impact as its main point of reference and measure of the value of resulting works, whether physical objects or processes. It emphasises the desire to break away from the modern endeavor to present powerful individualistic works that impact the viewer by disrupting semantic systems and traditional ways of orienting in a social world, and generate situations that actually interfere with social realities through exchange and dialogue. A proponent of this approach and expectation is Grant Kester, who draws on Habermas's conception of discursive forms of communication (e.g. Habermas 1990), while criticising his emphasis on the role of the rational argument, and stressing the importance of empathy and a kind of "connected knowing" (Kester 2005). Another line of art criticism 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 a mediator of actual social processes (Bishop 2006). In this latter view, discourse at its best is seen as an artistic medium, rather than a means towards a social end. The work, in this sense, is assessed by its contribution to the art world, which as a whole is considered the legitimate, institutionalised scene of disrupting prevalent ways of thinking about the social scene, as opposed to the artist and the work itself being an agent interfering directly with that scene.

Recognising a tendency to disrupt prevalent forms of thinking and social action is a common momentum in both the social and the aesthetic approaches of critique. Taking this momentum as a starting point, the distinct dynamics of the different participatory works seen as exemplary by the respective approaches lend themselves to explanations in terms of cooperation dynamics, and thereby the two kinds of descriptions blend in with the unified framework offered in the present study.

Works aiming at direct social impact tend to disrupt existing perceptions and routines of interaction by generating transformative processes involving dialogue at the local level, within and between social groups. Kester (2005) seems to suggest that we can trust the power of the events involving discourse, a kind of ritualistic quality initiated and mentored by the artist, for the processes to be successful, and fulfil a mission that is characterised by a strong ethical expectation. Habermas's (1990) insights into dialogical forms of communication, which are centered around his thoughts on universalist morality, are at the heart of Kester's grasp of this type of discourse, and the diversity of opinions, discontent and transformation at local level, as opposed to authority and universality, are its key concepts. The portability of emerging

solutions matters less here than the fact that they constitute consensual knowledge forms and even actual, operable innovative cooperation patterns and procedures. Thus such projects go beyond the communicative extension of ground, and rely on direct, organic links with perceptions within the social scenes concerned, even if their scope remains local and particular. While Kester (2005) contends that a simple assertion of different opinions does not automatically lead to successful solutions and stresses the importance of empathy as part of the discursive process, his grasp of the procedures and dynamics that help transformative processes to unfold remains intuitive. In a more analytic vein, we might claim that while the initiation of discourse is a trigger for divergent dynamics, the default forms of debate and argumentation are still likely to call for instant convergence on competing frames, thereby generating tension through stifling the extension of common ground at the same time. In this light, Kester's discontent with mere argumentation sounds reasonable, even if this tension can generate transformative dynamics after all, through an intersubjective exchange the details of which remain unexplained. In any case, we can expect intense dynamics of divergence and convergence to unfold in the discursive process among the participants, with the artist acting as mediator in these types of more ethically oriented works.

In the aesthetically oriented paradigm, on the other hand, we can assume an alternative dynamic of convergent and divergent tendencies. While the content that serves as the basis of the artwork is sourced with the involvement of lay participants, the artist remains in charge of the final form of the work, which, in this case, is not some local process and its documentation, but a piece that is finalised in an individualistic process by the artist. Thus the conception generated from the socially sourced raw material serves as the basis of convergence, and coordinating it rests in the hands of the artist alone. The final product is presented as an alternative to established horizons in the social scene, within the institutionalised realm of the art sector. Thus it is meant to serve as a catalyser of new divergent perceptions, opinions and processes, of which the artist is no longer in charge or control, and nor are the participants of the creative process directly involved in it: it affects another, general rather than local level of society. It is likely not an operable horizon for coordinating consensual common knowledge that serves as a basis of coordinated action, but is meant to be more like a trigger for change. In fact, Bishop (2006) emphasises the disturbing, disruptive quality of these works as their merit. The fact that the artist sets a frame for convergence of content does not speak about the way the emerging work will link with actual social worlds or the private worlds of the participating individuals. The nature of the discursive processes that result in the production of the work can still be diverse:

the artist can rely on a preliminary concept or scheme and source fitting content, or mould content with loose outlines that has been sourced through immersed explorational work into a structure that emerges during the process. The voiced problem may or may not bear relation to participants' perspectives, problem perceptions, private worlds or issues of the local social world. In any case, the connection will cease to be organic, and the mode of presentation involves a gesture of universalisation or generalisation. How the work will contribute to the emergence of new operable horizons and cooperation patterns is out of the control of both the participating lay individuals and the artist herself. While the communication and knowledge patterns that are initially triggered by the work are likely to be polemic, argumentative or controversial, and amplify conflict and contradiction between and within perspectives, the continuing dynamics will be affected by the characteristics of the public discourse that the works are entering.

While the critical divide I explained earlier is based on acute observations about actually existing dynamics, it is also artificial in that it narrows the range of possible dynamics to two markedly distinct patterns that converge on two different principles and the respective expectations that flow from them. One is rooted in a social and ethical focus, and the other in traditional aesthetic and individualistic approaches to artistic activities. In between the two patterns, an infinity of possibilities exists, and these can be grasped in the qualitative characteristics of the communication dynamics and the resulting coordination patterns and potential cooperation strategies. In fact, Bishop (2006) proposes that a prospect for the practice and reflection on the more socially oriented projects might be to make dialogue a medium, and treat communication as an art form. As I argued above, the aesthetically oriented paradigm itself 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, we may note that discourse and communication can be mediated in a variety of ways in the more socially oriented works. We might conclude that the descriptions and analyses based in the ethical and aesthetic approaches represent two perspectives that translate to the same general relationship: that between communication styles and patterns, coordination strategies and the cooperation potential generated in the scene of communication. 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 the suggested framework, we may give an alternative analytic account focusing on 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. As I noted above, the social paradigm is characterised by a direct, operative link between the common knowledge achieved as an outcome of the discursive process, and focuses on the enabled cooperation patterns. In the aesthetic paradigm, this direct link, guaranteed by a continuity between the private worlds used as sources of the knowledge product and the agency of social action, is disrupted in a gesture of generalisation, and the strong generative involvement of the artist in the individualistic vein. The product is shifted to a wider public scene, and agencies of action therein are undefined as far as the work is concerned. While the achievement of consensus is a requirement of success in the ethically driven paradigm, the aesthetic paradigm allows a wider range of knowledge patterns. 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 process generated in the third field presented in this study represents a third kind of pattern that can also be described in the triangle of communication strategies involving artistic creation, creative social dynamics and cooperation styles or potential, even if the project does not strictly categorise as a participatory art project. The creation of a single work of art at the end was not an explicit aim, however, the insights gained about the relationships between creative dynamics, visual methods and social dynamics (as presented in Chapter 4), are relevant and applicable to the field of participatory art, both as a basis of critique and of practice.

5.2. Outlook

The present work proposed a reconsideration of conceptualising the connection between communication and cooperation, by highlighting existing assumptions in the game theoretic approaches and theorising about cooperation in communication science, and adding new insights from field observations and action studies, as well as theories of creativity, social transition, and ways of translating between private experience and social worlds. The results of

the study are first steps in an open ended process of continued thinking about cooperation models in light of the questions raised and principles proposed here.

Frugality, a high degree of abstraction and the resulting generalisability and wide scope of relevance are the features that make the game theoretic model of cooperation appealing. What the current study aimed to highlight was that these models, as well as the theorising and empirical studies based on such models are primarily applicable to stabilised, even institutionalised cooperation patterns, and will shed light on the workings of situations where such patterns are involved. While exploring relationships between the different factors at work in cooperative decisions and strategies, including the role of communicative elements in a situation, they do not concern themselves with the constitution of patterns, the element of flexibility and the transformative potential of communication. How this transformative element can be incorporated in game theoretic models used for description and analysis, or in laboratory settings and simulation paradigms, is probably the most exciting question that flows from the considerations presented in this work. The primary aim of the present study has been to present theoretic arguments towards extending or complementing the analytic framework offered by game theoretic models, and convert the analytic grasp of real life situations accordingly, highlighting the difference that attention to the element of change makes. While the analytic tools outlined and put to use in this work make reference to the game theoretic grasp of cooperation and utilise insights gained through this approach, the analyses presented also highlighted the dynamics in found and generated situations that call for the extension of the model.

As I explained in the previous sections, the descriptive and analytic framework formulated as a result of this study is directly transferable to different field research settings, including, but not limited to different settings of public discourse. In addition to the analytic tools it yielded, the practical applications and the relevance to other disciplines as explained earlier, the study also opens up new tracks for further theoretic investigations in the fields on the meeting point of theorising about communication and cooperation.

I have suggested that the perspective I used in the present work has implications with direct relevance to the game theoretic approach. In my theoretic considerations and field study analyses, I drew on the game theoretic grasp of cooperation and I added qualitative insights that may extend or complement this grasp. Without formalising or elaborating ways to extend the

paradigm, I mentioned a number of ways in which these considerations might be incorporated. First of all, existing experimental results and paradigms can be revisited for the reconsideration of their initial latent assumptions in light of the perspective of the present study. This may yield new interpretations and insights, or lead to asking and testing the same questions in modified protocols for a refinement of the results. Perhaps the most obvious possibility is to reflect on the communicative environment that is inevitably present in behavioral paradigms in the laboratory, for example testing for the framing effect of the experimenter's communicative acts. Another option is to model the flexibility of frames by allowing for the change of matrices in behavioral experiments, and test for the communicative conditions surrounding it. Furthermore, experiments incorporating the momentum of uncertain frames could be designed in a number of other ways. The communicative conditions of coping with uncertainty can also be explored, where uncertainty is understood in a broad sense, including poor or ambivalent definition of the conditions. This might involve exploring the factors involved in the balance of deciding between taking action based on the perceived state of affairs or engaging in further communicative exploration. I have presented a lengthy yet rudimentary argument about this in Section 3.5. It would take a lot of further contemplation to put that argument in a more concise form, and find out if and how it lends itself to formalisation and calculability.

By moving the perspective further towards a network based grasp of cooperation, new factors can also be added and explored. In Sections 3.5. and 5.1.1., I outlined some general tendencies that we might expect with different patterns of communication, with relation to the resulting coordination strategies and cooperation potential. Such tendencies can be explored more thoroughly, with more specific questions and narrowly defined correlations, which then can be tested in a laboratory setting. In a reverse process, a range of general patterns can be recognised and further explored about the dynamics in the triangle of communication, coordination and cooperation.

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