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COMMENTS ON RIGOTTI & ROCCI

Rigotti and Rocci, in this stimulating and dense contribution, present a multidimensional approach of discourse and communication. They demonstrate, in particular, from a linguistic and pragmatic perspective, the importance of context. A very important point made by Rigotti and Rocci is that context is not a container but a constituent of the communication process. We will elaborate on this as it seems to be a very important point for an interdisciplinary rejoinder. Indeed, context is not only a facilitator but equally an ingredient of learning - learning being our own main object of interest.

Interdisciplinary work

Rigotti and Rocci make an open invitation to interdisciplinary work on this matter. I will take this invitation very seriously, considering that such an interdisciplinary enterprise is a form of joint activity, extended in time: it has its roots in mutual information on research questions and findings around presumably common objects of concern, and it can develop, step by step, into the possibility of common investigations capitalizing on the conceptual frameworks and methodological resources of the different disciplines involved. In turn, these joint investigations are likely to give birth to hybridizations, not only on the theoretical and procedural levels, but also regarding the objects of concern. Rigotti and Rocci are interested in explaining communication in context. My own focus is on learning in context, and successful learning requires communication. Therefore, let's join efforts: reality is complex.

I will start by stating a few of my present research questions as a social psychologist concerned with education. And then I will make reference (partly implicitly by lack of space) to Rigotti and Rocci's propositions in

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order to - I hope - make apparent where the concerns connect. A next step would be to revisit more systematically some of our empirical data, in order to refine the analysis (and hence the understanding of the events) thanks to a more precise conceptual framework. My focus here will be on the description of the processes at work in a precise observed event, in order to understand better under which conditions (and why) learning can occur; I understand that Rigotti and Rocci's focus is more on the elaboration of a general model of communication in the hope of understanding better successful communication. Still, other inquiries around these matters could be made: Grossen (2001) discusses the definition of context and the object of psychology.

Observing communication and learning in institutional settings

When studying learning as it occurs at school, with a special attention to teacher-student communication, it becomes clear that misunderstandings are not only unavoidable but a constituent of the process. Teaching is an activity that aims at letting students know about objects (concepts, tools, facts, feelings, arguments, procedures, etc.) previously unknown to them; teaching concerns novices having to enter communities of expert discourses whose references and cognitive procedures they have to discover. To some extent "learning" and "transmitting knowledge" are paradoxical tasks. The novice student could ask: "How could you expect me to communicate at school, with my teacher, about an object that I ignore (by definition: that is why they want it to be taught to me) and that is usually absent?" What a task! What a context!

This paradoxical nature of the teaching-learning process is perhaps the reason why one of the founders of present child psychology, Jean Piaget, was so sceptical about the possibility of transmitting anything else in schools than "answers" to "unasked questions" and ready made opinions which, of course, do not have much to do with real knowledge (Piaget 1960). As a result Piaget neglected learning[1], and concentrated his attention almost exclusively on a model of cognitive development as a self-propelled and auto-regulated process of the individual's internal log-

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[1] Piaget neglected studying learning but did influence world-wide teacher training and a lot of subsequent research into the child's mind and the child's theory of mind. Piaget's influence is long lasting even if he is not very much cited anymore on this question.

ical growth. Yet, despite Piaget's assertions, socially orchestrated learning does occur. We are still far from understanding its conditions of success, in particular in schools. Why and when, and with which children, can a communication flow in a classroom be successful in its goal of knowledge transmission and cognitive enhancement? Teachers (and probably also every child and every citizen) have subjective theories about these processes. School institutions have traditions with implicit presuppositions about learning and communication that structure the conditions of these processes. But these subjective theories need to be tested empirically and research is still much needed, to permit a gain of efficiency in the teaching of complex matters such as reading, writing, speaking a second language, doing mathematics, physics, mechanics, etc.

Students do not develop alone in a social vacuum but within settings of joint activities and social interactions (i.e. "contexts") that confront them with different discourses, subjectivities, perspectives, judgments, etc. (Carugati & Perret-Clermont 2001). As participants of such settings (classrooms, for instance), learners have to construct their responses (i.e. learn what is expected from them and what the discourse is about) and test the acceptability of these responses for communication, understanding and success (Lave & Wenger 1991). How is this achieved? How can learning settings be designed to facilitate intersubjectivity and learning (Schwarz et al. 2003)?

The importance of conversation

Conversation certainly plays a central role in this endeavour: information is conveyed, references are made clear, but even more important: in conversation thoughts are implied and the rules of conversation require and scaffold some kind of mental interpersonal coordination (Trognon 1997, 2001). Thoughts are shaped within the unfolding of conversation. It is then clear that conversation is not a context - in the sense of an "envelope" or "container" of thoughts and learning - but a "constituent" (to use Rigotti and Rocci's word) of learning.

Conversation is essential for learning. Yet, classroom studies have not reported that conversations are an important part of classroom life. All sorts of talk takes place in school settings, but conversations are far from being the most common after expository talk, explanations, IRE (teacher initiation/response/evaluation) and other patterns of discursive interactions (Cazden 1988). Presently, important efforts are being made towards

suggesting alternative modes of communication between teachers and students, with greater space for conversations (see for instance: Mercer 1995), but these practices are not generalized. Anyhow, in all cases, there is a need for an empirical verification of why some conversations are successful in enhancing learning. This requires very precise linguistic analyses of the communicative exchanges that lead to learning (Schwarz et al. in press).

In their paper, Rigotti and Rocci offer an important support to better understanding these processes. How can two interlocutors, in a given institutional setting and its wider context (Perret-Clermont 2004, 2005a, 2005b), come to believe that they are communicating successfully? And are they really? How do they come to share (or believe they share) a common object of discourse? Is the teacher aware that their mutual understanding is most probably context dependent (and that learning will then be context dependent too)? In the asymmetric novice-expert relationship, it is particularly difficult to recognize that roles and scripts hold both interlocutors responsible for the continuous adjustment of the construction of intersubjectivity and common grounds: it is too easy to discard the pain on the "non-gifted" learner or "poor" teacher. Context is not common a priori: interlocutors come into the setting with different cognitive stages, worldviews, implicit beliefs and personal involvements (Clément et al. 2004). A time perspective (Perret-Clermont 2005b) is necessary to understand the construction of shared understanding. As Rigotti and Rocci report, interlocutors "act upon the shared context either by explicitly updating it or by implicitly imposing accommodations to interlocutors". But can these fine and minute reciprocal processes take place in the classroom?[2] Pupils' disinterest in school activities and some of their learning difficulties probably take their roots in a lack of such explicit or implicit accommodations. Let's turn to some examples to illustrate this.

Some empirical examples

Helen is an 8 year old pupil of third grade, whose enthusiasm for school has suddenly declined because of poor marks in mathematics. Her sib-

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[2] In informal moments these adjustments certainly take place (Perret & Perret-Clermont 2004). The questions is whether they are possible in the formal teaching moments.

lings' help with math homework has proven inefficient. Everybody seems to agree that she is not gifted of the proper "logical" mind needed for progress in maths. The psychologist looks at Helen's response to the arithmetic problem of her homework: $25 + 46 + 51 = 11\ 12$. She then sets a new problem and Helen completes it: $75 + 85 + 93 = 24\ 13$. Helen is very nervous. She knows that she can count well (she has rehearsed a lot orally with her mother) but she is afraid of what will happen if, for some unknown reason, the psychologist also fails to acknowledge her learning by disqualifying the written production supposed to test it.

The psychologist, puzzled by the depth of Helen's anxiety, asks: "How have you counted?" Helen says, pointing at the first equation: "1+6+5 makes 12. That's for the units. 5+4+2 makes 11. That's for the tenths." She points to the second equation: "3+5+5 makes 13. That's for the units. 9+8+7 makes 24. That's for the tenths."

The psychologists then explains to Helen that the teacher tries to read her writings she cannot guess that "11 12" means "11 tenths 12 units". Nor can she understand that "24 13" means 24 tenths and 13 units". There is a long silence. Doesn't the teacher know? Can't the teacher understand? Helen is puzzled. Then Helen starts smiling and opens her eyes wide. She wanders how she could arrange this. She is starting to discover what writing conventions are; and that mutual understanding in communication has nothing to do with a "gift" for mathematics. This has nothing to do with teachers' and families' expectancy that girls are less "apt" to maths than boys.

Another example will be taken from Schubauer-Leoni's study (1990) replicated by Iannaccone et al. (1993) of 6 year old children in two different institutions: at the very end of infant school, for one group, and at the very beginning of primary school, for the other. The tasks and questions were the same, in a face-to-face situation. Nonetheless, in one experimental condition (play condition), the children were told that they would meet a woman who liked playing with children; in the other experimental condition (teacher condition), the woman was a teacher coming to do school matters with them. The results show that on these totally similar tasks, children of the same age performed better in the play condition if they were in the infant school and in the teacher condition in the primary school. "Context" is here a compound variable, made of the interaction of two factors: interpersonal relationship and institution. Säljö and Wyndhamn (1993) provide us with another example of context and communication in the classroom. In this case, inferred "context"

and "recipes" interact. Students from a math class in secondary school have to choose stamps for envelopes of different weight. They are given the envelopes, their weights and the postal chart. The results show that the students from the class with a poor reputation in mathematics solve this problem easily: for each envelope they look at the chart to see which weight category it belongs to and which stamp it should be associated to. But, in contrast, the good math performers run into a lot of difficulties: they remember their recent math lesson on linear progression and they try to apply it to the price of the stamp, as if it were proportionate to the weight of the envelope. Therefore, they obtain odd figures and no stamp corresponds. The (mental, institutional, math) context they are working in does not have much to do with paying the postage fare. And the "recipe" for answering their teacher's request does not function. The institutional context erroneously leads them to the idea that the traditional implicit didactic contract (the traditional dialogue game) is at work and that it requires from them to use what they have just been taught in solving the exercises that they are given by their teacher (Schubauer-Leoni & Ntamakiliro 1994).

The context of the context

We will let the reader turn to Muller Mirza (2005) for an account of the intercultural difficulties encountered in establishing common grounds for Swiss promoters of adult educational programs in agriculture in Madagascar. In many they agreed on tasks and activities and sustained communication flows that seemed successful. Yet, from closer, it became evident that within the same situation and the same task the interlocutors were not aware of having different goals. They were sharing a context, but this context's outer context was different.

The question of context and its outer context will have to be brought up again. It opens to the wider social sciences[3].

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[3] See Fabrice Clément and Franz Schultheis 's contributions to Argumentum: www.argumentum.ch

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