Communication and the construction of knowledge or transmission of belief

Full Paper

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COMMUNICATION AND THE CONSTRUCTION OF KNOWLEDGE OR TRANSMISSION OF BELIEF THE ROLE OF CONVERSATION TYPE, BEHAVIORAL STYLE AND SOCIAL RECOGNITION

In this paper it is proposed that a central topic of inquiry in the study of social knowledge should be the clarification of the conditions of communication that are likely to lead to the attainment of knowledge rather than to the transmission of belief. Insights and empirical evidence from social developmental psychology are presented that shed light on this issue. It is argued that social relations established between the partners in communication in the form of different conversation types are differentially linked to representations of an object based on the *construction* of new knowledge or *transmission* of beliefs. A central mechanism that constrains or enables the establishment of particular conversation types is social recognition, as this is manifested in different behavioural styles in communication.

Keywords: Piaget, Moscovici, sociocognitive conflict, conversation type, behavioural style, social recognition.

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1. Introduction

In the following discussion[1] Cypriot children in their first year at elementary school (6.5-7.5 year olds) are working in a mixed-sex dyad on a conservation of liquids problem, a classic Piagetian task (see Piaget (1941/1952: 3-17) in an urban elementary school of Nicosia. Both the male (M) and the female (f) are pupils of moderate academic performance but the male is more popular than the female according to the teacher. Earlier in an individual pre-test the male gave a *conserving* answer and the female gave a *non-conserving* answer on the problem as part of a pre-test/interaction/post-test design organised by a male experimenter (EXP).

1. M: Wasn't this equal a while ago (.) when he poured it? [pointing to the water in the transformation glass]
2. f: yes
3. M: this is a tall glass and that's why they are equal should we call him?
4. f: yes
5. M: [opens the door and calls the experimenter back]
6. EXP [comes back to the room] what did you agree?
7. f: equal
8. M: equal

In the pre-test the experimenter had given two glasses of the same dimensions to each child separately and asked the child to poor the same amount of water to the two glasses. After this was done he transferred the water from one of the glasses to a transformation glass which is taller and thinner than the original glasses. When asked to compare the amount of water in the new situation between the transformation glass and the original glass some children gave *conserving* arguments in that they claimed that the two glasses still have an equal amount of water. Some others — nonconservers — however gave non-conserving arguments in that they claimed that one of the glasses now had more water in it either because is taller or because it is wider. In the transcript provided above they dis-

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[1] Transcription notation:

(.) in the text indicates the shortest hearable pause, less than about 0.2 of a second

[   ] Material in square brackets indicates non-verbal action.

The transcription is a translation from the Greek-Cypriot dialect spoken by the children.

cuss their conflicting views and attempt to reach a joint solution as they were asked by the experimenter. Now the question that concerns us in relation to this transcript is whether the communication going on will somehow facilitate the change of the nonconserver's representation of the task towards a conserving one.

It could be argued that there is a different quality between the two forms of understanding (conservation and nonconservation). An old tradition of studies with conservation tasks (for a review see Light 1986) shows that conservers have a more stable understanding of conservation than nonconservers have of non-conservation, despite of the fact that each subject originally has his or her own original representation of the task, which he or she believes in as a 'reality'. In a discussion between conservers and nonconservers the former are much more likely to win the discussion and more likely to regain their conserving position in a delayed post-test, in case they happen to loose the argument. The form of understanding that conservers entertain is thus closer to what Piaget (1941/1952) and Smith (1993) described as necessary *knowledge* in that it has an implicational character of the following nature: Since nothing was added or taken away from the two glasses then necessarily the amount of water needs to be the same in the transformation and the original glass. The fact that the one glass looks taller is thus irrelevant to the amount of water in the glass. Indeed the two dimensions of the glasses compensate each other since one is taller but the other is wider. Moreover, if we reverse our operations then we will end up where we started with the two equal original glasses having an equal amount of water.

Knowledge thus implies some relation with the object that is flexible and encompasses a variety of justifications that can show this necessary state of affairs between the *subject* and the *object* of knowledge. On the contrary the non-conserving position is centered on one dimension of the glasses (either tall or wide) and obviously is of a different quality than the previous description in that it is less elaborate and less flexible. A non-conserver would usually support his or her position with a simple justification that the glass is higher or wider. It is thus less de-centered in that it can not co-ordinate in a coherent explanation the two contrasting perspectives on the object.

In Piaget's later work on conservation the emphasis was on the transition from pre-operational to operational structures. This was essentially because his later work on the conservation tasks could be more accurately described by a binary *subject-object* model rather than a triangular

metaphor of the *subject-object-other*. Thus he never studied interactions
between conservers and nonconservers himself. On the contrary the shift
towards a triangular model was initiated by social psychologists of cogni-
tive development in Geneva (Doise, Mugny & Perret-Clermont 1975;
Perret-Clermont 1980). It was due to this line of research that social
developmental psychologists started studying communication between
peers on these kind of tasks drawn from Piaget's later work. They attrib-
uted a causal status to communication for learning and cognitive devel-
opment and experimentally manipulated interactions between peers of
different developmental levels in a pre-test/interaction phase/post-test
design and thus were in a position to make links between elements of the
communication and individual cognitive progress.

The work of Doise, Mugny & Perret-Clermont had one foot on
European social psychology and the other on the whole corpus of Piaget's
work in a way that incorporated insights from Piaget's work on the moral
judgment of the child (Piaget 1932/1965) and sociological studies
(Piaget 1967/1995). This work also drew on sociological insights and the
work of Mead and Vygotsky. By adopting the triangular social psycholog-
ical outlook of *subject-object-other* proposed by Moscovici (1972) the way
was paved to explore the role of the dynamics of social interaction and
communication in the social construction of knowledge. This emphasis
on communication based on the triangular epistemology (cf. Orfali
2000; Marková 2003) was a central characteristic of both of Moscovici's
theories of innovation in social influence (Moscovici 1976, 1980) and
social representations (Moscovici 1984, 1998).

A very productive first generation of studies by social developmental
psychologists revealed the importance of *socio-cognitive conflict* (Perret-
Clermont 1980; Doise & Mugny 1984) for cognitive development. That
is, conflicting perspectives in communication over the same task were
found to have a generative influence on the co-ordination of perspectives
of individuals and the production of new operational structures-thus new
knowledge, a new representation of the task. A second generation of
studies that followed in Neuchâtel (Perret-Clermont & Schubauer-Leoni
1981; Schubauer-Leoni & Grossen 1993; Schubauer-Leoni & Perret-
Clermont 1997) shifted the emphasis from the study of communication
as a forum for individual construction of new knowledge to the construc-
tion of the testing situation between an adult and a child in the pre and
post-tests of research undertaken in the first generation. The second gen-
eration of studies also showed the complexity of communication around

an *object* and the irreducible nature of the *subject-object-other* triangle. In other words, new constructions of the *object* by a *subject* are influenced and in turn influence the social relation with the *other*. The *other* mediates the *subject's* relation with the *object* as the *object* mediates the social relation between *subject* and *other*. The triangle is framed in a complex of expectations relating *subject*-object-*other* in the form of a communication contract either experimental or didactic that can regulate the relations between the poles of the triangle.

In the last decade a third generation of studies is emerging (Psaltis 2005; Grossen et al. 1996; Perret-Clermont et al. 1997; Leman & Duveen 1996, 1999, 2003; Psaltis & Duveen in press a & b; Zittoun et al. 2003). The main characteristic of these studies is that they integrate the findings from the two previous generations in a common framework with the help of a rich description of communication processes. Such processes are not only seen as framed in the proximal institutional context of didactic and experimental contracts but also as embedded in inter-group, social representational and ideological dynamics that can be described in the corresponding levels of analysis (Doise 1986). Central aim of this third generation is to render intelligible the change or transition from a particular configuration of the *subject-object-other* to a new one. Of particular interest is the emphasis on the role of representations and expectations of different asymmetries between the two partners that go beyond their asymmetry in the form of understanding they have in relation to the *object*. Such asymmetries can be gender, academic reputation, popularity with peers and teacher's evaluations (see Psaltis 2005; Psaltis & Duveen, in press a & b). From this perspective aspects of self and identity are inextricably intertwined with the construction of new representations of the *object* and issues of social identification and recognition (Duveen 2001; Psaltis 2005) become crucial for the change of *subject-object-other* configurations in communication.

Issues of social recognition, crucial as they may be are nevertheless still unexplored in the field. Recent findings from this more holistic perspective are beginning to show that changes in configurations of the *subject-object-other* imply at least two things in dialectical relation to each other:

   a) a change in the *subject-object* relation
   b) a change in forms of social recognition between the *subject-other*.

Every change towards a new form of understanding in relation to the *object* is a change towards a new form of understanding in relation to the

other. The corollary to this argument is that the distinction between *knowledge* and *belief* can be conceptualized not as pertaining to the structure of representation of the *object per se* but rather as a characteristic of particular configurations of the *subject-object-other*. The ramifications of this proposition is that the traditional theoretical arsenal should be enriched by a co-constructivist view of cognitive development much closer to the process of social representation (Moscovici 1984, 1998; cf. Valsiner 2003) and social influence (Moscovici 1976, 1980, 1985).

In order to enrich this theoretical view I want in the rest of this paper to draw on the early work of Piaget where social interaction had a more prominent place as a factor of cognitive development and the work of Moscovici on social influence (Moscovici, 1976, 1980, 1985). More particularly I will propose a more holistic approach to the conceptualization of change and transition from one configuration to the other by retrieving from Piaget's theorizing the notion of *conversation type* and from Moscovici's work the notion of *behavioural style*. I will particularly argue that both of these notions share an important similarity in relation to the quality of the social relation between the interlocutors that is linked with the construction of new *knowledge* rather than transmission of *belief,* through interpersonal communication.

2. Relations of constraint and relations of co-operation

In his earlier work, Piaget (1928, 1932/1965, 1933/1995) made a distinction between social relations of constraint, and social relations of co-operation. Relations of co-operation are relations between equals and promote the acquisition of new knowledge and cognitive development, whereas relations of constraint are relations between unequals in terms of prestige, authority or status that hinder the construction of new knowledge and promote the mere transmission of beliefs.

Co-operation is for Piaget 'a factor of objectivity and reciprocity eliminating the subjective by relating things to one another' (Piaget 1945/1995: 136). Co-operation is opposed both to 'autism', egocentric thought and constraint, which ontogenetically precede co-operation, and thus co-operation is a method that promotes free discussion and norms of reciprocity. The reason co-operation leads to the construction of new knowledge is because it produces de-centration, internal reflection and mutual verification which relates to the need for proof and objectivity. Piaget proposed that co-operation destroys constraint to the

extent that there is differentiation of individuals, free discussion and real argument, in the form of free exchange of views, unhindered by the coercive power of authority. He believed that the exchange of thought presupposes the principles of contradiction and identity conceived as regulatory of discourse (Piaget 1928/1995: 208). As Pierre Janet he saw reflection as a higher form of thinking guided by the tendency to unify one's beliefs and opinions, to systematize them with the object of avoiding contradiction. Through this reflection the *subject* comes to see him/herself as a thinking *subject* and differentiates the self from the *other*. This helps the child move from an unconscious egocentric conception of *self* that lacks differentiation between *subject* and the *object* to the construction of *personality*.

On the contrary, constraint was linked with *beliefs* that are closely linked with egocentric thought:

> Constraint transforms the individual much less than cooperation does and is limited to covering him with a thin layer of shared common notions whose structure differs little from egocentric notions. (Piaget, 1945/1995: 137)

This constraint not only hinders reflection but also reinforces egocentric tendencies in the child and puts a constraint on the development of the child towards attaining a personality of its own, that differentiates him or her from the other.

Importantly relations of constraint and co-operation were also linked with particular forms of morality in Piaget's work on the *Moral judgment of the child* (Piaget 1932/1965). *Heteronomous* morality was linked with relations of constraint and *autonomous* morality with relations of co-operation. Genuine argument and co-operation was more likely in the latter case as reciprocity became more likely so that both interlocutors in argumentation felt to be of equal value in a spirit of mutual respect and in a position to use particular forms of conversational moves with equal possibility. The autonomy in relations of co-operation stems from the fact that a child takes part in the decision making process so that he or she then feels committed to the norms of reciprocity that emerge. On the contrary in the case of heteronomy, the children accept in a spirit of unilateral respect mere beliefs from others of more status or power, as it usually happens in the adult-child relation despite the fact that there is nothing intrinsic in this relation that establishes such an asymmetry. It is rather the way the adult communicates that actually makes the difference:

It is in spite of adult authority and not because of it that the infant learns. Hence it is to the extent that the intelligent teacher knows when to step down us a superior and to become an equal, when to engage in discussion and to require proof rather than merely to make assertions and to compel morally that the traditional school has rendered its services. (Piaget 1928/1995: 204)

In more empirical terms Piaget (1923/2002) influenced by Pierre Janet and his interest in typologies of conduct had made some observations on different types of conversations that he considered as open to the influence of social relations between the interlocutors.

3. Conversation types

One of the major reasons for Piaget's emphasis on conversation types is his position of *relationalism* in the question of how to conceptualise the interface between the individual and society. *Relationalism* is seen as the third way between *methodological individualism* and *sociological holism* (see Carpendale & Müller 2004; Kitchener 2004). For Piaget, the social whole is the resulting addition of all the relations between the individual members of a society. The types of social interaction and the laws of their succession are what the psychologist must carefully establish (Piaget 1950/2001: 172-173) if s/he is interested to understand society.

In the second chapter of his book *The language and thought of the child*, Piaget (1923/2002) discussed types and stages in the conversations of children. He even proposed a typology of conversation types (Piaget 1923/2002: 53) through some observations of children's free play and linked them with the development of the child. He distinguished three stages, 1., 2. and 3. Each stage is subdivided into two series that originate either in agreement or in disagreement.

The first type which is linked to children's egocentrism is characteristic for the absence of association between the two partners and there is strictly speaking no conversation since each child speaks only to herself. If she seems to be talking to another child it is only collective monologue. In the second stage a further distinction is made between two types: The first type implies a superficial association between the interlocutors in the sense that every one listens to and understands the speaker but there is no collaboration because each child speaks only of himself, of his own action, or of his own thoughts. In the second type there is collaboration in action

or in thought connected with action in the sense that the conversation bears upon an activity which is *shared* by the talkers. The two types are contemporaneous in terms of genesis. In the first type, in the series that originate in disagreement , there is a clash of contrary actions in the form of a quarrel which is a clash of assertions, which are not statements of fact, but are connected with desires, with subjective evaluations, with commands and with physical threats. In the second type there is *primitive argument* over shared reference where there is clash of unmotivated assertions. Finally in the third stage there is genuine argument where the argument proceeds with causal explanation and logical justification.

Importantly, these observations introduce some distinctions that are claimed to be linked with development and some others that are not. There is the element for example of conflictual and non-conflictual conversations which is not linked with any developmental hierarchy. On the contrary, there is both the issue of association and shared reference between the partners on the one hand, and also the distinction of the primitive and the genuine forms of argument (the argument motivated by desire and the argument motivated by logic and justification respectively), on the other hand. These two latter forms of argument are indeed linked with developmental stages. To oversimplify one could speak of three conversation types set in a genetic hierarchy:

1. lack of association between the two partners-egocentrism,
2. association with more or less shared reference but primitive argument-constraint and
3. connection with shared reference, logical proof and justification-cooperation.

The important point to keep in mind in relation to conversation types is that Piaget argued that relations of constraint— where opinions and beliefs are accepted due to the prestige or status of the source— hinder the promotion of conversation types of the third stage characterised by genuine argument. Moreover, the fact that a moral aspect is involved in the distinction between social relations of constraint and co-operation brings to the fore issues of mutual respect and social recognition involved in communication. Such issues are inextricably linked as argued earlier with the dual process of identity construction for each *subject*, that of identification and recognition (Duveen 2001). The construction of identity as Duveen argued in line with Mead's (1934/1967) theorising is a dual process that depends on both how a person identifies one's self but also to how is being socially recognised by

others. As such a person's identifications can be resisted by others; it is when resistance takes place that the dynamics of identity construction become visible (see Duveen 2001). Issues of social recognition are also central in Moscovici's theorising on social influence to which I now turn to highlight some links with the early Piagetian work.

4. Influence, innovation and behavioural styles

It was previously claimed that common themes exist between the work of Piaget and Moscovici (Duveen 2001) and particularly in relation to the constraints set in the construction of knowledge (Duveen 2002 a & b) in communication. Extending the discussion, it can be argued that the Piagetian relations of co-operation can also be found in Moscovici's work on social influence in the form of particular behavioural styles that are linked with the construction of new knowledge and social change. This is of course no accident since Moscovici confesses that Piaget had a formative influence on his writings (Moscovici & Marková 2000).

According to Moscovici's (1976, 1980, 1985) dual process model of influence majorities are more likely to cause *compliance* which is a form of influence that is public and unstable through a social comparison process. On the contrary, minorities are more likely to cause private, latent, indirect, more generalised and stable change which was characterised as *conversion* through a validation process and reflection. In the validation process the two conflicting perspectives are compared with reflection on the *object* whereas in the social comparison process the emphasis is not on the *object* but on the question of 'why did the other give a different response?'. The Piagetian influence is clear with the parallel between social constraint and compliance and co-operation and conversion (cf. Doise, Mugny & Pérez 1998; Leman 1998; Duveen 2002; Psaltis 2005; Psaltis & Duveen in press a & b).

Importantly, Moscovici proposes that social influence should be studied as the result of particular behavioural styles as they offer a more proximal context to influence than the one offered by power in the abstract and dependence of target on the source of influence, as previous models of influence had suggested:

> ...leadership, competence and majority may play a certain role as external parameters of dependence, but this role is not crucial to the influence process. What is crucial is the behavioural style of each social partner. (Moscovici 1976: 109)

The reason for his assertion was the observation of the possibility of influence by minorities that did not have any advantage in the way of power, status, resources, or competence other than their behavioural style. The latter thus, he argued, is the only variable with explanatory power, which is independent of authority in its determination of influence.

The definition of behavioural style provided by Moscovici is that it refers to the organisation of behaviours and opinions, and the timing and intensity of their expression, in short it refers to the 'rhetoric' of behaviour and opinion. One can see in Moscovici the same preoccupation with forms of social relations and a typology of conversation types as in Piaget's social psychology. Moscovici however would disagree with any contention that wants to prioritise any form of logic over the other, as it was the case with Piaget, and instead propose the notion of 'cognitive polyphasia' where different rationalities, knowledge and belief can co-exist in the same *subject* (Moscovici 1998). Nevertheless, the question still remains how we obtain knowledge and how we obtain beliefs even if this Moscovician proposition is accepted. Following Duveen (2002a, 2000b) I would argue for the usefulness of the distinction between representations based on knowledge and representations based on belief recently proposed by Moscovici (1998) and moreover claim that it is in Moscovici's notion of behavioural styles that we can trace back the important concept of social recognition that can complement the Piagetian distinctions on conversation types and social relations.

Behavioural styles are central for the dynamics of communication because they communicate to the *subject* two things:

a) something about the *object* and

b) something about the *other*.

One central question here is what is the important thing that gets communicated about the other in the way he or she communicates something about the *object*? It can be argued that particular behavioural styles point to the strength, sophistication and commitment or *control* of the task, problem or *object* at stake. Communication or meta-communication of control is another way of talking about social recognition between the partners since there are many different ways in interaction that one interlocutor can communicate to the other that the other should take more or less responsibility for solving the task, either because the other is recognised as more or less competent on the task, recognised as a thinking *subject* or denied even the slightest form of

social recognition which turns to the case of invisibility and misrecognition (Honneth 2001).

In his discussion of behavioural styles Moscovici (1976) identified five behavioural styles: *Consistency, Investment, Rigidity, Fairness,* and *Autonomy.* All behavioural styles except *rigidity* were seen as likely to lead to influence by minorities who lacked recourse to any other source of authority. It could be argued that the aspect introduced by Moscovici with his behavioural styles was forms of recognition between two *subject*s or groups (cf. Moscovici & Markova 2000). Moscovici showed how from a position of misrecognition a group of lower status can gain recognition and become visible (cf. Honneth 2001), through the form of communication that it follows. Moscovici shows how a social relation of asymmetry can be turned into a more symmetrical relation through conflict and tension since the *subject* of lower status gains recognition of its position through consistent support for the minority position. It can thus be claimed that the situation is changing from one of unilateral to one of mutual respect. This can be done through the use of particular behavioural styles. *Investment,* for example indicates that the individual or group involved (usually a minority) are strongly committed by free choice, and that the goal pursued is highly valued to the point that personal sacrifices are readily made. More importantly, *consistency* in Moscovici's experiments, was operationalised as the repetition of a phrase, through the avoidance of contradictory behaviour, all the way up to the elaboration of a system of logical proof. It was argued that such a style was having latent, indirect and delayed influence effects (all signs of deeper re-construction of knowledge or conversion and not superficial compliance) because it was more likely to cause reflection to the target of influence.

However, when consistency is expressed as inflexible repetition of the same view, according to Moscovici it becomes vulnerable to be perceived as rigid behaviour that would lessen the possibility of influence. *Rigidity* is a style lacking in subtlety, flexibility and sensitivity to the reactions of others. Rigid behaviour is a symptom of conflict, or refusal to compromise or to make concessions, and of the will to impose one's own point of view at any cost. In rigidity one can note both the underlying Piagetian notion of constraint between the partners introduced where the one partner is attempting to impose his or her subjectivity on the other, and egocentrism where one fails to decentre from one's point of view. Both as it was the case for Piaget are seen as hindering rather than promoting the construction of knowledge and deep change.

A style that escapes the taint of rigidity is the one identified as *fairness*. This style presents a certain solidity, a certain salience, which permits the position of the individual to be easily seen in the field of social action. In this respect the style is close to consistency and is perceived as such but is related to being flexible. Moreover, it expresses a concern to take into account the positions of others. It makes felt in interactions with others a desire for reciprocity and interdependence, a will to enter into genuine dialogue and argument. The persons or group present themselves as open minded: they can be influenced to some extent and they can influence others. There is no attempt to coerce, although preferences, beliefs and opinions will be made clear. Fairness means exactly this: '*simultaneous expression of a particular viewpoint, and concern for the mutuality of the relationship in which views are expressed*' (Moscovici 1976: 141). Empirical findings in the field of social influence indeed support Moscovici's claims for the importance of *fairness* (Papastamou 1983; Mugny & Pérez 1991). Clearly the style of fairness proposed by Moscovici and its facilitative role in promoting reflection is based on the Piagetian idea of relations of cooperation as reciprocity between autonomous individuals.

Similarly, the behavioural style of *autonomy* exhibited by the source of influence discussed by Moscovici is seen as likely to promote the target's autonomy also. *Autonomy* is independence of judgment and attitude, which reflects the determination to act according to one's own principles. Objectivity is also involved – the ability to take into account all relevant factors and to draw conclusions from them in a rigorous manner without being deflected by subjective interests or ulterior motives. Autonomy gives the impression of being in control of one's behaviour, acting in free will and being the initiator of a set of actions. *Autonomy* is not perceived as intending to influence. One can again recognise in these ideas the distinctions Piaget (1923/2002) made between primitive and genuine argument. It could be argued that while rigidity is a characteristic of quarrelling and primitive argument on the contrary, fairness is rather a characteristic of genuine argument since there is a system of logical proof that becomes manifest as Piaget argued but within a spirit of mutual respect and reciprocity and not unilateral respect and coercion.

5. Contribution of social relations, conversation types and behavioural style to social and developmental psychology

To evaluate the contribution of these insights to social and developmental psychology I will turn back to the original question of the conservation of liquids in the introduction. What is there in communication that makes the non-conserver become a conserver? To take the more concrete example of the transcript presented in the beginning of the paper, did this communication facilitate a change or transition of the non-conserver towards the conserving position? In this form of communication we see the male conserver (M) in turns 1 and 3 support a conserving position. However the behavioural style of this communication shows that the male conserver structures his turns by asking closed rhetorical questions in such a way that what is expected by the female non-conserver is a simple and unelaborated answer that is not allowed to make a contribution to the co-construction of the argument. It is more like a call by the male to the female to fill the slots and in this respect we can claim that according to the Piagetian claim a relation of constraint is in play that hinders reciprocity and thus reflection. The other is offered an instrumental form of social recognition and is thus not recognised as an equal thinking *subject* in the discussion. In our own research (Psaltis & Duveen in press a & b; Psaltis 2005; Zittoun et al. 2003) such a conversation type, where the non-conserver was not supporting his or her original non-conserving position during the interaction, was labelled as *No Resistance*. This conversation type, according to empirical findings with two classic Piagetian tasks — the conservation of liquids and the spatial perspective taking task (cf. Perret-Clermont 1980; Doise & Mugny 1984) — was found to be equally unproductive in terms of the construction of new knowledge. The particular female in the example did not show any progress according to our post-tests. Female nonconservers who did show some progress through *No Resistance* were characteristic for the inflexible and rigid character of their new form of understanding in that they were not able to use any novel arguments to support their new acquired belief (see Psaltis & Duveen in press a & b). It was as if an old belief was replaced by a new belief without indication of what Piaget might call necessary knowledge. Interestingly similar dynamics of misrecognition or instrumental recognition, as we called it, were observed in a minority of the corpus of eighty transcribed discussions where the conservers lost the argument, however in these conversation type the non-

conserver was constraining the conserver. These discussions were called *Non-conserving*. None of these communications led to cognitive change for nonconservers; post-test performance for nonconservers who took part in this conversation type followed closely that of the performance of a control group of nonconservers that worked alone on the same problem. Thus it was like the *other* (in this case the conserver) did not 'count' in these communications. Compliance by one of the partners and unilateral respect was clearly more likely in these two conversation types.

However, we were also able to identify two other conversation types linked with higher rates of cognitive change for the original nonconservers. These were what we called *Resistance* and *Explicit Recognition*. In *Resistance* the nonconservers supported there original point of view at least once and in *Explicit Recognition* the original nonconservers at some point during their interaction started using conservation arguments themselves, in a sense they were showing conversion during the interaction. We know that they were showing conversion and not compliance since almost all of the nonconservers who engaged in *Explicit Recognition* became conservers in a delayed post-test. Moreover, many of them were using novel arguments that they were not exposed to them by their conserving partners during communication (see Psaltis & Duveen in press a & b). In these discussions of *Explicit Recognition* the children are more at ease to voice an opinion thus some form of social recognition of each partner as a thinking *subject* is at play and reciprocity is more likely to emerge. Both partners recognise the other as a thinking *subject* by reaching a form of intersubjectivity that Rommetveit (1984) called a *temporarily shared world* where both partners know that the other knows what they themselves know. This form of understanding entails a construction of the other as a reflective agent thus social recognition of the other and self as a *thinking subject* is achieved (cf. Tomasello, Kruger & Ratner 1993).

In both *Resistance* and *Explicit Recognition* both children take a substantial part of the responsibility and control for the task. What differentiates the two conversation types in terms of behavioural style of the partners is that *Resistance* is less successful than *Explicit Recognition* in terms of the introduction of novelty and extension of knowledge to similar activities. The Piagetian and Moscovician insights were again useful in clarifying the dynamics of the two communications. *Resistance* was a heterogeneous type depending on the degree of resistance put forward by the nonconserver and the elaboration of arguments given by conservers. Too

much resistance was detrimental for the less developmentally advanced child because in cases of too much conflict often primitive argument emerged that led to dogmatism and a rigid behavioural style, in some cases it also led to quarrel and threats. Obviously such communications introduced a constraint into the relation and unilateral respect where one child wanted to impose his or her own view on the other. The reduced flexibility of the forms of new understanding in this type supports this claim. The skill of argument of the more developmentally advanced child was also crucial in many cases since the style described as *fairness* by Moscovici was found to de-escalate dogmatism in communication by the application of responsiveness by conservers to the partner whilst making clear one's own view. This style helped the less developmentally advanced child take control and responsibility for the task that led to productive forms of moderate resistance and to *Explicit Recognition* which was in turn strongly linked with the construction of new knowledge.

To sum up, the rationale behind both Piaget's and Moscovici's ideas is based on linking in the case of Moscovici, change/innovation, and in the case of Piaget cognitive development as manifestations of the construction of representations based on *knowledge*. These are linked to the promotion of autonomy, reciprocity, mutual respect, and transcendence of self interest for the persons or groups involved in communication. The findings reported from the third generation of studies seem to support this view and moreover reveal the role of social representations of different sources of asymmetries (gender, academic reputation, popularity with peers) and their balance between the two partners in furnishing expectations about the evolution of each communication on a turn by turn basis thus having a formative influence on the direction of conversations and the establishment of particular conversation types. In a sense we see here how interlocutors are acting through social representations (cf. Gillespie 2003) of these asymmetries (often in tacit and non-conscious ways) to construct new social representations of particular tasks and *objects* (often in more or less reflective ways depending on the conversation types). The challenge is to render intelligible how expectations, based on different asymmetries, conflict or align in ways that the dynamic triangle of the *subject-object-other* changes in communication by making a transition from one configuration to the other through the use of semiotic means in ways that either lead to the construction of new knowledge or the transmission of beliefs. In this process social recognition is a central mechanism.

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