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Representations of authority and children's moral reasoning

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Abstract

This study examines the relationship between alternative sources of authority which might influence a child's moral reasoning. It returns to Piaget's (1932) work to explore features of a child's social relations which may act either to promote or constrain the communication and acceptance of moral knowledge. Children were asked to judge which of two boys was naughtier in one of Piaget's moral 'stories'. Those who had independently given different responses were placed in a pair and asked to agree a response together. An authority of status was introduced into some pairs by varying the gender composition of the dyad and contrasted with epistemic authority derived from the arguments more closely associated with moral autonomy. In the absence of an authority of status (in same-sex pairs) influence through epistemic authority occurred with relative ease. When status and epistemic authority conflicted subjects took far longer to accept the legitimacy of the epistemic authority. Copyright © 1999 John Wiley & Sons, Ltd.

INTRODUCTION

In his study of the development of moral judgement, Piaget (1932) established a parallel between social relations and forms of thought. Constraint and cooperation are identified as different types of social relations and are viewed as the contexts for heteronomous and autonomous thinking respectively. Relations of authority constrain development since the attribution of knowledge to an authority figure limits the involvement of the subject in a process of construction. In 'relations of constraint', judgement is based on an authority figure's commands and reasoning is described as heteronomous. For Piaget adult–child interaction typifies the imbalance in power and authority which leads to heteronomous thought. However, constraint is not a product

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of adult status *per se* but of the authority attributes an individual is perceived to possess.

In the absence of an authority figure's influence two individuals may engage in debate on a rational basis. This more cooperative mode of interaction allows understanding to be constructed independently of the status aspects of a social relation. Thus, 'relations of cooperation' are most typically a feature of children's interactions within the peer group. However, it is the absence of authority in interaction (rather than peer status) which theoretically distinguishes relations of cooperation from relations of constraint. Indeed, sources of authority may also impinge upon peer interaction to impose a constraining influence upon the construction of knowledge.

Theoretically cooperation and constraint represent two qualitatively distinct types of social relation which relate to the balance of authority or power in interaction, and which may in principle occur to varying degrees in any particular social encounter.[1] Heteronomous thought is a product of the constraint in social relations and is egocentric in character since the child is unable to conceive of a moral world independent of personal experience of it. The authority inherent in relations of constraint comes to define right and wrong for the child and represents the limit of moral knowledge. For the heteronomous reasoner an authority figure comes to symbolize the source of knowledge, the child shows *unilateral respect* for authority, and alternative attributes of authority are undifferentiated.

Only with autonomy in thought are moral rules conceived independently of the status attributes an authority figure may possess. Autonomy is thus the product of a 'symmetry' in the authority attributes of individuals engaged in interaction and correlates with a *mutual respect* for the moral perspectives of others. When authority does not influence the character of the relation, the child can engage in the intersubjective exchange of perspectives which is necessary for the construction of knowledge.

It is uniquely through social relations that the form of moral thought is determined. In this sense the two forms of thinking—heteronomy and autonomy—relate directly to different conceptions of the social relation or bond which exists between individuals. It is this social bond which moral rules regulate (Durkheim, 1961), although the character of these rules is not static and can be negotiated and renegotiated through debate, discussion and the integration of different moral perspectives into a commonly understood 'morality' (Piaget, 1932). Involvement in such discussions and intersubjective exchange requires that the child has a grasp of his or her role in the processes of social construction (Duveen & Lloyd, 1986). And cognitive development requires, too, that the child recognizes something of the role of the self as a social actor engaged (with others) in the construction of social knowledge (Leman & Duveen, 1996).

So, in order to proceed from heteronomous to autonomous forms of thought the child must come to understand that the social relations which morals regulate serve a purpose beyond being a forum for the acceptance of authority figures' commands. The development of moral knowledge is therefore simultaneously a process of socialization; and the grasp of autonomy is at one and the same time a social psychological and a developmental psychological achievement (Duveen, 1997; Moscovici, 1990).

[1]Of course, although the distinction between cooperation and constraint is a theoretical and categorical one, within everyday social encounters such a distinction may be less clear-cut.

Recently, Doise and Mugny (1984, see also Doise, Mugny & Pérez, 1998) have elaborated an account of the developmental process which, although not concerned specifically with moral development, retains a sense in which development is both social and cognitive in character. For Doise and Mugny it is through children's social interactions that any conflict between alternative perspectives is realized and resolved, or alternatively, where features of interaction may intervene to constrain the co-construction of knowledge (Mugny, De Paolis & Carugati, 1984). Given the symbiosis between social interaction and development a central concern for developmentalists must be to 'unpick' the different aspects of interaction and to connect these with advances in the child's reasoning.

In fact, aside from the work of Doise, Mugny and others there is increasing interest in the relationship between social interaction and cognitive development (e.g. Roazzi & Bryant, 1998; Russell, Mills & Reiff-Musgrove, 1990). A particular effort has sought to connect social interaction with moral development (e.g. Berkowitz & Gibbs, 1982; Damon & Killen, 1982; Nucci & Nucci, 1982). However, even though these studies (from a 'cognitive-developmental' tradition) explore children's interactions, social processes are generally conceptualized as merely 'facilitating' individual development. The focus of inquiry tends to rest upon similarities and differences in the knowledge that individual children possess and how these might lead to 'learning' by a less knowledgeable peer.

However, social psychological research has often demonstrated that what counts as knowledge is an uncertain matter for adults and children alike (e.g. Kruglanski, 1989; Raviv, Bar-Tal, Raviv & Abin, 1993). For example, work in social influence (e.g. Moscovici, 1976; Deutsch & Gerard, 1955) has consistently demonstrated the vulnerability of our beliefs to change which is motivated either by group norms or social informational factors. Similarly, attempts to model persuasive communication (Petty & Cacioppo, 1986; Eagly & Chaiken, 1984) challenge the notion that, as adults, our knowledge is either perfect or impervious to the social forces that shape it. Indeed, investigation into influence and communication from a developmental perspective needs to locate questions of knowledge and development within a more properly 'social' psychological framework (Leman, manuscript in preparation; Duveen, 1998).

Of course, to say that the legitimacy of moral knowledge is assessed from within a social framework is not to say that this legitimacy necessarily consists in conformity to socially prevalent beliefs. When an individual's judgement *conforms* to a social convention or norm (cf. Asch, 1952) or *complies* with a social authority (cf. Milgram, 1974) thought is influenced by an 'authority of status' since judgement is legitimated solely by the social–organizational aspects of authority. Such thought can be described as heteronomous since the dictates of a social authority represent the limits of knowledge and impose a constraint upon both the social relation and the judgement. In contrast, judgement may be made independently of the status attributes within a given social relation. In this case the legitimacy of a judgement may be assessed by the application of reason to resolve conflicts or inconsistencies between alternative moral perspectives (Moshman, 1994, 1995). Such judgements indicate an autonomy of thought which permits the construction of knowledge since reason is not subservient to a particular source of status authority.

When arguments are accepted by subjects because they are perceived to reveal knowledge we might say that an 'epistemic authority' has been influential. Epistemic authority is the authority possessed by knowledge and is akin to the description

employed by Socrates (Plato, *Meno*) as the truth (or good) that emerges from rational dialogue. Although epistemic authority is held to be legitimate independently of any social relation, whether a claim to knowledge is held to be legitimate can be determined only through processes of social interaction, discourse and debate. Hence epistemic authority possesses a power to influence judgement because it reveals a truth which can be assessed for its legitimacy only within an intersubjective framework.[2]

Leman and Duveen (1996) explored communication and influence among two age groups and found differences of developmental significance in children's perception of epistemic authority. Among younger children (6–7 years), the ease with which the arguments of an 'expert' peer were accepted by a conversation partner depended upon the expert's gender. In discussion, these younger children also tended to rely more strongly upon the external features of a situation in justifying their beliefs to a partner. The influence of gender upon judgement indicates heteronomous thought since the effects of gender could be attributable only to an authority of status deriving its legitimacy from the social roles and attributes associated with different gender groups. Thus, among the younger children epistemic authority was identified with an authority of status. The older children's (11–12 years) judgements were not so influenced by the gender of the interactants: their thought was more autonomous since the legitimacy (or correctness) of a judgement was not seen to be connected to the status inherent in any relation. Thus, the older children were able to distinguish status from epistemic aspects of authority in making judgements. Unlike the younger children, the older age group recognized more fully the role of the self and others in the process of knowledge acquisition.

The research reported in this paper investigates in further depth the relationship between epistemic and status forms of authority as influences on children's reasoning. Following Piaget's distinction between constraint and cooperation as different forms of social relations which have parallels in heteronomy and autonomy as forms of thought, our focus in this research is concerned with the processes through which cooperative relationships come to be realized among children, and the extent to which representations of authority exercise a limiting constraint in children's interactions. From this perspective, interaction between children is seen not merely as a context for psychological development, but a context in which this development arises through social influence processes. This focus provides a firmer theoretical (and more fundamentally 'social psychological') base than previous studies which have explored the role of authority figures in moral development (e.g. Laupa, 1991; Laupa & Turiel, 1986). It also remains true to Piaget's initial hypotheses regarding the theoretical role of authority as a potential feature of all social relations rather than as an *a priori* attribute of adult or peer 'status' itself (e.g. Kruger, 1992).

Children, at a level of reasoning intermediate between heteronomous and autonomous thought, were presented with Piagetian 'moral stories'. Those who had independently given a response associated with heteronomous thought were paired

[2]This intersubjective characterization of 'epistemic authority' distinguishes its use here from its use within subjectivist psychological accounts (e.g. Bar-Tal & Bar-Tal, 1988). Subjectivist epistemologies deny even the possibility of legitimate or verifiable knowledge and hence what is to count as true or false (or in moral terms, right of wrong) is a matter purely or private choice. Difficulties in the subjectivist (relativistic) position become particularly acute when considering moral reasoning, for if there exists no possibility of establishing the legitimacy of one set of moral beliefs over another than there exist no grounds for prohibiting or prescribing certain types of behaviour in any society (Locke, 1986).

with a child from the same peer group who had given a response associated with autonomous thought. The pair were then asked to arrive at a response together. Conversations were video-recorded for transcription later. An authority of status was introduced into some pairs by varying the gender composition of each dyad. In the interaction stage of the experiment this authority of status contrasted with the epistemic authority of arguments produced by subjects in the course of discussion. Comparisons between different types of dyad thus related to comparison between alternative combinations of epistemic and status authority in interaction, and allowed analysis of the relationship between the two forms of authority in conversation.

The study principally addressed the following research questions. First, are there different effects associated with different types of authority in social relations? Second, what is the nature of interaction (a) when status conflicts with epistemic authority and (b) when status coincides with epistemic authority? Finally, of interest too is the strategic use of justification in conversation—the position during discussion when particular justifications are used as persuasive devices. Whether persuasive strategies vary with the balance of authority in social relations bears upon the processes of social influence and the communication of knowledge.

METHOD

Subjects

One hundred and ninety-one children (109 males, 82 females) participated in the study. All subjects were in their fourth or fifth year of formal education (average age, 114 months) and were drawn from four primary schools in the same area of London. All schools and individual classes had a mix of pupils with similar ethnic and socio-economic backgrounds.

The experiment was divided into two stages. A first stage required all subjects to give an independent response. A second, social interaction, stage involved the combination of two subjects into a conversation pair. Each pair consisted of subjects who had given different independent responses. Since the distribution of these independent responses was not equal, not all subjects who were tested independently were placed in a pair. Thus, of the original 191 children, only 120 were involved in the social interaction stage of the experiment.

Materials and Procedure

Subjects were told two stories (see Appendix) similar to those posed by Piaget (1932, p. 118). In one, John broke six cups while coming downstairs having been called to dinner by his mother. In the other, David broke one cup while trying to get some sweets from a cupboard. Initially subjects were presented with the stories independently and asked two questions (again, see Appendix). First, subjects were asked whether they thought that one boy was naughtier than the other or if they were just as naughty as each other. Second, if the answer to the first question had been that one boy was naughtier than the other, they were asked to identify which of the two boys they thought was naughtier.

Of course, the method of presenting children with just two questions to assess their reasoning differs somewhat from Piaget's own approach of a clinical interview. Piaget's interviews were structured to gain a deeper level of understanding of the form of thought which underpinned a particular response. Thus, the questions posed to the children by the experimenter here did not allow each child to elaborate the reasons behind a particular belief in detail, and the experimenter's involvement extended only to asking children for a simple identification of which character they thought was naughtier. The elaboration of the reasons behind a child's beliefs emerged later in children's conversations and discussion between one another.

It is unclear, on the basis of the response to the first question alone, which form of reasoning (heteronomous or autonomous) can be associated with subjects who answer that both boys are as naughty as each other. The vast majority of subjects, however, answered that one boy was naughtier than the other. With respect to the second question, the child who answers that John is naughtier gives a response associated with *heteronomous* reasoning since the moral evaluation of the action is properly ascribed on the basis of its consequences or on the amount of material damage done. Those who answer that David is naughtier respond in a manner associated with *autonomous* reasoning since their judgement is more likely to be based upon the actors' intentions.

The subjects studied here were selected from an age group which is largely *intermediate* with respect to this particular task. Piaget's results indicated that it is between the ages of 7 and 10 that children's reasoning shifts from being largely heteronomous to largely autonomous (Piaget, 1932, p. 120). At this age subjects may prefer a particular response, but have a degree of conceptual access to both heteronomous and autonomous forms of reasoning. What was of primary interest was how subjects would justify their independent responses to a peer in a subsequent discussion, and in what ways status as a source of influence would compromise the ease with which persuasion occurred.

On the basis of their independent responses subjects were placed in a conversation pair. Each pair consisted of one subject who had independently given an answer associated with heteronomous reasoning (who had answered that John was naughtier) and one who had given an answer associated with autonomous reasoning (who had answered that David was naughtier). The pair were then asked to arrive at a response together.

The gender of both the autonomous and heteronomous halves of the dyad varied as well. Gender acts as a source of status authority because any differences in conversations attributable to the gender-mix of a pair indicate an influence deriving its legitimacy uniquely from the social organizational aspects of gender as categories of social life. Thus male or female subjects who had given a response associated with autonomous reasoning (henceforth '**M**' and '**F**' subjects respectively) were paired with a male or female who had given the heteronomous answer (henceforth '**m**' and '**f**' subjects respectively). Only children from the same peer group were placed in a pair in order to minimize possible effects due to sources of asymmetry in the status relation other than gender (age, for example). Descriptions of subjects and the four pair types—**Mm**, **Mf**, **Fm**, **Ff**—are shown in Table 1. All pairs were made up of two children from the same class in a school. There were 15 pairs of each pair type—a total of 60 pairs altogether.

Table 1. Definitions of subjects and balance of attributes of pairs in conversations

	Independent response		Pair type	Balance of attributes in paired conversation
	Heteronomous	Autonomous		
			Mm	Autonomous male versus heteronomous male
Male	**m**	**M**	**Mf**	Autonomous male versus heteronomous female
Female	**f**	**F**	**Fm**	Autonomous female versus heteronomous male
			Ff	Autonomous female versus heteronomous female

Table 2. Conversational justification categories

Justifications	Description	Example of justification in conversation
General assertions	Straightforward assertion of belief	'He's naughtier'
Consequences of action	(a) Material damage	'He broke six cups and he broke one cup'
	(b) Punishment	'His mum's going to kill him'
	(c) Material damage/punishment	'He broke six cups and his mum's going to kill him'
Moral	(a) Moral 'oughts'	'He should have got permission'
	(b) Appeals to a rule	'It's wrong to steal sweets'
Intentions of actor	Intention	'He didn't know the table was there'
		'He did it on purpose'
Others	(a) Moral and Consequences	
	(b) Moral and Intentions	
	(c) Consequences and Intention	
	(d) Task Independent	Rhymes, decision-making games

Analysis of Conversations

The pair's conversation was videotaped and later analysed to examine the justifications subjects used in conversations. A first measure taken was the *time taken* for the pair to agree upon an answer. Differences between pair types might give an indication of the ease with which the pair can negotiate a joint response. Also recorded were the turns each child took in a conversation, and the turn at which a particular justification was used. Such data allowed an investigation of the position in conversation at which justifications were used by subjects, and reveals information relating to the strategies employed by children in the course of a discussion or argument.

Analysis of justifications was conducted on the basis of categories outlined in Table 2. General assertions are straightforward assertions of belief and offer no reasons other than that belief as a justification. They are the least sophisticated type of verbal explanation available to subjects in the conversations.

Justifications which point to the consequences of action as being the determining factor in evaluating the situation fall into three sub-categories; the amount of material

damage done, potential punishment resulting from the act or a combination of these two. Focusing on consequential or external features of a situation is a feature of heteronomous thought since the egocentric thinker is unable to conceive of a moral world independent of private experience. Hence the consequences (or potential consequences) of a situation, and the authority figure's ability to administer those consequences, become the defining features of right and wrong.

Reference to the intentions of the actor as a justification is associated with autonomous thought since it is not external features of a situation but internal, motivational and psychological reasons that are identified as the determinants of moral value. The autonomous thinker reasons independently of the social relation in ascribing moral knowledge, and intention as justification indicates the ability to decentre and appreciate others' moral perspectives.

Moral justifications make reference to a moral rule or principle. A straightforward reference to a moral rule as a justification makes explicit an underlying principle to which the subject is referring in justification. Moral 'oughts', on the other hand, can be seen as referring implicity to a principle or rule since use of the prescriptive rests on the assumption of a moral rule. In some senses these justifications offer no conceptual elaboration beyond the level of general assertions: prescriptive statements express a moral position or value and do not extend to providing reasons behind that position, and it is precisely the developmental role of prescriptives such as these which any study of moral reasoning needs to elucidate.[3] Yet it is also clear that in conversation statements such as these do occupy an important role. By referring to a rule or principle the speaker raises the level of the conversation to that of a moral debate, and when citing a rule of prescribing a course of action a speaker is making a claim to moral expertise (or even moral authority).

Some final categories of justification were very infrequently used in conversation and so produced no significant effects in subsequent analyses. Combinations of these basic categories (e.g. moral and consequences, 'He shouldn't have broken all those cups'; moral and intention, 'He meant to do it so he's bad') were sometimes offered as justification. A few pairs of subjects also used justifications independent of the task to justify a position. Included in this category of task independent justifications are instances when subjects used games or rhymes to reach a decision. In the subsequent presentation of data all of these will be compounded into a category of 'other'.

Conversations were transcribed and coded by the first author. Coding reliability was assessed by randomly selecting 16 of the transcribed conversations (four from each pair type, 27% of all the pairs) for coding by a second judge. Inter-judge agreement ranged between 91% and 96% with a mean agreement of 93%.

RESULTS

Subjects' Independent Responses

Subjects' independent responses to the first question (whether one boy was naughtier than the other) indicated that subjects were more likely to answer that one boy was

[3]In a similar vein, Shweder and Much (1987) have highlighted how the construction of meaning in moral discourse frequently rests on commonly held prior knowledge and that the extraction of more explicit meaning is often constrained within everyday communication.

naughtier than the other ($N = 176$) than that both boys were just as naughty as each other ($N = 15$), binomial $p < 0.001$. Having answered that one boy was naughtier, more subjects identified David as the naughtier of the two ($N = 111$, the autonomous response) than identified John ($N = 65$, the heteronomous response), binomial $p < 0.001$. This distribution of responses illustrates that children within this age group may give either autonomous or heteronomous responses, although there is perhaps a preference within this age group as a whole to adopt a position associated with more autonomous forms of reasoning.

Joint Responses of the Pair

The suggestion that epistemic authority is possessed by autonomous arguments for children at this age is borne out by results from the joint responses. Subjects who had independently given autonomous answers were significantly more successful in persuading their partners (binomial, $p < 0.001$), indicating the persuasive power of the developmentally higher level of reasoning. In total 49 pairs jointly answered that David was naughtier compared with only 10 pairs who concluded together that John was worse. (One pair were unable to reach a decision after a considerable length of time, although their conversation was transcribed and used in the analysis of justifications.)

In this study the majority of subjects jointly decided upon the response associated with autonomous reasoning. The preference for autonomous arguments in conversation might reflect the nature of subjects' reasoning within this age group as a whole. Such reasoning is, in many ways, unstable. And while subjects give either an autonomous or heteronomous response, an individual child's reasoning may contain elements of both autonomous and heteronomous forms of thought. Thus, if autonomous arguments were perceived to be compelling it was because in conversation children were able to grasp something of their legitimacy.

Analysis of Conversations

(i) Time Taken

A one-way analysis of variance (time × pair type) was performed on data from the pair as a unit to assess the time taken for both subjects to agree. There are significant differences in the time taken to agree relating to pair type ($F(3, 54) = 4.54$, $p < 0.001$). *Post hoc* Newman–Keuls tests ($p < 0.05$) indicate that subjects in the **Fm** pairings take significantly longer than those in the **Mm**, **Mf** and **Ff** pairs (see Figure 1). These results identify the ease with which a pair negotiate a joint response. The balance of status authority relates to the speed with which a conflict is resolved. Subjects in the **Fm** pair take longer than those in the **Mm** pair and this indicates that **m** subjects have greater difficulty being persuaded by their female **F** partners than by males **M**. With the **Mf** pair, use of more persuasive autonomous arguments (possessing epistemic authority) coincides with male gender status and any disagreement is quickly resolved. In the **Fm** pair epistemic authority coincides with female gender status and is in opposition to male gender status. Here, then, the balance of status as a

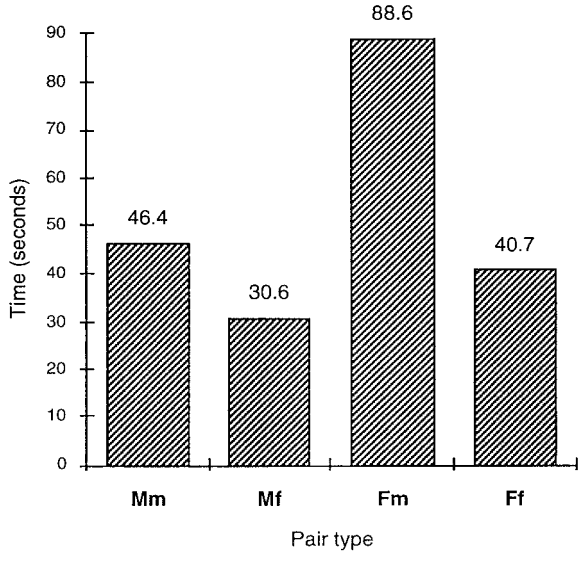

Figure 1. Mean time taken for a pair to agree by pair type

source of influence was towards male gender: i.e. status authority was possessed by male over female subjects.

Finally, the **Fm** and **Ff** pairs differed significantly too. Here in the **Ff** pairing, subjects may still have difficulty accepting females' arguments when they possess epistemic authority, but this is mitigated by the fact that the heteronomous subject is female and there is no relation of status to overcome. Again, in the **Fm** pair the authority of status possessed by the **m** subject acted as a source of resistance to the epistemic authority of arguments produced by the **F** subject. The nature of the status relation between subjects can either constrain or promote the ease with which moral perspectives are communicated and act to influence on judgement. In light of these clarifications of sources of influence (male gender perceived as a superordinate status and autonomous arguments perceived as possessing epistemic authority) the earlier definitions of pair types (see Table 1) can be translated to a more analytic contrast of the sources of authority involved in different conversations (see Table 3).

A subject's gender may impinge upon the ease with which arguments are communicated and persuade in conversation. Sources of status authority can compromise the influential power of the epistemic authority possessed by the arguments of the autonomous respondents here. While our analysis of the time taken for a pair to agree reveals some differences in the persuasive processes, a more detailed examination of

Table 3. Balance of authority influence (status or epistemic) in pair types

Pair type	Authority attributes possessed by opposing subjects in conversation		
Mm[a]	Epistemic	Versus	None
Mf	Epistemic + status	Versus	None
Fm	Epistemic	Versus	Status
Ff[a]	Epistemic	Versus	None

[a]In all-male and all-female pairs no relation (asymmetry) of gender status exists.

the types of justifications used by subjects (and their variation by pair type) helps to elaborate the relationship between status and epistemic sources of influence in persuasion.

(ii) Justifications

The justifications given by subjects (see again Table 2) were examined in terms of the pair as a whole and in terms of each subject within a particular pair. Since conversations varied in length the amount of a particular type of justification that occurred as a *proportion* of the total number of justifications used by a subject was analysed. Prior to analysis, an arcsine transformation was performed on the proportional data to avoid any statistical discrepancies which may arise from non-normality in distribution. Since only one reference to a particular type of justification may be sufficient to persuade, analyses were also performed on the numbers of autonomous or heteronomous respondents in each pair who either *used* or *did not use* a particular type of justification.

Table 4. Proportionate (percentage) use of justification in conversation by heteronomous and autonomous respondents

	Per cent Consequences	Per cent Intention	Per cent Moral
Heteronomous respondents	16.78	7.08	8.30
Autonomous respondents	5.35	22.40	17.90

There were significant effects associated with the proportional data (see Table 4). A two-way analysis of variance (independent response × gender × percentage use of justification) reveals a main effect of independent response (autonomous or heteronomous) by the proportionate use of justification for each of the three categories of justification—i.e. consequences, intention and moral. Heteronomous respondents (**m** and **f**) use a higher proportion of consequence justifications than their autonomous (**M** and **F**) partners ($F(1, 111) = 6.83$, $p < 0.01$). Those justifying an autonomous response use a higher proportion of intention justifications ($F(1, 111) = 16.00$, $p < 0.001$). The strongest and (in terms of the subjects' attempt to persuade) best justifications for heteronomous respondents are those which focus on the consequences of actions, whereas for their autonomous partners intention as justification provides a stronger basis for argument. Autonomous respondents also use a higher proportion of moral justifications (of the sort 'He ought ...' or 'It's wrong to ...') than their heteronomous partners ($F(1, 111) = 11.72$, $p < 0.001$). This result might indicate a feature of intermediate thought, identified by Piaget (1932, p. 194), whereby the child attributes the legitimacy of a moral rule to the rule itself. Such an attribution represents an advance on largely heteronomous thought since the legitimacy of a rule is not attributed to an external, unknowable source of authority. But it does not possess the epistemological adequacy of more characteristically autonomous thinking since the child does not fully appreciate the role of the self as an active and collaborative constructor of knowledge.

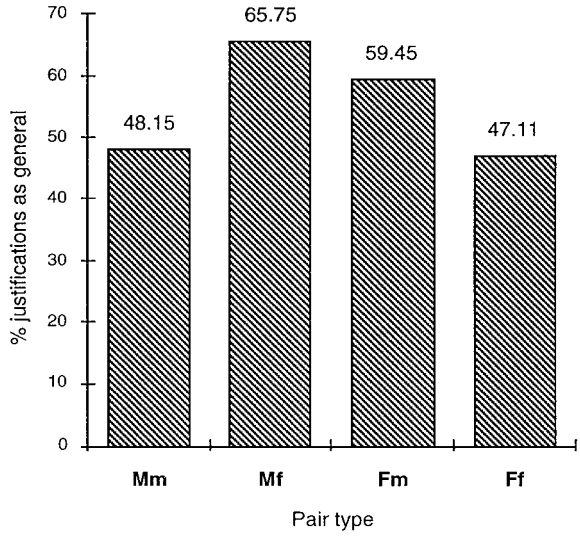

Figure 2. Proportion (percentage) general justifications by pair type

For the pair as a whole there is variation in the proportionate use of general assertions as justifications by pair type ($F(3, 114) = 4.05$, $p < 0.01$; Newman–Keuls ($p < 0.05$) **Mf** differs from **Ff** and **Mm**, see Figure 2). In the **Mf** pair there is little complex debate: the **M** subject can persuade his **f** partner without drawing on more elaborate forms of justification. The topic of moral debate comes into sharper focus within the **Mm** and **Ff** pairs (pairings where there is no status dimension to the relation) and hence there is a significantly lower proportion of unelaborate, general assertions in these pairings compared with the **Mf** pair. There is no significant difference in the use of general assertions between the **Mf** and **Fm** pairings. This may be a consequence of a more overtly conflictual atmosphere in the **Fm** pair (where both the subjects' differing responses *and* status and epistemic authorities conflict) rather than any lack of more elaborate justification. It seems not to be the case that the use of general assertions in the **Fm** pair arises as a consequence of there being little sophistication needed in argument to persuade the heteronomous respondent (as was the case in the **Mf** pair). Rather, it would appear that the two forms of authority (epistemic and status) lead each subject to a more overt restatement of their alternative perspectives.

Such an interpretation, namely that there is a more overtly conflictual atmosphere in the **Fm** pair, is borne out by results from analyses of whether or not subjects used certain types of justification in conversation (see Table 5). In the **Fm** pair both subjects engage in argument and use those justifications associated with their respective independent response to a far greater extent. In this pair there is the greatest contrast between subjects in the types of justifications each uses—partners share a topic of discussion less than in the other pairings. Here, the **F** subject is more likely to use those justifications associated with autonomous arguments, both moral ($\chi^2(1) = 9.14, p < 0.01$) and intention ($\chi^2(1) = 9.33$, $p < 0.01$), than her partner. In comparison, the **m** partner uses consequence justifications more often ($\chi^2(1) = 7.04$, $p < 0.01$). In this pairing the conflict between the two subject's positions, and hence their use of justification in argument, is at its sharpest.

Table 5. Number of subjects (autonomous and heteronomous respondents) who used or did not use justifications by pair type

Justifications	**Mm**		**Mf**		**Fm**		**Ff**	
	M	**m**	**M**	**f**	**F**	**m**	**F**	**f**
Consequences used	4	9	5	5	3	10	4	9
Consequences not used	11	6	10	10	11	4	10	5
Intention used	12	6	7	5	10	2	8	5
Intention not used	3	9	8	10	4	12	6	9
Moral used	10	5	11	6	11	3	8	5
Moral not used	5	10	4	9	3	11	6	9

Comparing the **Fm** to the other status pairing **Mf** (in which the autonomous subject possesses status), an analysis of whether particular justifications are used or not reveals some significant differences. Once again, examining only the heteronomous respondents reveals that in the **Fm** pair, **m** subjects are far more likely to use consequences justifications than the **f** subjects in the **Mf** pair ($\chi^2(1) = 4.21$, $p < 0.05$). It is, of course, consequences justifications which are the heteronomous respondents 'best' arguments, so there is an important difference in the role of justification which is linked to the location of the status in the relation. Where an influence of status conflicts with the epistemic authority possessed by autonomous arguments—i.e. in the **Fm** pair—the **m** subject uses the justifications associated with heteronomous thought to oppose his partner's arguments. In the **Mf** pair, where epistemic authority and status coincide, the **f** subject puts up far less opposition. It is not only the heteronomous (**f**) subject in the **Mf** pair who restricts the sophistication of the conversation. Comparisons among the male autonomous respondents (the **M** subject in the **Mm** and **Mf** pairs) indicate that the use of intention as justification in the **Mf** pair is significantly less than in the all-male pair ($\chi^2(1) = 3.84$, $p < 0.05$). In fact, in the **Mf** pairing the **M** subject actually uses these types of justification in under half of all the pairs in this pair type (see again Table 5).

(iii) Justifications and the Strategy of Argument

Variation in the types of justification used in an argument gives some indication of the nature of alternative authority influences. Also of relevance to the process of communication are the strategies employed by subjects to present their arguments. Subjects may use different types of justification at different points in a conversation, and variation in the ways in which certain types of argument are introduced illuminates understanding of the process of communication in general and as it varies according to the balance of authority attributes in a pair.[4] The mean turn number at which a type of justification was used in a conversation was calculated for each pair as a proportion of the total number of turns in the conversation. Thus the position at

[4]Of course, other strategies may be employed in the course of an argument which might not relate so directly to the arguments and justifications employed by subjects. In examining in detail only the position in a conversation at which different types of justification were used the aim is not to deny the importance of more peripheral (cf. Petty and Cacioppo, 1986) routes to persuasion, but rather to examine in greater detail the communication of epistemic aspects of an argument in conversation.

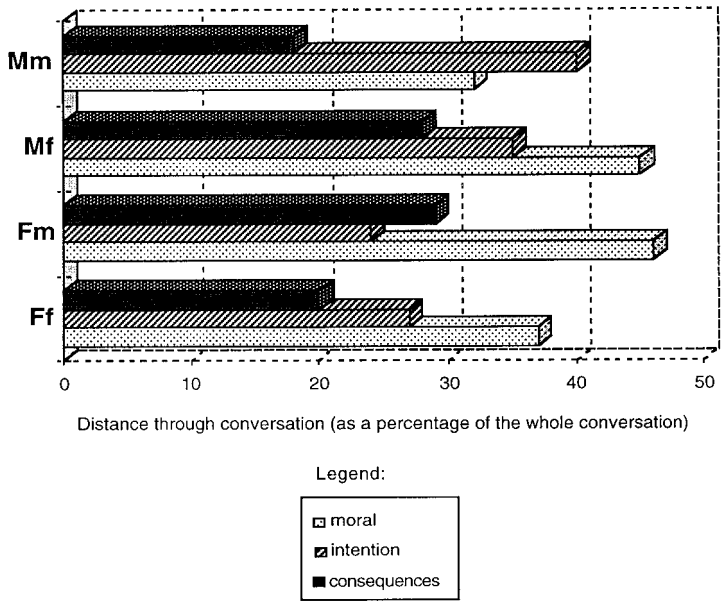

Figure 3. Mean position in conversation (0% = start, 100% = end) at which different types of justification (consequences, intention and moral) occurred by pair type

which a particular type of justification is used can be expressed as a percentage of the position it appears, on average, throughout a conversation (with 0% indicating the start of a conversation, and 100% indicating the end).

For all pairings, consequences justifications tend to be introduced first of all—on average, 23.8% of the way through a conversation. Intention justifications are introduced 32.1% of the way through a conversation, while moral justifications are produced later, on average, at 40.4% through a conversation. In conversations it is the arguments of the autonomous reasoners, namely intention justifications which are generally accepted. Thus, when a conversation focuses on intention as a form of justification agreement begins to be established and justifications in terms of the consequences of action are rejected and discussed no further. Moral justifications are produced, in general, towards the end of an argument. Such justifications may well occur later because subjects come to objectify a rule or norm in the course of discussion, and such justifications may act to cement agreement by establishing criteria against which the legitimacy of a judgement can be measured.

The position in a conversation at which certain types of justifications are employed also varies by pair type and this variation is shown in Figure 3.[5] Contrasts between pair types indicate that consequences justifications occur earlier in non-status (**Mm**, **Ff**) than in status (**Mf**, **Fm**) pairs ($t = 2.29$, 28df, $p < 0.05$). Such a result indicates, again, that in the absence of an authority of status the epistemological legitimacy of arguments can be assessed and agreed with a relative ease. That consequences

[5]However, it is important to remember that the total length of a conversation, the proportionate and mean use of different justifications also varied according to the gender composition of a pair. Data relating to the position in a conversation at which a justification is used must therefore be considered in light of these other effects relating to the numbers of justification used and the length of a conversation in general.

justifications occur later in the **Mf** pair may be attributable to the heteronomous **f** subject's difficulty in communicating her arguments at an early stage in the conversation—in this pair it was unclear whether it was epistemic authority or status which persuaded subjects. In the **Mf** pairing conversations ended considerably more quickly than in the other status (**Fm**) pair, and while consequences justifications might be produced relatively late on in the discussion this may be due to the brevity of the debate as a whole or to the **M** subject's domination of the early part of the discussion. So while both types of pairing which involve a status relation produce consequences justifications later than in pairings without status in the relation, it would seem unlikely that these justifications are employed in the same way in the course of discussion in the two pair types. In the **Fm** pair the production of consequences justifications may be more attributable to the **m** subject's resistance to persuasion when his status attributes conflict with the epistemic authority of this **F** partner's arguments.

There are also differences in the position within a conversation in which moral justifications are produced. As with consequences justifications, **Mm** and **Ff** pairs tend to use moral justifications earlier than **Mf** and **Fm** pairs in which there was a relation of status ($t = 2.24$, 28df, $p < 0.05$). Again, it would appear that conversations are resolved earlier in the pairings where there is no authority of status within the relation since there is less resistance to the emergence and acceptance of the persuasive power of epistemic authority. And perhaps because in same-sex pairs there is less an element of status in persuasion and agreement than in the other two pairings, there exists less of a need to objectify a decision into a moral rule or norm so as to make agreement explicit and concrete.

DISCUSSION

These results illustrate the role played by qualitatively different types of social relation in the communication of knowledge. An authority of status in relations compromises the persuasive power of epistemic authority. In the majority of conversations between peers it was the arguments of the autonomous respondents which were ultimately persuasive. Of course, it is not the case that autonomous arguments necessarily possess epistemic authority over heteronomous ones because, first, the confirmed heteronomous reasoner *equates* a social authority figure with the source of moral knowledge and thus epistemic and status authorities are not distinguished. Second, the two forms of moral cognition simply constitute different bases for conceptualizing beliefs as legitimate—the 'value' attached to one form of thought over the other is, in this sense, also the product of a process of construction on a social level. The tendency of these subjects to accept autonomous arguments as possessing epistemic authority is perhaps also due to the nature of these subjects' thought since the mean age of the subjects studied here was the upper limit of that identified by Piaget as one of transition between heteronomous and autonomous thinking on this sort of task.

With the children here we see an interplay between epistemic and status forms of authority as influences in conversation. Both forms of authority constitute alternative sources of influence. Both, also, correspond to alternative forms of legitimacy in judgement and derive from different types of social relation. In the absence of an authority of status (in this study, same-sex pairings) the epistemic authority possessed by autonomous arguments made persuasion a relatively simple process. In contrast,

when status and epistemic authority conflicted in conversation (when a male heteronomous respondent faced arguments from a female autonomous respondent—the **Fm** pair) conversations were resolved with greater difficulty.

In this latter pair, where status and epistemic authority conflict, epistemic authority was also ultimately persuasive. This result should not be taken to indicate that in all cases when epistemic and status authorities conflict the former will ultimately effect an influence. Again, it may be a feature of reasoning in this particular group of subjects that the epistemic authority perceived to be possessed by autonomous arguments was ultimately influential.[6] However, the conflict between status and epistemic authority appears to lead to a more explicitly conflictual atmosphere between partners in **Fm** conversation pairs. Since all pairs consisted of an autonomous and heteronomous respondent his conflict cannot be attributed to a simple difference in the claims to legitimacy of each subject. Nor is this conflict attributable merely to contrasting status influences between subjects in a pair since in the other mixed-sex pairing (**Mf**) conversations were resolved with comparative ease. Resolving the difference between subjects' perspectives requires that either epistemic authority or status is overturned in conversation. To accept the autonomous arguments, status as an influence in the conversation must be rejected. It is a conception of moral rules as deriving their legitimacy from an authority figure which underpins the arguments of the heteronomous respondents. In this sense the task of persuasion is tied into the sorts of judgements demanded of the children in the moral judgement task making the cognitive conflict between alternative conceptions of legitimacy more explicit within the social setting (Doise and Mugny, 1984; Mugny, De Paolis & Carugati, 1984).

When one subject possessed both status and produced arguments possessing epistemic authority (female heteronomous and male autonomous—the **Mf** pair) there was again an asymmetric status relation, but its resolution was achieved quickly and required less sophisticated forms of justification for the arguments of the autonomous respondent to be accepted as legitimate. The combination of both status and epistemic authority is, in many ways, equivalent to the representation of an adult authority figure by the child in adult-child interaction. In conversation (and in contrast to the pairing in which status and epistemic authority conflict) there is little motivation for the female heteronomous respondent to separate the distinct aspects of authority. In this pair it is difficult to say with certainty which form of authority, epistemic or status, was ultimately influential. Yet the relative lack of more sophisticated justification in this pairing suggests that when epistemic authority and status occur together there is a tendency to identify one with the other, and the elements of status in a relation act to constrain a sophisticated and extended examination of the justifications which underpin reasoning. Both halves of the dyad appear to collaborate in constraining the elaboration of moral themes. The male autonomous respondent, once he has successfully persuaded his partner, ceases to have any great motivation to explore his argument further. The female heteronomous respondent contributes by accepting the arguments of her partner quickly because within a heteronomous morality the dictates of an authority figure always represent the source of moral truth.

[6]It may also be possible that the status asymmetries created by gender status were not sufficiently strong to overcome the persuasive power of epistemic authority, and if another form of status authority (for example, age) had been employed in the composition of pairs an influence of status might have yielded more powerful effects.

What is clear from this discussion of the observed relationship between epistemic and status forms of authority is that 'knowledge' may have very different meanings in different relational contexts for children. Legitimate knowledge for each of these pairings is intimately tied to those social hierarchical aspects of the relations in which children were engaged. So knowledge, among these children, is a dynamic and sometimes flexible use. Of course, the same is true of adults (many 'developmental' studies tend to forget that not only representations of morality, but also representations of knowledge are themselves constructions). Indeed, we can draw a parallel between the effects of status authority seen here and the influence of majorities or group norms amongst more mature samples, a parallel which would emphasise the sense in which knowledge is a function of social processes. Further, the difficulties encountered by the females in the **Fm** pairing can also be seen as a parallel to the difficulties of minorities in influencing others' beliefs (Moscovici, 1976).

The brief exploration of the strategic use of justifications in the course of a discussion illustrates something of how the legitimacy of a judgement may be assessed through interaction. With same-sex pairs there are fewer status barriers to one subject's acceptance of the legitimacy of another's arguments: justifications associated with the heteronomous response cease to become a focus for discussion early in a conversation, and those associated with an autonomous response, once explored, are accepted with relative ease. In mixed-sex pairings such justifications are explored considerably later but (it would appear) for different reasons depending upon the balance or location of the status variable. When status and epistemic authority coincide (the **Mf** pair) conversations are resolved quickly and the consequences justifications of the female heteronomous respondent (the **f** subject) may be introduced merely after status and epistemic authority attributes possessed by the **M** subjects' gender and arguments (respectively) have already been persuasive. When status and epistemic authority conflict (in the **Fm** pair) the **m** subjects' heteronomous arguments (consequences justifications) are produced relatively late in the course of a discussion. This would indicate that in his strategic approach to the conversation the **m** subject offers considerable resistance to the epistemic authority possessed by the autonomous arguments or his female partner.

Status and epistemic aspects of authority correspond to qualitatively different types of social influence in interaction. An absence of status in social relations allows epistemic authority to emerge and persuade. When epistemic authority and status conflict the persuasive power of epistemic authority is compromised by the alternative basis for legitimating judgement which status aspects of the relation offer. In contrast, when epistemic authority and status combine less elaborate justification of a topic is required for persuasion. These are two qualitatively distinct types of authority provide the child with two distinct routes to moral knowledge. For the child, epistemic authority as a form of social influence contrasts with status in communication and persuasion. In examining the development of moral reasoning it is necessary to consider those elements of social interaction which provide the conditions through which the child comes to understand the features of an autonomous morality. To this extent consideration of children's representations of authority within a communicative context is of fundamental importance.

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APPENDIX: PIAGETIAN STORY DILEMMAS

Adapted from Piaget (1932), p. 118:

Story 1

Once there was a little boy called **John**. He was in his room and his mother called him to dinner. He opens the door to the dining room but behind the door there is a tray with six cups on it. John couldn't have known that the tray was behind the door. He opened the door, knocked the tray and all six cups smashed to the floor.

Story 2

Once there was a little boy called **David**. One day when his mother was out he tried to get some sweets from the cupboard. He climbed on a chair and stretched out his arm. But the sweets were too high and he couldn't reach, and while he was trying to reach it he knocked over a cup and it fell and broke.

Questions relating to the dilemma

Question (a): Are these two boys just as naughty as each other or is one boy naughtier than the other?
Question (b): Which boy do you think is naughtier?

