

12. Between strange situations and false beliefs: Working models and theories of mind

Abstract

This chapter describes possible connections between research on attachment and the child's theory of mind. By 3 years of age, children recognize the goal-directedness of many human actions. Moreover, they can understand that a caretaker will be happy or distressed depending on whether those goals are met. Accordingly, they can seek to help or hinder the realization of those goals. Ways in which these insights can help to expand our understanding of the child's working model are considered.

Introduction

Attachment theory assumes that infants and young children interpret and predict other people's actions. Research on the young child's theory of mind is centrally concerned with such interpretive and predictive skills. Yet writers on the child's theory of mind and on the child's attachment rarely cite one another, much less engage in intellectual debate (note 1). Hence, their convocation may seem

forced. I try to show, nonetheless, that the two research programmes can contribute to one another, however ill-matched they might at first appear.

Different ideologies

First, it will be useful to run through some of the ideological differences between the two programmes. Work on the child's theory of mind began in earnest during the 1980's. The main contributors agree on the following claims. As adults, we explain and predict an enormous number of everyday actions, utterances and emotions in terms of mental states, notably beliefs and desires (Astington, Harris & Olson, 1988). Young children acquire this mentalistic framework in a stage-like fashion. For example, children understand the rôle of desires and preferences before they understand the rôle of beliefs (Harris, in press; Perner, 1991; Wellman, 1990). This progress is probably universal (Avis & Harris, 1991), barring the presence of innate pathology, as in the case of autism (Baron-Cohen, Tager-Flusberg & Cohen, 1994).

Less agreement concerns the nature of that progress. Some suggest that it reflects the lifting of various maturational constraints (e.g., Fodor, 1992; Leslie, 1988). Some insist that the child is gaining a quasi-theoretical insight into the (representational) nature of mental states (Bartsch & Wellman, 1995; Perner, 1991). Others propose that the child is engaged in an increasingly sophisticated process of rôle-taking or simulation (Harris, 1991, 1992; Johnson, 1988). The extent to which particular experiences can aid the child's progress has been examined only very recently, and

mainly in connection with the developing understanding of belief. Three different types of experience have been scrutinized. First, there is evidence that sibling interaction speeds development (Astington & Jenkins, 1995; Perner, Ruffman & Leekam, 1994): only children perform less well on standard assessments of belief understanding than children with siblings. Second, certain types of linguistic encounter are also helpful: a family environment that is rich in conversation (especially about mental experience) appears to accelerate performance on theory of mind tasks (Dunn et al., 1989). By contrast, delayed access to conversation (as a result of deafness) retards performance (Peterson & Siegal, 1995). Third, several studies have shown that children who engage in more pretence, especially rôle-play, perform better on theory of mind tasks (Astington & Jenkins, 1995; Taylor & Carlson, 1995; Youngblade, 1993). Generalizing across these studies, it looks as if social encounters, especially those that involve the exchange of information or the adoption of a particular rôle encourage children to reflect on the mental states, and more specifically the beliefs, that regulate people's actions, remarks and feelings.

A great deal of research effort has been directed at the transition that can be documented between 3 and 5 years. Three-year-olds clearly understand the way that a person's actions, remarks, and emotions are governed by their desires, but consistent evidence for an understanding of beliefs, especially false beliefs, has been obtained only among 4- and 5-year-olds. In the future, more attention is likely to be paid to the changes occurring before 3 years. The child's conception of mind does not spring into life

overnight. For example, there is already evidence that children in the second year of life understand the way that another person's attention or emotion is directed at particular targets (Baldwin & Moses, 1994; Harris, 1989).

Attachment theory has been primarily concerned with socio-emotional development, rather than cognitive development. Bowlby (1984) suggested that the infant's tie to a familiar caretaker is organized into a system that is activated whenever emotional security falls below a target level: activation of the attachment system produces a variety of proximity-seeking behaviors. Bowlby viewed this attachment system as being of survival value. He assumed that the environment in which human evolution took place selected for such proximity-seeking in unsafe or uncertain situations. Within the framework of this allegedly universal system, Ainsworth and her colleagues identified certain recurrent variants on the basic attachment system: particular groups of infants behaved in a distinctive fashion during and after separation from the caretaker (Ainsworth, Blehar, Waters & Wall, 1978). These variations in the organization of the attachment system have been attributed to infants' differential expectations - based on past experience - of being able to re-establish emotional security via proximity-seeking.

Latterly, investigators have begun to look more closely at the cognitive basis for those expectations. Following Bowlby (1984), it is assumed that the infant constructs a working model - a mental representation of prototypical encounters between self and caretaker. This working model specifies what is likely to happen in future encounters. For example, the model specifies what the caretaker will do

if the child goes toward her in tears. Investigators have attempted to tap this model in preschoolers and older children by asking them to recollect - or imagine - emotionally-charged encounters with the caretaker (Main, Kaplan & Cassidy, 1985).

Work on attachment has emphasized several themes that set it apart from research on the child's theory of mind. First, notwithstanding Bowlby's early preoccupation with a biologically constrained framework for the formation of attachment, contemporary research has focused mainly on variation in the pattern of attachment, and its accompanying working model, across individuals, and across cultures. By contrast, most researchers studying the child's theory of mind have assumed that the key components of that theory are universal.

Second, despite Bowlby's discussion of developmental phases in attachment, but commensurate with its general emphasis on individual differences, attachment theory has stressed the likelihood of developmental continuity rather than change in the pattern of attachment. For example, meta-analyses have shown the extent to which the child's pattern of attachment at 12 months remains stable at 18 months and beyond (Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983). Theoretical and empirical analysis of the child's theory of mind, on the other hand, has aimed at documenting the way that the theory changes in the preschool years. Only a minority of researchers have insisted that there is continuity rather than re-organization (Fodor, 1992; Leslie, 1988).

Third, there remains a tacit assumption, stemming perhaps from the historical links (uneasy though they were) between

attachment theory and psychoanalysis that the subject will often not succeed in articulating explicitly his or her working model of attachment. Even in adulthood, the person's working model must be inferred with the help of a coding system from the content and organization of replies given during an attachment interview. It is assumed that the subject's discourse carries a meaning that is more pregnant than the subject realizes, particularly in the case of adults who continue to have an insecure attachment to their parents. Various forms of distortion are assumed to enter their discourse even if securely attached adults are more lucid. A different approach is adopted within research on the child's theory of mind. It is assumed that key terms in the child's theory will be articulated in the course of development. The child will increasingly talk explicitly about people's desires and beliefs using familiar mental terms such as *want*, *think*, and *know*.

With this brief overview of the two approaches, we may consider what each might contribute to the other. I think this can be best achieved by taking a theme that recurs both in attachment theory, and in research on the child's theory of mind: the notion that much human behavior is planful and can be predicted and explained in terms of an agent's goals. Below, I elaborate the following claims. First, around the age of 2 to 3 years the child begins to realize that many emotional reactions depend on the fulfilment or frustration of particular plans or goals. Second, such a fundamental insight is likely to have important repercussions on the child's working-model of his or her relation to a caretaker. In particular, the child can begin to enter into what Bowlby (1984) called a goal-corrected partner-

ship. Third, although theory of mind research has sometimes portrayed the child as a relatively objective and astute psychologist, attachment theory suggests important ways in which that portrait may be wrong. Fourth, both approaches could be broadened. In their different ways, they each ignore the fact that the child is confronted not just by planful individuals, but by planful dyads, who may collaborate, conspire or conflict in their dealings with the child.

Anticipating the emotional reactions of the caretaker

An important task for the young child is to anticipate the emotional reactions of other people. This topic has been a central focus for attachment theory, and it has also led to important insights concerning the child's theory of mind. Yet the two research groups approach the matter differently. I begin by laying out the less familiar ideas that have emerged from work on the child's theory of mind.

One simple way to predict another person's emotional reaction is to construct a kind of mental dictionary that lists as entries a set of situations and alongside each situation the emotional reaction that it is likely to trigger. In this fashion, a child might rapidly come to notice and remember an extensive list of situation-emotion linkages, for example, the fact that hitting another person triggers an angry or distressed reaction. Borke (1971) showed that 3-year-olds know quite a lot about such links between situations and likely emotional reactions. However, research on the child's theory of mind shows that 3-year-olds have a more powerful conception of emotion

than such a dictionary allows (Harris, 1989). They realize that a person's emotion is not triggered in any automatic fashion by the situation: the same situation can provoke opposite reactions in different people depending on their subjective appraisal of it. The appraisal process involves two major components - desires and beliefs. Three-year-olds can take a person's goals into account. This enables them to understand how the same outcome - for example, obtaining a particular gift - can provoke happiness or sadness depending on whether it matches up to what the person wanted. By the age of 4-5 years, children also take beliefs into account. They realize that happiness and sadness are not caused by a match or mismatch between goal and outcome but rather between goal and expected outcome. Paradoxically, someone may be about to get what they want, but feel sad because they mistakenly think they are about to get something they do not want (Harris, Johnson, Hutton, Andrews & Cooke, 1989).

This simple 'theory' of emotion is much more powerful than the list-like structure described above for several reasons. First, it allows more accurate predictions of the other person's emotional reactions. Second, it means that any intervention - to try to alter the other person's emotion - can be directed at its proximate cause - an unfulfilled desire or a mistaken belief. The child need not be confined to providing outcomes that trigger the target emotion. Third, the child begins to grasp the inter-connections among different emotions that emanate from the same desire or belief. The child understands that their younger sibling's distress at mother's departure and joy on her return are a

function of the same desire - the desire for her to remain close by.

Notice one more aspect of the child's so-called theory of mind. The research to date has produced a somewhat surprising negative result: throughout virtually the entire body of research, it has been found that children make little differentiation between different people. Indeed, they make similar predictions about children, adults, dolls and toy animals - all of them are interpreted without discrimination in terms of a belief-desire psychology.

Consider, by contrast, the notion of a 'working model'. Bowlby suggests that the model is built up from past empirical experience. The child takes note of recurrent emotional relations between self and key attachment figures, and uses these to forecast the course of future encounters. Embedded in this account is the dictionary metaphor of a set of remembered linkages, as described above. For example, the infant notes the likely consequences of approaching the caretaker when in distress. The residue of these encounters is a working model of what we might call the canonical distress encounter. This working model regulates the child's expectations about what the caretaker will do when a bid for comfort is made. A working model is also used to appraise the self. Suppose the child's bid for comfort is repeatedly rebuffed. The child will use such negative reactions to evaluate the self, concluding that he or she is not *worthy* of comfort or attention, and that is the reason why the caretaker responds irregularly or insensitively. As this brief exegesis shows, contemporary attachment research and theory of mind research each assume that the child is constructing a set of generalizations. The alleged nature of those generaliza-

tions is, however, different. Attachment theory implies that children focus mainly on those emotional reactions of the caretaker that satisfy or thwart their own goals. The caretaker is not endowed with any autonomous agency, but is simply viewed as resonating to the properties of the self. By contrast, theory of mind research allows that children can, at least by the age of three, recognize that other people feel emotion relative to their own goals rather than those of the child.

A second important difference is that in the case of attachment theory, the child arrives at a generalization that is highly charged with emotion: the ultimate conclusion concerns the feelings of security that may or may not be anticipated in the context of a particular attachment relationship. In the case of the child's theory of mind, by contrast, the generalizations are free of any affective valence: the interpretation of another's responses is a cognitive enterprise. Even when those quasi-theoretical constructs are used to interpret emotional reactions, there may be only incidental repercussions for the child's feelings of security.

Finally, attachment theory assumes that the child's working model is no more than a schematization of recurrent past experience. It does not allow for the construction and deployment of new explanatory concepts, as does the theory of mind research.

Goal-corrected partnerships

Bowlby (1984) was alert to the possibility that young children can recognize that other people, like themselves, have goals and motives. With few exceptions, this particular proposal of his has been ig-

nored by most contemporary attachment researchers (Note 2). As noted in the previous section, however, research on the child's theory of mind has identified an important landmark in the child's developing theory of mind. The most recent evidence shows that 2-year-olds are probably capable of goal attribution and 3-year-olds are definitely capable of it (Bartsch & Wellman, 1995; Harris, in press). Figure 1 illustrates in a very simple way the child's understanding of the relationship that exists between another person and some particular goal object. It is intended as a schematic depiction of the child's appreciation of a variety of goal-directed actions. For example, the child might watch and understand a person who is approaching a particular object in order to eat it or in order to play with it.

Child [Person —————> Goal object

Fig. 1. Illustration of the child's understanding of another person's pursuit of a particular goal object.

The emergence of this understanding should have two major repercussions on the child's working model of the relationship between caretaker and self. First, it should allow the child to view some of the caretaker's emotional reactions as essentially neutral with respect to the self. More generally, the child will gradually come to appreciate that the caretaker has goals and preoccupations that are independent of the self. Ultimately, this means that a full assessment of the child's working model of the caretaker ought to provide the child with opportunities for signalling his or her recognition of that independence. To take a concrete exam-

ple, it will be useful to know whether children code a separation between self and caretaker mainly in terms of the temporary thwarting of their own security goals, or also acknowledge that the caretaker may be in pursuit of his or her independent goals during the separation.

The second repercussion was noted by Bowlby (1984). A child's realization that the caretaker has his or her own goals makes it possible for the child to adopt a goal with respect to the partner's goal. In principle, we can identify three different goals that the child might adopt toward the partner's goal. First, the child can adopt the goal of trying to realize the caretaker's goal - what we can reasonably call *helping*. Second, the child can adopt the goal of trying to block or prevent the realization of the caretaker's goal - *hindering*. Third, the child can remain neutral but acquiescent with respect to the caretaker's goal - *tolerant*.

These options of *helping*, *hindering*, and *tolerating* only arise when the child can understand the goals of the other person. Given that this is achieved in the course of the third and fourth year, we can expect an increment during this period in the extent to which these options are systematically pursued. In particular, we can expect to observe an increasing number of persistent and deliberate efforts to *help* or *hinder* a caretaker. In addition, we should expect such efforts to be accompanied by an appreciation of their emotional impact on the caretaker. To the extent that the child realizes that agents are happy if they realize their goals, and distressed if they do not, the child can understand and use *helping* versus *hindering* as powerful tools with which to affect the emotional reactions of the caretaker.

Contemporary attachment theory has focused on the Strange Situation. This was conceived by Ainsworth as a way to probe the child's security-seeking, especially at the point of reunion. Almost by definition, the Strange Situation poses the question: How does the child handle his or her own goal of re-establishing felt security? Attempts to probe the working model of the older child have also used variants on the separation and reunion theme.

However, if Bowlby's perspicuous analysis is correct - and research in the child's theory of mind suggests that it is - the assessment of the child's attachment at around 3 years of age should be expanded to include situations where it is the caretaker's goal or plan, rather than the child's, that is pre-eminent. The question then becomes: Does the child see the self as entering - however temporarily - into a partnership with the caretaker by collaborating with that goal, and making the caretaker content? Alternatively, does the child see the self hindering such goals, and thereby making the caretaker upset? It should be clear that adaptations of the Strange Situation are not suited for such an assessment enterprise because the Strange Situation deliberately creates a situation where the child's goal rather than the caretaker's goal determines the child's reaction.

An objective observer?

Theory of mind research has often depicted the child as a spectator *ab extra* seeking to understand the innocuous comings and goings of dolls and story characters. The experimental techniques are intended to optimize the child's theoretical

efforts. Although it is acknowledged that the child will make inaccurate predictions, these are attributed to limitations in the child's conceptualization of mental states rather than to the fact that emotion may cloud judgement. Thus, the increasing accuracy with which children predict action and emotion between 3 and 5 years of age is attributed to the child's increasing recognition of the role of beliefs, especially false belief, over and beyond the prior appreciation of the role played by goals and desires.

In daily life, however, the child is rarely an unbiased spectator. Attachment theory offers a richer portrait of the child as an active creature who is designed to act so as to meet certain emotionally-defined set goals. Hence, we may combine considerations from attachment theory and from theory of mind research to pose the following question: To what extent does the child's ability to make accurate predictions remain constant across different motivational states?

To make this question more concrete, suppose that the child's current goal is to sit on the mother's lap because the mother has been absent. The mother, on her return, indicates that her own goal (e.g., unloading the shopping bags) temporarily prevents her from meeting the child's request. An obvious prediction is that a child whose current goal is not being met will be less likely to *help*. More generally, it is likely that the frustration of a current goal (be it an attachment goal or some other goal) is likely to reduce the child's ability to recognize, and cooperate with the goals of the other person. Research on the child's theory of mind is beginning to suggest how this blinkering might occur. As noted earlier, it is well-established that 3-year-olds are fairly ac-

curate in recognizing the way in which an individual will be happy or sad depending on whether his or her goal is met or not (Harris et al., 1989; Yuill, 1984). However, a recent study has shown that such judgements are not made accurately when the child's own goal is in clear conflict with that of the person whose emotion is being appraised (Moore et al., in press). More generally, we can speculate that whenever the child's attachment goals are activated - and unsatisfied - the child will have considerable difficulty in recognizing that a caretaker has goals whose satisfaction runs counter to immediate satisfaction for the child. Essentially, such situations require that the child set aside his or her own current goal state, in order to contemplate a conflicting goal (Harris, 1991).

In sum, by combining theory of mind research and attachment theory we can arrive at a more realistic and balanced portrait of 2- and 3-year-olds. At this age, they are beginning to be alert to the caretaker's own goals. They do not simply appraise a caretaker in terms of the extent to which he or she meets their own attachment needs. At the same time, children of this age are not neutral theorists. They are self-interested participants. Particularly when their own goals conflict with those of a caretaker, the preschooler may be less than insightful about the distress that a caretaker feels when his or her goals are thwarted. Children's lack of cooperation at such moments, however, probably reflects a temporary inability to take the caretaker's point of view, rather

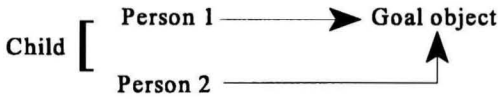
than a knowing and Machiavellian attempt to frustrate the caretaker's plans.

Triadic relationships

Research that has been carried out in the context of the child's theory of mind has typically presumed that the child is attempting to make sense of the actions of a single actor, or a collection of single actors, all understood in light of the same theory. Attachment theorists, by contrast, think of a working model as a representation of inter-related actors within a dyad: a bid for comfort by one partner that is acknowledged or rebuffed by the other partner. Despite these important differences between the two approaches, they display a common lacuna. The possibility that children can conceptualize a triadic relationship is not seriously entertained in the context of either theory.

Consider the actions of *helping* and *hindering*, once more. So far we have considered cases in which the child is an actor who accommodates to or rejects the goal of another person. Sometimes, however, the child is called on to make sense of a dyadic relationship that does not necessarily include the self as actor. For example, a sibling is struggling to grasp a toy that is out of reach; a parent intervenes and hands the sibling the toy. To gloss this simple interaction correctly, the child needs to appreciate the goal of the sibling and the fact that the parent's intervention is aimed at allowing the sibling to realize his or her goal. A child who can do this has moved beyond what Bowlby described as a goal-corrected partnership. The crucial advance is that the child can identify the existence of goal-corrected

partnerships that operate independent of the self. This is likely to be more complicated than simply entering into a goal-corrected partnership because it requires that the child go beyond the alignment of its own current goal with that of another person, and appreciate instead the way in which Person 1 can help - or hinder - Person 2 in reaching a goal, irrespective of the child's own current stance toward that goal. Thus, a parent may help a sibling, as



described above.

Alternatively, one parent might help the other parent. A schematic illustration of what needs to be understood is provided in Figure 2.

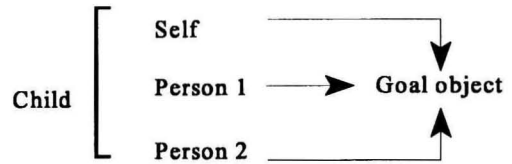
Fig. 2. Illustration of the child's understanding of an intervention by Person 1 aimed at helping or hindering Person 2.

The child observes and seeks to understand the following interaction: Person 2 seeks a particular goal object but has not yet reached it. Person 1 intervenes and acts so that the goal object is reached by Person 2 (e.g., Person 1 retrieves the goal object and gives it to Person 2); alternatively, Person 1 acts so that the goal object is not reached by Person 2 (e.g., Person 1 moves it further out of the reach of Person 2).

Sometimes, the child's own stance toward that goal will be neutral. For example, the sibling wants to have a cup that is tempo-

rarily out of reach and is helped or hindered by the mother. Alternatively, the mother wants to put up a shelf and is helped or hindered by the father. On other occasions, however, the child's own current goal will mean that he or she has a stake in the realization - or frustration - of the goal. At this point, the possibility of a triadic relationship among the three players emerges.

To take a concrete example, a child snatches a toy from a sibling and starts to play with it. The sibling wants to retrieve the toy and keeps reaching to take it; the child pushes the sibling away. The mother approaches with the intention of taking the toy from the child and handing it back to the sibling. As she approaches, the child returns the toy to the sibling. In this example, the child's own goal - to keep the toy - runs counter to the sibling's. However, a full understanding de-



mands an appreciation of the mother's plan as well. The child's needs to appreciate her sympathetic, *helping* stance toward the sibling's goal. Effectively, the child needs to realize that the triad is composed of the self and an alliance between mother and sibling. This is illustrated in Figure 3.

Fig. 3. Illustration of the child's understanding of an alliance between Person 1 and Person 2 aimed at thwarting the self.

On some occasions, of course, the child will belong to the alliance or partnership

rather than being opposed by it. Thus, a partnership will temporarily exist between the child and its sibling. The child observes and seeks to understand the following interaction: Person 2 seeks a particular goal object but has not yet reached it. Person 1 intervenes and acts so that the goal object is reached by Person 2 (e.g., Person 1 retrieves the goal object and gives it to Person 2); alternatively, Person 1 acts so that the goal object is not reached by Person 2 (e.g., Person 1 moves it further out of the reach of Person 2). For example, the child might be helping a sibling who wants to open a box of matches; the mother intervenes to prevent this goal from being realized. The child might want to block a sibling's goal and seek assistance from the mother. The mother might want to block a father's goal and seek assistance from the child.

If we extend the tenets of attachment theory to triadic relationships, we would expect the toddler to construct a working model not just of his or her dyadic relationship with the mother but also of his or her triadic relationship with, say mother and sibling, or mother and father. With respect to either of these triads, we can then ask whether there is a prevailing alliance. An alliance within a triad can be used to block the goals of the temporarily non-allied third party. Whenever a triad starts to assume a regular and predictable form, we can reasonably expect the child to form a working model of its mode of operation, and to begin to put it to use. For example, the child may find that the mother frequently intervenes on its behalf, blocking the incursions of an older sibling; the child may then learn to actively solicit these interventions, at opportune moments. Similarly, the mother-father-child triad may offer the child op-

portunities for discovering stable alliances. The child may find that when his or her goals conflict with those of the mother, the father mainly helps the mother or mainly helps the child (Christensen & Margolin, 1988).

Nevertheless, it is unlikely that the child will be able to construct a stable self-concept across all his or her various dyadic and triadic relationships. The child who successfully bids for comfort when the mother is alone, or successfully gains support from the mother to resist the incursions of an older sibling, will find that its bids may be ignored when they compete with those of a younger sibling. Similarly, the same child may find that such bids for help from the mother fail when it is the father who is preventing the realization of that particular goal.

In all likelihood, then, the child will not arrive at any context-independent self-concept on the basis of these multiple relations. Whereas the reactions of the caretaker may be fairly predictable within the context of the exclusive dyad, they may vary in more complex ways when other family members are present. Unlike the primary dyadic relationship with the caretaker, an alliance with the caretaker vis-à-vis a third party is likely to fluctuate, depending on the identity of the third party.

Conclusion

In conclusion, an appreciation of the goal-directed nature of action and emotion is likely to have major repercussions on the child's working model. First, as soon as the child's working model of the caretaker acknowledges that she or he has autonomous goals, the child can avoid

over-interpretation of the caretaker's unwillingness to respond immediately to all bids for comfort. Second, the child's plans can be directed at helping or hindering the projects of a caretaker. Where recurrent patterns of helping or hindering are set in motion, these are likely to be incorporated into the child's working model. Finally, in due course, the child will also start to recognize the existence of triadic relationships, - alliances of varying degrees of stability - that can either serve to promote the child's own goals, or to frustrate them.

Notes

1. This is beginning to change. Bretherton (1985; 1991) and Dunn (1988) describe research that is pertinent to both theories. Main (1991) shows how concepts drawn from research on the child's theory of mind can enrich work on working models of attachment.
2. Marvin (1977) provides an interesting discussion, and an exploratory empirical investigation, of children's appreciation (between 3 and 5 years) that their mother's absence is due to her engagement in another goal-directed activity, or plan.

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