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## Imagination and misimagination Adam Morton

**Imagining minds** Suppose that you see someone about to get on a bus, then pause, step back to the street, and look around on the ground. You may wonder why this person is acting this way, and you are likely to run little scenarios through your mind. Perhaps she noticed that she did not have her hat, sunglasses, or purse. Perhaps she had seen some money - or a diamond necklace - on the ground and went back to check if it was worth picking up. You may not have enough confidence in any of these to believe that these were her thoughts and motives, or to attribute them to her, or to use them to explain her actions. You may even be sure that no such story is the case, so that the scenario is just a fantasy to amuse yourself. Whatever your attitude, you are imagining the person's state of mind.

We imagine other people's minds all the time. It is central to the texture of human social life. We frequently imagine our own minds: when you responded to the instruction "suppose that you see someone about to get on a bus ..." you imagined yourself wondering about the person's motives and coming up with various scenarios. So you imagined yourself imagining. We frequently imagine other people imagining us, as when, for example, we go out of our way to prevent someone even supposing that our motives might be exploitative or seductive. We do a lot of very complicated imagining of one another's minds, quite routinely, without remarking on it. And very often the imagining is extremely vivid. It seems very real to us. Suppose for example that you are comforting a friend who is recently bereaved and extremely upset. His feelings, as you imagine them, are for you just a definite fact about the situation. They are among the things you have to take account of in deciding what you should do.

In describing this example I said "his feelings, as you imagine them". You are doing a lot more than simply imagining his feelings. You believe that he is upset; you attribute feelings of despair to him. These beliefs and attributions draw on a background of imagination, though. Your belief that he is in despair is richer than an application of the predicate "is in despair" to him, since you also have a sense of what kind of despair he is in, what it is like for him, a sense that you can only partially express in words. You think "he feels like *this*" where the demonstrative points to the emotions you imagine him to have. (It is somewhat like what happens when you imagine the exact

colour you want to paint a wall, and then in the paint store you think that a sample is like that, the imagined colour.) I shall in fact take this as a defining characteristic of imagining minds, in the relevant sense, in which imagination is different from belief and imagining someone's mind is more than entertaining the thought that a person is in a given state of mind. To imagine that a particular person is in a particular state of mind is to be oneself in a state such that one is thinking of the person as being in a state like that state. (See chapter 1 of McGinn 2004 and chapter 1 of Currie and Ravenscroft 2002 for the differences between imagination and belief. See Tappolet 2000 and Deonna, forthcoming, for the immediacy of other's emotions. And see Harris 2000 on imagination in children and human life generally.)

There is an ambiguity in what I have just said, that will be important later. The simple way to think of someone as being in a state like your state is to think of her as being in a state that has the same objects. If you are thinking of the Eiffel tower then you think of her as thinking of the Eiffel tower. You get a more intimate imagination by thinking of her as being in a state that has the same objects presented in the same way. You think of her as looking at the Eiffel tower from the western edge of the Place du Trocadéro. You get a yet more intimate imagination by thinking of her as being in a state that has other characteristics in common with yours. You think of her as seeing the Eiffel tower looming in the east as a symbol of hope. There is a progression of kinds of imagination here, from those that we can call *transparent* because all that is important is the particular objects of the imagined state (the imagination goes right through the state to its objects), to those that we can call *intimate* because the detailed psychological workings of the state are also relevant.

**misimagination** Imagination may be more central to our interactions with other human beings than to any other part of our life. But its very centrality and vividness gives us a tendency to take our imagination of others as reality, to assume that people are as we imagine them to be. There is also a subtler form of the danger: not only do we tend to assume that most of the time we get it right when we imagine a person's mind, we almost never reflect on what the difference between getting it right and getting it wrong is. This paper, being a philosophy paper, is mainly about that subtler issue: what is it to imagine someone correctly? One often meets claims that we can understand other people by imagining their states of mind. And philosophers often praise the role of fiction in expanding our capacities for imaginative understanding. But these claims are hollow if understanding a person does not mean getting something right about her. Otherwise, anything we imagine can count as understanding. Or,

to put the point differently, it has to be possible to *mis*-imagine, and consequently misunderstand, why someone acted or what their experience was like.

It is not easy to say what it is to misimagine another person. It is easier to give a useful description of some other kinds of misimagination. If I am asked to imagine my aunt's face and I imagine instead my grandmother's face, I have misimagined. In general if the aim is to imagine a particular object or event, or a particular proposition's being true, then you misimagine if you imagine something different. Of course this is only as clear as the idea of imagining something in the first place, in particular the idea of imagining that  $p$ , for some definite proposition  $p$ . But at any rate we can say that the idea of imagining in these cases carries with it a description of what it is to misimagine. It is either not to imagine at all or to imagine the wrong thing. A more subtle case is that of generic imagining, as when you imagine a green cube rotating about a line between two opposite vertices while slowly turning red. If you were asked to do this you might get it wrong by imagining something other than a cube, or a cube rotating about a different axis, or changing colour quickly rather than slowly. It seems that we can take the object of imagination to be a proposition here too, but a rather indefinite one: that there is a cube and it is rotating in this way while changing colour in this way. (For the philosophy of the psychology of images see Tye 1991.)

Some kinds of correctness do not come down to the truth of an imagined proposition. Suppose that I am imagining walking through a revolving door carrying a parcel. I might imagine this in order to tell whether I could get through the door without crushing the parcel. Suppose that I imagine this by visualizing the door directly in front of me and then visualizing the scene looking straight ahead as my body and the parcel fit in and emerge. My imagination might then be accurate in that I represent the parcel emerging unscathed, but inaccurate in that I represent the event with a straight-ahead perspective while in fact when I later experience it I turn with the door and look at the exit out of the corner of my right eye instead of straight ahead. It is as if the individual items of information were the same, but organized differently. So after I have later actually gone through the door with the parcel I might say "it wasn't the way I imagined it." This aspect of correctness, correctness of point of view, will be very important later when we discuss one person's imagination of another person's motivation or experience.

Just as one can imagine facts correctly but misimagine their presentation, one can imagine facts correctly but misimagine their causal connections. If the aim is to imagine why the dam burst, then

you have to imagine the dam bursting and some antecedent condition or situation, and you have to imagine this situation causing the dam to burst. You are imagining correctly if you are imagining the actual bursting of the dam, imagining some actual antecedent events or situation, and imagining these latter causing the bursting, where they are in fact causes of the dam's bursting. These are quite demanding, and slightly mysterious, but it is not a real mystery what it is to satisfy them. It is not obvious what it is to imagine one event causing another (one can imagine a ball hitting a window and the window just shattering, coincidentally, and then one can use the same visual content to imagine the impact causing the shattering). And it is not obvious how significant the cause one imagines has to be in the real production of the event; this is presumably a fairly context-dependent business. But, still, though we have to do some work to see the line between correct imagination and misimagination of why a physical event occurred, it is not in doubt that there is such a line.

On the other hand it is not obvious that there is an objective difference between accurate imagination and misimagination when one person imagines the mind of another. I think there is a difference: in this paper I am defending the imagination/misimagination contrast as applied to our imagination of one another. But it is important to see that this is something that needs defence. When we imagine what it is to be a particular person at a particular moment, why a person did some particular action, or why a person's life takes the direction it does, we are doing something very different from imagining that some proposition is true. We are experiencing and thinking, in a way that is aimed at another person's experiencing and thinking, and aims somehow to fit it? How?

Suppose you imagine being a refugee, for example, forced to live somewhere where people speak a language you have never learned, where the social rules are mysterious to you, and where the preparations you have made for earning your living are useless. In trying to imagine this you imagine a situation and imagine features of it causing you to experience various emotions, adopt various strategies, or form various beliefs. So you imagine emotions, strategies, and beliefs, and you imagine why the person might have them. You will inevitably get it wrong, in part. (Even if you have been a refugee yourself your capacity to imagine the connections between the parts of your experience is likely to be inaccurate, infiltrated by your image of yourself and by theories of human nature, so that you will not represent to yourself completely reliably even the subjective quality of what has happened to you, let alone its causal structure.) But if you want to have some sort of understanding of a refugee's life, you have no choice but to undertake some such imaginative exercise,

knowing that larger or smaller parts of it will be wrong. You know this, but it is not easy to say what it is you know.

This was a very complex case, in that it is a case of someone trying to imagine something large-scale about another person's life. Sometimes what we do is much easier. But the problems in knowing what we do, and what it is to do it right, remain the same. The problems are easiest to see if we consider what correct imagination of a person does *not* consist in. If inside every person's head there was a clockwork mechanism, whose motions were that person's thoughts and produced that person's actions, and if when we imagine that person we imagine this mechanism and its operations, then accuracy would be a simple matter. You would imagine someone right if your imagination was of the clockwork motions that were actually responsible for that person's thoughts and actions. But it's not like that. A person's thoughts and actions are the result of processes in her brain, and broad general patterns of these processes are represented with varying degrees of inaccuracy by psychological theories and by the ideas of folk psychology. When you imagine what is going on in a person you rarely imagine the direct physical causes involved. What you do is to undergo states and experiences with some reference to the person, and somehow represent them as being why the person is as she is. So what can be right and wrong about this?

Correctly imagining a person would also be less problematic if when we imagined a person we imagined only the things that she is aware of. But, as the revolving door example above shows, we also have to present the things the person is aware of *as* she is aware of them. At the very least this involves presenting them with the same perspective and focus as she is aware of them: the things that are firmly in the middle of her awareness have to be imagined as such, and the things that are more peripheral as such. But imagining situations and events as experienced by someone else involves a lot more than this, as we can see when we try to imagine events as experienced by a colour blind person or a paranoid person.

It is beginning almost to seem as if correct imagination of another person requires the impossible: that one become the other person. It is not just that the task seems daunting; it is not clear what would count as succeeding. There are several ways in which the task could be so ill-defined that the contrast between success and failure becomes meaningless. This is the topic of the next section.

**skeptical possibilities** It is not obvious that we ever imagine another person accurately. There is a crude and a subtle way in which our attempts could be less successful than we think.

The whole business might be an illusion; there might be nothing to imagine. That is the most extreme possibility. Our vivid impressions of what it is like to be someone we know well, or that we can intuit their reasons for acting, might be baseless because what we imagine has nothing to do with the causes of actions. It might even be that our conviction that others do have experiences such as those we imagine onto them is an illusion. The illusion might be based in part on an illusion about ourselves: we imagine our own experience, or imagine others imagining it, and persuade ourselves that we have a direct awareness of something that we can describe accurately.

This possibility may seem incredible. But it can come with an explanation of why it seems incredible, of how the imagination illusion seems so vivid. The explanation is based on the fact that we do imagine, whether or not what we imagine is real. So when you think of someone's imagining your thoughts or experience you imagine your own mind and then imagine someone imagining that. So of course the other person's imagination has an object, which it might or might not fit, namely your mind as you imagine it. (The explanation will work just as well for imagining someone imagining the mind of someone other than you.) So the reason for the illusion that there is something to imagine, a defender of this radical sceptical position can say, is imagination itself. We see that one imagination can match another and then forget that the whole mental exercise is within the scope of "imagines", so that we end up thinking that imagination can match reality. Again a colour analogy may help. There is a respectable metaphysical position which claims that colours are not objective properties of physical objects. Before we appreciate the arguments for this position we find it hardly credible. And why? – because when we think of objects we think of them as coloured. (The extreme sceptical view might be the classic position of Churchland 1978, or more subtly that of Dennett 1991. I have used an appeal to something like the imagination illusion in exploration II of Morton 2002 as part of an argument *for* the reality of subjective experience.)

Subtler possibilities involve systematic error in processes that can also give true verdicts. We can produce evidence relevant to these possibilities. Social psychology in the last thirty years has produced ample evidence that our introspective sense of ourselves leads us to systematically false views about the causes of our own behaviour. Even when we are right about what we are doing and what we are thinking, we are often wrong about why. So – projecting speculatively but not unreasonably from this – when we put ourselves imaginatively in the position of another person we are likely to take as the causes of their actions what we would in the imagined situation take as the causes of ours. And these causes are likely to be

systematically mistaken. (The classic empirical work is summarized in Nisbett and Ross 1991. For an application of it to issues similar to those discussed here see Stich and Nichols 1996.)

I will not go into detail about these possible failings. I mention them only to prevent us from thinking complacently that imaginative understanding has to be a real source of knowledge, the only philosophical problem being what kind of knowledge this is. If we are aware that this vivid and persuasive aspect of our experience may be deceptive, we may be more wary of others. One closely related topic is the presentation of character in fiction. When we read fiction, or watch a play or a film, we imagine what the characters are going through and why they are doing what they are represented as doing. In fact, in plays and films, and much prose fiction, there is very little explanation of why characters act as they do. In telling the story to a small child we count on her imagining that the wolf disguises himself as grandma in order to deceive Little Red Riding Hood, and that her father kills the wolf in order to save his daughter. We don't state these things explicitly because we don't need to. The occasions where we are left temporarily or permanently in doubt about the reasons for characters' actions, their general state of mind, and the kind of people that they are, stand out as exceptional, and it takes a good deal of authorial skill to work them in, in a way that the reader or spectator will accept.

Imagined fictional personalities cannot be an illusion in the sense of failing to match the real truth about the characters<sup>1</sup>. But they can be an invitation to illusion. This is because when we respond to fiction we react to the characters in many of the ways we do to real people, and so if a way of reacting makes sense with respect to a fiction we tend to think that it makes sense with respect to real people. This can have two bad consequences. It can give us the impression that a certain kind of personality is possible, when in fact people cannot be that way. Or, alternatively, it can give us an impression that some kind of action is often caused by some kind of motive, or that some motive is a plausible cause of some kind of action, when in fact this is psychologically wrong. Such people never or rarely exist, and such motivational processes are never or rarely behind the actions in question. I am sure that both illusions are quite common, and should make us wary of claims that fiction educates us about human nature.

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<sup>1</sup> If there is a real truth about the characters in a fiction then one can misimagine it. On Kendall Walton's account, for example, what is true in a fiction is determined by the reactions an ideal reader would have to it. So by reacting as an un-ideal reader one can imagine e.g. that Othello was moved by racial hatred rather than jealous rage, and be objectively wrong about a fictional mind. (Thanks to Shaun Nichols on this point.)

It is after all hardly a startling suggestion that *Crime and Punishment* is a misleading picture of a deranged murderer, just as *Lolita* is a misleading picture of a pedophile, and *The Silence of the Lambs* a very misleading picture of two serial killers. Perhaps more surprising is the suggestion that many, perhaps most, fictional characters do not qualify for immigration into the actual world. (Everyone in Dickens! Or so I would argue. And this is not a criticism of Dickens, but one of his glories. Wonderfully believable impossible people: to real personalities as *bel canto* is to the sounds of speech.)

In theory one could resist these effects, and keep one's reactions to fiction and one's reaction to human beings in separate compartments. To keep the two completely separated would require superhuman control, though, and might make it impossible to enjoy fiction. One reason it is hard to separate the two is that we tend to think of real people as if they were fictional characters. This is a consequence of the famous fundamental attribution error of social psychology. This is our well-documented tendency to suppose that people's behaviour is more constant than it is, that liars always lie and benevolent people always help. This is our natural mode, to populate our social environment with characters with easily grasped profiles of action which they rarely depart from. As a result, if a work of fiction is to appeal to our natural capacities to imagine the personalities of other people, it can most easily do this by encouraging us to think of them as more constant and definite than people actually are. So even when the personalities we imagine are like the personalities we take real people to have, there is an element of illusion. Moreover the demands of a plot will often require an imagined personality that fits smoothly into the array of personalities we attribute to our real acquaintances but which wouldn't result from any combination of actual human psychological attributes.

(This raises a delicate issue in describing the realism of works of fiction. Is a fiction that encourages an imagination of a social situation that is similar to the misleading imagination we might have of an actual situation thereby realistic, since it encourages reactions we could actually have, or not, since it encourages a mischaracterization of social reality? The question is like that raised by a picture, say, of a confusing scene of mirrors and puzzling perspectives, which accurately captures the mistakes in understanding the scene that a person would naturally make, but represents the actual structure of the scene less well than a picture that represents the same scene in a more precise but less visually natural way?)

In a way, then, our social lives are works of fiction, which we live through a constant imaginative process which bears a very subtle relation to the psychological facts. Or so one can argue with some



plausibility. The possibility should make us take seriously skepticism about the imagination of other people, which suggests a degree of inaccuracy that raises hard questions whether there is a robust contrast between accurate imagining and misimagining of another person. (See Doris 2002 and Goldie 2004 for discussions of the fragility of attributions of personality that connects with issues about literature. See also Nehamas 2000.)

**The link with mindreading** I hope to have aroused in my readers a sceptical attitude towards imagination of mind. You should by now see the point of thinking carefully what the difference is between simply imagining someone's mind and imagining it correctly or accurately. In the rest of this paper I shall make the beginning of a principled distinction between accurate imagination and misimagination.

Three points from earlier in this paper give us the basic ideas we need. We saw a difference between imagination and belief. One can imagine a state of mind in a way that requires an essential demonstrative element to one of one's own states: one imagines the person to be in a state like this state one is in at the moment. We also saw how imagination of states of mind can be framed by a perspective. One thinks of certain information from the perspective of the person one is imagining. And, thirdly, we saw how readily we do what one might think was a very demanding task, to embed one imagining in another, so that we imagine one person imagining another person's imagining. Given these three ideas, a partial solution to the problem can be found.

My assumption is that we do imagine people's states of mind. I take this as simply a given of human life. I shall also assume that the capacity to imagine minds is closely linked to what philosophers and psychologists refer to as variously "folk psychology", "theory of mind", or "mindreading". This is the basic human capacity to attribute to one another states of mind that can be used to predict and explain behaviour. (For a summary of recent work see Nichols and Stich 2003 and Morton forthcoming. In my writings on the topic I have stressed uses of folk psychology *other* than prediction and explanation: see Morton 2002, chapters 1 and 5.) There are a number of competing accounts of how we do this, not all of which are necessarily rivals. In all of these accounts, attributing a state of mind to a person on the basis of their behaviour requires some thought. On some accounts – what Stich and Nichols (2004) call "information rich" accounts – one combines information about behaviour in a particular situation with more general information about the reasons for human behaviour in general to produce an explanation of how the person has acted. On other, "information poor", accounts, one mimics the other person's

thinking with one's own and then somehow records some result of one's own thinking as an attribution to the other person. (The standard versions of information rich accounts are often called the theory theory of mindreading, and standard versions of information poor accounts are often called simulation theories.) On either kind of account there is something for imagination to latch on to. The connection is more natural, perhaps, with information poor accounts. If such an account is right, one can imagine someone's state by activating a process in oneself that might mimic the other person's thinking - though one is not required to attribute the result of this process to the other person - and then taking some part of this thinking as the imagined state of the other. (This would give a theory-based simulation of simulation!) According to a very information rich account one might activate some part of one's general account of human thinking and apply it to the person in question to get a conclusion and then suspending any definite attribution to the other take this conclusion as the content of the state one imagines the other to be in.

So, when one imagines a person's state of mind one is following part of one strategy for getting an explanation of their action. The imagination has the content "she is in *that* state", referring to some state that could play a role in an explanation or prediction of that person.

**getting it right** With this as a rough characterisation of what it is to imagine a person's state of mind, the aim is to distinguish accurate imagination from misimagination. Now the second basic idea comes into play: perspective. Remember the examples of imagining someone going through a revolving door with a parcel, or imagining someone seeing the Eiffel tower from the west. In such cases one organises the information that one is in imagination relating the person to, in a way that is intended to match her organization of it. In particular, one has to match the way the person organizes information with a view to planning sequences of actions. When a person plans an action she has to anticipate possible ways the action might develop. To do this she has to have at hand a lot of relevant information, much of which will not be used, and to anticipate how she may assimilate and react to information that might come in. One way, a typical and central human way, of managing this is to prepare a framework into which present and anticipated information can be fitted, and from which it can be quickly retrieved and related to other relevant information. A simple example is seeing space in terms of directions and distances to one's own location, even as one moves, providing a quick guide to bodily actions, reactions to things coming towards one,

and paths of approach and escape. The result is like a coordinate system in geometry, with oneself at the origin, the central point. Another example is understanding past and future in terms of stages in the lives of a few particular people, oneself in particular. These two data-organizing templates, spatial perspective and narrative structure, are often combined, to give the typical human perspective on the world: a fabric of interweaving person-strands, each strand at each moment being the origin of a self-centred coordinate system. One strand in each person's perspective, her own life, glows with a special significance, providing each moment with an especially significant set of spatial relations.

There's a clear connection with imagination. When a person plans an action in terms of an information-organizing framework with an origin and coordinates she is in effect centering her imagining of her performance on this origin. Now suppose that the action is a reaction to some aspect of the environment and that someone else is imagining it by pretending to react to the same situation, that is, arriving at a sequence of actions governed by an information-organizing framework attributed in imagination to the first person. That framework *centres* the second person's imagination of the first person, to use Peter Goldie's terminology, in terms of the first person's perspective. (See Goldie 2000 for perspective in imagination. For narrative structure in fiction and its connection with imaginative perspective see part II of Currie 1995, Stock, forthcoming.)

Most of our imagination of people is centred, though the perspective can vary depending on the states being imagined and the imagining person take on the imagined. They do not vary too much, though. For the variety of perspectives we have on our actions is limited. Self-centred spatial representation and agent-centred narration are rarely absent. And the structures we use to organize our thinking even about very abstract matters have to respect the fixed limits of short term memory, of speed of recall, and of ability to handle complex information. In fact, the main point of these structures is to allow us to manage these limitations. As a result, when one person imagines another they usually attribute to that other person a perspective not to unlike the one the other is actually using.

Still, it is possible to get it wrong. A person could plan an action in terms of spatial relations that do not connect with her own body's position – perhaps the centre is instead her house – and someone else could mistakenly imagine her actions through a conventional own-body-centred perspective. In this case the imagination would have gone wrong. It would have missed an important part of the imagined person's actual thinking. So we can define a clear and significant aspect of accurate imagination as follows: one person's imagination of

another's mind is *perspectivally accurate* to the extent that it represents the thinking of the other person in terms of a perspective like that which the other person is in fact using. To capture a point from earlier in the paper we can define an imagination as *target accurate* when it represents the thinking of the other person as directed at the things or propositions that it is in fact directed at. So when one person imagines another in a way that has both perspectival and target accuracy he has in a pretty substantial way imagined her correctly. It is, to use the terms I used earlier, both transparent and intimate.

Perspectival accuracy is one way in which the imagination/misimagination distinction can be clearly drawn. It can be extended to areas which are less clear than cases in which one person is imagining an action which another is doing or has done. When one person is imagining another doing or thinking something completely imaginary, the imagining is still perspectivally accurate to the extent that it represents the person as using a framework that she might or would have used. Extreme misimagination is still possible, and it is still an objective matter that it is in this respect misimagination. Still, the case that is easiest to analyse is that in which one person does some definite thing for some definite purpose, and another person imagines the first person's thinking and motivation. When the second person does this accurately the two people use similarly centered information structures, but in the solution of different problems. The imagined person uses hers to solve some first order practical problem, and the imaginer uses his to solve the problem of anticipating the solution to that first order problem. The imaginer will usually do this by embedding the information structure he is using to imitate that of the imagined person in a larger structure, typically one more centred in his self and his purposes, appropriate to the larger task of which imagining the other person is a part. It is this difference of problems to solve, and this embedding of one structure in another, that makes the act of imagining someone different from simply employing a similar way of thinking.

That does not mean that imagining is always an explicit, deliberate, or conscious business. Consider dances and conversations. When one person dances with another they try to stay mentally half a step ahead of the other by imagining the other's dance-planning from the other's point of view, an imagining that forms part of their own dance-planning. This happens without much deliberation, indeed more than minimal deliberation would upset it. Similarly, when one person talks to another she imagines the conversational direction of the other and the reactions the other will have to what she says. As with dancing, this happens more by learned instinct than by explicit

planning. And as with dancing the imagination is mutual: each is imagining the other and to some extent imagining the other's imagining of them. Human social life is a fabric of such shared imaginative projects, projects which could not even get off the ground were our imaginations of one another by and large reasonably accurate .

**Imagining imagining** In perspectival accuracy we have a reasonably clear description of one way in which one kind of imagination can represent or fail to represent its target. Moreover it describes a dimension of accuracy that is essential to the kind of imagination that underlies shared cooperative activities. That ought to be enough to make it worth paying attention to. I would like to push the ideas just a little further, though, to address the question not of what constitutes accuracy in imagination but how much of our imagining of other people is accurate. I will do this by discussing iterated imagination, imagining imagining.

There is a thin line between the information structures of imagining and action-planning. When you plan or rehearse an action you are almost imagining doing it. You may have the same reference points and basic relations (the same origin and coordinates) in both cases, though in imagining the action these are usually embedded in a larger project, which may involve considering your projected action without actually doing it. And when two people coordinate their actions by mutual imagination – dancing, conversation – their action planning and their imagining of each other's planning are almost inseparable.

If planning is almost imagining then imagining planning is almost imagining imagining. Consider a situation in which two people have to take account of one another's possible actions. They are at opposite ends of a crowded hall, full of people, tables, and pillars, and they aim at an embrace somewhere in the middle. Each person could simply plot a route into the hall, dodging the obstacles until they might be within kissing distance of the other. Even if this worked, at this point they would both have to take account of the other person's probable route. More likely, from the very beginning each will take account of the obstacles facing the other in order to imagine the route the other will take. In fact, they will imagine each other's imagining of themselves, in order to anticipate the choices that each will make as a result of imagining the possibilities open to the other. So in planning a coordinated action each person is imagining the other person's imagining their planning.

Much imagining of imagining is like this, when the imaginings are clearly centred and the perspectives of the outer and the inner

imaginings are related in some simple way. In effect, one constructs a single slightly more complex and flexible information structure and uses it to manage both the information processed in the outer and the inner thinking. The effect will often be of a shifting point of view, as the cognition taking place is just as it would be were it governed by one or another simpler perspectival information structures. But these shifts of apparent point of view can happen smoothly as effects of a simple underlying pattern of thought.

I believe that these rich diffuse information structures with their shifting subsidiary origins are crucial in human life. I believe that they make sense of the intuitive but thoughtful way with which we enter into shared cooperative activities, and I conjecture that they are at the root of our capacity to attribute felt experience to ourselves and other. I have argued elsewhere (Morton 2002, chapter four of Morton 2004) for these things, in a way that would have been clearer had I been able to use the concepts of perspectival accuracy and of embedded centred imagination, but which I am not going to repeat here. Instead I shall argue that a very natural assumption about human psychology suggests that embedded imaginations have a good chance of accurately representing the thinking of the person imagined.

The assumption is that our choice of ways to graft one information structure onto another to get a usable complex structure is rather limited. This is meant as a crude empirical generalisation from a mental survey of cases. One can start with one person's spatial perspective and attach to a point in that perspective another person's perspective, as children readily learn to do in learning to share visual attention. (See the essays in Eilan and others 2005.) One can start with a problem of finding a means satisfying certain definite constraints to achieve a specific end, and attach to some intermediate goal the problem of finding means to it satisfying those or other criteria, as people learn to do when learning to fit in with one another's plans. One can start with a strategic situation, a problem that might be characterised in terms of game theory, and take one agent's set of possible moves and the consequences to her of them, and attach to it another competing agent's outlook on each stage of the game, as people learn to do when learning to think out which of their possible moves opponents are likely to have anticipated. And, simplest of all, one can start with a problem to be solved, and embed it in the problem of predicting what solution another will find to it. Intuitively, there are not very many more ways of constructing an information structure that will contain within it the crucial information for one person's action as a subset of the crucial information for that of another.

Assume this is right. Suppose that A has managed to imagine B's imagining of C, in the sense that A has constructed such a shifting information structure which allows her to predict successfully what C will do as a consequence of her prediction of C. (C may be A, as in many of the examples above.) And suppose that A can do this for many of B's predictions of others. Given that there are not many ways in which B can imagine C, the chance is pretty small that A has found a wrong one, which still works in that it could be used by B to imagine C and for A to imagine B's imagining C, and still come up with the right predictions of B's actions.

So when we imagine imagining and the effort is successful on the predictive level we can have some confidence that it is also right in terms of the processes underlying the other person's actions. That is, it is likely to work in terms of an information structure that does have as a substructure the one the other person is using for their imagining. This provides no guarantee that the rest of the processes working in the imaginer's attempts to anticipate the other do in fact resemble those operating in the other. But, first, as we saw above it is not at all clear which of these processes are relevant to accurate imagination in any case, or even what accuracy means when applied to them. And, second, even though there are a limited number of ways in which we can structure centred imagination of others, the process is still demanding, and a person imagining someone else will have invested a lot of their mental capital in the imagining alone, so that there is a limit to the complexity of the thinking that can serve it.

This point becomes even more significant when the embedding of imagination is deeper, as when one person imagines another person's imagining of a third person's imagining of the first person's state. (Which, complicated as the description may be, is a typical human accomplishment.) Then the mental space left over for the processes that serve the information structure is decidedly constrained. So, for both these reasons, we can have some faith that predictively successful embedded imaginings are fairly often accurate. More accurate embedding means less room for mis-imagination<sup>2 3</sup>.

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<sup>2</sup> Multiply embedded points of view are common in literature. My argument suggests that the capacity of literature to mislead us about human possibilities is less when the reader is asked to test her imagination against her capacity to embed one point of view in another. The suggestion is only that, though, and needs a lot more thought.

<sup>3</sup> The first draft of this chapter was presented to a symposium on imagination organized by Jonathan Adler for the Association for the Philosophy of Education at the eastern division of the American Philosophical Association in December 2004. Later versions were read at the university of Sussex and Kings College London. I am grateful for advice from Peter Goldie, Michael Martin, Véronique Munoz-Dardé, Shaun

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