

Does social motor cognition play a role in explaining the purposiveness of joint action?

Yes: some events are joint action in virtue of ~~shared~~ <sup>social</sup> motor representation playing a role analogous to that played by shared intention

- (a) represents outcomes
- (b) coordinates multiple agents' actions
- (c) does (b) in such a way as to bring about the outcome represented

passing: outcome is transfer of o from  $1_1$  to  $1_2$

block stacking: outcome is placement of these two blocks, yours & mine

The interface problem:-

1. m.r & s.i. both represent outcomes.
2. The outcomes need to match.
3. The outcomes are not represented in the same format.
4. No translation process exists.

There may not always be harmony

But in some cases harmony is non-accidentally achieved.

How is this possible?

1. Avoidance systems — motor system attempts to coordinate w. others whether or not they are joint actors or strangers in order to minimize collisions &c (Not joint but default of coordination)

Simple example:

We intend that we move the object + this is achieved via shared motor representation?

② 12-03-05

## Intention & Motor Representation in Joint Action

1. Social motor <sup>rep<sup>n</sup></sup> ~~enables~~ joint action
2. Joint action occurs when two or more agents' actions, taken together, are directed to a goal and coordinated in such a way that ....
3. What links multiple agents' actions to a goal?
  - ~ shared intention (represents goal & ...)
  - ~ social motor representation (w. or w/o. shared intention)
- 3½. Not all j.a. involves social motor rep<sup>n</sup>
4. Obj: no j.a. w/o shared intention

~ reply: ① this claim is not based on argument

② leaching & is linked to planning

③ individual case: it's <sup>maybe</sup> wrong to think that all actions (even all intentional actions) involve intention

5. Obj: the contrast cases

~ reply: ① can explain contrast w/o s.i.; ② Searle's example doesn't nec. involve s.i.

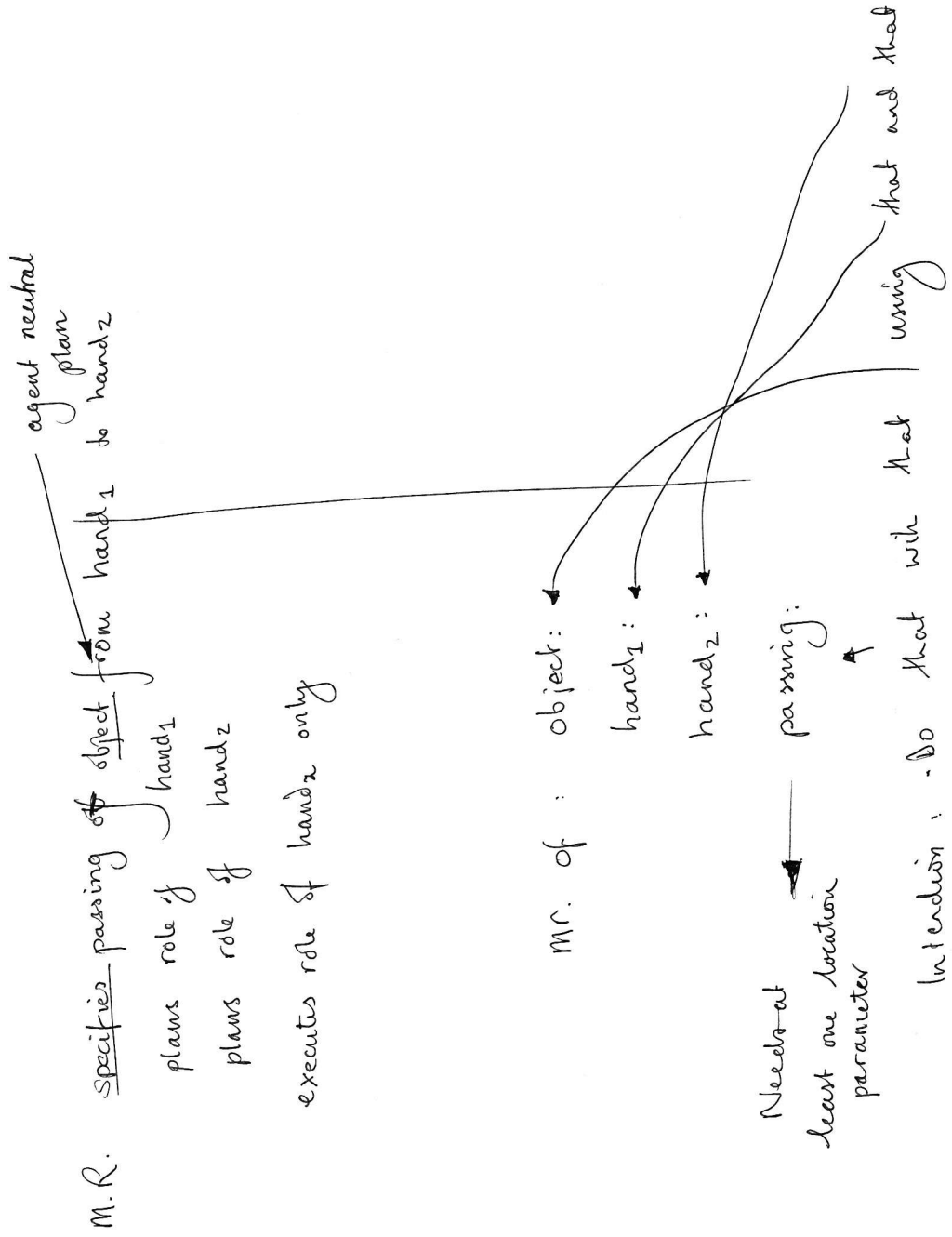
## 5. Interface problem

- ~ m.r. & intention involve different formats
- ~ both represent outcomes to which a j.a. is directed
- ~ simplest case: we intend to transfer <sup>that we</sup> the object from A to B
- ~ harmony can be non-accidental
- ~ no translation process exists
- ~ How is harmony ever non-accidentally achieved?

## 6. Resolution of interface problem:

- demonstrative reference from intention to motor representation
- maybe not the only route to non-accidental harmony

How does demonstrative reference  
 deferring to M.S. work in  
 the case of passing an object?



(A)

social motor cognition : planning & monitoring actions which are not, or not entirely over own. Features in observation + j-a.

1. Social motor rep<sup>n</sup> enables joint action

- quote : this is indirect evidence. (What you would really like to do is modulate social motor rep<sup>n</sup> & see whether ppl are better or worse at acting together. But afraid no one has done this)
- motor rep<sup>n</sup> is social =

- (1) it represents another's action  
(an action that will be performed by another; not nec. an action as another)
- (2) it ~~represents~~ another's action in part because there is some ~~joint~~ action both of which you and the other are agents

- the finding : this is a clue that social motor cognition enables joint action.

- could also see in theory how this would work. Speculative model based on reading: -

[Hamburg slides]

So when I move the cup w<sup>th</sup> two hands, there's a word problem that the motor system solves & an individual action. And when one hand is moving & one is yours, it makes almost no difference to planning (although monitoring is impoverished, a bit).

There is a level of motor cognition at which there is an action which ~~agents are involved~~ but which actually be executed. an action will actually be executed.

5

So what is the upshot of this

<u>Individual</u>	<u>Joint</u>
1. m.c. of outcomes (eg move from $h_1$ to $h_2$ )	m.c. of outcomes (eg move from $h_1$ to $h_2$ )

2. planning of action sequences  
to achieve outcome  
subject to constraints

3. n/c introduction of other actions

4. monitoring of action in  
relation to achievement of goal,  
~~interest~~ adjust as necessary

← this is the  
only component  
that seems to have  
no counterpart in  
the individual case  
(there is intuition, but not  
of planned actions).