

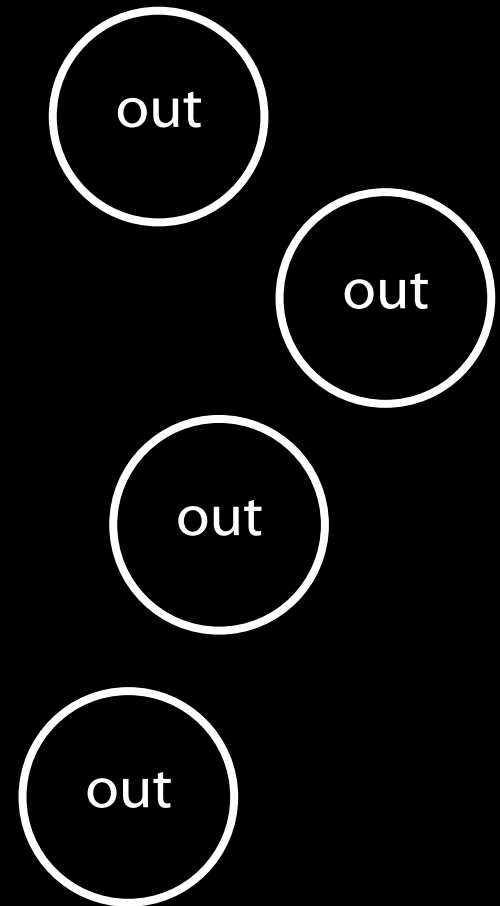
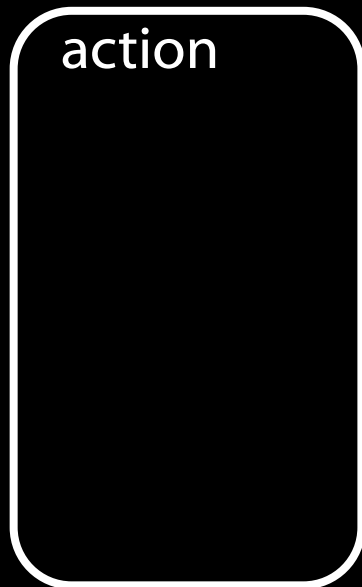
Intention and Motor Representation in Action Explanation

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corrado.sinigaglia@unimi.it

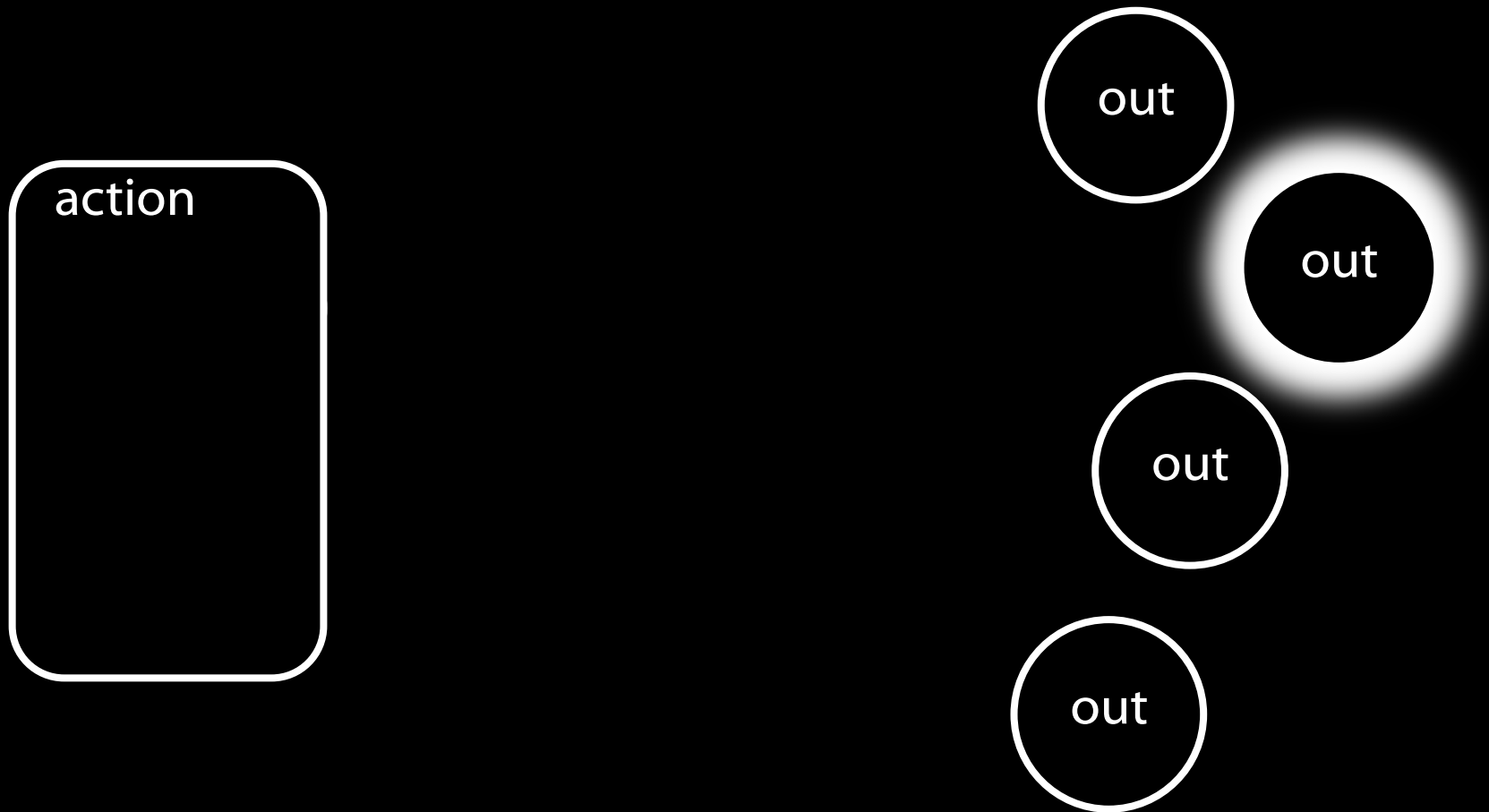


What is the relation between a purposive action and the outcome or outcomes to which it is directed?

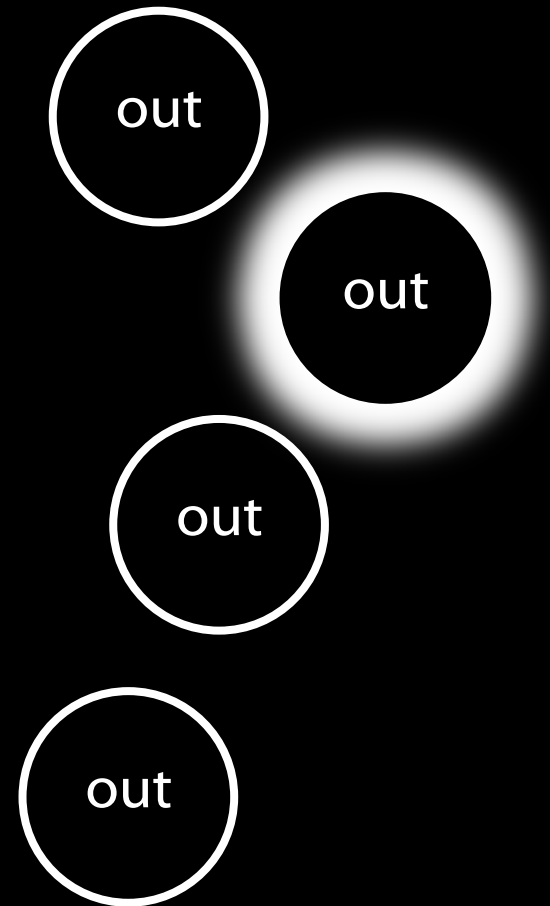
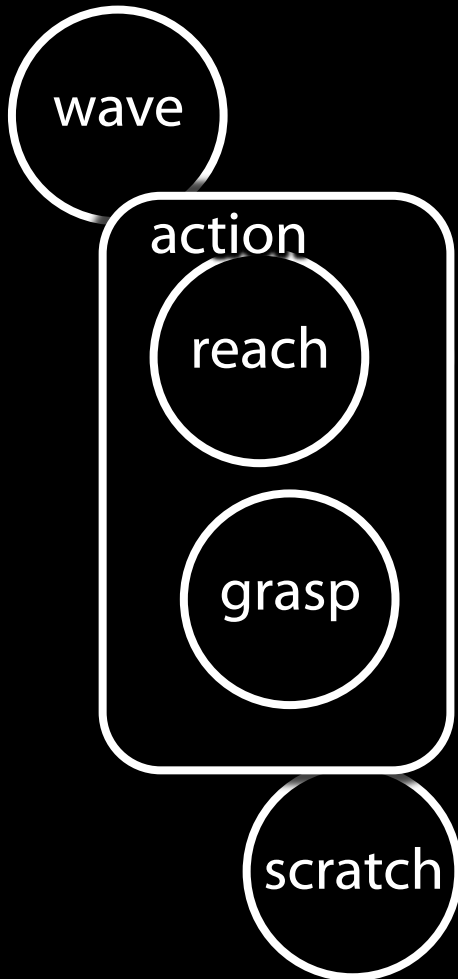
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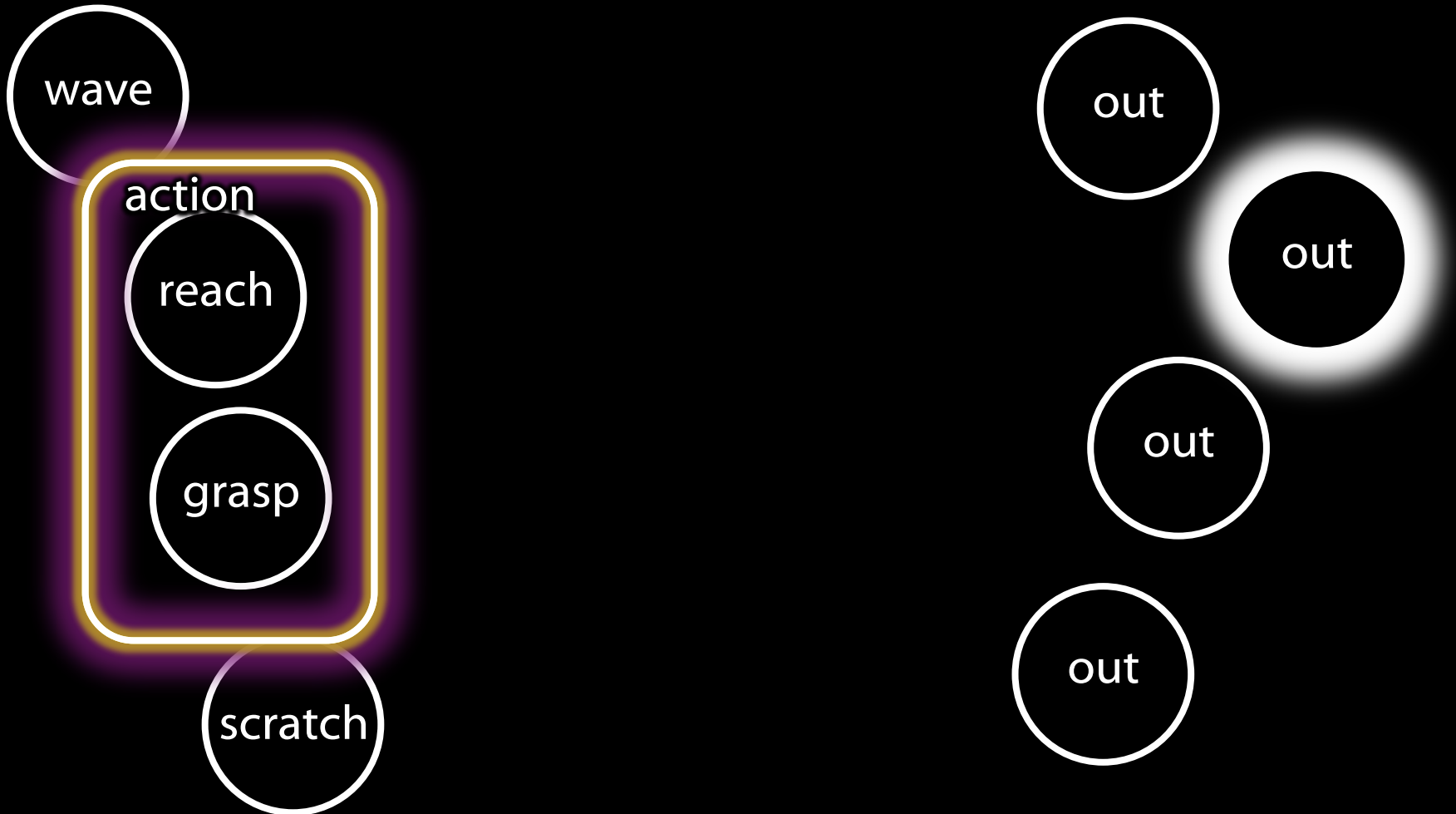
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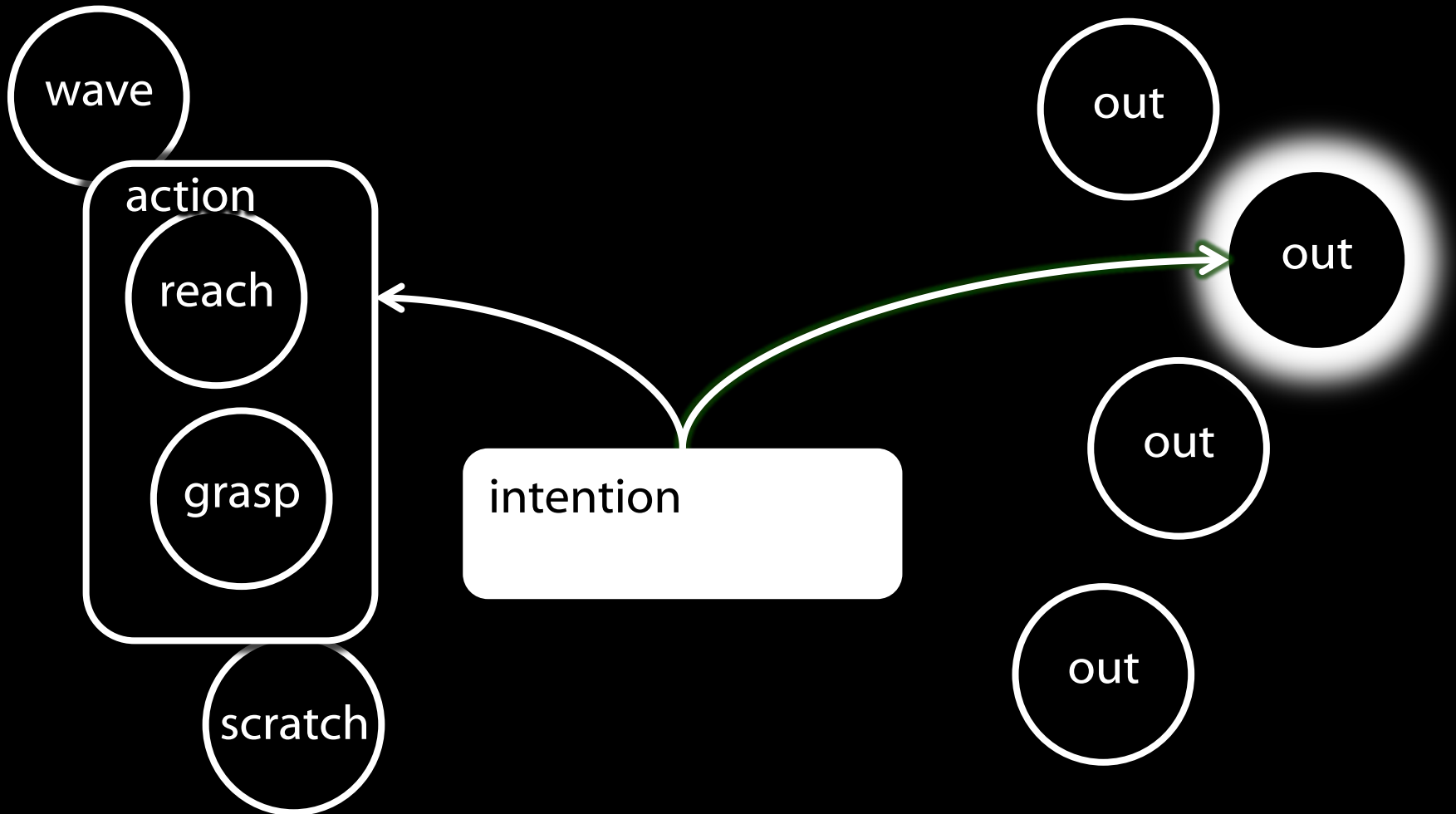
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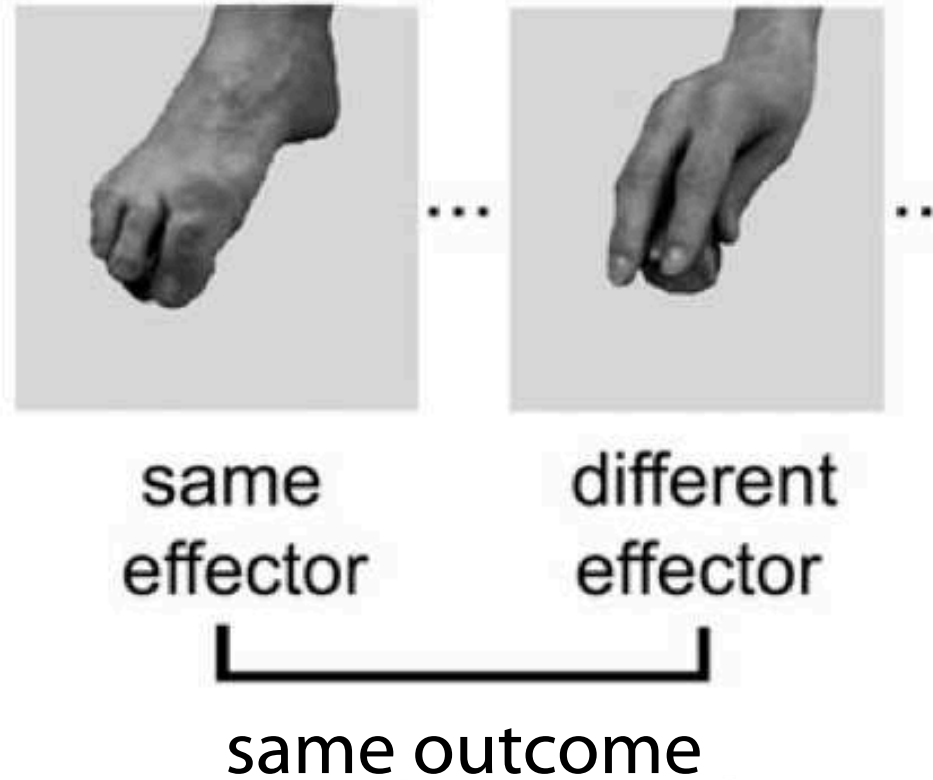


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Motor representations carry
information about outcomes.

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Cattaneo et al (2010)

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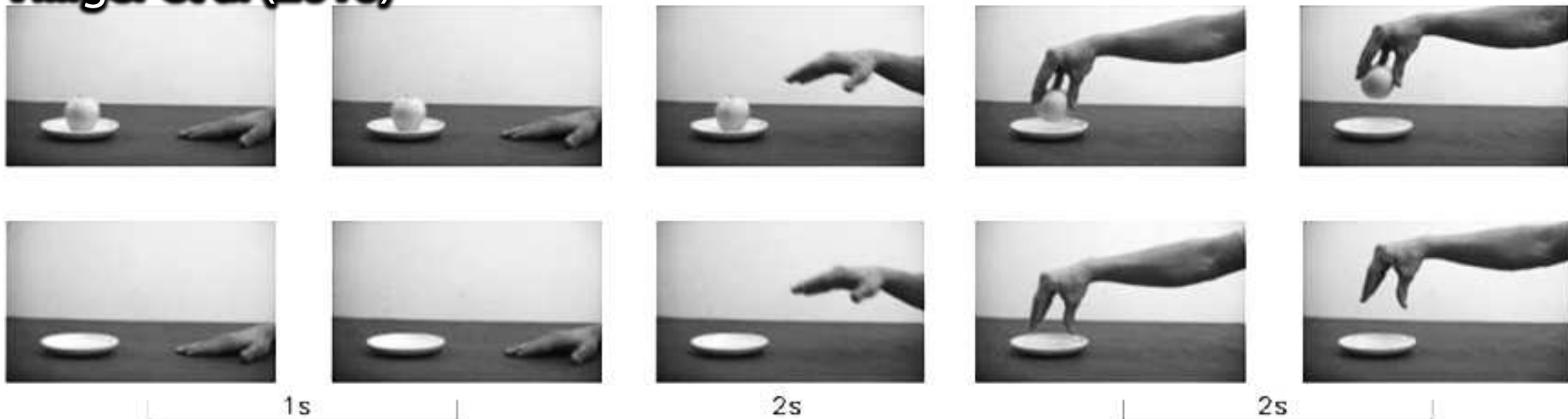
same
effector

different
effector

same outcome

Cattaneo et al (2010)

Villiger et al (2010)



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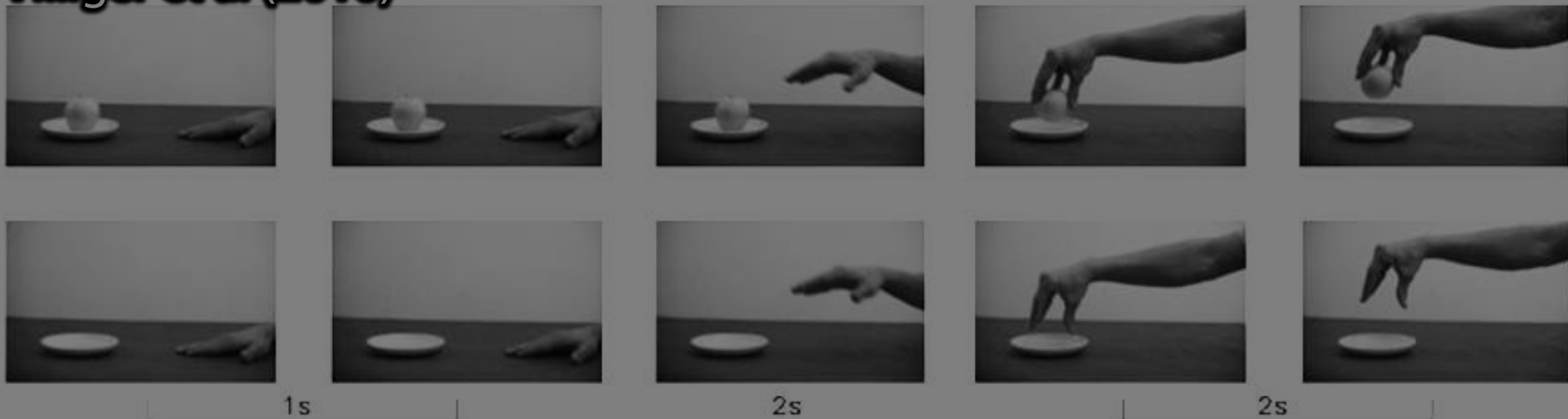
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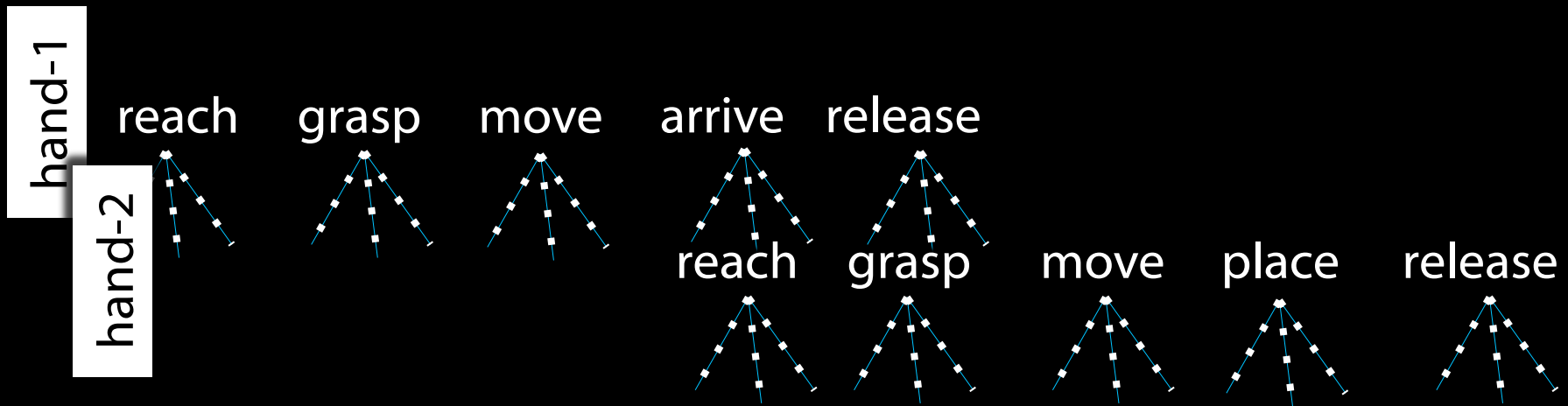


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Information about outcomes
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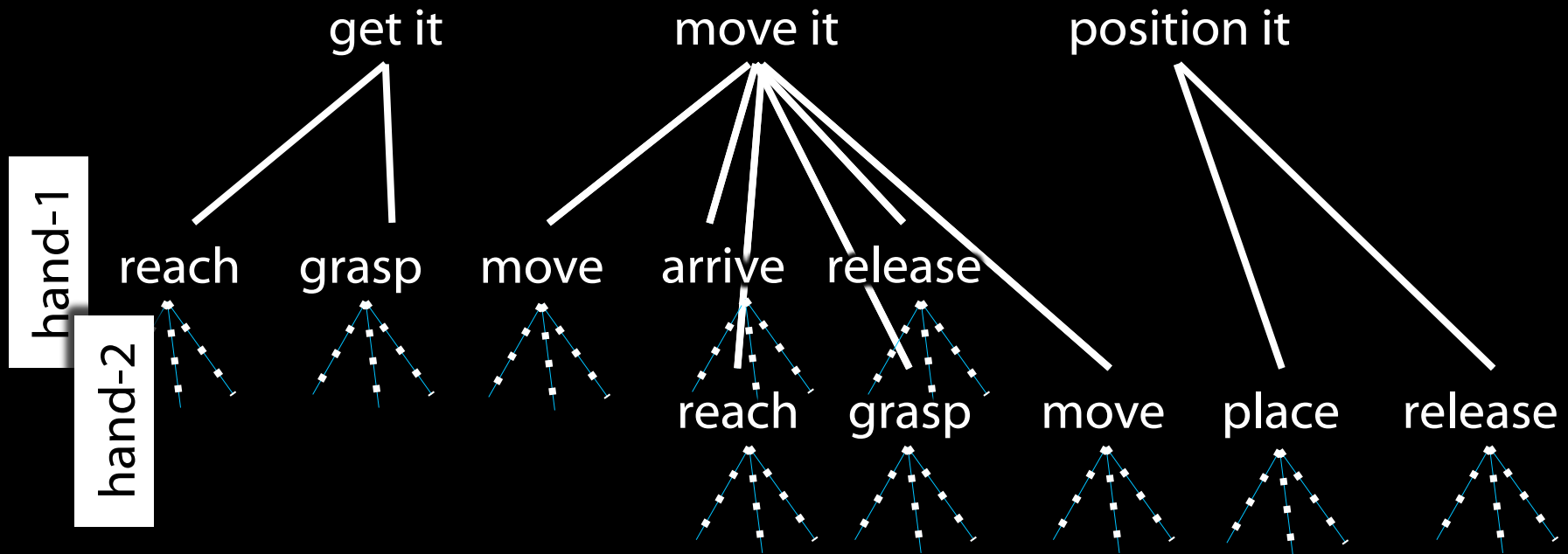
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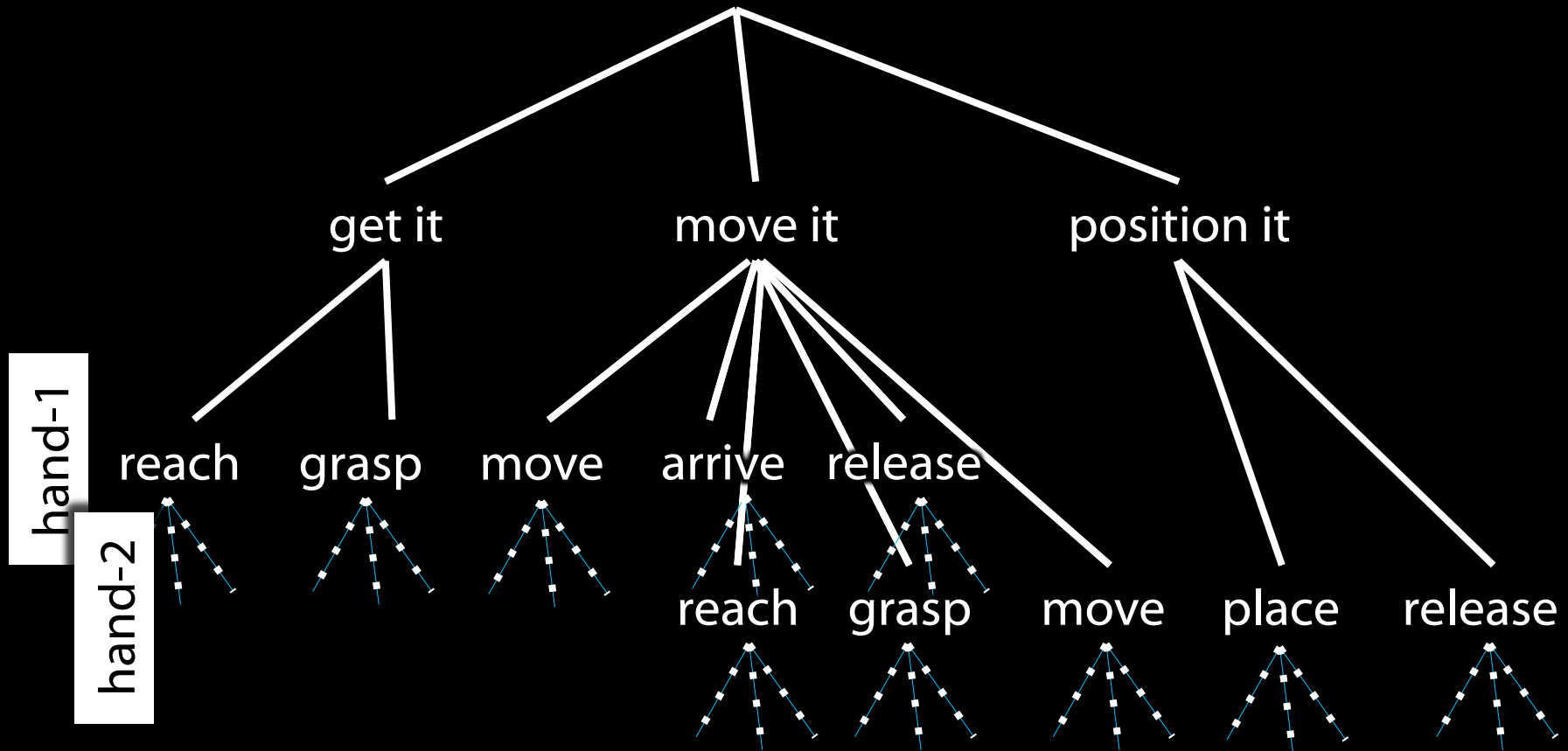
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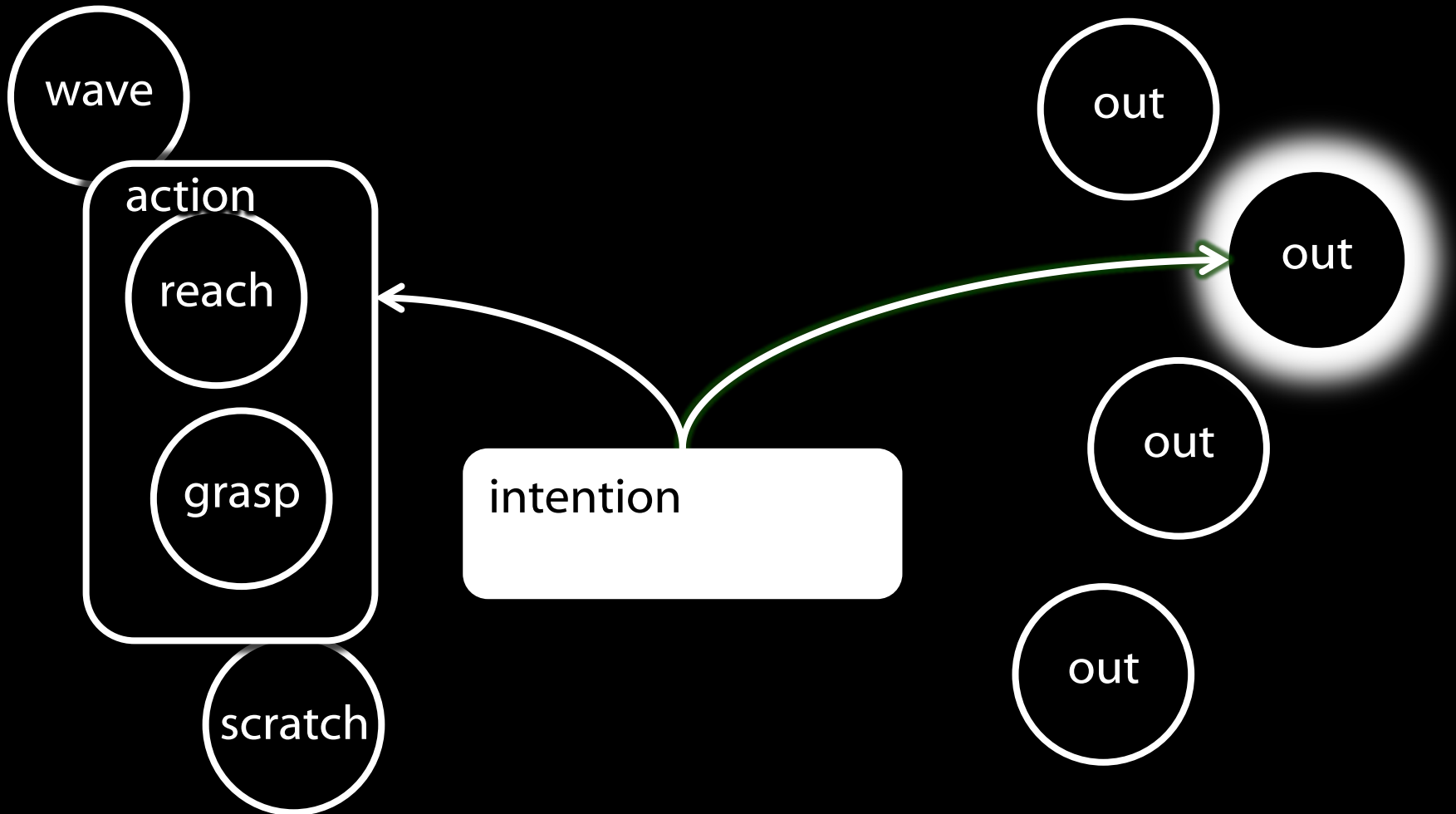
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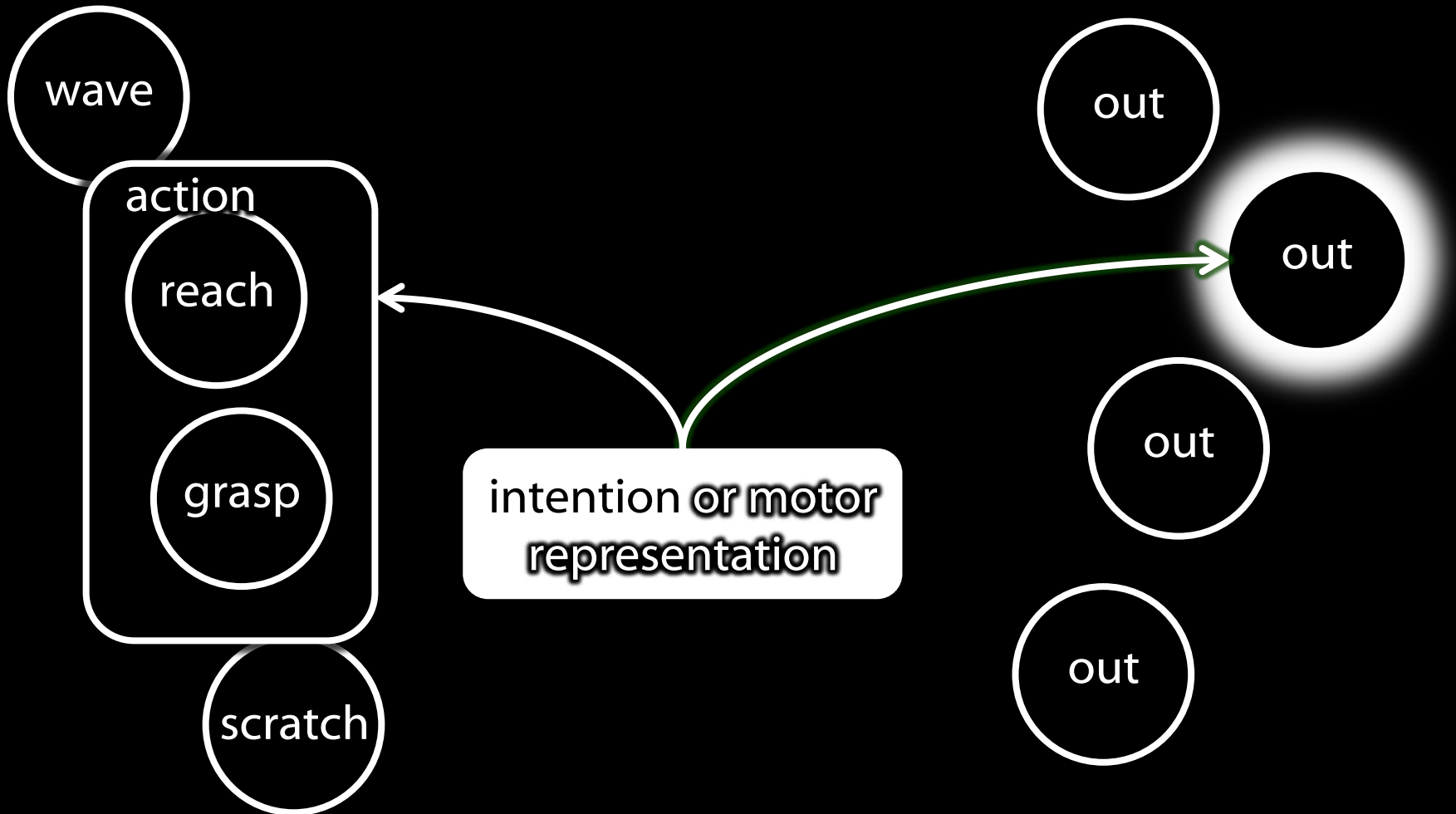
Move it from there to here



What is the relation between a purposive action and the outcome or outcomes to which it is directed?



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motor representation = intention ?

< different content >



< different content >

< different format >

Head southeast on Rue Cujas toward Rue Victor Cousin. Turn right onto Rue Saint-Jacques...



Take RER B and get out at the Luxembourg station, from there it's less than 5 minutes walk.



Head southeast on Rue
Cujas toward Rue
Victor Cousin. Turn
right onto Rue Saint-
Jacques...



?



Only representations with a common format can be inferentially integrated.


Any two intentions can be inferentially integrated in practical reasoning.

My intention that I visit Paris on Friday is a propositional attitude.

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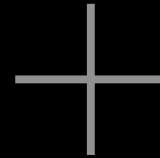
All intentions are propositional attitudes.

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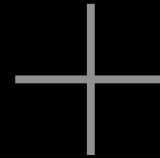
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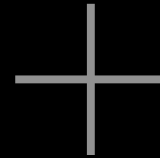
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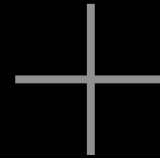
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The Interface Problem

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Some actions involve both
intention and motor
representation

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motor representations:

i. represent outcomes;

ii. ground the
purposiveness of some
joint actions

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Two outcomes, A and B,
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just if, in that context, either
the occurrence of A would
normally constitute or cause,
at least partially, the
occurrence of B or vice versa.

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The Interface Problem: How are non-accidental matches possible?

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Cujas toward Rue
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Jacques. ...



Follow *that* route

=



?

Follow *that* route

=



?

Do that

=

Move it from there to here

?

