



Outline

Part I: The unity of action

Keywords: temporality, infinite ends, self-consciousness

Part II: Can one formalize action?

Keywords: atemporality, rigidity, implementability

Part III: Reflection: does it matter?

- Philosophical questions
- Technical questions



Disclaimer

Our interest lies in whether formalizations can be *philosophically* illuminating.

Not in whether formalization is useful in the context of practical implementation.

NB: any resemblance between positions and people mentioned in this talk, and actually existing positions and people within the REINS community, is purely coincidental.



The unity of action

Intentional action

- Involves bodily movement ('action')
 - A change 'out there': the causal order
 - (We set aside purely 'mental' actions for now)
- Involves awareness of goal ('intentional')
 - Arm rising vs. arm raising
 - A motive 'in here': the rational order
 - Acting = answering the question what to do



The unity of action

Intentional action: causal & rational

- Causal theory of action (CTA):
 - Divide & conquer!
 - Causal: the action is *caused* by the intention
 - Rational: the action is *represented by* the intention
- Problem: does the causation happen because of the representation?
 - No...



Davidson's climber

A climber might want to rid himself of the weight and danger of holding another man on a rope, and he might know that by loosening his hold on the rope he could rid himself of the weight and danger. The belief and want might so unnerve him as to cause him to loosen his hold, and yet it might be the case that he never *chose* to loosen his hold, nor did he do it intentionally.... (Davidson 1980, p. 79).



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The unity of action

Lessons of 'deviant causal chains'

- CTA separately explains the fact that an action is physical and the fact that it is rational:
 - The action happens because it is caused
 - It is rational because it is mentally represented
- According to CTA, causation and content are in principle logically independent.
 - (This is true across standard philosophy of mind)
- If representation and causation are independent, then their co-occurrence **can only be** accidental



The unity of action

The unity of causation and representation

- We need the idea of practical thought:
 - The causing is the representing
 - The representing *is* the causing
 - Rödl: 'a movement that is a thought'
 - Classical view: action as conclusion of syllogism
 - Action as answering the question what to do?
- Compare forgetting what you were doing



The unity of action

Practical thought

- Not just any representation
- An order of representations
 - Acting = answering the question what to do
 - Anscombe: the question Why?
 - Converse: the question How?



The unity of action

Anscombe's 'A-D order':

'Why are you moving your arms?' (A) 'I'm pumping water' (B)

'Why are you pumping water?' (B)
'I'm replenishing the water supply' (C)

'Why are you replenishing the water supply?' (C) 'I'm poisoning the inhabitants' (D)



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Anscombe's A-D order: observations

- Redescriptions of the same action
 - Or: of phases unified into one action
- Means-end series of representations
- Starting point (A): representation of known skill
- 'Know-how' = no further 'how'
- End point (D): ???
 - 'Know-why' = no further 'why'?



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The unity of action

What is the end of an action?

Why are you doing X?

- Finite end: in order to do Y (Anscombe's example)
 - X contributes to Y
 - Y is not yet achieved, but will be (if all goes well)
- Infinite end: because X is E
 - X is a manifestation of E
 - Many more actions may manifest E

(Terminology comes from Rödl: Self-Consciousness, HUP 2007)



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The unity of action

Infinite ends: examples

- Health
- 'Because I promised'
- Justice
- · Taking care of my stuff
- 'Because it's fun'
- Observations:
 - You're never done with E
 - Yet you may already have E



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Back to Anscombe's A-D order

- Action = unity of movements/phases etc.
- Means-end series: finite ends
- Starting point (A): representation of known skill
 - 'Know-how' = no further 'how'
- $\bullet\;$ End point (D): transition from finite to infinite end
 - 'Know-why' = **infinite end**; no further 'why'



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The unity of action

Multitude of infinite ends?

- Unity of action = finite end
- The point of the action = infinite end
- Action = answering the question what to do
- Which infinite end determines the answer?
 - Example: I'm holding a book
 - Gift for my niece (treating those dear to you nicely)
 - Return to Jan (keeping my promise)
 - Use as fuel for the fireplace (health)
 - Etc.



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The unity of action

Which infinite end determines my action?

- Is it 'up to me' to decide on which end I act?
 - On which grounds do I decide? What is my end?
 - Infinite ends cannot be instrumental ('no further why'!)
- Ranked infinite ends?
 - Is promise-keeping always more important than health?
- Relation to the question what to do
 - Different systems of ends define different such questions
 - The resulting answers will be incommensurable
 - No practical unity within/among agents
 - Revision of infinite ends; criticism of infinite ends



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The unity of action

Infinite ends: some observations

- Infinite ends form a unity
 - Anscombe: 'helping your neighbors is doing well, but killing someone for them is not helping them'
 - Not everything that can be described as 'helping others' is really helping others
 - Various infinite ends are various descriptions of the same thing: living well
- Infinite ends form an objective unity
 - Yet no system of rules for living well can be presented



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The unity of action

Unity of action: concluding remarks

- An action is a concrete happening
- An action is answering the question what to do
- On the basis of infinite ends = living well

Two related points:

- The temporality of action: a *change* which manifests an *infinite end* (Aristotle: *kinesis* and *energeia*)
- Self-consciousness: action = consciousness of action
 (Including consciousness of (in)finite ends)



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Can one formalize action?

Requirements of formalization

- Rigid rules to calculate actions
- Implementability (in a machine)
- Separable temporal phases



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Can one formalize action?

Requirements of formalization

- 1. Rigid rules to calculate actions
- 2. Implementability (in a machine)
- 3. Separable temporal phases

Compare our three observations about action:

- 1. Unity of infinite ends
- 2. Self-consciousness
- 3. Temporal unity



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Can one formalize action?

Infinite ends vs. rigid rules

- $\bullet\,$ Action: answers the question what to do
 - This is no calculation
- \bullet Formalization: ${\it calculates}$ what to do
 - On the basis of given rules
 - (Which rules? This is what is most hotly debated)
 - Rigid ends
 - 'Deep learning'?
 - Intransparent; imitative (based on examples)
 - The end disappears



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Can one formalize action?

Self-consciousness vs. implementability

- Self-consciousness:
 - action IS consciousness of action
 - (or: thought IS consciousness of thought)
- Implementability:
 - action is separate from representation
 - This is CTA: recall deviant causal chains!
 - (information is separate from representation of that information)



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Can one formalize action?

Self-consciousness vs. implementability

"s knows that s is doing A" (e.g., s STIT A):

- Lack of self-consciousness
 - Niels knows that he* is sliding on ice
 - Niels knows that 'Niels' is sliding* on ice
- · Both satisfy the formalization, but lack the unity characteristic of intentional action



Can one formalize action?

Temporal unity vs. temporal separation

- Action = unity of phases
 - Cutting onions in order to cook risotto/spaghetti
 - Identity of phases depends on unity
 - 'Imperfective paradox': s didn't do A, but was doing A
 - Compare: s STIT A
- Formalization: separable phases
 - Independently representable 'building blocks'



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Can one formalize action?

Bottom line

- Three prima facie conflicts between unity of action and formalization
- Returning characteristic: divide and conquer
 - Infinite ends: separated, rigid rules
 - Self-consciousness: separate action from
 - Temporality: separately identifiable phases



Can one formalize action?

Bottom line

- Failure of unity? Two possible reactions:
 - 1. Addition of operators (e.g., 'knowingly STIT' etc.)
 - 2. Leaving something unanalyzed
- 1. illustrates the 'divide and conquer' strategy
- 2. gives up on philosophical illumination
- From a philosophical perspective, *unity* is crucial
- From a formal perspective, reductive analysis is required



Encore on group action

Mutatis mutandis

- Our observations apply to group action as well.
 - But with a vengeance!
- Self-consciousness: we know what we do
 - ... who are we?
 - ... do we really have the same knowledge?
- Temporality: our action is unified
- ... Differences among participants?
 Infinite ends: we do A because it exemplifies E
 - ... Can we have different ends?



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Reflection: does it matter? Who cares? • We need to build a system to run Jan's Tesla • It needs to work; irrespective of philosophers' scruples What do we say?

Reflection: does it matter? Who cares? • We need to build a system to run Jan's Tesla • It needs to work; irrespective of philosophers' scruples What do we say? Indeed.



