

Wijsbegeerte (X_400433):

Filosofie van de Cognitiewetenschappen

Tentamen

23 mei 2014

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- Vermeld op elk foliovel je naam, studierichting en studentnummer.
- Het tentamen bestaat uit 6 essay vragen en een bijlage.
- Geef uitgebreid antwoord en laat zien dat je de stof beheerst.
- Veel succes!

1. De klassieke cognitivistische benadering van cognitie is gebaseerd op het “machine functionalisme”. Geef in je eigen woorden weer welke denkbeelden kenmerkend zijn voor deze filosofie en bespreek in je eigen woorden de tekortkomingen ervan. (15 punten)
2. Leg uit hoe het Chinese-kamer-experiment van John Searle in elkaar steekt en waarom dat samen met het *frame*-probleem een bedreiging vormt voor de fysische symboolsysteem hypothese. Beargumenteer of er volgens jou na deze kritieken nog ruimte is voor symbolische benaderingen in onze beste modellen van menselijke intelligentie. (15 punten)
3. Lees de bijlage bij het tentamen. De schrijvers van dit korte artikel beweren dat het slechts een illusie is dat bewuste mentale toestanden ons gedrag veroorzaken. Ben je het eens met hun stelling en hun argumentatie? Geef aan waarom wel/niet. Geef minstens twee goede argumenten waarom de ideeën in dit artikel discutabel zijn. (20 punten)
4. Connectionistische netwerken beschikken over een aantal unieke eigenschappen die niet bij GOFAI (*Good Old-Fashioned Artificial Intelligence*) systemen terug zijn te vinden. Welke eigenschappen zijn dit, en waarom zijn deze eigenschappen biologisch en psychologisch plausibel? Welke aspecten van deze netwerken zijn juist niet biologisch/psychologisch plausibel? (15 punten)
5. Rodney Brooks beweerde dat representaties alleen maar in de weg staan bij de ontwikkeling van succesvolle A.I.. Wat bedoelt hij met deze stelling? Leg uit hoe Brooks probeert het representatie-probleem op te lossen met zijn subsumptie-architectuur. (15 punten)
6. Wat zijn de belangrijkste uitgangspunten van de dynamische systeembenadering van cognitie en de belichaamde/gesitueerde cognitie? Zijn deze benaderingen volgens jou geschikt om typisch menselijke cognitieve vaardigheden zoals taal en denken te verklaren? Leg uit waarom wel/niet (20 punten)

Bijlage: Gray, K., & Wegner, D. M. (2007). Apparent mental causation. In R. F. Baumeister & K. D. Vohs (Eds.), *Encyclopedia of social psychology* (pp. 43-45). Thousand Oaks, CA : Sage.

APPARENT MENTAL CAUSATION

Definition

The theory of apparent mental causation outlines the conditions under which people experience a sense of consciously willing their actions. Although people often feel that their conscious thoughts cause their actions, this feeling is illusory, as both their actions and their experience of willing them arise independently from unconscious sources. People feel apparent mental causation when their thoughts precede their actions (priority), when their thoughts are consistent with their actions (consistency), and when their thoughts are the only plausible cause of their actions (exclusivity).

An Example

Imagine that you're in the park on a summer day and a specific tree branch catches your eyes. You think, "I wish it would move up and down," and lo and behold, it moves. Not only that, it moves in the exact direction you imagined it moving, and when you search for alternative causes for its motion, you find nothing. There is no wind or mischievous tree-climbing kid that can account for the motion. Did your thoughts cause it to move? Given that there is nothing else to account for its motion (exclusivity), and that it moved right after you thought about it (priority) in perfectly the right direction (consistency), you feel as if you caused the branch to move, even though it seems impossible. In the same way, people infer causation between their own thoughts and actions when these principles are in place.

Conscious Thoughts Are Not Causal

Although it feels as though conscious thoughts cause actions, neurological evidence shows that this is highly unlikely. In a series of experiments, Benjamin Libet measured the brain activation of people as they made voluntary finger movements. Specifically, he measured the part of the motor cortex that is responsible for moving one's fingers, while also recording the time at which people said they consciously decided to move their finger. He found that participants' conscious decisions to move came after the time at which their motor cortex had started to activate. This means that their unconscious mind had already started to move their finger when they experienced the conscious decision to move it. As causes must precede effects, the conscious mind must be ruled out as the cause of people's actions. The theory of apparent mental causation suggests why and how it is that people nonetheless feel as though their thoughts cause their actions.

Three Principles of Apparent Mental Causation

Priority

People's thoughts must immediately precede their actions for them to experience mental causation. If thoughts appear after action, there is no experience of willing one's actions. Similarly, if thoughts appear too far in advance, this experience will also be lacking. This is exemplified by those instances in which you decide to grab something from your bedroom, only to find yourself standing beside the bed with no idea why you're there, and no experience of mental causation for your action.

Consistency

To experience mental causation, people's actions must match their thoughts, and although this is usually the case, consistency is often lacking in failures of selfcontrol. Imagine yourself surfing the Web one night when you look up at the clock; you see that it's well past your bedtime and decide to shut down the computer and head to bed. Twenty minutes later, in spite of your intentions, you find yourself still madly clicking links, with no accompanying sense of mental causation.

Exclusivity

People experience mental causation when their thoughts are the only plausible explanation for their actions. While the link between thoughts and actions is usually clear, in some psychological disorders the principle of exclusivity is violated. For instance, one symptom of schizophrenia, called thought insertion, involves believing that another entity (e.g., the CIA) is inserting thoughts into one's head. If one's actions appear to be caused by the thoughts of another, the experience of mental causation will be subsequently undermined.

Evidence

Through a number of studies, Daniel Wegner demonstrated the importance of these principles in determining mental causation. He used a paradigm whereby a participant did a task together with an accomplice, in which it was questionable whether the participant or the accomplice was controlling the action. The task was based on an Ouija board, where it is difficult to tell who is responsible for moving the planchette to convey messages beyond the grave. In this study, there were a number of pictures on the Ouija board, and at regular intervals the accomplice stopped the planchette at one of these pictures. Although the accomplice was always controlling which picture the planchette pointed to, the participant experienced a sense of mental causation for the action when he or she had a prior thought that was consistent with the action (e.g., by hearing the word *dog* over a pair of headphones just before the planchette stopped at the picture of a dog). This demonstrates that, even in situations in which the participant has no control over the task, the experience of apparent mental causation can be manipulated by varying the three principles that link thoughts to actions.

Implications

If people's experience of free will is not causative and instead results from the same unconscious process that determines their action, then how are people to be held responsible for their actions? This question, traditionally raised by philosophers, is a pressing concern for psychologists and legal theorists. Although the experience of conscious will is only a feeling, not a guarantee that one's thoughts have caused one's actions, this feeling allows people to make a working distinction between those actions that feel free and those that feel forced. The experience of mental causation can be used to provide a readout of how free one was in performing an action. If someone takes your hand and makes you pull the trigger of a gun, you will feel less apparent mental causation than if you calmly, and after much thought, decided to pull the trigger. As people would not wish to be punished for those actions that lack an accompanying feeling of mental causation, they can use that standard in evaluating others. Legal decisions can be based on one's experience of mental causation, thereby leaving how a person makes judgments of responsibility relatively unchanged.

Kurt Gray

Daniel M. Wegner