Where is Intelligence?

Untersuchungen an Menschen oder Affen?

Daniel Schellhorn

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Uni Osnabrück

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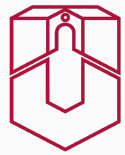
The Intelligence of Köhler

Definition of Intelligence

- Intelligence in animals involves problem-solving and the ability to find roundabout ways to achieve goals.
- It requires the animal to navigate obstacles and find indirect routes when direct paths are blocked.
- True intelligence is marked by the ability to perform smooth, continuous movements towards the objective.



Characteristics of Intelligent Behavior

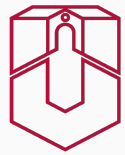
- Smoothness and continuity in movement when solving a problem.
- Ability to adapt to variations in the environment and obstacles.
- Use of prior knowledge and experience to navigate unseen parts of the path.

Distinguishing Genuine Intelligence from Chance

- Genuine solutions are continuous and unified, both in space and time.
- Chance solutions consist of disjointed, independent movements.
- Observing the animal's behavior helps distinguish between true intelligence and chance.

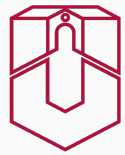
Role of Insight in Problem-Solving

- Insight involves a sudden understanding of the solution, marked by a noticeable behavioral change.
- Examples include sudden changes in direction or expressions of realization (e.g., facial expressions in children).
- Insightful behavior contrasts with the trial-and-error approach seen in less intelligent animals.



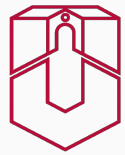
Thorndike's Experiments on Animal Intelligence

- Thorndike's experiments showed animals' difficulties in solving problems without a full view of the situation.
- His tests suggested that animals do not reason like humans but rely on experiential linking of impulses and perceptions.
- Prolonged learning was often necessary before animals developed the correct action.



Critique of Thorndike's Methodology

- Thorndike's experiments often did not allow animals to fully survey the problem.
- Essential parts of the experimental apparatus were sometimes hidden, limiting the animals' ability to use their intelligence.
- Observing the complete experimental setup is crucial for evaluating true intelligent behavior.



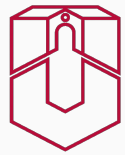
Conclusion on Animal Intelligence

- True intelligence in animals involves insight, adaptation, and the ability to navigate complex environments.
- Chance and trial-and-error play roles, but genuine intelligence is marked by smooth and continuous problem-solving behavior.
- Further research and better experimental designs are necessary to fully understand animal intelligence.

Reflection on his Intelligence

Introduction

- The definition of intelligence can vary significantly depending on cultural perspectives and the criteria used to measure it.
- Traditional Western perspectives often focus on cognitive abilities and problem-solving.
- Other viewpoints, such as those from certain indigenous cultures, might place greater value on holistic understanding and interconnectedness with nature.



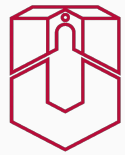
Animal Intelligence and Adaptation

- Cognitive problem-solving abilities and adaptability within complex environments are key indicators of intelligence.[1]
- This includes the ability to plan, use tools, and learn from experience in a smooth, continuous manner rather than through trial and error.
- Falcons and other birds of prey demonstrate remarkable intelligence through their precise hunting techniques and navigation skills.[2]
- Their ability to spot prey from great distances and react swiftly suggests a high level of specialized intelligence adapted to their ecological niche.

[1] Zuberbühler 2000.
[2] Emery **and** Clayton 2004.

Falcon Intelligence

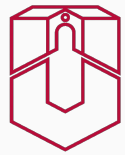
- Falcons exhibit remarkable navigation and hunting skills, indicating a high level of specialized intelligence.[3]
- Their acute vision and precise hunting techniques are adapted to their ecological niche.
- This intelligence is often considered instinctual and specialized rather than broad and adaptable.



[3] Ratcliffe 2007.

Cultural Perspectives on Intelligence

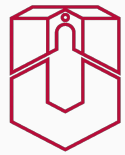
- Indigenous tribes, such as those in Peru, view intelligence as a holistic understanding of being part of a greater system (Gaia or Pachamama).[4]
- This worldview suggests that true intelligence lies in recognizing and living in harmony with the interconnectedness of all life forms.
- This perspective challenges the hierarchical view of intelligence that places humans at the top.
- It values the wisdom and balance observed in natural systems and the non-human entities within them.[5]



[4] Descola 1996.
[5] Berkes 1999.

Indigenous Perspectives on Intelligence

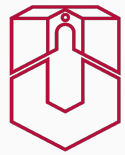
- Some indigenous cultures, like the Shipibo in Peru, view intelligence hierarchically with humans at the lowest level.[6]
- They believe true intelligence involves understanding and integrating with the natural world, a concept similar to the Gaia hypothesis.
- This perspective challenges conventional hierarchies of intelligence, emphasizing harmony with nature.



[6] Lovelock 1972.

Reevaluating Intelligence

- The concept of intelligence can vary widely across cultures.[7]
- Western definitions often emphasize cognitive problem-solving and adaptability.
- Other cultures may prioritize holistic understanding and integration with the environment.



[7] Nisbett 2003.

Defining Intelligence

- Traditional definitions of intelligence often emphasize cognitive functions such as memory, reasoning, problem-solving, and learning.[8]
- Humans excel in these areas, particularly in abstract thinking and symbolic communication.
- However, this definition may be too narrow to encompass all forms of intelligence observed in nature.
- By including ecological and holistic intelligence, as seen in animals like falcons and in indigenous knowledge systems, we gain a broader and more inclusive understanding of intelligence.[9]

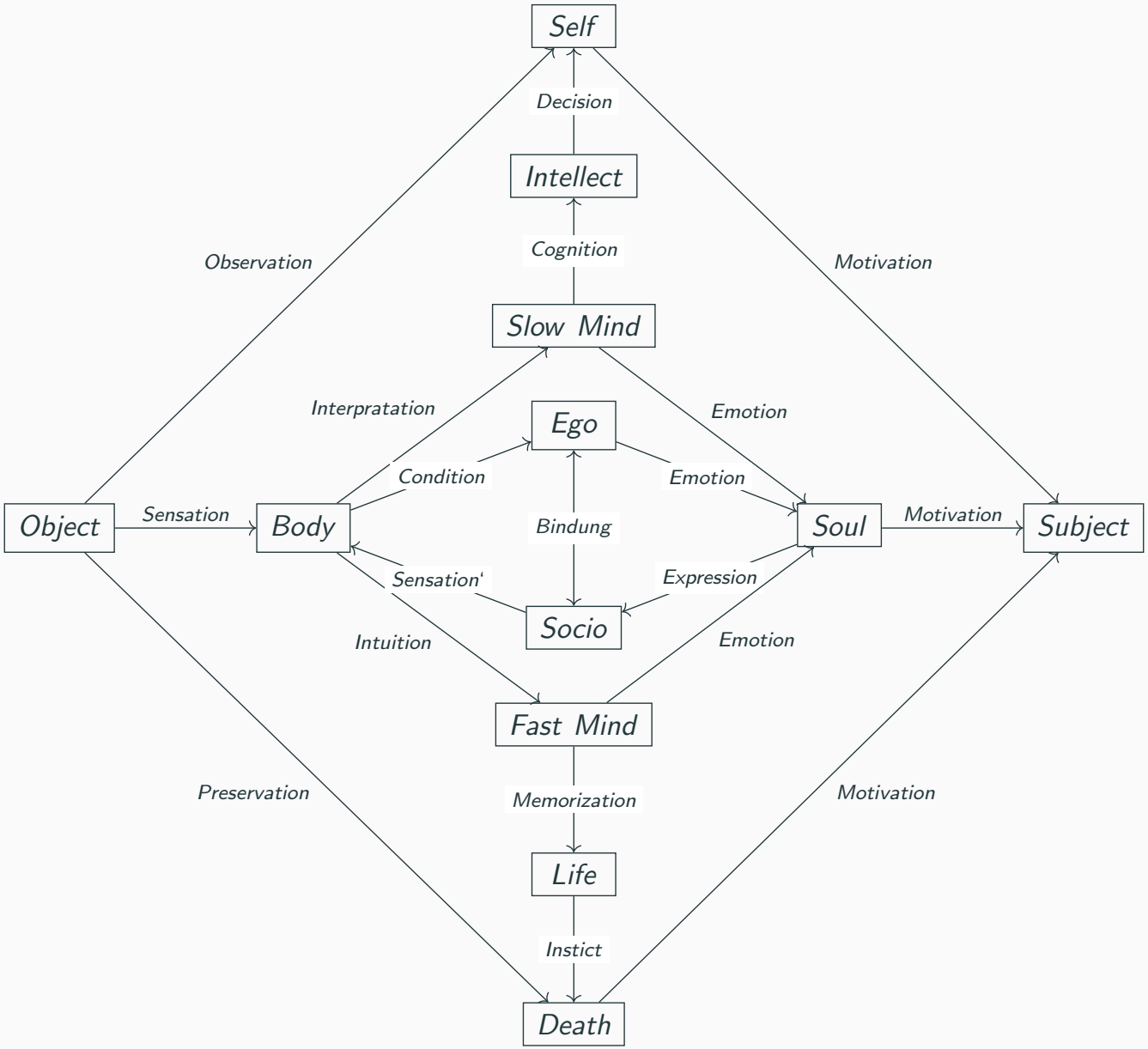
[8] Gardner 1983.
[9] Holling 2001.

Conclusion

- Intelligence is a multifaceted concept that can include cognitive abilities, specialized skills, and holistic understanding.
- Animal intelligence can be broad and adaptable or specialized and instinctual.
- Cultural perspectives offer valuable insights that challenge conventional definitions and hierarchies of intelligence.

Discussion on our Intelligence

Where is Intelligence?



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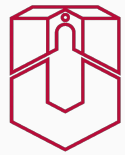

[7] Richard E. Nisbett. **The Geography of Thought: How Asians and Westerners Think Differently...and Why.** Free Press, 2003.

[8] John M. Ratcliffe. **Predation, Detection, and Avoidance.** 2007.

[9] Klaus Zuberbühler. **Cognitive precursors to language in apes and monkeys.** 2000, **pages** 165–175.