Evolutionary Epistemology

What does an evolutionary approach contribute to the resolution of traditional problems?

summarized_paragraph : There are three possible configurations of the relationship between descriptive and traditional epistemologies. Descriptive epistemologies can be construed as competitors to traditional normative epistemology. On this view, both are trying to address the same concerns and offering competing solutions. **The extent to which an evolutionary approach contributes to the resolution of traditional problems is a function of which approach one adopts.** The evolutionary analyses serve to rule out normative approaches which are either implausible or inconsistent with an evolutionary origin of human understanding.

avg_grammar_rating : 4.7
avg_answerability_rating : 4.7
sum_yes_meaningful : 3
sum_no_meaning : 0
sum_maybe_meaning : 0

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avg_grammar_rating : 5.0
avg_answerability_rating : 4.3
sum_yes_meaningful : 4
sum_no_meaning : 0
sum_maybe_meaning : 0

What kind of phenomenon has evolutionary epistemology been concerned with?

summarized_paragraph : Every scientific enterprise requires formal and semi-formal models which allow the quantitative charac-

terization of its objects of study. The attempt to transform the philosophical study of knowledge into a scientific discipline which approaches knowledge as a biological phenomenon is no different. **Much of the evolutionary epistemology literature has been concerned with how to conceive ofknowledge as a natural phenomenon, what difference this would make to our understanding of our place in the world, and with answering objections to the project.** There are, as well, a number of more technical projects which attempt to provide the theoretical tools necessary for a naturalistic worldview.

avg_grammar_rating : 5.0
avg_answerability_rating : 4.3
sum_yes_meaningful : 3
sum_no_meaning : 0
sum_maybe_meaning : 0

What is the thumb in humans called?

summarized_paragraph : **The development of specific traits, such as the opposable thumb in humans, can be viewed both from the point of view of the development of that trait in individual organisms.** The development of knowledge and knowing mechanisms exhibits a parallel distinction. One might expect that since current orthodoxy maintains that biological processes of ontogenesis proceed differently from the selectionist processes of phylogenesis, evolutionary epistemologies would reflect this difference. For example, the theory of "neural Darwinism" as put forth by Edelman and Changeaux offers a selectionist account of the ontogenetic development of the brain.

avg_grammar_rating : 5.0
avg_answerability_rating : 3.7
sum_yes_meaningful : 1
sum_no_meaning : 2
sum_maybe_meaning : 0

What else is the fitness of a type modified as a function of?

summarized_paragraph : Some relationships may be represented without a matrix. Boyd and Richerson were interested in a special kind of frequency dependent transmission bias in culture. **In such a case, the operative fitness of the type is just the fitness as calculated according to the usual factors, and then modified as a function of the frequency of thetype.** The matrix is used to represent relationships that are not directly related to each other, such as those between two different types of data or between two

types of information. For example, the matrix can be used to show that a type of data is more common than a type that is not common.

avg_grammar_rating : 3.3
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sum_yes_meaningful : 2
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What are the usual factors used to calculate the operative fitness of a type?

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sum_yes_meaningful : 3
sum_no_meaning : 0
sum_maybe_meaning : 0

What type of entities are the main difficulty with the NPO model?

summarized_paragraph : Richard Dawkins' invention of the "meme' is the most popular attempt to understand cultural evolution. **The main difficulty with this approach has been the problem of how to provide specifications for the basic entities.** There appears to be no such fundamental "alphabet" for the items of cultural transmission. The project of 'memetics' as a contending basis for evolutionary epistemology is on hold pending an adequate understanding of its basic ontology. The online Journal of Memetics contains some early papers on memetics.

avg_grammar_rating : 4.3
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sum_yes_meaningful : 2
sum_no_meaning : 1
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What is the simplest type of model?

summarized_paragraph : In the simplest sort of model, an organism has to deal with an environment that has two states, and , and has two possible responses. We suppose that what the organism does in each state makes a difference to its fitness. Fitnesses are usually written characterized by a matrix . **In the simplest of models, we suppose that an organism's fitness is determined by its response to an environment in a certain way.** We say that the organism's response to the environment is affected by what it does in that state.

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In the simplest model , what is the organism's fitness determined by?

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sum_yes_meaningful : 2
sum_no_meaning : 0
sum_maybe_meaning : 1

What is the most likely course of evolution?

summarized_paragraph : Simulation results showed that virtually all initial population distributions become dominated by one or the other of the two signaling system strategies. The situation becomes more complex when more realistic payoffs are introduced, for instance, that the sender incurs a cost rather than automatically sharing the benefit that the receiver gets from correct behavior for the environment. **Even in such situations, however, the most likely course of evolution is domination by a signaling system, the study**

found. The study was published in the journal Proceedings of the National Academy of Sciences.

avg_grammar_rating : 5.0
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sum_yes_meaningful : 3
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What does the growth of knowledge follow in biology?

summarized_paragraph : The Darwinian revolution of the nineteenth century suggested an alternative approach first explored by Dewey and the pragmatists. On this view, there is no sharp division of labor between science and epistemology. Such approaches, in general, are called naturalistic epistemologies, whether they are directly motivated by evolutionary considerations or not. **Those which argue that the growth of knowledge follows the pattern of evolution in biology are called "evolutionary epistemologies." The results of evolutionary biology and psychology are not ruled a priori irrelevant to the solution of epistemological problems.**

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What is the epidemiological approach to the study of cultural transmission?

summarized_paragraph : Evolutionary game theory models are claimed to cover both processes in which strategies are inherited and those in which they are imitated. This application is possible in the absence of any specification of the underlying nature of strategies. **This is sometimes referred to as the 'epidemiological approach' to the study of cultural transmission.** The comparison to infection is due to the quantitative tools used in analysis rather than to any presupposition regarding the underlying ontology of cultural transmitted strategies. Population models have been used to good effect in modeling cultural transmission processes.

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What type of transmission is studied by the epidemiological approach?

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What is the strategy used in the experiment?

summarized_paragraph : matrix-driven evolution can exhibit quite complex behavior. More complex situations can be modeled, of course, but additive matrices are the standard. For instance, chaotic behavior is possible with as few as four strategies. where is type 's fitness in situation . **where is type of situation and is the type of strategy used in the experiment.. For more information, see: http://www.cnn.com/2013/01/30/science/features/features-matrix-driven-evolution-and-chaos.html.**

avg_grammar_rating : 5.0
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sum_yes_meaningful : 1
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What is the difficulty in understanding cognitive behavior as a product of evolution?

summarized_paragraph : **The difficulty in understanding cognitive behavior as the product of evolution is that there are at least three very different evolutionary processes involved.** There is the biological evolution of cognitive and perceptual mechanisms via genetic inheritance. Second, there is the cultural evolution of languages and concepts. Third, there's the trial-and-error learning process that occurs during an individual's lifetime. understanding human knowledge fully will require understanding the interaction between these processes. This requires that we be able to model both processes of biological and cultural evolution.

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What process is cognitive behavior a product of?

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sum_maybe_meaning : 0

The brain of what animal is different?

summarized_paragraph : There are at least two different approaches that have been taken to modeling multi-level evolution. **There are also two different ways of looking at the evolution of the human brain.** The most common approach is to look at the development of the brain from the inside out. The other is to take a look at how the brain has evolved from the outside in to the inside. The best way to model evolution is by looking at how it has evolved in the past. The most popular way is to study the history of evolution from the top down to the bottom.

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What part of the body is the most often studied?

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sum_maybe_meaning : 0

How many strategies are there?

summarized_paragraph : Since players will be both sender and receiver, they must have a strategy for each situation. **There are sixteen such strategies, and we suppose them to be either inherited from biological parents, or imitated on the basis of perceived success in terms of points earned.** Strategies and are signaling systems, in that if both players play the same one of these two strategies they will always get their payoff. All of the other strategies involve , or , which results in the same act being performed no matter what the external state is.

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avg_answerability_rating : 2.0
sum_yes_meaningful : 0
sum_no_meaning : 3
sum_maybe_meaning : 0

What kind of model is used to describe the evolution of flexible responses?

summarized_paragraph : This simple model demonstrates that whether or not flexible responses are adaptive depends on the particular characteristics of the fitness differences that the responses make. The particular result is calculated assuming that detecting the environmental state and the flexible response system is free in evolutionary terms. More complete analyses would include the costs of these factors, such as the probability of the various states of the environment, and the reliability of the detector. **The results are based on a simple model of the evolution of flexible responses in the animal kingdom, using a variety of models.**

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sum_maybe_meaning : 0

From whom did this project get its modern stamp?

summarized_paragraph : Traditional epistemology has its roots in Plato and the ancient skeptics. The bonds that hold the reconstruction of human knowledge together are the justificational and evidential relations which enable us to distinguish knowledge from true belief. **This project got its modern stamp from Descartes and comes in empiricist as well as rationalist versions which in turn can be given either a foundational or coherentist twist.** The two strands are woven together by a common theme. The bond that holds the Reconstruction of Human knowledge together is the bonds that allow us to distinguishing knowledge fromtrue belief.

avg_grammar_rating : 5.0
avg_answerability_rating : 5.0
sum_yes_meaningful : 1
sum_no_meaning : 1
sum_maybe_meaning : 1