

## Weekly Summary – Part A

Name: \*\*\*\*\*

Article: Humphrey, N. K. (1976). The social function of intellect. *Growing points in ethology*, 303-317.

a) Review of the main points of the paper (2-3 sentences):

Humphrey proposes that high-level creative intelligence has evolved over time as a result of the complex social environments that animals, specifically higher-level primates, have encountered. Humphrey suggests that complex social environments discourage individuals from developing new ways of doing things in relation to the physical environment as these techniques can already be learned from others, but also proposes that the social environment encourages creative intelligence in terms of generating responses to various social situations in which one cannot rely solely on information from past interactions to guide behavior (social problem solving). According to Humphrey, the capabilities underlying social problem solving can be applied to both social and non-social situations.

b) Two things that you liked about the article (and explain why):

1) The anecdotes such as the one about Helen and Hinde's monkeys helped to clarify and vividly illustrate Humphrey's point about how intellectual stimulation from either the physical environment or the social environment is important to the maintenance and recovery of cognitive abilities. While the anecdote illustrated that the physical environment can be stimulating, it focused on the fact that the social environment can be even more stimulating, even in the absence of objects to manipulate, thus further driving home Humphrey's point about the importance of the social environment to intellect.

2) I liked how the article addressed the two different perspectives of the role of creative intellect, for practical invention and to hold society together, as opposed to only focusing on one perspective. Describing the two different perspectives enabled me to understand how the shortcomings of the practical invention perspective, such as the failure to consider that animals are social creatures, were addressed by the other perspective, allowing me to follow Humphrey's logic as he explained the social function of intellect. Furthermore, by addressing both perspectives, there was no omission of other possible explanations for the role of creative intellect that I would otherwise be left to wonder about.

c) Two things that you didn't like about the article (and explain why):

1) I did not like that the author failed to operationally define several terms such as 'subsistence technologies' and 'subsistence techniques' that were used frequently throughout the paper. These terms can have different meanings to different people and refer to different things, such as techniques used for general survival or techniques used to gather the necessary things to stay alive, which may have had a bearing on the meaning of the sentence in which they were used. It was also slightly difficult to discern whether these two terms were used interchangeably or whether they referred to different things. Defining these terms or even giving an example would have enhanced the clarity of the paper by giving a point of reference as to what Humphrey was trying to say or describe.

2) Humphrey introduced the notion of sympathy in the article, noting that it is likely to be a major constraint on the social thinking of animals, both toward animate and inanimate objects. However, Humphrey did not follow up on this idea and explain explicitly why sympathy would act as such a great constraint, only indicating that it may lead the animal to make mistakes. The idea seemed unfinished and left me wondering whether the potential to make mistakes was the only critical constraint on thinking, or whether there are other, possibly more important, reasons why sympathy may be a constraint.

d) One quiz question that you might pose to your classmates with the correct answer:

Q: According to Humphrey, there are two main purposes served by the social system. What are these purposes?

A: (1) to allow a period of dependence in which the young are able to explore and experiment; (2) to raise the young with older members of the community from whom the young can learn from.

e) One research question to pursue in the future (and explain why):

Is a primate in a community with three generations and six members more intelligent than a primate in a community with three generations and three members? Answering this question may enable an understanding of whether membership numbers contribute to the complexity of the community and whether this thus has an influence on the level of intelligence of the community, as a greater number of members leads to more opportunity for social interaction and conflict with various individuals.

## Weekly Summary – Part B

Name: \*\*\*\*\*

Article: Humphrey, N. K. (1976). The social function of intellect. *Growing points in ethology*, 303-317.

Question 1: What does Humphrey mean when using the term ‘subsistence technologies’ and ‘subsistence techniques’? Are these techniques related to survival in general, or are they techniques related to how one obtains what is necessary (for example, food) to stay alive? Do these terms refer to the same thing?

Question 2: Is it necessarily true that most practical problems faced by primates could be solved using learned strategies without the need for creative intelligence? Would creative intelligence still be necessary in some practical situations? What kinds of situations would these be? Is it not possible that creative intelligence is used by an individual first to develop the strategy that could then be shared with others in the social system, thus indicating that creative intelligence does have at least a slight impact on the solution to problems pertaining to the physical environment?

Question 3: Aside from dependency, kinship structures, and the number of generations present in a community, what other factors might serve to increase the complexity of the social environment? How would you test whether or not these factors have an impact on complexity?

Article: Krebs, J. R., & Dawkins, R. (1984). Animal signals: mind-reading and manipulation. *Behavioural Ecology: an evolutionary approach*, 2, 380-402.

Question 1: If an animal is an unwilling victim of mind-reading, would concealment or active deception be a better response strategy? Would an animal be likely to use a combination of the two approaches? Would the answer to this be dependent on the nature of the situation? Why or why not?

Question 2: According to Krebs and Dawkins, every signal has a cost. Are the costs and benefits from signaling largely the same for each species of animal, or do some species experience different costs or benefits than others? Aside from the costs and benefits mentioned in the article, what might be examples of other costs or benefits?

Question 3: What do Krebs and Dawkins mean when using the term ‘ritualization’? I understand that it is the evolutionary process by which movements become signals, but how do signals evolve from movements? At what point does a movement become a signal?