**PART V COGNITION AND EMOTION**

Chapter 9

1. Which sentence best describes the difference between rationalism and empiricism when applied to epistemology?
2. Rationalism endorses a logical approach to problems, empiricism suggests that emotional intelligence may also be useful.
3. Empiricism suggests we are born with innate ideas, feelings and reasoning processes; rationalism suggests we work out solutions afresh using pure reason.
4. Rationalism suggests we make judgements based only on experience; empiricism suggests a more modular approach to cognition
5. Rationalism is the idea that the mind is born with certain truths and reasoning processes ingrained; empiricism suggests that only experience after birth can lead us to knowledge
6. Rationalism is allied with the blank slate view of the mind; rationalism is more in keeping with an evolutionary approach.
7. Which group if thinkers are associated with promoting the “Blank Slate” model of the human mind?
8. Locke, Watson and Skinner
9. Plato Aristotle and Darwin
10. Plato Locke and Kant
11. Wallace, Wilberforce and Skinner
12. Lorenz, Tinbergen, Rousseau
13. Which statement best describes phylogenetic evolutionary epistemology?
14. The study of how we obtain information to construct phylogenetic tress showing evolutionary divergence between species.
15. The study of how scientific ideas change over time in a similar way to the survival of the fittest – in essence cultural selection (by scientists) weeds out inadequate ideas.
16. The study of how inherent tendencies in the human mind are inherited from our ancestors and are the product of evolutionary selection for advantageous modes of reasoning and thinking
17. The study of how in individual minds ideas form and are selected in a manner analogous to natural selection leading to increasing cognitive maturity form an infant to an adult.
18. The study of how individual genes map against innate biases in thought and cognition
19. Which sentence best describes the relevance of optical illusions to a modular view of the mind?
20. Optical illusions illustrate imperfections in our visual system not yet eliminated by natural selection
21. Optical illusions are explicable by error management theory – it is less costly to accept these faults than to remove them
22. Optical illusions are a good example of how our ancestral visual system is out of keeping with the modern world
23. Optical illusions provide evidence for modules that fire automatically, are domain specific and are relatively impermeable to influence from outside – hence they support a modular view of the mind.
24. Optical illusions are errors that contradict the idea that the mind has evolved cognitive modules that enable us to reason and perceive effectively and with domain specific precision
25. Research into human reasoning has revealed a whole set of cognitive biases and “quick fix heuristics”. What is the most plausible evolutionary explanation for these biases and heuristics?
26. They are errors that are like vestigial organs – they no longer serve any useful function but are relatively harmless left overs.
27. They offer quick and inexpensive solutions to cognitive problems that humans faced and still face. They may not give logically perfect answers 100% of the time but mostly they work and have been favoured by natural selection
28. They only appear as biases now since the modern environment if so different to the EEA. In ancient times cognition would not be subject to these errors of reasoning and perception.
29. They arise because of the influence of early childhood experiences on adult life. Such biases and solutions were advantageous in childhood and so have been preserved into adulthood.
30. It can be shown that the great apes share very similar biases and so it is reasonable to infer that we inherited such mental hardware form ancestors in common.
31. Which sentence best describes “error management theory” as applied to human decision making?
32. Humans are fallible since natural selection has not yet had time to equip us mentally for the modern world. Error management theory shows how we can overcome such biases when we need to make important decisions.
33. There are costs and benefits associated with believing something when there is not total certainty. Natural selection will select for a bias towards those type of errors that maximize benefits and minimize costs.
34. Human cognition makes type I and type II errors. Error management theory shows how we will all tend to make type I errors at a greater frequency than type II errors.
35. DNA replication is prone to errors – yet this process lies behind mutations and hence evolutionary change. Error management theory argues that a zero error rate would be bad for evolution since there would be no change; but a mutation rate that is too high would be bad for offspring since most mutations cause problems. Hence a balance is struck and the actual mutation rate can be predicted by error management theory.

The diagram below shows consequence of correct and incorrect belief about a Hypothesis (H1). Suppose you are walking home late at night in a dangerous area, the relevant hypotheses are :

Ho The sound I just heard was a harmless effect of the wind

H1 The sound I heard was from a stranger who is likely to attack me

|  |  |  |
| --- | --- | --- |
|  | **Reality** | |
| **Your beliefs** | H1 is true.  Caused by hostile agent | H1 is false and H0 true  Natural phenomenon |
| Belief H1 is true  Assume agent | Accurate. True positive  C:\Users\jcart\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\EXY3DH4Y\MC900433823[1].png | False positive, Type I error  C:\Users\jcart\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\R1OLLOTF\MC900434409[1].wmf |
| Believe H1 is false  Assume natural phenomenon | False negative, Type II error  C:\Users\jcart\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\R1OLLOTF\MC900434409[1].wmf | Accurate. True negative  C:\Users\jcart\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\EXY3DH4Y\MC900433823[1].png |

1. Which statement best describes the COSTS of a type I error?
2. I will be hurt by this stranger
3. I have wasted time talking to this stranger
4. I have wasted energy in running away
5. I have made a correct type II prediction and so am safe
6. This is much worse than a type II error
7. Which statement describes the BENEFITS of a type I error
8. I have men someone who may be useful in the future
9. I have avoided the energetic costs of flight or fight
10. A type I error means I am correct for Type II and so have not lost any energy in flight or fight.
11. I have lost some energy in flight or fight but this is a low cost compared to a type II error
12. I have made an accurate negative prediction and so have avoided any costs whatsoever.
13. Which statement best describes the COSTs of a type II error
14. I might be hurt by this stranger
15. I have wasted time talking to this stranger
16. I have wasted energy in running away
17. I have made a correct type I prediction and so am safe
18. This is much better than a type I error
19. Which statement best describes the BENEFITS of a type II error?
20. A I have met someone who may be useful in the future
21. I have avoided the energetic costs of flight or fight but this benefit is small compared to the potential cost
22. A type II error implies a correct type I prediction and so there are no costs
23. I have lost some energy in flight or fight but this is a low cost compared to a type I error
24. I have made an accurate negative prediction and so have avoided any costs whatsoever.
25. Evidence suggest that males often infer courtship signals from females when none are intended. Which statement best describes how error management theory could account for this?
26. The costs of overestimating sexual interest are embarrassment and confusion, but the potential benefits of a mating opportunity if the signals are real are large.
27. The costs of this error are much larger than the benefits and so error management theory predicts they will be rare compared to type II errors
28. There is always a natural bias in the human mind towards type I errors; here the male is committing a type I error.
29. There is always a bias in the human mind towards type II errors. Here the female is committing a type II error
30. The benefits of type II errors are always larger than the benefits of type I errors and so such errors will often be made.
31. Which statement best describes an evolutionary view of sex differences in human cognition?
32. Women are better than men at mental rotation exercises and this is because in traditional societies females forage and so need to understand space and distance.
33. Men have better linguistic skills than women and this is because they need highly effective communications systems during hunting
34. There are clear parallels between all male v. female cognitive differences and the divisions of labour of men and women during the EEA
35. There is tentative evidence that the cognitive differences detected between men and women may relate to typical activities of men and women in hunter gathering groups
36. Men have much better object location recall than women since they need to remember the location of prey during hunting expeditions.

Chapter 10.

1. Which statement best describes the James-Lange model of emotions?
2. We perceive a situation, an emotion results and our body responds as appropriate
3. Our emotions colour the way we perceive the external world, resulting in accompanying bodily changes
4. We experience an emotion, we comprehend the experience and our brain directs the body to prepare accordingly
5. We perceive a situation, our body reponds as appropriate, the feeling of these bodily changes is the emotion
6. Emotions direct our comprehensions of a situation resulting in adaptively significant biases.
7. What is the relevance of Homology for the study of the functionality of emotions?
8. Homology is the study of the logic of human adaptations and so has direct bearing on emotions
9. Homology is the study of convergent evolution and so if we can show emotions have evolved independently in chimps and humans this provides crucial evidence for functionality
10. Homology is the study of features shared by species due to common lines of descent. If emotions similar to humans exist in chimpanzees this is supportive of an adaptive basis.
11. Homology is the study of how brain functioning can be related to precise physical localities; a physical correlate for emotions will show they are adaptations
12. Homology is the study of homologous alleles, if emotions can be linked with dominant alleles then we can establish and genetic, and by inference, functional, basis for them.
13. Which sentence best describes the work of Paul Ekman on facial expressions and emotions?
14. Facial expressions vary around the globe but the underlying emotions will be similar. It is important therefore for anthropologist to appreciate the signals sent by facial expression in different cultures
15. All around the globe we see the same basic set of facial expressions but research shows that the emotions they correspond to varies considerably.
16. There are no standard patterns either to emotions or facial expressions both are highly variable and are conditioned by social rules and conventions
17. Ekman showed that the emotion follows from the expression along the lines of the James – Lange theory. Hence the sequence is: situation … facial expression… emotion.
18. Ekman demonstrated that there are universal facial expressions that correspond with universal emotions and so both are shared and experienced by all humans – although there may be some cultural variability in what triggers them
19. What are the three types of responses associated with emotions according to M. Eysenk and others?
20. Behavioural (e.g. facial expression), physiological changes, verbal self-report
21. Neurophysiological correlation; affective disorder; cognitive confusion
22. Cognitive self-awareness; retaliatory action; reflection on consequences
23. Precision; specificity of action; complexity of response
24. Adaptive success; memory biasing; universal functionality
25. Which sentence best explain the meaning of S. Pinker’s observation that “Disgust is intuitive microbiology”?
26. The body is designed to detect the ingestion of harmful bacteria and the emotion of disgust follows
27. The emotion of disgust promotes vomiting and diarrhoea both of which serve to expel pathogens.
28. The intestinal micro flora present in all humans shapes the emotion of disgust to ensure these bacteria are not threatened by rival pathogens
29. Disgust is an emotion that promotes a facial expression that elicits help and caring from others
30. Disgust is an emotion that prompts us to avoid contaminated food and water and situations where harmful pathogens might be present