

Concourse 9.00 - Introduction to Psychology
The almost Homeric Final for 1998

In 1607, Claudio Monteverdi wrote "Orfeo". It is usually considered to be the first opera in the modern sense of the word. Sometime after 1640 but, one assumes, before his death in 1643, Monteverdi wrote "The Return of Ulysses to His Country", an opera narrating the final part of the story of Ulysses' efforts to get home from the Trojan war. The opera provides the story line for this final. As usual, you do not need to know opera, Homer, Greek history, etc. If a question seems confusing, just ask about it. Use the back of the paper if you need to. Just tell us where to find the answer. You should have plenty of time to complete this. Good luck.

1. (6 pts) The opera opens with a character called "Human Frailty" singing that he is too weak to resist the forces that assail him. Different personifications appear to sing about their power over man. In the opera the forces are Time, Love, and Fortune. Let's consider some other forces that might have power over us (Pick one letter per blank).

If Monteverdi had been a behaviorist like Skinner, he might have added _____.
If he was a Freudian, he might have included _____.
If he was an evolutionary psychologist, he might have included _____.

Put the appropriate letters in the appropriate spaces

- a. neurotransmitter depletion b. environmental forces c. repressed desires
d. recovered memories e. reproduction f. free will
g. circadian rhythms

2. (15) That was just a brief prologue. The opera begins with Penelope, the wife of Ulysses and Queen of Ithaca, singing "Sorrow and trouble never end for me, miserable queen." She is depressed. According to her first aria, she has been depressed for more than 20 years. Her problem is that the Trojan War ended 20 years ago and Ulysses has not yet made it home. She is still waiting. Classically, Penelope is the model of a faithful wife. In our less heroic days, her friends might suggest that she needs some treatment to allow her to get on with her life. Suppose we decided that she was clinically depressed. Please describe two possible treatments for depression (describe...don't just name them.). Please explain which of these would be more appropriate in this case.

3. (5) Penelope's other problem is that she has a lot of house guests. Various suitors want to marry her. They figure that Ulysses is long dead and that Ithaca needs a king. Antinous, one of the suitors, really loves Penelope. She does not love him. However, he is convinced that she does love him. Freud might consider this error of thought to be a defense mechanism, protecting Antinous against the unacceptable thought that his love is not returned. This defense

mechanism would be called"

- a) projection b) reaction formation c) rationalization d) hysteria
- e) ego sublimation f) subduction g) Homeric

4. (10) In the next scene, we meet Melantho, Penelope's maid, and Eurymachus, a servant of the suitors. They have a less complicated love life. He loves her. She loves him. They sing a lot about it. For our purposes, the interesting fact is that they found each other, two servants. He isn't trying to impress the Queen. She is not chasing after one of the high-born suitors. This seems to be an example of the old adage "birds of a feather flock together." In fact, individuals who are similar have better fortunes as romantic partners than do individuals who differ in wealth, beauty, intelligence, etc. Please explain this in terms of Social Exchange Theory. If you know nothing about Social Exchange Theory, say something about this topic that sound like you learned it in this course and pray for partial credit.

5. (10) There is one dimension in which partners do not look for an exact match. On average, males seek mates who are slightly younger than they are and, conveniently enough, females seek mates who are slightly older on average. Please offer an explanation of this fact in terms of Evolutionary Psychology. Again, if you have no idea what Evolutionary Psychology might say about this topic, find something good to say from elsewhere in Psychology.

6. (5) Ulysses is not dead (You probably guessed that.) In fact, he is asleep on the shore not too far away. He has just been dropped off by the Phaeacians...but that is another story. Anyway, he is asleep. Which of the following must be true if he is asleep, regardless of the type of sleep. Pick as many as apply.

- a) His muscles would be flaccid (low muscle tone, sleep paralysis).
- b) His eyes movements would be conjugate (eyes move together).
- c) His must be at or near the nadir of his circadian rhythm.
- d) He must show reduced hypothalamic activity.

- e) He must show elevated parietal lobe activity.
- f) He must not be a real macho hero because real guys don't sleep.
- g) None of the above.

7. (10) Ulysses sees a young shepherd and asks him for some information because "he can have no dishonesty in his heart who has no hair upon his chin". Suppose that this shepherd boy sees Ulysses. He realizes that this is an old, shipwrecked guy asking for help. The decision about helping is a moral decision. Babies do not enter the world with a fully formed morality. Moral reasoning develops. Please describe some of the factors that influence moral development. Please define and use the empathy, internalized, and the principle of minimal sufficiency (550-551). If you don't know some or all of these terms, say something about moral development and hope for the best.

8. (5) Ulysses asks the boy where he is. The boy says that this is Ithaca. Ulysses is thrilled to find out that he is home, at last. He is even more amazed when the "boy" turns out to be the Goddess Athena in disguise. She tells him that he will be disguised as an old man until he can see what has been happening at home. She tells him to stick his head in a nearby spring in order to effect this disguise. He does but, Athena was not paying full attention. She inadvertently inactivates his right parietal lobe.

Which of the following are likely consequences (Pick as many as you like).

- a. He would show neglect for the right side of space.
- b. He would show neglect for the left side of space.
- c. Because of inactivation of motor cortex, he would show paralysis of the right side of his body.
- d. Because of inactivation of motor cortex, he would show paralysis of the left side of his body.
- e. Because of inactivation of somatosensory cortex, he would be insensitive on the right side of his body.
- f. Because of inactivation of somatosensory cortex, he would be insensitive on the left side.
- g. none of the above

9. (5) Athena tries again. Oops. This time she has inactivated his hypothalamus

Which of the following are likely consequences (Again, pick as many as you like).

- a) He would never sleep again (unless she fixes things).
- b) His hunger drive would be disrupted in some fashion.
- c) His heart would stop.
- d) He would be blind because the pathway from eye to visual cortex is disrupted.
- e) He would not be capable of association learning.
- f) His head would fall off.

g) none of the above

10. (10) Finally, she gets it right and successfully disguises Ulysses as an old man. Meantime, back at the place, MelanTho, Penelope's maid, is trying to persuade Penelope to remarry. After all, Ulysses must be long dead. Penelope is not yet persuaded. Please suggest two ways that MelanTho could try to change Penelope's opinion about remarriage. There are lots of possible answers BUT please be sure that we can see the psychological content of your answer. That is, your answers must be based on material from the class. (HINTS: You might think about "attitude change" - Ch. 11 or Behaviorism - Ch 4 or Therapy - Ch 19. You are not limited to these options.)

1.

2.

11. (10) Back out in the countryside, we meet Eumaeus, Ulysses' old servant. He is now taking care of the sheep. When we meet him, he is talking (well, singing) to them. He is discussing kingship with them. The sheep don't say much. Maybe he should have been conversing with the apes or the parrots or the bees or some other species that shows some evidence of linguistic ability. Do animals have morphemes? Regardless of your answer, please be sure to define morpheme and be sure to support your answer with some facts.

12. (10) Actually, Eumaeus has been having trouble with his sheep. He is trying to train them to cross the stream on a bridge instead of going through the water. He has his schedule of reinforcement all set up. Every time a sheep crosses the bridge, it gets rewarded with a piece of Sheep's Delight candy. Nevertheless, the sheep are tromping through the water as usual. The problem is that Eumaeus has forgotten something. Here are some possibilities. Pick one and explain why this is the problem.

Did he forget about...

- a. partial reinforcement
 - b. the difference between negative and positive reinforcement
 - c. shaping
 - d. preparedness
- OR
- e. the fact that you can't teach an old sheep new tricks.

please explain

13. (5) Eumaeus decides that the problem is that he has stupid sheep. In order to test this theory, he gives all the sheep the SAT (That is, the Sheep Aptitude Test). When he analyzes his data, he makes a variety of discoveries. First, the black sheep score 30 points higher on average than the white sheep. He finds that this result is statistically significant. From this result he can safely conclude (PICK AS MANY AS YOU LIKE):

- a) because sheep color is genetically determined, it follows that sheep SAT score is genetically determined.
- b) because sheep color is genetically determined, it follows that sheep SAT score has a genetic component.
- c) because the difference is statistically significant, it follows that the black sheep with the lowest SAT score will score higher than the average of the white sheep.
- d) if some white sheep were painted black at birth, they would have higher SAT scores than the regular white sheep population.
- e) if you eat black sheep, you will get smarter.
- f) None of the above:

Feel free to add a line of explanation if you feel the need.

14. (5) Eumaeus also discovers that SAT score is correlated with weight. The correlation coefficient is 0.5. Again, statistical tests show this to be significant. From this result he can safely conclude (PICK AS MANY AS YOU LIKE):

- a) Heavier sheep have higher SAT scores on average.
- b) Sheep with higher IQ scores are heavier on average.
- c) Heavier sheep have lower SAT scores on average.
- d) Sheep with higher IQ scores are lighter on average.
- e) Heavier sheep are lighter on average.
- f) none of the above.

15. (5) From this same result, it also follows that (PICK AS MANY AS YOU LIKE):

- a) if the correlation of weight and SAT is 0.5, then SAT will be 50% of weight on average.
- b) Extra body weight makes sheep smarter. (Remember this would not have to be true of REAL sheep.)
- c) Extra body weight makes sheep dumber.
- d) If you want smart sheep, fatten them up.
- e) If you wanted to buy smart sheep from Eumaeus, buy his heavier ones.
- f) none of the above

16. (10) Eumaeus thinks that the SAT is a measure of sheep intelligence. After all, it correlates with performance in sheep school. It correlates with subjective ratings of intelligence by

sheep teachers. Indeed the relationship of SAT to sheep intelligence is a lot like the relationship of IQ scores to human intelligence. However, as you know, one can question the assertion that IQ score is a measure of human intelligence. Please describe one reason to doubt the assertion that IQ score is a measure of human intelligence.

17. (10) Ulysses arrives (in disguise) and Eumaeus agrees to take care of him. Ulysses announces that Ulysses will soon be returning to his palace. Meantime, Athena goes off to Sparta to collect Telemachus, Ulysses' son. Telemachus has been of looking for his father. He was only an infant when Ulysses left for the Trojan war so he has grown up in a single parent household. Do you think that this would have had any influence on Telemachus' sexual orientation? Why or why not? Be sure that your answer reflects material from this course, not merely the opinions you have hear in the media, etc. (PUT YOUR ANSWER ON NEXT PAGE)

17 (ANSWER)

18. (5) Athena brings Telemachus back to Ithaca. He meets Ulysses who is still disguised as an old man. Before they have a chance to sort out who is who, the earth opens up and swallows Ulysses. Telemachus is understandably distressed and sings about this for a while. At a younger age, Telemachus might have behaved as though Ulysses had gone out of existence when he went out of sight. At least, that is what Piaget thought. He called this a failure of "object permanence". He held this failure to be characteristic of which stage of development?

- a) concrete-motor b) pre-operational c) concrete operational
- d) pre-motor e) sensory-motor f) middle age

19. (10) Please describe one piece of experimental evidence that suggests that children in this stage understand more about object permanence than Piaget originally proposed.

20. (5) So, Ulysses has been swallowed up by the earth. Now all sorts of lights start flashing. First, sun is eclipsed. It is totally dark. Then, a light of exactly 480 nanometers (nm) shines on the plain white wall of Eumeus' hut. That light looks blue. Next, the 480 nm light goes off and a 570 nm light shines on the wall. It looks yellow. Finally, both lights shine on the white wall at the same time. To Telemachus, the wall is most likely to look what color (assume Telemachus has normal color vision).

- a) white (or gray)
- b) brown
- c) bluish-yellow
- d) green
- e) insufficient information is given for an answer (If you pick "e", explain briefly)

21. (5) The light, reflected to Telemachus' eyes from that wall is composed of the following wavelength(s).

- a) 1050 nm
- b) 90nm
- c) a roughly uniform distribution from 400 to 700 nm
- d) 525 nm
- e) $(480 + 570) = 745\text{nm}$
- f) 480nm and 570 nm
- g) insufficient information is given for an answer (If you pick "g", explain briefly)

22. (10) Next, a mysterious pattern appears on the wall. It looks like the picture on the right. Telemachus thinks he sees a white rectangle lying on top of a bow and four shields. However, as the borders of white rectangle are illusory. There is no physical contour in the image between the white rectangle and the white background. There are no "real" circles on the page. There are two thick black lines - not a single curve of a "bow". What rules or principles of visual perception are illustrated by this figure? Please describe two different rules or principles.

Rule 1:

Rule 2:

23. (5) Finally, everything settles down and Telemachus sees a much younger looking man emerge out of the earth. The man introduces himself as Ulysses, the father that Telemachus has been looking for all these years. Telemachus does not believe it. He thinks that he is delusional and worries that he has schizophrenia. The name

"schizophrenia" comes from the Greek for "split mind". What split were the 19th century psychiatrists talking about?

A split between

- a) mind and brain b) brain and body c) left and right cerebral hemispheres
- d) emotion and cognition e) nature and nurture f)
- affect and emotion
- g) two different personalities (also known as multiple personality disorder)
- h) Democrat and Republican

24. (10) If he has schizophrenia, he thinks that he should get some treatment. His options are psychopharmacology (drugs), psychoanalysis (Freudian), cognitive therapy, and behavior therapy. Suppose he really was a schizophrenic. What mode or modes of treatment would you recommend and why? You can propose to use more than one but whatever your choice, please explain that choice. (PUT YOUR ANSWER ON THE NEXT PAGE)

24. (ANSWER)

25. (10) Ulysses assures Telemachus that he is not insane. Still, Telemachus does not recognize his father. This makes sense. Ulysses had left when Telemachus was very young. However, Ulysses thinks that Telemachus should remember. He says, "I was in the delivery room. I was the first thing you saw. According to the primacy effect, you should remember me. Ulysses is confused about the primacy effect. Please define the primacy effect and briefly explain why it is irrelevant here.

26. (5) Meantime, back at the palace, three suitors are still trying to get Penelope to marry one of them. Penelope finds this wooing to be unpleasant. She also finds that the suitors will go away if she says she has a headache. As a consequence, she has learned to say that she has a headache with great frequency. To rephrase the situation in learning theory terms, Penelope has learned to emit a specific behavior because that behavior has been associated with the removal of an aversive stimulus. That removal appears to be acting as reinforcer. Which of the following is true statements about

association learning is true. (PICK AS MANY AS YOU LIKE).

- a) This would not work because because the absence or removal of a stimulus is not a reinforcer.
- b) The removal of the suitors is acting as a negative reinforcer in this situation.
- c) The suitors are acting as a punishment in this situation.
- d) The fake headache is acting as a conditioned stimulus in this situation.
- e) This can be seen as an example of blocking.
- f) This can be seen as an example of habituation.
- g) This can be seen as an example multiple suitor syndrome.

27. (5) Eumaeus comes in to tell Penelope that her son, Telemachus, has returned and that Ulysses is said to be alive. Penelope says "such uncertain tidings only make my grief stronger". She really does sound depressed. Here, even when given a possible way out of her troubles, she just sits there. Her state is reminiscent of those dogs who received unavoidable shocks and then wouldn't move, even to escape from avoidable shocks. This is known as:

- a) dissociation
- b) transfiguration
- c) transference
- d) the law of effect
- e) learned helplessness
- f) electroconvulsive shock
- g) operatic angst

28. (10) The suitors are not amused. They conclude that Telemachus will not be pleased to find that they have made themselves at home in the palace and that they are trying to marry mommy. They decide that they will kill Telemachus. A neurotoxin sounds like a good way to do the deed. As part of their planning process. They discuss the workings of a normal neuron. Please label the following statements as true or false. If they are false, correct them. (assume a standard, myelinated neuron, for example one of the neurons making up the optic nerve from eye to brain.)

T or F a) All action potentials are created equal. That is, they have the same polarity and the same size.

T or F b) Dendrites collect signals from other neurons or from sensory cells.

T or F c) The synapse is the point of contact between that other neuron and the dendrites.

T or F d) Communication across the synapse is not be direct electrical connection. Chemicals called neurotransmitters are released by one neuron and received by another.

T or F e) Signal produced in the dendrites but the reception of neurotransmitter can be either excitatory or inhibitory.

29. (20) An eagle flies over. The suitors think that this is a sign from heaven that murder is a bad idea. They decide, instead, to make one last effort to get Penelope to marry one of them. They decide that this calls for some gift-giving. After all, they sing, "He does not love who does not give presents".

That is an interesting thought. How could we explain gift giving by a suitor who is trying to engender love in another? All sorts of theories from this course might have something to say about this. Please pick two theories and explain gift-giving behavior in a way that makes it clear that you know something about the theory. You want to say something like this: "According to Rodent theory, the gift is a symbolic representation of cheese. As cheese is used to feed physical hunger, so the gift then fills psychological hunger, i.e., the need to be loved." (Please don't use Rodent Theory).
(ANSWER ON NEXT PAGE)

29. Theory 1:

Theory 2:

30. (6) The suitors begin another party. In addition to the three suitors, there is a glutton and drunkard named Irus. Irus gets drunk and starts talking strangely. First, he says:

A. "Irus me drink eat liquor food".

and then he says

B. "Irgus flimly tropped the snorgly trum."

Fill in the blanks:

Phrase A is lacking in _____ while B is lacking in _____.

- a. syntactic structure
- b. semantic content
- c. phonemic contours
- d. orthographic regularity
- e. deep lexicality
- f. true perjury

31. (10) Eumeus brings Ulysses in to the hall in disguise as an old man from the Island of Crete. The suitors say that he should be thrown out of the hall because...well, because he is an old man from Crete. Penelope accuses them of being prejudiced against Cretans. They say, "No, we treat everyone equally. In fact, some of our best friends are Cretans." Please explain how both of these claims could be correct. How could the suitors honestly believe that they are treating everyone equally and, nevertheless, behave in a way that is biased against one group. This answer should show that you know something about the psychological roots of prejudice.

32. (10) The suitors decide that it would be funny to have this old man fight Irus (the big fat glutton). This appears to be patently unfair. Irus seems likely to really hurt the old man who appears to be quite frail. The hall is crowded with other people. Will someone speak up and say "This is not right."? Please describe one experiment (not a news story or anecdote) that suggests that people might not speak up, even if they think that the fight is wrong. (Don't explain the theory...that is the next question.)

33. (10) Please describe THREE of the factors that will determine whether or not someone will act in a situation like that described above. A brief account of "Social Impact Theory" would be good. However, if that doesn't ring any bells, please tell us why you think these three factors are important.

34. (5) Against the odds, the old man beats Irus and throws him to the ground. This causes a temporary malfunction in Irus' cochlea, basilar membrane, and semicircular canals. Given these problems, what symptoms would you expect him to show?

- a) He would be dizzy.
- b) He would have muscle weakness, bilaterally if these structures were damaged bilaterally.
- c) He would have trouble seeing.
- d) He would have trouble hearing.
- e) He would have trouble breathing.
- f) He would have trouble speaking.
- g) None of the above

35. (5) Penelope announces that she will marry any suitor who can successfully string and shoot Ulysses' bow. None of the three can do it. The "old man" requests a chance. He strings the bow and shoots all the suitors dead. This is extremely stressful for Irus. As an apparent consequence of this stress, he disappears from the court and appears in a small town some distance away. He now calls himself "Theseus" and he opens a small fitness clinic. He has no memory for his past as a palace glutton. These symptoms sound like

- a) repression b) reaction formation c) a dissociative fugue state
- d) a schizoid break e) Capgras syndrome f) Homeric dysentery

36. (5) Eventually, Irus recovers from this problem. However, now he develops an eating disorder. Specifically, he develops Anorexia Nervosa and goes from being a 32 yr old fat troublemaker who is obsessed with food, its rituals and consumption to being a 32 yr old skinny trouble maker who is obsessed with food, its rituals and consumption. Irus is not a typical anorexia patient. Please describe a more typical patient.

37. (10) Please propose a plan of treatment for Irus. Please explain any aspect of your treatment plan that is different from that you would propose for a more typical anorexia patient.

38. (10) Well, the old guy gets turned back into Ulysses but it still takes another half hour of singing to convince Penelope that this is her long-lost husband. But, finally, the opera comes to a happy ending. You, however, may not yet be totally happy. You studied for this exam and now some of that studying seems to be in vain because we didn't ask about what you know about. Here is your big chance. Write a question and answer it. No connection to the story is required - just a connection to the course. You can write one 10-point question or two 5-point questions (You can even make the 5 pointers multiple-choice.) Don't forget to write the answer too.

ANSWER ON NEXT PAGE

HAPPY HOLIDAYS

The exams will be available for pick up during IAP.

YOUR NAME _____

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