

Psyc 136/236 All Potential Final Exam Questions

A. What framework constitutes a basis for valuesciencing and how can we use that framework to assess the import of valuesciencing?

1. In this course what do we mean and understand by “ecology”?
2. How in this course have we explained what Lewis Mumford meant when fifty years ago he wrote, “Henceforth all thinking worthy of the name must be ecological”?
3. What do we mean and understand by “human ecology”
4. Sketch a framework for analysis using human ecology.
5. What overarching basis for value is evident in this framework?
6. In valuescience what do we mean and understand by “culture”?
7. What benefits may we reap by defining “culture” as we do in valuescience?
8. How might we argue that culture is a singularly important factor in human ecology?
9. How may we use science to assess cultural information?
10. How may we support a claim that valuescience is meta-value?

B. What means may we use to further incorporate valuescience into our and others’ worldviews?

1. What do we mean and understand by “semiotics” as we use the term in valuescience?
2. How may people use study of semiotics to become more aware of worldview and to evolve it?
3. What do we mean and understand by “deconstruction” as we use the term in valuescience?
4. What are three questions people may pose to deconstruct signs and reveal meaning?
5. What do we mean and understand by “linguistic relativity” as we use the term in valuescience?
6. What is one step people may take to apply linguistic relativity to become more aware of worldview and to evolve it?
7. What are two or more examples of how you might evolve idiolect to live and die well?
8. What do we mean and understand by “narrative paradigm theory” as we use the term in valuescience?

9. How may people apply narrative paradigm theory to evolve worldview?
10. What do we mean and understand by “metanarrative” as we use the term in valuescience?
11. What are three metanarratives of which you are aware?
12. Briefly outline a valuescience-based metanarrative.
13. What two or more elements of a narrative you embrace have you yet to make reflect and communicate a consistent scientific world-view?
14. What do we mean and understand by “ideology” as we use the term in valuescience?
15. In what one or more ways can people apply valuescience to avoid and suppress dogmatic, and to support pragmatic ideology?
16. What do we mean and understand by “propaganda” as we use the term in valuescience?
17. In what one or more ways may people defend against adverse influence from propaganda and use propaganda to further common good?
18. What is an example of a social environment that is/was an impediment to practicing valuescience, and how, specifically, was it so?
19. What do we mean and understand by “groupthink” as we use the term in valuescience?
20. What do we mean and understand by “cognitive activism” as we use the term in valuescience?
21. What do we mean and understand by “cognitive bias” as we use the term in valuescience?

C. Why is understanding worldview, becoming aware of our worldviews, and evolving our worldviews important to valuesciencing?

1. What do we mean and understand by “worldview” as we use the term in valuescience?
2. What are two benefits and two costs of a worldview?
3. On responses to what (six) questions do people typically found a worldview?
4. From what two types of information do humans construct worldview?
5. Are most people’s worldviews to a greater degree choice or chance and why?
6. What do we mean and understand by “consensus trance” as we use the term in valuescience?
7. How are individual humans inducted to consensus trance?

8. How is consensus trance an impediment to valuescience practice?

D. What evidence have we that a paradigm shift to a consilient, science-based worldview has been underway for centuries and is accelerating?

1. What do we mean and understand by “paradigm shift” as we use this term in valuescience?

2. What do we mean and understand by “consilience” as we use this term in valuescience?

3. What are three examples of past steps in a paradigm shift to science-based consilience?

4. Name one or more benefits you’ve reaped as a result of these.

5. With what ten headings did editors of Encyclopedia Britannica towards the end of the 20th century inclusively outline human knowledge? OR With what headings (5-15) do you inclusively outline human knowledge?

6. What are one or more aspects of human knowledge from those you mention in your response to question 5, above, that are currently being reconciled with a modern scientific worldview?

7. What are three academic disciplines or sub-disciplines that reflect a paradigm shift to science-based consilience?

8. What are two or more benefits you may reap as you and others further incorporate valuescience into a consilient scientific worldview?

E. What do we mean and understand by valuescience and what evidence have we that becoming more competent, consistent, and conscious in valuesciencing is increasingly necessary to live and die well?

1. What do people commonly mean and understand by (1) “value” and (2) “values”?

2. What difficulties do we experience as a result of these meanings and understandings?

3. What two things (one a verb, one a noun) do we mean and understand by “value” as we use the word in valuescience?

4. What basis in etymology and common usage have we for defining value in this way?

5. How do we address difficulties of common usage by defining “value” as we do in valuescience?

6. What evidence have we that ideas about value are different from actual value?

7. We can get what we want in the (choose one) past/present/future.
future
8. Make a case that ideas about value are predictions.
9. Give an example of someone using an idea about value to make a successful prediction.
10. Give an example of someone using an idea about value to make an unsuccessful prediction.
11. From what two broad categories of information do humans arrive at ideas about value?
12. Are ideas about value to a greater extent based on chance or choice, and why?
13. From what two components of culture do most people in the U.S. and many people in other places draw ideas about value?
14. What evidence have we for shortcomings of using these (responses from question 13, above) components of culture as basis for ideas about value?
15. Why might relying upon these (responses from question 13, above) be especially dangerous in our era?
16. What are three things people commonly mean and understand by "science"?
17. What are two or more difficulties of defining "science" in these ways?
18. What do we mean and understand by "science" in valuescience?
19. What basis in etymology and common usage have we for defining "science" as we do in valuescience?
20. How do we address aforementioned difficulties by characterizing "science" as we do in valuescience?
21. By what methods other than valuescience has anyone accurately discerned value?
22. Explain how prediction is a nexus between value and science, as we define them in valuescience.
23. Use your response from questions 8, 18, and 22 to make a case that science is sole demonstrated means to more accurately discern and more fully realize value.
24. What implications for claims that we "decide" or "choose" value(s) are implicit in valuescience?
25. In what two ways do humans universally rely upon ideas about value?
26. Why is discerning value accurately becoming more important in our era?
(Response similar to question 15. We've repeated the question to

strengthen a case for valuescience.)

27. What are some conditions in modern society to which people are responding by accelerating adoption of valuescience?
28. Describe three impediments (at least one internal and at least one external) to valuescience practice.

F. Outline a modern scientific worldview with respect to structure of universe, Earth, life, and humans, and to flows of energy and cycling of matter in biosphere.

1. What general term do people who embrace a modern scientific worldview use to describe the "stuff" in the universe?
2. What is the periodic table and what does it reflect about the "stuff" in the universe?
3. What general term do people who embrace a modern scientific worldview use to describe the general framework within which we locate this "stuff"?
4. If the smallest phenomenon we describe with a contemporary scientific worldview is 1 unit across, about how many units across is the largest? (Express as a power of 10.)
5. What are the four fundamental forces according to those who espouse a modern scientific worldview?
6. Which two of these may we observe readily in everyday phenomena?
7. State a first law of thermodynamics and briefly explain its implications for human existence.
8. State a second law of thermodynamics and briefly explain its implications for human existence.
9. In what one or more ways can we use understanding of laws of thermodynamics to live better?
10. What did Dawkins mean by "selfish gene"?
11. In broad terms how does energy flow through the biosphere?
12. What are three important ways humans are currently affecting the cycling of carbon?
13. What are two important consequences of our growing impact upon the carbon cycle?
14. What are two other elements that cycle through the biosphere?
15. What is one way humans are affecting each of these cycles?
16. Define carrying capacity in terms of population, environmental quality, and time.

G. Describe a few key elements of a modern scientific worldview with respect to our “inner world” of thoughts, feelings, and unconscious mental processes, and to how observable individual and group behaviors and environmental interactions arise from and influence these.

1. Based upon observable behavior what three “values” (wants) appear to be common to nearly all living organisms?
2. Based on your response to question 1, what are three values widely shared by humans?
3. What are six levels in Maslow's Hierarchy of Needs?
4. What evidence have we for including Maslow's Hierarchy in a modern scientific worldview?
5. What does Daniel Gilbert mean by “surrogation” and by “simulation”?
6. Which of these does Gilbert say is superior for predicting affective states?
7. What two reasons for its superiority and our refusal to use it does Gilbert offer?
8. What do we mean and understand by “illusion of control” as we use this term in valuescience?
9. What is one example of how an “illusion of control” can be an impediment to valuescience practice?
10. What evidence for preconscious choice have researchers discovered?
11. What do we mean and understand by priming, and what is an example of it?
12. According to Gilbert humans are primed to ignore global warming because it lacks what four qualities?
13. What are three benefits we may reap by applying evolutionary understanding of human touch and engaging in more touch?
14. What are three postural cues Fisher identifies in human courting behavior?
15. What are three mating strategies among our primate relatives?
16. In which one or more of these do humans engage?
17. What evidence of universal patterns in body language have researchers found?
18. What evidence of universal patterns in facial expression have researchers found?
19. What are three ways people can use knowledge of evolutionary biology to see self and others more accurately?
20. What do people commonly mean and understand by “addiction”?

21. In this course what do we mean and understand by “addiction”?
22. What are three consequences of defining “addiction” as we do in this course?
23. What two general strategies do humans and individuals of many other species universally employ to address challenges in the environment?
24. In contemporary Western society, on which of these strategies (from response to question 23) do we rely more heavily than did/do people in other times/places?
25. What general trend is evidence that we may be maladaptively over-reliant on this strategy (from response to question 24)?
26. What is a “keystone habit” according to Charles Duhigg?
27. How can people use knowledge of keystone habits to live better?
28. What do we mean by “classical conditioning” as we use the term in valuescience?
29. What is one example of how you’ve been classically conditioned?
30. What do we mean by “operant conditioning” as we use the term in valuescience?
31. What is one example of how you’ve been conditioned in this way?
32. What do we mean by “psychological defense mechanisms” as we use the term in valuescience?
33. With reference to Vaillant’s categorization of defense mechanisms, what are one “immature,” one “neurotic,” and one “mature” defense mechanism on which you sometimes rely?
34. How might people use valuescience to evolve towards reliance upon more mature defense mechanisms?
35. Briefly state Totman’s thesis about justification.
36. How can people benefit by being aware of Totman’s thesis?
37. How are practicing Buddhism and sciencing similar?
38. Give three examples of practices through which we might alter consciousness and awareness.
39. In what three (or more) ways can we lessen risks of groupthink?
40. What are two examples of qualities (one natural, one artificial) of a physical environment that may be impediments to valuesciencing?
41. How may people mitigate or overcome, and assist others in overcoming external impediments to valuesciencing?
42. What is one way you can practice cognitive activism to further practice of valuescience?

43. What are two cognitive bias impediments to valuessciencing?
44. Name and briefly describe three cognitive biases of which you are aware in your own behavior.
45. How can you mitigate one of these and reduce its adverse effects?
46. What do we mean and understand by "self-observation"?
47. What are three examples of situations in which we may practice self-observation to evolve a more consilient science-based worldview?
48. To what two broad categories of information may we attribute all internal impediments to practicing valuesscience?
49. How may people mitigate or overcome internal impediments to valuessciencing?

H. How might an anthropologist argue that the current US (now global) monetary system is based upon manipulation of the many by the few?

1. How do people bring money into existence in most places today?
2. What is the relationship between the amount of money and the amount interest and principal owed on debt?
3. In what two ways do those who control the money supply address challenges inherent in the relationship described in question 2?
4. Name one result of each of these two ways that entails loss, and for whom.
5. What are two ways that those who control the current system of money creation guarantee that people must work for money and will accept it as payment?
6. What are two reasons that in our system power to bring money into existence is so great?
7. What has been the fate of every fiat currency to date?
8. What is one explanation from the readings for why we give so little attention in school to the underpinnings of the monetary system?
9. What are the four components of "the system," which we've argued in this course has characterized most societies since widespread adoption of agriculture thousands of years ago and identify one group associated with each component in contemporary U.S. society?
10. People in which component dominate all others?
11. *How might we argue that ideas about money, work, growth, patriotism, God, sin, and afterlife are interwoven by "explainers" to justify a current order where people are reproducing beyond replacement rate, a small minority wield a

very disproportionate amount of power and possess a very disproportionate amount of wealth, and we are accelerating environmental degradation by depleting resource and proliferating hazard at increasing rates?

I. Outline a modern scientific worldview with respect to origins of universe, Earth, life, and humans, and to evolution of human society. In your response please reference: three successive overall strategies adopted by humans to interact with the environment and secure satisfaction of wants, how we evolved society as we shifted from one to another, and subsistence compromise.

1. According to a modern scientific world-view how long ago did: the universe originate, Earth form, the last Ice Age end, life on Earth originate, the earliest humans live, Homo sapiens appear?
2. How have we in this course briefly described humans with respect to obtaining subsistence, size of social groups, overall population, and sources of energy during the 98% of our tenure prior to agriculture?
3. About when did humans evolve civilization based upon agriculture?
4. Name three changes to the physical environment and three social changes that accompanied this shift.
5. What are three arguments that agriculture was a mistake?
6. About when did European people shift from home to factory manufacturing and begin large-scale commerce?
7. What were three environmental resources important to this transition?
8. What do we mean by "subsistence compromise" as we use the term in valuescience?
9. In what critical way is the "subsistence compromise" of peasant cultivators different from "subsistence wages"?
10. How do some of us deny others a subsistence compromise?
11. What interests do some of us aim to further by denying others a subsistence compromise?
12. How does Ponting argue that we in the First World have created the Third World?
13. How has the valuescience teaching team summarily described in ecological and evolutionary terms a history of our species inconsistent with a story of "progress" that many at Stanford and in US society have embraced?

J. Describe the advent of modern scientific world-modeling.

1. What do we mean and understand by "systems thinking" as we use the

term in valuescience?

2. About when was the term "systems thinking" introduced?
3. What was *Limits to Growth*?
4. How did people respond to it?
5. After forty years, what can we observe about projections made by its authors?
6. Why might thoughtful people consider the book especially relevant now?
7. Define exponential growth, and give one example that includes a rate and a time.
8. What can we say about the absolute magnitude of each subsequent increment of exponential growth?
9. What are three qualities of a society Tainter and Ophuls use to measure complexity?
10. How might people account for Tainter's ideas about complexity and Wilson's about the "ratchet of progress" as we evolve culture?
11. What do we mean and understand by "overshoot" as we use the term in valuescience?
12. How is "overshoot" possible, and what is its consequence?
13. What do we mean and understand by "ecological footprint" as we use the term in valuescience?
14. State one or more benefits advocates of ecological footprint calculations see in these.
15. What are one or more shortcomings or risks in such calculations we've noted in this course?

K. Using an ecological framework briefly outline some important current physical conditions and trends in place. Please reference the following: air, water, soil, non-human biota, human population, overshoot, mineral resources, artifact.

1. Give specific examples of three resource trends and three hazard trends.
2. What are five "peaks" to which we refer with the phrase "peak everything"?
3. What do we mean and understand by ERoEI and RRoRI as we use these terms in valuescience?
4. What was putative ERoEI for oil extraction in the early 20th century and what is it for tar sands and oil shale c. 2016? (two ratios)
5. Have we identified proven energy resources accessible with current technology which have ERoEI comparable to oil in the early 20th century?

6. List one or more challenges inherent to calculating and comparing EROEI.
7. What is the minimum EROEI estimated to be necessary to sustain complex human society?
8. What are three aspects of environmental quality that you can use as evidence to support a claim that human population is beyond carrying capacity?

L. Using an ecological framework briefly outline some current conditions and trends in human society that we considered in this course. Please reference: wealth, power, migration, work, money system, corporate and other forms of enterprise organization, human information (quantity, quality, sources, media, overload).

1. Briefly describe trends in wealth and income distribution in the US during the past 70 years.
2. How in this course have we connected financialization, criminalization, incarceration, militarization, racism, globalization, and imperialism to these trends?
3. What is one piece of evidence to support a claim that the US is an oligarchy rather than a democracy?
4. What are two parallels that Kelly draws between those who own and control corporations today, and royalty and nobility in prior times?
5. Name three elements of the "old narrative" that people are increasingly challenging.
6. Give three pieces of evidence that the "American Dream" is beyond the reach of a growing number of people.
7. How have we in this course applied ecological analysis to explain why addiction, denial, delusion, and depression are rampant in our era?
8. What might a value scientist predict will be consequences of a growing gap between physical trends and financial representation of these?
9. In this course how have we supported an assertion that culture is key as individuals work to influence trends in other factors of the ecological framework?

M. How might we make economics and religion more consilient with science-based worldview?

1. Define biophysical economics.
2. Define externality.
3. What effect upon stated profit do people in enterprise achieve by externalizing costs?

4. According to biophysical economists, what is the current general quantitative relationship between externalities and profits?
5. Give one or more reasons you think people are reviving biophysical economics now after ignoring it for so long.
6. What are two or more interests some people aim to further by resisting a shift to biophysical economics?
7. Whose ideas about value, weighted in what way, are reflected in market prices?
8. What is a central theoretical challenge of biophysical economics?
9. Define: wealth, income, communism, capital, capitalism, communism as we have in this course.
10. Define relig and delig as we do in this course.
11. What are three perils of persisting in religing based upon anything but science?
12. Name three potential benefits of evolving religing to be more thoroughly grounded upon science.
13. In what ways do you think you can contribute to evolving economics and religion to be more consilient with a science-based worldview?

N. Outline in broad terms a vision for a world in which you think humans can thrive.

1. How many people will be alive?
2. For how long shall we anticipate that this number will inhabit Earth?
3. Drawing upon what natural material inputs (renewable and non-renewable) at what rates?
4. Converting them by what processes?
5. Into what outputs?
6. With what impacts?
7. To what ends?
8. With what information?

O. Outline in broad terms a social contract by which humans can work toward realizing and can evolve the vision you outlined.

1. Who shall live and for how long? In your response reference constraints imposed by both outer and inner aspects of biophysical reality. (e.g. Earth's carrying capacity and tradeoffs among levels of Maslow's hierarchy both within individuals and among us.)

2. Who shall reproduce in what numbers?
3. Who shall do what work and reap what reward?
4. To what ends shall we collaborate?
5. By what mechanism shall we shape and evolve the contract?

P. How can people valuescience to evolve self towards the vision and social contract you outlined?

1. List and briefly describe three or more self-awareness practices that you might use to evolve self towards the vision and social contract you outlined.
2. List and briefly describe three or more ways that you might alter throughput to be more benign and to reduce it to evolve self towards the vision and social contract you outlined.
3. List and briefly describe two or more of your addictions (habitual maladaptive behaviors) and ways you might change these habits to be more adaptive.

Q. How can people valuescience to evolve society towards the vision and social contract you outlined?

1. What does evolving society entail?
2. Of the kinds of information that we include in the ecological framework on which do we currently primarily rely to alter society?
3. Give an example of a sign to which you're exposed that may be an adverse influence on your ability to evolve society towards the vision and social contract you outlined.
4. Give an example of a sign with which you communicate that may be an adverse influence on your ability to evolve society towards the vision and social contract you outlined. Describe how you might reshape it to communicate as you intend.
5. List and briefly describe three or more social actions (cognitive activism, organizing for social change, acting individually) to evolve society towards the vision and social contract you outlined.
6. Give an example of a cognitive activist and what he or she did to evolve and disseminate a consilient scientific worldview and make it a basis for social reform.
7. List three or more ways to evolve corporations towards a more science-based social order.
8. List and briefly describe three or more ways that people might address

population overshoot.