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21L.017 The Art of the Probable: Literature and Probability
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This list of questions is a compilation of all the questions drawn from different instructors.

1. The third epistle of Pope's *Essay on Man* opens with the following pronouncement: "Here then we rest: 'The Universal Cause / Acts to one end, but acts by various laws.'" Situate the argument(s), exempla, and dominant images of Pope's third epistle in relation to this claim. Consider to what effect Pope sketches the original state of nature, and humankind's fall from it, in paragraphs IV-VI.
2. Exposing its characters to physical catastrophes and moral atrocities of all kinds, *Candide* presents a sweeping and devastatingly funny critique of Leibniz's claim that of all possible worlds ours is indubitably the best. Yet Voltaire's novel does more than poke fun at philosophical optimism. Consider that Pangloss, the proponent of this view, has no more presence in the text than Martin, the representative of pessimism. Consider that *Candide* has from one perspective as much to do with human responses to disaster as with the notion that the universe is badly arranged. Consider the El Dorado episode and the book's concluding piece of wisdom: "We must cultivate our garden." Write an essay, accounting for these or other features of the book that do not immediately translate into a satire on Leibniz's philosophic viewpoint, and draw some conclusions about the overall purpose of the book.
3. For David Hume, the principle of association is an idea fundamental to understanding how we make causal inferences on the basis of experience. This principle of association furnishes a formal structure for Yorick's travels in *A Sentimental Journey* as well. Analyze Sterne's use of association as both a characterological and a fictional principle – that is, as a premise informing both the movement of Yorick's mind and the shape of the narrative itself. In what ways does association represent a principle of order and/or disorder in Sterne's novel?
4. Voltaire's *Candide* (like the selected entries from his *Philosophical Dictionary*) does more than poke fun at philosophical optimism. Consider that Pangloss, the proponent of the view, has no more presence in the text than Martin, the representative of pessimism. Consider that the evils besetting the protagonists are all of human origin save two—the Lisbon earthquake and a plague mentioned by the old woman—and that even here the issue has more to do with human responses to disaster than with the fact that the universe is badly arranged. Consider the El Dorado episode and the book's concluding piece of wisdom: "We must cultivate our garden." Write an essay, accounting for these or other features of the book that do not immediately translate into a satire on Leibniz's philosophic viewpoint, and draw some conclusions about the overall purpose of the book.
5. For John Locke, the association of ideas arises variously by nature, chance, or custom -- and indeed is of the same source as madness. For David Hume, too, association is a fundamental idea and central to his account of causality. Arguably, some form of the principle of association furnishes a formal structure for Yorick's travels in *A Sentimental Journey* as well. Analyze Sterne's use of mental association as both a characterological and a fictional principle – that is, as a premise informing both the movement of Yorick's mind and also the shape of the narrative itself. In what ways does association represent a principle of order and/or disorder in Sterne's novel?
6. Hume's *Treatise of Human Nature* characterizes belief (synonymous with the "vivacity" of

perception) as proportioned to the frequency and constancy of experience. On the one hand, this argument represents a forceful critique of what it is possible to know through reason – “all probable reasoning,” Hume insists, “is nothing but a species of sensation” (T, 103). On the other hand, Hume maintains that our emotions and sentiments are intuitively exact; our feelings, in other words, are as subject to quantitative measurement as are objective frequencies of occurrence. Discuss the measurement or quantification of sympathy, emotion, or belief in a few episodes from Sterne and/or Wordsworth.

7. Among the selection of passages in our readings of Leibniz there is set of passages headed “The Principle of Sufficient Reason.” In it, Leibniz defines the principle in three ways: first, as the principle that nothing happens without a reason; second, as the principle that a reason can be given for every truth; and third, “as is commonly said,” nothing happens without a cause. In this connection, Leibniz distinguishes between true propositions that can be known per se (i.e., in themselves) and true propositions which have an *a priori* proof. It is the latter to which the principle of sufficient reasons applies.

There is something odd about this distinction. The sort of propositions that can be known per se are those of mathematics and logic; all other sorts of propositions refer to contingent facts. The oddity is this: things known *a priori* are things known not by experience but by a strict deduction from premises to conclusion—a process that Leibniz (and Hume after him) calls a “demonstration.” For instance, because the theorems of Euclid are demonstrations, we understand that we do not appeal to experience when we claim that the angles of a triangle sum to 180 degrees. Rather, we regard this feature as inherent in the idea of a triangle per se, which is exactly what we mean when we say that the proposition linking the feature to the thing is *a priori*. In contrast, the redness of an apple or the truth of the proposition “this apple is red” is not linked to the idea of this or any apple in particular except by a contingent chain of causation. We have to experience the apple to know its color and we have to chase up the links of causation to account for its color. But Leibniz seems to be saying that even though this apple is not linked per se to its coloration, just the same it is linked to its coloration *a priori*.

Making use of other readings (the reading, say, headed “Necessary and Contingent Truth”), explain how Leibniz deals with this apparent contradiction. In what ways do one or more – but not too many more! -- of the literary texts we have read over the last few weeks (that is, Pope, Voltaire, Sterne, and the Romantics) engage with this Leibnizian problem?

8. If Leibniz’s principle of sufficient reason is adequately summarized as the view that nothing happens without a cause, then Hume’s arguments in the *Treatise* would appear to be a head-on attack upon a central tenet of Leibniz’s view of things. Hume seems to regard causation as a species of fabrication. But Hume also seems to restore the idea that contingent facts are the results of hidden and secret causes even as he maintains that the truth of contingent propositions is established by a mere passive admission of sense-impressions through the organs of sensation. Indeed, while Hume has often been seen as arguing for a radical form of skepticism, he explicitly denies this charge at several points. Tracing some of the arguments in the reading, explain how Hume responds to the view that every event has a cause. How firm are the foundations of knowledge in Hume’s view? How central to his view is the idea of probability? How do Sterne and the Romantics respond to the problem of causation as developed in Hume? (You might want here to draw into your ambit the ways in which the problems of causation and personal identity are related by Hume).

9. If Leibniz's principle of sufficient reason is, indeed, adequately summarized as the view that "nothing happens without a cause," then Hume's arguments in the *Treatise* would seem to be a head-on attack upon a central tenet of Leibniz's view of things. Hume argues that causation is a non-deliberative fabrication of the mind, having no warrant in the ultimate source of all knowledge, the mind's awareness of sense-impressions (metaphorically displayed before it in the "theater of the mind".) But Hume also seems to restore the idea that contingent facts are the results of hidden and secret causes even as he maintains that the truth of contingent propositions is established by "a mere passive admission of [sense-] impressions through the organs of sensation." Is there a contradiction in Hume's easy reference to causes? While Hume has often been seen as arguing for a radical form of skepticism, he himself explicitly denies this charge at length (our reading provide only brief statements of this denial, not the lengthy passages).

Tracing some of the arguments in the reading, explain how Hume responds to the view that every event has a cause. How firm are the foundations of knowledge, in Hume's view? How central to his view is the idea of probability?

10. In the 1738 edition of his *Doctrine of Chances*, Abraham de Moivre summarizes the importance of his mathematical calculations regarding probabilistic limits thus: "altho' Chance produces Irregularities, still the Odds will be infinitely great, that in the process of Time, those Irregularities will bear no proportion to the recurrency of that Order which naturally results from ORIGINAL DESIGN." Through a careful analysis of the text(s), discuss how Pope, Sterne, Voltaire or the Romantics – or, if you wish, any of two of them -- might have responded to this assertion. Feel free to draw on other thinkers we have studied (Pascal, Leibniz, Hume etc.) in supporting your argument.

11. From Homer's *Odyssey* to Melville's *Moby-Dick*, the ship has often been described as a microcosm of the world, and the naval voyage a metaphor for life. Taking Coleridge's "Rime of the Ancient Mariner" and Canto II of Byron's *Don Juan*, compare and contrast how these texts reflect on a world composed by chance and/or design.

12. Central to seventeenth-century accounts of probability is the idea of a "fair" or "equitable" distribution based upon a true measure of expectation. Equal expectations -- rather than equal probabilities underlying expectations -- was usually the starting point. For instance, Christian Huygens says that he begins

with the hypothesis that in a game of chance one has to win something that has a value such that if one possessed this value, one could procure the same chance in an equitable game, that is, in a game that works to no one's disadvantage.

Here, a player's expectation (and thus his probability of winning) is measured against the assumed standard of a "fair" game, thought of intuitively as one in which expectations are equal. As scholars have noted, later probabilists would *define* a fair game as one in which the players' expectations equaled the price of playing the game. However, Huygens starts with the idea that one's expectation from a game is measured by how much one would have to ante up in order to buy an equivalent stake in a fair game. Similar -- though subtly different -- descriptions may be found in the *Port Royal Logic* and in Bayes' essay on the doctrine of chances. Drawing on any of these sources, examine how the ideas of expectation, equity and justice function in one or more of the literary texts we have read (Pope, Voltaire, Sterne and the Romantics).

13. Expound the argument of the *Essay on Man*, Part I, paying attention to some of these questions: The poem begins with a prologue. What is its presiding image of man's habitation? What is the force of the image? As a metaphor for the habitation of mankind, what (literally) is it a metaphor of? Pope advises our thoughts not to outrun our possibilities of knowledge:

Of man, what see we but his station here,
From which to reason, or to which refer?

But Pope himself seems to refer to a lot more than to man's "station"—mankind's place in the scheme of things. Is he violating his own injunction? What is the force of the notion that all things are part of "a great chain, that draws all to agree"? Near the outset of Part I, the poem says that the best system is one in which all [not "each"] must be "full" or else all will not be coherent. What does this mean? In a famous line, Pope considers "the poor [American] Indian". How does the Indian compare with the Christian in point of good sense? Why does Pope invoke this figure? The poem answers the question, Why is man not *better made*? What does the poem imply by "better"? (The complaint is not about faulty manufacturing.) It answers this question by posing another, forcing a reply and then using the reply to address the general issue. What is the force of this tactic in this particular case and what are issues that it addresses?

14. Here is a simple exposition of the notion of expectation-value: "Multiply the payoff in winning a wager by the relative probability of a successful outcome, do the same with losing, then add the two figures and you will determine the expectation-value of making the wager." If the stake is more than the expectation-value, you should not bet; if less, you should bet; if equal, the bet is a matter of indifference. *Reason has nothing to say*, as Pascal put it. Huygens seems to be employing this principle (without stating it explicitly) in developing his idea of an "equivalent gamble" in book *Games of Chance*. Thus, he argues that if a is the cost of a ticket in lottery A and b is the fair price of a ticket in a different lottery B whose prize is a , then b is also a fair price for a ticket whose prize is a chance in the first lottery. This idea seems to by-pass human psychology; one might be justifiably annoyed at winning lottery B and given a ticket in lottery A, rather than the sum of money a .

Compare the notion of indifference here with Hume's treatment of indifference as a principle of psychology in the two concluding chapters of our reading in Hume's *Treatise* in any way that illuminates the character of either position.

15. An important feature of Hume's thinking is his presumption that the mind has full awareness of its contents—the mind knows what it thinks and senses and feels and is the ultimate authority about such things. (As one of Hume's disciples, the modern philosopher Bertrand Russell put it, with regard to regard to his reports of sense-impressions and feelings, "what I believe about them must be true even if my words are ill chosen and confuse the matter".) Now, much of Sterne's *Sentimental Journey* seems to create comedy by using this idea. In recounting his adventures, Yorick would appear to be often observing his thoughts, his sensations and his feelings in the theater of his mind. (A random example from p 55 of our edition: Yorick tells how he interpreted the sense-data of bodily movement—as we would say, the "body-language—of a woman who passed him in a narrow corridor at the Italian opera.) But it is not clear that Yorick always fully understands what he "sees" (metaphorically) on the displayscreen of his mental life or that he knows how to put the successive moments of the display together. Comment or illustrate in any way that illuminates the nature of either text.

16. The word “sentiments” at the time of Hume and Sterne referred, among other things, to the habitual associations of feelings and judgements expressive of one’s character. Sterne’s book is about the association of feelings and judgements, quite as much as Hume’s is about the association of ideas, and it makes fun of the notion that they link up into displays of character quite as much as Hume tries to discredit the necessity that supposedly makes empirical knowledge hang together. The associations purportedly expressing character in Sterne’s novel may be classified into two kinds, depending upon whether they express the movement of Yorick’s mind within the story or the movement of his mind in the telling of it. An example of the first: Needing a letter expressing his regard for a lady, Yorick uses a letter written by a French soldier filled with sexual innuendo, as if its declaration of sentiments expressed his state of mind. As with many of Yorick’s declarations of sentiment, it is not clear whether Yorick appreciates the incongruity. Examples of the second kind result from the fact that the text is not only an account of the sentiments experienced by Yorick during the journey but also of the sentiments experienced while telling the story and commenting upon his displays of sentiment during the events that provoked them. As a result, the narrative often breaks in upon itself and occasionally seems to confuse itself with the events and inner experiences that it is describing. Comment in any way that seems useful.

17. Wordsworth’s *Tintern Abbey* is a poem about the ethical effects of certain feelings elicited in response to a particular sort of sense-impression—a subject deeply tied to Hume’s notion that our knowledge of the physical world and our sentiments about what befits human beings are the results of mental associations among sense-impressions in the first case and among responsive feelings the second. The poem is remarkably tentative about what has been experienced and the nature of the benefit that follows, as it speaks (presumably, for dramatic purposes while its author is viewing the scene once more) about what has been, what is, and what is to come. Trace the course of its reflections, paying close attention to the character of the language, its syntax, the order of its nouns, the images, similes and metaphors it employs, and the choice of words. At the end, the poet invokes a blessing. The usual way to invoke a blessing is to pray to a power that can bless and begging a blessing for someone, perhaps oneself or one’s endeavors. Is the notion of blessing appropriate to the end of the poem? One usually invokes God in prayer in order to convey a blessing. Whom or what does the poet invoke and what is the significance of invoking a power other than God to confer a blessing?