



GA 12/2000

**ENGLISH 203
FINAL EXAMINATION
Spring 2000-2001
READING COMPREHENSION
Time Allowed: 90 Minutes**

To Err Is Human

by
Lewis Thomas

1. Everyone must have had at least one personal experience with a computer error by this time. Bank balances are suddenly reported to have jumped from \$379 into the millions, appeals for charitable contributions are mailed over and over to people with crazy-sounding names at your address, department stores send the wrong bills, utility companies write that they're turning everything off, that sort of thing. If you manage to get in touch with someone and complain, you then get instantaneously typed, guilty letters from the same computer, saying, "Our computer was in error, and an adjustment is being made in your account."
2. These are supposed to be the sheerest, blindest accidents. Mistakes are not believed to be part of the normal behavior of a good machine. If things go wrong, it must be a personal, human error, the result of fingering, tampering, a button getting stuck, someone hitting the wrong key. The computer, at its normal best, is infallible.
3. I wonder whether this can be true. After all, the whole point of computers is that they represent an extension of the human brain, vastly improved upon but nonetheless human, superhuman maybe. A good computer can think clearly and quickly enough to beat you at chess, and some of them have even been programmed to write obscure verse. They can do anything we can do, and more besides.
4. It is not yet known whether a computer has its own consciousness, and it would be hard to find out about this. When you walk into one of those great halls now built for the huge machines, and stand listening, it is easy to imagine that the faint, distant noises are the sound of thinking, and the turning of the spools gives them the look of wild creatures rolling their eyes in the effort to concentrate, choking with information. But real thinking, and dreaming, are other matters.
5. On the other hand, the evidences of something like an *unconscious*, equivalent to ours, are all around, in every mail. As extensions of the human brain, they have been constructed with the same property of error, spontaneous, uncontrolled, and rich in possibilities.



6. Mistakes are at the very base of human thought, embedded there, feeding the structure like root nodules. If we were not provided with the knack of being wrong, we could never get anything useful done. We think our way along by choosing between right and wrong alternatives, and the wrong choices have to be made as frequently as the right ones. We get along in life this way. We are built to make mistakes, coded for error.
7. We learn, as we say, by "trial and error." Why do we always say that? Why not "trial and rightness" or "trial and triumph"? The old phrase puts it that way because that is, in real life, the way it is done.
8. A good laboratory, like a good bank or a corporation or government, has to run like a computer. Almost everything is done flawlessly, by the book, and all the numbers add up to the predicted sums. The days go by. And then, if it is a lucky day, and a lucky laboratory, somebody makes a mistake: the wrong buffer, something in one of the blanks, a decimal misplaced in reading counts, the warm room off by a degree and a half, a mouse out of his box, or just a misreading of the day's protocol. Whatever, when the results come in, something is obviously screwed up, and then the action can begin.
9. The misreading is not the important error; it opens the way. The next step is the crucial one. If the investigator can bring himself to say, "But even so, look at that!" then the new finding, whatever it is, is ready for snatching. What is needed, for progress to be made, is the move based on the error.
10. Whenever new kinds of thinking are about to be accomplished, or new varieties of music, there has to be an argument beforehand. With two sides debating in the same mind, haranguing, there is an amiable understanding that one is right and the other wrong. Sooner or later the thing is settled, but there can be no action at all if there are not the two sides, and the argument. The hope is in the faculty of wrongness, the tendency toward error. The capacity to leap across mountains of information to land lightly on the wrong side represents the highest of human endowments.
11. It may be that this is a uniquely human gift, perhaps even stipulated in our genetic instructions. Other creatures do not seem to have DNA sequences for making mistakes as a routine part of daily living, certainly not for programmed error as a guide for action.
12. We are at our human finest, dancing with our minds, when there are more choices than two. Sometimes there are ten, even twenty different ways to go, all but one bound to be wrong, and the richness of selection in such situations can lift us onto totally new ground. This process is called exploration and is based on human fallibility. If we had only a single center in our brains, capable of responding only when a correct decision was to be made, instead of the jumble of different, credulous, easily conned clusters of neurons that provide for being flung off into

blind alleys, up trees, down dead ends, out into blue sky along wrong turnings, around bends, we could only stay the way we are today, stuck fast.

13. The lower animals do not have this splendid freedom. They are limited, most of them, to absolute infallibility. Cats, for all their good side, never make mistakes. I have never seen a maladroit, clumsy, or blundering cat. Dogs are sometimes fallible, occasionally able to make charming minor mistakes, but they get this way by trying to mimic their masters. Fish are flawless in everything they do. Individual cells in a tissue are mindless machines, perfect in their performance, as absolutely inhuman as bees.

14. We should have this in mind as we become dependent on more complex computers for the arrangement of our affairs. Give the computers their heads, I say; let them go their way. If we can learn to do this, turning our heads to one side and wincing while the work proceeds, the possibilities for the future of mankind, and computerkind, are limitless. Your average good computer can make calculations in an instant which would take a lifetime of slide rules for any of us. Think of what we could gain from the near infinity of precise, machine-made miscomputation which is now so easily within our grasp. We could begin the solving of some of our hardest problems. How, for instance, should we go about organizing ourselves for social living on a planetary scale, now that we have become, as a plain fact of life, a single community? We can assume, as a working hypothesis, that all the right ways of doing this are unworkable. What we need, then, for moving ahead, is a set of wrong alternatives much longer and more interesting than the short list of mistaken courses that any of us can think up right now. We need, in fact, an infinite list, and when it is printed out we need the computer to turn on itself and select, at random, the next way to go. If it is a big enough mistake, we could find ourselves on a new level, stunned, out in the clear, ready to move again.

**ENGLISH 203
SPRING 2001
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NAME: _____

INSTRUCTOR: _____

Time Allowed: 90 minutes

SECTION: _____

DIRECTIONS: Answer the following questions in the space provided.

1. Identify a counterargument and its refutation in **the first three paragraphs**.
(10 points)

A. Counterargument: _____

B. Refutation: _____

2. In the overall scheme of these fourteen paragraphs, what is the function of **paragraph 6?** (10 points)

3. A. Does the author believe a computer is likely to have a consciousness?
(5 points)

B. Quote a sentence that clarifies the author's position on this matter.(5 points)

4. Why does the author use the term "computerkind" in the concluding paragraph? Explain how this serves the purpose of the author. (10 points)

5. The author traces human "fallibility" to some probable reason. What is this reason? (10 points)

6. "The lower animals do not have this splendid freedom"(paragraph 13). Exactly which kind of freedom is the author referring to? (10 points)

7. The last paragraph ends on an optimistic note. Find two words or phrases that make this paragraph positive. (10 points)

A. _____

B. _____

8. Explain the following expressions in your own words: (10 points)

A. "coded for error" (paragraph 6)

B. "by the book" (paragraph 8)

9. Paraphrase the following sentence: (10 points)

"After all, the whole point of computers is that they represent an extension of the human brain, vastly improved upon but nonetheless human, superhuman maybe."(paragraph 3)

10. In your own words write a thesis statement for the whole text. (10 points)

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ESSAY WRITING

Directions: Choose **one** of the following topics and write a well-organized persuasive essay. Include arguments, counterarguments and refutations in your essay. Choose a topic that you have not worked on in class.

1. "We all make mistakes" is a well-known cliché. The question is to what extent should people be tolerated for making mistakes. Back your views with examples taken from school, university and the workplace.
2. Many blame the Internet for socially isolating people who spend too much time browsing and chatting on the net. Do you believe the Internet has more advantages than disadvantages? Present arguments to back your opinion.
3. Our society is moving from the "We" culture to an "I" culture. People are becoming more and more self-centered and isolated. Do you agree or disagree with these statements?
4. Organ transplants have become prevalent in the last few years. Would you donate one of your organs to medicine? Argue for or against donating an organ to a needy patient before or after your death.
5. Some people believe that traditions and celebrations hold families together. Others find this an enslavement to the past. Argue for or against keeping family customs and traditions.