

INTRODUCTORY NOTE: Lewis Thomas was a physician, for many years the head of the Memorial Sloan-Kettering Cancer Center in New York City. He also wrote essays, often reflections based on research findings in biology. The following passage is adapted from an essay Thomas published in 1979.

TO ERR IS HUMAN

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.

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 put it that way because that is, in real life, the way it is done.

A good laboratory, like a good bank or a corporation or government, has to run like clockwork. 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 filter, something in one of the blanks, a decimal misplaced, the warm room off by a degree and a half, a mouse out of its box, or just misreading of the day’s protocol. Whatever, when the results come in, something is obviously screwed up, and then the action can begin.

The misreading is not important; 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.

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. 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 programmed error as a guide for action.

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.

We human beings, on the other hand, are at our finest when we are 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.

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ESSAY TOPIC

In what way, according to Thomas, do errors form “the very base of human thought”? What do you think of his claim? To develop your essay, be sure to discuss specific examples drawn from your own experience, your observation of others, or any of your reading--including “To Err Is Human” itself.