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Letters to the Editor

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LETTERS TO THE EDITOR

DEAR SIR:

Increases both in the power of the executive branch and in the world responsibilities of the United States have imposed severe stresses on modern presidents. There is good reason to believe that their life expectancy has been significantly curtailed.

Excluding those assassinated, the 21 men who occupied the presidency during the nineteenth century averaged 55.5 years at first inaugural and lived 16.0 years thereafter. By comparison, the 10 men who held the office from 1900 to 1968 averaged 53.7 years at first inaugural, lived on the average an additional 15.4 years, and therefore had a total life span of only 69.1 years.

Thus, despite the advances in medicine and public health, the first group lived 2 years longer. The presumptive medical hazard of the office is indicated by the fact that twentieth-century presidents can expect only 15.4 years of further life whereas the 1970 life expectation for white males age 50 to 55 is an additional 23.4 years.

Possibly, it is not the job that kills but an unknown selective factor abbreviating the life expectancy of people with powerful political ambitions. To test this, never-successful candidates of major parties were compared with presidents. Prior to 1900, the life spans of the two groups were similar. The 10 major-party also-rans of the twentieth century, however, lived 20.0 years on the average after their first presidential nomination—more than 5 years longer than the men who defeated them. The age at nomination of the two groups was almost identical.

The mortality pattern of British prime ministers is dissimilar. The 20 who held office during the nineteenth century had an average life span of 72.6 years; the 10 who served during 1900–1953 averaged 77.4 years of life. Only part of the 8-year difference between twentieth-century presidential (69.1 years) and prime-ministerial (77.4 years) life spans is due to the fact that the latter were 7 years older on the average when first appointed. The comparison suggests that the dispersion of political power in the British system among prime minister, Cabinet, Parliament, and political party, combined with the decline of Britain as a world power, have alleviated the medical disabilities of high office.

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DEAR SIR:

Biomedical vocabulary, specialized for centuries, expands with our knowledge. *Symbiosis* ("living together") connotes an intimate physical and physiological relationship between two organisms. *Prosthesis* ("placing onto") describes attachment of devices to increase comfort, health, or convenience: false teeth, artificial limbs, etc.

Recently, machines that sustain essential life functions have been developed. Kidney machines clean blood of wastes when natural kidneys fail; heart-lung machines oxygenate and circulate blood during heart surgery. Soon a new type of device, artificial hearts, will be available. (They have already been tested with some degree of success in calf, dog, and baboon.)

A seminar here has considered issues of technological assessment and moral evaluation of such devices as an artificial heart. We noted a lack of clear terms to describe relationships involving such technologies. "Man-machine symbiosis" is inadequate, since it implies two living partners. Machines are not properly candidates for symbiosis; they fulfill physiological needs but are not themselves living. They exist solely for service to their organism associates, which in turn depend on them for life—not simply comfort or convenience.

I submit to you and your readers two neologisms, hopefully useful for discussion of these organism-mechanism relationships—relationships promising increasing importance in future centuries of biotechniques.

First, *epallobiosis* (ep'al'lō-bī-ō'sis) refers to the dependency of an organism on an external life-support system, for example, the already well-known heart-lung and kidney machines.

Second, *enthētobiosis* (en'thet-ō-bī-ō'sis) captures the relationship of life dependent on an implant. (A thesis is something posited or placed; *prosthesis* = placing onto; *enthesi* = placing into.) The prefix *ep-*, emphasizing dependency, would here overburden pronunciation; context will suffice to imply a relationship that is not casual but critical.

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DEAR SIR:

Re: Dr. Fishbein's review of my book *Vitamin E and Aging* [16, 481].

Even Dr. Fishbein can be wrong—on at least one count when he says ". . . the book is almost certain to be used by promoters and distributors of vitamin E." The fact is just the opposite: the publisher complains that the health food stores refuse to carry it because it does not support the party line of faddists.

But he is wrong on more than one count. He uses the old fillip that vitamin E is recommended for a variety of conditions, particularly impotence. These claims are rarely made today by even half-responsible people. The book does not advocate, it attempts to assess. On page 108 it says plainly that "while this book is

about vitamin E it does not advocate vitamin E." In fact, it does not advocate anything—it merely assesses the evidence.

Fishbein further complains that the book is "trying to suggest here and there *something like* the antioxidant capabilities of vitamin E" (emphasis supplied). Tappel has just received an award from the American Institute of Nutrition for his work on "something like" peroxidation—and the antioxidant capabilities of vitamin E.

Fishbein could not have read the book before reviewing it. How else could he make the invidious statements, when, throughout the book, there are statements such as: "What we know about nutrition is comparatively little—about vitamin E we know less" (p. 109). Further, on page 71 the book states: "Deficiency of vitamin E in the U.S. has not been reported." There are other such examples.

Fishbein charges that consideration of vitamin E is based on the "will to believe." Indeed, that can be as bad as the will *not* to believe. Belief is a non-sequitur. Fishbein's particular barb is pointed in the direction of its use to prevent the noxious effects of air pollution. The answer lies simply in the work of Daniel Menzel of Duke as well as Tappel, who clearly relate it to the peroxidation damage to lungs and whose papers are easily available. And I can also suggest that fine work, Wohl and Goodhart's "Modern Nutrition in Health and Disease" (1964), which also states plainly on page 1152: "As these investigations reveal the details of α -tocopherol function in human metabolism, a more secure place in human nutrition and perhaps in the biochemistry of aging itself may be assured to vitamin E."

Fishbein himself quotes a phrase from the book: "We know too little about aging." In that case, shouldn't we look into it—whether it is vitamin E or anything else? Let us not repeat another vitamin tragedy: Sailors died on British ships of scurvy for 40 years after Lind's discovery of vitamin C before lime-juice rations were distributed.

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