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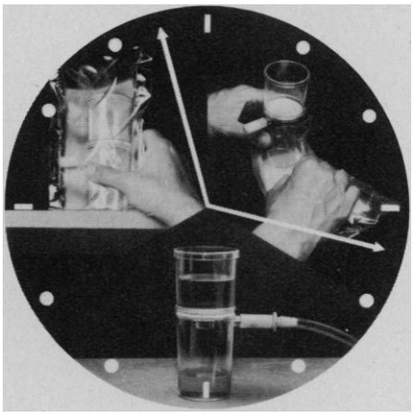

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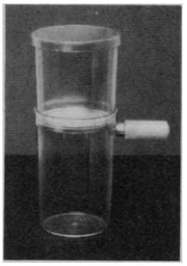

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dental ingestion of cosmetics reported in 1968 (*6*) resulted in hospitalization.

More meaningful estimates should emerge from the National Electronic Injury Surveillance System (NEISS), which has recently published its first year's summary of injuries associated with selected consumer products (*7*). Although NEISS has not yet published any extrapolation of its data, the notes on the data state: "Statistically valid projections of all data may be made . . ." (*8*). My own review of their data suggests the following estimates of the number of injuries related to (but not necessarily caused by) cosmetics in fiscal year 1973:

Injuries related to accidental misuse	2100
Injuries related to container	2400
Injuries related to product	9700

This is a remarkable record of safety for an industry that distributes an estimated 6 billion units of thousands of different products each year. In addition, the NEISS figures on accidental ingestion suggest a national total of 15,700 injuries from cosmetics, rather than the estimate of 60,000 injuries from HEW.

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References and Notes

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2. *Cosmetic Safety Act of 1973* (U.S. Senate Bill S.863, 1973).
3. National Commission on Product Safety, *Final Report* (Government Printing Office, Washington, D.C., 1970).
4. National Commission on Product Safety, *Supplemental Studies*, Vol. 1, *Product and Injury Identification* (Government Printing Office, Washington, D.C., 1970).
5. J. H. Morrison, Jr., personal communication. Morrison was, at the time of the study, Chief of Descriptive Epidemiology, Injury Control Program, National Center for Urban and Industrial Health, Department of Health, Education, and Welfare, Washington, D.C.
6. *Bull. Natl. Clgh. Poison Control Cent.*, entire issue (Sept.–Oct. 1969).
7. *NEISS (Natl. Electron. Inj. Surveil. Syst.) News* **1**, No. 6 (Aug. 1973).
8. *Ibid.*, No. 5 (July 1973).

Exercise and Heart Disease

As a compulsive runner (averaging 5 or 6 miles a day, every day), I want very much to believe that "when the level of vigorous exercise is raised high enough, the [cardiovascular] protection appears to be absolute" (T. J. Bassler, Letters, 12 Oct., p. 113).

Unfortunately, in spite of "the American Medical Joggers Association [having] been unable to document a single death resulting from coronary heart disease among marathon finishers of any age," I can cite at least one. Paavo Nurmi, the "Flying Finn," who won the marathon in the 1928 Olympics and, in the process, set 28 world distance marks, died recently from heart disease (*1*).

Granted, such causality of death is *almost* unheard of. But almost nothing is so absolute as is being contended by Bassler.

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1. *Time* **102**, 110 (15 Oct. 1973).

I agree with T. J. Bassler that the key to prevention of coronary artery disease is exercise, not cessation of coffee drinking. However, Bassler's statement concerning the association between levels of vigorous exercise (marathon running) and apparent absolute protection against heart disease needs to be qualified on at least two points.

1) Marathon runners possess a tremendous aerobic and cardiovascular capacity, with large stroke volumes evident at rest and during exercise (*1*). This capacity is surely the result of vigorous exercise, but additional characteristics of a marathoner's life-style lack any correlation with factors considered to be etiologic in the development of coronary heart disease. In general, marathon runners are nonobese, with 9 percent less fat than normally active people of comparable age (*2*). They do not smoke, do not suffer from hypertension, and do not consume large quantities of alcohol, coffee, or cholesterol-rich foods.

2) The absoluteness of protection marathon running affords against coronary heart disease is related to an individual's ability to maintain some degree of physical activity during the years after finishing the marathon running. Physical fitness is analogous to a tire with a slow leak; as long as one continues to replace the air periodically, one can maintain a certain reserve capacity and avoid flatness (infarction). If done properly and with some degree of regularity, vigorous exercise can have the same high measure of prophylaxis for heart disease that the "pill" has for pregnancy.

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1. D. L. Costill, *J. Am. Med. Assoc.* **221**, 1024 (1972).
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As a jogger, I was interested in Bassler's statement that exercise, if sufficiently vigorous, provides "absolute" protection against coronary heart disease. To support this contention, he reports that "the American Medical Joggers Association [AMJA] has been unable to document a single death resulting from coronary heart disease among marathon finishers." But the conclusions to be drawn from this finding are seriously limited by a host of selective factors, both medical and psychological, which might induce a person to participate in marathons.

Since Bassler's statement does not brook exception, one cannot resist bringing up the case of the *first* marathon finisher, sometimes identified as Pheidippides, an Athenian courier. Tradition has it that after the Athenian victory over the Persians on the Plain of Marathon, he ran the more than 22 miles to Athens, cried out in the marketplace, "Rejoice, we conquer," and fell dead. A complicating factor in Pheidippides' demise is that the week before his marathon run, he was called upon to run from Athens to Sparta (in an unsuccessful search for aid in the forthcoming battle), a distance of 150 miles, which he reportedly completed in 36 hours. Since, in this case, documentation of the exact cause of death is unavailable, I, for one, am willing to give Bassler and the AMJA the benefit of the doubt.

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Transplantation of Cultured Tissue

The report "Tissue cultures: Transplantation without immune suppression" by Thomas H. Maugh II (Research News, 7 Sept., p. 929) does not refer to published reports regarding the failure of animals to reject transplants of cultured cells. In 1966, while in the laboratory of the late I. L. Chaikoff at the University of California, Berkeley, I demonstrated (*1*) that cells dispersed from the thyroid glands of adult rats by treatment with proteolytic enzymes and cultured as monolayers for 3 days are readily accepted when implanted subcutaneously into the backs of thyroidectomized, outbred rats. The implanted cells undergo a complete reorganization, aggregating into follicles identical in structure with those seen in the normal rat thyroid gland, complete with colloid formation. The implants appeared to be in excellent condition as many as 151 days after implantation (the longest interval studied), which indicates that the implanted cells did not elicit an immune response in the recipient animals. However, fresh thyroid tissue implanted into rats thyroidectomized by the same procedure was rejected.

The glands formed from the cultured cells were completely functional, as indicated by their capacity to utilize injected radioiodine in a manner essentially similar to that of the thyroid tissue of normal control rats, even maintaining the same concentration of isotopically labeled thyroxine in the circulation. Normal follicular structure was restored after complete dispersal of adult thyroid tissue by proteolytic enzymes, and normal thyroid function was reinstituted in the recipients.