tem can only lead, in time, to its eventual demise and to the loss of its favorable effects. Thus, through inaction, the system can be destroyed by proponents of unproved economic or social theories. Let us make sure that reason and reward prevail, instead of revolutionary revision and punitive measures.

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References

1. *Science* **134**, 1349 (1961).
2. *Seymour* v. *Osborne* (1870).
3. *U.S.* v. *Dubiler Condenser Corp.* (1933).
4. *Pennock and Sellers* v. *Dialogue* (1829).
5. G. Doorman, *J. Patent Office Soc.* **30**, 225, 258, 347 (1948).

Diet and Fallout Hazards

Over and above the long-term hazard from long-lived isotopes, such as strontium-90 (half-life 28 years) and cesium-137 (half-life 33 years), there is the more immediate hazard from a number of short-lived isotopes, such as, for example, iodine-131 (half-life 8 days). It is the purpose of this letter to suggest a relatively simple modification in the dietary pattern that will appreciably reduce the hazards from the short-lived isotopes.

A large part of the radiation from fallout isotopes consists of β-radiation. Because of its short range, β-radiation becomes of significance primarily when ingested in food. Because the β-radiation is thus incorporated in human tissue, its short half-life becomes a hazard rather than a help, since the radiation is concentrated in the immediately surrounding tissue. Further complication is provided by the body's inclination to concentrate certain elements in specific tissues. Many of these tissue-radioisotope links are known (the concentration of iodine by the thyroid is a good example). Others, however, may yet be discovered. The hazard arises from the abnormal concentration of an isolated isotope in a small tissue mass.

A considerable reduction in the radiation hazard from short-lived isotopes can be achieved by simply taking advantage of the short-lived nature of the radiation. As an example, iodine-131 has a half-life of 8 days. This means that in 56 days the radiation is only $(\frac{1}{2})^7$, or 1/128, its original value.

The solution, therefore, involves a simple modification of the established nutritional pattern of eating foods that are as fresh as possible to a pattern of

eating foods that have been stored as long as practicable. For many foods available in frozen or canned form, this presents no real problem. For others, such as fresh milk and rapidly growing and perishable fresh vegetables, the solution is to minimize or eliminate these from the diet until the present rash of atmospheric nuclear tests has ceased. Fortunately, the great majority of fallout isotopes are short-lived. Only a few, such as strontium-90, cesium-137, and carbon-14, are long-lived. These latter present a problem not so readily solved.

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Welfare Agencies

I am writing in connection with the brief notice [*Science* **134**, 1058 (1961)] regarding the Rockefeller Foundation Report entitled "Voluntary Health and Welfare Agencies in the United States," in which you say the report states that voluntary health and welfare agencies "often compete wastefully among themselves." You further say, "The agencies, the report states, do much good but often *fail to tell the truth about their programs and financing*" (italics mine).

I know it is difficult to excerpt from an 88-page report and condense it accurately, but I think that your negative statement fails to touch the true emphasis of the report. The significance of this report, in my estimation, is that it shows the tremendous participation of the American public in voluntary health and welfare activities, and shows an increasing financial support from the public. The report calls for measures which would essentially introduce more standardization, better methods of evaluation, and greater application of management principles to agencies that have grown through the philanthropic impulses and personal concern of the American people. In my 22 years in this field I have found that most agencies have done everything possible "to tell the truth about their programs and financing" but that they have a practical limitation in that they attempt to put as much of the contributor's dollar as possible into carrying out the programs rather than telling about them. I would certainly commend the report to all of my fellow readers of *Science*, and I believe it will have a profound effect upon this field for many years to come.

I am proud to say that the Los