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Of the Week

Research Notes

Articles

Departments

COVER: After five years of planning, the vast army of the GATE tropical study in 14 weeks gathered record amounts of data by air and sea, from satellite, balloon and buoy, all coordinated from a specially built control center in Senegal—and gave a new look to "big science" in the process. See p. 332. (Photos: NOAA)

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To the Editor

Earth self-regulators?

SCIENCE NEWS has recently reported on study groups concerned about the possible deleterious effect of aerosol propellants on our stratospheric ozone radiation filter (SN: 10/5/74, p. 212); and before that a similar report on the possible effect of SST flights on the same O_3 blanket. These conjectures are certainly helpful in stimulating on-the-site research to ascertain the validity of the theories. In the meantime, it is hoped that general concern does not border on hysteria, as has been the case with other similar theories. A case in point: The concern that our protective blanket for heat would be adversely affected by the fact that we are enormously contaminating the atmosphere with carbon monoxide.

As I recall this flap, after much discussion, it was determined from fossil studies that the CO level had remained unchanged for countless eons, strongly suggesting the existence of an effective regulating mechanism. It was then pointed out that our oceans contribute many times as much CO to the pool as man ever has, and the search was on for CO reducing mechanisms. Models were proposed for atmospheric oxidation to CO_2, and investigators in a California school reported soil bacteria that used CO in their life process. Not much has been heard of late about rampant CO. Similarly the mercury-in-fish scare is losing momentum as knowledge accumulates.

Let me hasten to admit that my detailed knowledge in this area is quite limited, hence the questions. But I suggest that for a complicated life support system to have survived, as has this earth, for so long apparently little changing, there must be a large number of not-so-delicate self-regulating systems at work. Thus it occurs to me: Isn't it possible that when, for any reason, the O_3 filter is weakened, allowing increased penetration of radiation, this fact brings about the production of O_3 at a higher rate? Weaken the filter. O_3 production increases. accumulating O_3 strengthens the filter. And the whole mechanism comes to a negative feedback stability? Is this a realistic adjunct to the model?

Granted, this, as is the case of most items in the physical chemistry of earth, is a most intricate process, and on the chance, however long, that we may be creating a damaging situation, all these things must be ferreted-out. I only hope that some poorly informed, and essentially selfishly motivated group of do-gooders, may not seize upon these conjectures to bring about economic dislocations before the facts are known fully.

George V. Morris
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Breast surgery and survival

Thank you very much for sending me a copy of SCIENCE NEWS containing the reference to the breast surgery controversy (SN: 10/12/74, p. 232).

I would like to comment briefly on the statement attributed to National Cancer Institute Director Frank J. Rauscher that the results of this study indicate that simple breast surgery would work just as well as radical surgery in over half of all women with breast cancer. Such a statement based on what cannot have been much more than a two-year follow-up for most of the cases observed is totally unrealistic and its wide publication does a great disservice to the women who are victims of this disease.

H. J. G. Bloom in the BRITISH MEDICAL JOURNAL, May 20, 1972, says, "The mean survival of untreated patients with breast cancer is three years, and that at five years 18.4 percent of untreated patients are still alive. Short term reports of suggested forms of treatment are thus obviously of little value and more and more reliance must be placed on survival rates over ten or still better, fifteen years."

Vera Peters of Toronto has reported that figures for local excision and irradiation and radical mastectomy and irradiation with five year survival rates are 75 percent and 80 percent in that order, but at 15 years, the survival rate for local excision cases was only 26 percent versus 54 percent for the patients with radical mastectomy and irradiation.

Finney reporting on his experience in Baltimore states that the "cumulative probability of death from cancer after simple versus radical mastectomy, which is identical for both groups at five years, was 46 percent for radical mastectomy versus 69 percent for the simple mastectomy."

Paul B. Carbone, chairman of the Treatment Committee of the National Cancer Institute Breast Cancer Task Force, was reported in GOOD HOUSEKEEPING as believing that current evidence indicates that women who demand surgical treatment less drastic than radical or modified radical mastectomy accept the risk that they may have as little as a 30 percent chance of surviving five years following surgery.

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