

Why women are pill-poppers

Do women really use more nonprescription drugs than men do? The answer is yes, according to a Georgetown University survey reported at the recent annual meeting of the American Pharmaceutical Association. It seems that women give more drugs to their daughters than to their sons; their daughters grow up and push pills on their little girls. A pattern is established.

Patricia Bush and David L. Rabin of the Georgetown University Department of Community Medicine and International Health surveyed people in a major metropolitan area to see who takes over-the-counter drugs. They found that more than one third of the people surveyed had taken nonprescription medicines within the past two days. These users represented a cross-section of economic classes, health/illness states, age and sex. However, more women than men had taken drugs, and the greater use couldn't be explained by the frequency of illness. In addition, nearly one fifth of children under two years of age had been given drugs, and at a rate of more than three females to two males. So, it looks as if women are conditioned early by their mothers to be pill-poppers.

Dieting and weight loss

Many people claim that if they so much as look at a cream cake, they'll put on a couple of pounds. Although this claim is probably unfounded, it may be true that one chocolate bar can put weight on some people, according to research reported in the April 5 LANCET.

D. S. Miller of Queen Elizabeth College, London, and Sally Parsonage of the Slimming Advisory Services, London, studied 29 women who claimed that they could not lose weight on diets. The women were isolated in a country house and were fed 1,500 calories daily for three weeks. Twenty of the women lost weight in varying amounts; nine did not. These nine were found to use up energy slowly. Thus, people who gain weight on even one chocolate bar probably have low energy needs.

The study also confirmed what some other investigators have found—that if a person diets a lot or frequently, he may eventually lose less weight because his body adapts to fewer calories. Similarly, some fat people have become so accustomed to an excess calorie intake that their body's calorie needs increase by as much as 35 percent.

RNA polymerase and cell growth

In the bacterium *E. coli*, one kind of enzyme—RNA polymerase—carries out all the synthesis of RNA from DNA. One might thus assume that the enzyme is critical in determining the rate of cell growth, since the cellular factors that regulate the growth rate of cells have not been established (SN: 4/26/75, p. 269). But if this is indeed the case, then how does the enzyme do it? Although there are no sure answers to this question, two Yale University biochemists have eliminated enzyme concentration as the critical factor.

Max P. Oeschger and Mary K. B. Berlyn investigated the mechanisms that regulate the synthesis and concentration of the enzyme. They isolated a mutant strain of *E. coli* that cannot synthesize new RNA polymerase molecules when the temperature goes above 42 degrees C. However, at these higher temperatures the RNA polymerases that have already been made remain stable and active in the bacterium, and cell growth is not affected. Thus the concentration of RNA polymerases does not appear to be the rate-limiting factor in the growth of this one-cell organism.

Oeschger and Berlyn report these findings in the March *Proceedings of the National Academy of Sciences*.

New TV science course for credit

Beginning May 19, the CBS television network will offer an early morning science course produced by Bergen Community College, Paramus, N.J., called "Science and Society: A Humanistic View." The course may be taken for credit through any member institution of a growing consortium of colleges cooperating in the project.

The aim of the program, in the words of the producers, is to "provide a forum for experts with varying viewpoints" on science. These experts include Nobel laureates Gerald Edelman and I. I. Rabi, Pulitzer Prize-winner Rene Dubos, author Isaac Asimov, science historian Loren R. Graham, biologist Lewis Thomas, NSF director H. Guyford Stever and New York Times science writer Walter Sullivan. Albert Rosenfeld, science editor of SATURDAY REVIEW, will host several of the programs.

The 54-part series, which will appear each Monday, Wednesday and Friday morning at 6:30 a.m. (EDT), is divided into six main parts: An overview of science in society, man's search for identity, the influence of technology on quality of life, the environment, the impact of science and technology on society, and a view of the future.

The series does not shy away from controversy. Individual programs include a discussion of Marxism as a response to modern science, a Catholic priest talking about the impact of science on religion, and Isaac Asimov's views on "scientific future shock."

Programming coordinator Philip C. Dolce says the series represents, to the best of his knowledge, "the first active consortium of two-year and four-year colleges cooperating in media-based education."

Some debunking

Most scientists do not believe plants respond to human emotions, as hypothesized in a spate of recent popular books (SN: 5/18/74, p. 326), or that all living things have a unique "bioenergy" that can be visualized through Kirlian photography (SN: 9/29/73, p. 202); but most consider it a waste of time to spend years debunking such theories directly. Occasionally, however, the meandering course of main-line research does sweep close enough to the realm of pseudoscience to produce interesting new insights.

At the recent American Physical Society meeting in Denver, Eldon Case and Willard Fadner of the University of Northern Colorado presented a paper describing their analysis of the radiation produced during the Kirlian photography process. The team used only inanimate objects.

By first calculating the radiation that would be released from a spark discharge around the objects, the physicists were able to show that the measured radiation is just about what would be expected, without reference to any phenomena outside well-understood natural forces. The major mechanism of Kirlian photography, Case and Fadner conclude, is common electrical discharge and resulting corona just above the film.

Recent work with plant pigments, summarized at a recent lecture at the Carnegie Institution of Washington by staff scientist Winslow R. Briggs, has revealed several subtle reactions to specific frequencies of light and trace amounts of various chemicals in the air that could easily be overlooked in an insufficiently controlled experiment. By measuring electrical potentials along the emerging stem of a newly sprouted plant, Briggs and his associates have detected sensitivity to several subtle environmental changes (such as smoke), without recourse to extra-natural phenomena. Quipped Carnegie President Philip H. Abelson after the talk: "The 'secret life' of plants is not quite so secret anymore."