

Tempest in a cornflakes bowl

When antihunger crusader Robert B. Choate took on Tony the Tiger a few weeks ago, he trod on a \$700-million-dollar American corn. The cereal industry each year sells 1.6 billion packages of the breakfast food of champions, tigers and other cartoon characters who promise brawn and bounce on the Saturday morning TV screen.

But Tony the Tiger has been getting along on "empty calories," Choate told the nation via newspaper headlines and TV cameras focused on an otherwise obscure hearing called by Sen. Frank E. Moss (D-Utah). Moss is chairman of a commerce subcommittee seeking relief for the embattled consumer. Choate charged that 40 of 60 cereals "fatten but fail to prevent malnutrition."

Both Moss and Choate, a wealthy one-man lobby for food for the poor who helped organize President Nixon's conference on this subject (SN: 1/10, p. 37), are disturbed by one of those unforeseen small booby traps of social reform. Food stamps are at last available to most poor families. But their first step in the supermarket is toward the glistening packages of the status breakfast foods—cornflakes, Rice Krispies, Wheaties. Because their kids want to be like everybody else, poor Mexican-American families are giving up tortillas and poor black families no longer eat hominy grits.

Choate supported his statement with a bar chart showing how much of each of nine nutrients (protein, iron, calcium and six vitamins) is in each of 60 cereals. Cereals were ranked by the total amount of all nine food elements. While the method had the flaw of giving a vitamin the same weight as protein (if ranked by protein content alone, the order would be different), the ranking nevertheless turned up the matter that Choate finds most shocking: Tony the Tiger's breakfast and other cereals advertised on children's TV are all in the low-nutrient half of the chart. The high-nutrient cereals are chiefly advertised to adults.

The Cereal Institute, which refuses to reveal its annual budget, and W. K. Kellogg Co., inventor of dry, packaged cereal, brought two eminent nutritionists to Washington to refute Choate. Harvard's Dr. Frederick J. Stare testified that breakfast cereals are good foods, "especially with milk." Columbia's Dr. William H. Sebrell said that Choate's method of evaluation led to what he called dangerous conclusions.

Moss declared himself unimpressed by the academic experts' testimony and brought on a nutritionist who has never been a paid consultant to the cereal industry. Said Cornell's Dr. Michael

Latham, whose chief interest is feeding the virtually starving populations of underdeveloped countries:

"Old-fashioned cooked rice, hominy, and homemade tortillas are richer in protein and other nutrients than any packaged cereal, at half the price."

The uncertainty that besets the consumer as he strolls through alluring supermarkets shelves was increased by news from the Food and Drug Administration, which is mulling over a possible new ruling. If it makes up its mind, FDA may ask some manufacturers to reduce too-high amounts of vitamins and minerals they have added to cereals. Others may be asked to increase too-low amounts. But the question of how much should be added is still unanswered.

FDA's traditional stance—additives should be limited to those nutrients removed in processing food—is running into new thinking. The White House conference urged food fortification.

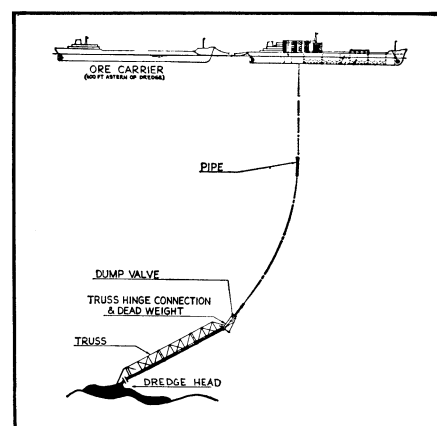
While some customers returned Choate's low-rated cereals to their supermarkets, beleaguered producers of pop, crackle and whizz got one cheer-up. There is something in cereals that may just possibly protect lungs against air pollution, said Jeffrey Roehm of the Battelle Memorial Institute this week at the 3rd International Congress of Food Science meeting in Washington, D.C. The "something" is antioxidants, added to keep cereals fresh. The fresheners (butylated hydroxyanisole, butylated hydroxytoluene and vitamin E) inhibit free radicals, unstable compounds that help make biochemistry go by the combining of free electrons they carry. Some think an excess of free radicals occurs with aging. Roehm thinks air pollution may produce an excess of free radicals in the lungs, aging them. Thus antioxidants (if they reach lung cells in sufficient amounts) could help reverse pollution effects.

Moss says he got what he wanted out of his hearings. The Federal Trade Commission, looking into concentrated ownership in the cereal industry (three companies produce 85 percent of output), says it will review advertising.

All the huffing and puffing, at a volume near that of the big guns at Battle Creek that puff up Johnny's breakfast flakes, added up to one fact. Nutrition for the rich is different from nutrition for the poor. Food stamps ought not to be spent for a crisp crackle. But for the rich and overfed, cereal-with-milk may be better than the cholesterol in a breakfast egg.

Only nonliberated mothers know the heart of the matter. Ready-to-eats are a self-operating breakfast. While the kids happily munch cornflakes, probing for toys and eyeing the Big Screen, everybody else can sleep late on Saturday mornings. □

Vacuuming the Atlantic floor



Tenneco

Deep-ocean vacuuming for profit.

While man has clawed for centuries into the earth's surface to extract metal ores, nature has been steadily converting run-off wastes into high metal concentrates and storing them in her seas.

Some deposits are found on the ocean floor in the form of solid lumps or nodules. They soon may serve to replenish dwindling supplies of manganese, copper, cobalt and nickel as surface mines are depleted.

Manganese nodules have been found in nearly every ocean area (SN: 1/18/69, p. 62), but large concentrations frequently lie at great depths.

How they are formed is still uncertain. The most prevalent notion is that they are electrochemically deposited around some nonmetallic nucleus, such as a grain of sand, a rock or a fish tooth. They generally measure 3 to 5 inches in diameter but specimens of irregular shape have been found measuring a foot or more across.

The metallic content of the nodules can vary considerably. Among the best found are those in the Pacific Ocean, about 1,000 miles west-southwest of the California coast, which show a yield of 25 to 35 percent in manganese. In comparison, raw ore mines on land produce 46 to 50 percent manganese. But the nodules also contain other valuable metals: cobalt to 1.5 percent, copper to 1.6 percent and nickel to 1.8 percent.

The ocean's supply of nodules appears limitless. The problem, of course, is that so far the cost of retrieving them has not been competitive with surface mining techniques. But the time may be nearing—some estimate by the mid-1970's—when the undersea reserve will become a necessity.

To harvest this wealth of material economically, a new method for lifting large quantities of the nodules to a surface ship was required. One may now be near at hand.