



**VITA-MIN-GO**—After the Nutrition Luncheon, the Science Talent Search winners played a game based on the vitamin content of the food eaten. The game was directed by Miss Marjorie M. Heseltine, director of nutrition of the U. S. Children's Bureau. Left to right, William Weidman Piper, of Columbus, Ohio, Dr. Stuart Henderson Britt, one of the judges, G. Edward Pendray, of Westinghouse and the Institute staff, and Miss Heseltine.

## CHEMISTRY

## Thorium in the Sun

Radioactive element, rare on earth is discovered on sun by means of spectrum lines. It was found to occur only in the ionized state.

► **DISCOVERY** of the rare radioactive element thorium in the sun is announced by Dr. Charlotte E. Moore of the Princeton University Observatory and Dr. Arthur S. King of the spectroscopic laboratory at Mt. Wilson. The element was found to occur in the ionized state only.

Although search for thorium started in 1938, the investigation was hindered by lack of suitable experimental work on the spectrum of the element in the laboratory under different conditions of temperature and magnetic field strength. When such experimental work recently became available the search was begun anew and this time was successful.

Basis for the discovery was chiefly detection of lines in the solar spectrum that matched the lines of thorium most easily produced in the laboratory and which are generally the strongest lines of an element. These are known as its ulti-

mate lines and if they are absent it is hopeless to look for any others.

One line of thorium which stood out in strength above all others and was therefore believed to be its ultimate line coincided almost exactly with a faint unidentified line in the solar spectrum. Other strong lines of the ionized element could only be tentatively identified with solar lines. But as the very strongest line of thorium is represented so weakly in the sun the absence of the other lines is not considered surprising.

Two of the strongest lines of neutral thorium coincided with solar lines but the agreement was believed to be accidental from another line of evidence. Since sunspots are about 1,500 degrees Centigrade cooler than the surface of the sun surrounding them, they should contain less ionized thorium and consequently more of the neutral atoms. Hence, if the lines really belonged to

thorium, they should be strengthened in the spectrum of sunspots. But since the lines were not strengthened in the sunspot spectrum the investigators were forced to reject the coincidences as accidental.

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## NUTRITION

## Breakfast To Prevent Mid-Morning Fatigue

► **THE REASON** so many people get tired at 11 a.m. and 4 p.m. and feel weak and trembly is that the American people have gotten out of the habit of eating a good breakfast and a good lunch, Dr. Russell M. Wilder, of the Mayo Clinic, told the Congress on Industrial Health sponsored by the American Medical Association in Chicago.

Fruit, jam on toast and coffee is a bad breakfast, Dr. Wilder declared. Such a breakfast throws sugar into an empty stomach, the sugar gets into the blood quickly, and gets used up quickly. Then comes a drop of sugar in the blood, with a tired, weak feeling that people are likely to try to overcome with more sugar in the form of soft drinks or candy.

When you skimp on one meal, you must make up for the deficiencies of vitamins and other nourishment at the next meal, or your body does not get enough nourishment. People who skimp on breakfast, however, usually also skimp on lunch, Dr. Wilder pointed out. That leaves only dinner to supply almost all of the day's nourishment.

Breakfast, he said, should start with a source of vitamin C and some sugar in the form of fruit. Next, it should furnish the B vitamins. This can be done by a satisfactory portion of whole grain cereal or whole grain or enriched bread. If the bread is toasted, it should be only lightly toasted as much heat will destroy the vitamins.

Breakfast should have some fat in it, because fat delays the emptying of the stomach and prevents the sugar from getting to the blood so fast. Therefore include butter or oleomargarine enriched with vitamin A. It should also have some proteins, which can come from an egg or meat. The egg also supplies some fat. Finally, it should have a source of calcium, which is furnished by milk. Coffee adds nothing to the body's nourishment, so Dr. Wilder suggests that those who like coffee had better take it with hot milk to make sure of getting their milk.

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