amendment to make withdrawal of funds mandatory from students who commit such offenses.

Opponents of the amendment saw in it a danger to academic freedom and university autonomy, and cited a protest by Dr. Grayson Kirk, president of Columbia University. To which Representative Otis G. Pike (D-N.Y.) replied: "I hardly recognize Grayson Kirk as the national expert on how to properly regulate student behavior."

The House accepted the amendment, 259-147, on a roll-call vote.

A House-Senate conference on the differences will be held in the fall.

Another provision of the bill forbids loans or grants for three years to any student convicted in court of crimes connected with student unrest and obstruction.

## **DISCOVERED FISSION**

## Otto Hahn, 1879-1968

Otto Hahn, codiscoverer of nuclear fission, died on July 28 in Göttingen, Germany, at the age of 89.

In 1938 Dr. Hahn and Dr. Fritz Strassmann, working in the Berlin suburb of Dahlem, succeeded in identifying the radioactive products of an experiment in which uranium nuclei were bombarded by neutrons. The products were isotopes of elements that had about half the atomic weight of uranium, implying that the uranium had split about in two. Being chemists, Drs. Hahn and Strassmann were reluctant to say so flatly because the physics of the time refused to allow the possibility.

It was a former associate of Dr. Hahn, Dr. Lise Meitner, then a refugee in Sweden, and her nephew, Dr. Otto Frisch, who drew the conclusion and first calculated the energy that should come out of uranium fission. Dr. Meitner told the news to Niels Bohr, who brought it to the United States. Physicists in the United States began to experiment immediately, but it was not until 1942 that the Government became heavily interested and set up the Manhattan Project.

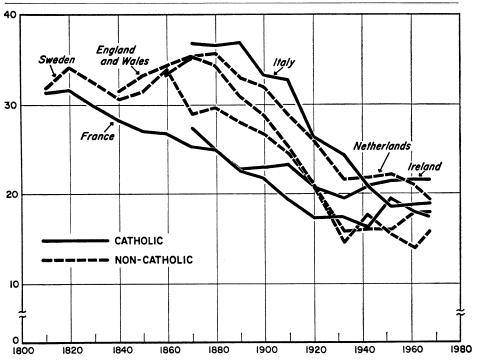
Some observers credit Dr. Hahn with successfully obstructing German efforts to build a nuclear bomb. In recent years he was noted for his opposition to war and to nuclear war in particular.

From 1948 to 1960 Dr. Hahn served as president of the Max Planck Society, which manages a chain of research institutes all over West Germany.

Dr. Hahn received the 1944 Nobel Prize in Chemistry—which was actually awarded in 1945 and collected by him in 1946. In 1966 he shared the U.S. Atomic Energy Commission's Enrico Fermi Award with Drs. Meitner and Strassmann.

RHYTHM METHOD

## Birth, the Pope and probability



Population Reference Bureau

European birth rates halved in Catholic and non-Catholic countries alike.

Soon to be published is a most discouraging report on the rhythm method of contraception, the only one historically permitted by the Roman Catholic Church. Even that method—abstention during fertile periods—was frowned on by Pope Paul VI in his message outlawing any mechanical or chemical means of birth control.

Dr. Franklin T. Brayer, director of the Center for Population Research of Georgetown University in Washington, D.C., which has just completed a study of United States housewives, says some couples can make the rhythm method succeed, but it is not a reliable method of birth control.

Dr. Thomas K. Burch, director of the demographic division of the center, was one of the many disappointed members of the Pope's birth control study commission. The advisers were overruled by Pope Paul.

The statistics would discourage any couple hoping to space their children by rhythm. If they want to have children two years apart, they are limited by laws of probability to having sex relations twice a month. If they want to space them four years apart they are confined to sexual intercourse once a month. The method can fail in 40 of 100 women.

Three reasons for failure, one authority suggests, are:

• The possibility of inheritable factors for irregularity in the menstrual cycle;

- Inheritable differences in the sex drive;
- The fact that some women may ovulate out of cycle, after sex relations.

The Population Reference Bureau, however, declares that a misconception persists about soaring birth rates in Roman Catholic countries. The bureau says birth rates are not soaring anywhere in the world and that Catholic nations have achieved some of the lowest rates on record.

Any implication that these nations have been concentrating on the rhythm method should not be accepted, however, since Hungary is nominally Roman Catholic but has legal abortions and the lowest birth rate in the world—13.6 babies per 1,000 population.

The decline in France, another nominally Catholic country, was caused by "the prevention of births within marriage by contraceptive means," according to Alfred Sauvy, former director of the French National Institute for Demographic studies.

In Catholic Latin America, with its high birth rate, the church's "control over sexual behavior within families is usually overrated." The 11 nominally Catholic countries in Europe have an annual birth rate of 18.1 per 1,000, compared with 18.0 for 15 non-Catholic nations.

In the United States the reaction to the Pope's encyclical was such that no immediate increase in Roman Catholic births may be expected.

134/science news /vol. 94/10 august 1968