

cone practically fills the gap between the two old peaks on the island. Its growth from a probable level of 200 to 1,050 feet has happened in about six weeks. The crater is 500 feet deep.

Yellowish ash mantles the entire island and each explosion flings huge quantities into the muddied sea water.

"We saw man-o'-war birds and red-tailed tropic birds circling the island, more than somewhat disturbed," said Dr. Dietz. The eruption with its sulfuric ash has evidently destroyed an important nesting place for thousands of these birds.

No Lava Evidence

There was no evidence of lava flows, present or past, the scientists said, and no large rocks seem to have been thrown up lately, though they may have been during the early, earth-breaking stages of the eruption.

Dr. Ruy Finch, volcanologist of Watsonville, Calif., also on the exploring flight, said this volcano is an exception to the general rule of the Pacific. The Hawaiian volcanoes, for example, send forth great quantities of molten lava. They are "well behaved" and quiet. San Benedicto's new crater is of the explosive type. The explosions are occurring regularly every 20 minutes, after which smoke pours out in diminishing quantities.

The presence of hydrogen sulfide "suggests that the eruption may have reached its maximum and be about ready to quiet down," said Dr. Finch, who formerly served the Geological Survey at its Kilauea, Hawaii, laboratory.

Large rafts of pumice were floating near the erupting island. This spongy light-colored material, which can only be formed under water, is exploded lava. It looks like foam rubber. (See p. 199.)

Science News Letter, September 27, 1952

MEDICINE

Diagnose Cancer Cells

➤ **CANCER CELLS** have about twice the amount by volume of nucleic acid in their nuclei as normal cells, scientists at Memorial Center for Cancer, Sloan-Kettering Institute and Cornell University Medical College have discovered.

Better diagnosis of cancer, especially early cancer and pre-cancer, and more knowledge of basic changes from normal to cancer in the cell nucleus are expected as a result of this finding.

The discovery was made by Drs. Robert C. Mellors, George N. Papanicolaou and John F. Keane, Jr.

Measurement of the amount of light that goes through an object, called absorption spectroscopy, is the method that led to the discovery and that will be used on a microscopic level for the expected new cancer detection test.

The new test may prove more accurate than the famous smear test developed by

ELECTRONICS

Foresee Automatic Factory

➤ A COMPLETELY automatic factory run by giant "brains" assisted by smaller ones was foreseen during the Centennial of Engineering in Chicago.

Such machines could work out the design of a machine part, punch out this information on a paper tape, then feed the tape to a production machine that would accurately cut the part to the correct shape.

Dr. J. W. McRae, vice-president of Bell Telephone Laboratories, told a symposium on communications and the future that there is today "a real basis" for predicting such machines. They open up the "prospect of relief from human mental drudgery just as the application of power in the industrial revolution gave relief from physical drudgery."

Further, he said, jobs that we cannot now imagine could be done by such machines. There is no need to worry, however, about the possibility that they will take over to rule mankind or that the human mental process will become less efficient.

"None of these electronic brains is a true brain in the sense that none of them can ever have creative thought. They can only," he stated, "do what man has designed them to do and what he has instructed them to do in detail. Man can remain in full control, and he can benefit from a general increase in the intellectual content of his work."

Of great promise in the development of electronic computers are transistors, peasized, rugged devices that do many of the jobs of the vacuum tubes more efficiently and on considerably less power. In one test made, Dr. McRae reported, a 10-to-one re-

duction in power consumption and in volume of equipment was possible using transistors instead of vacuum tubes.

Such electronic brains will not come into being overnight, he warned, because so much scientific and engineering work will be needed to develop and construct them.

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Mushrooms are one of the most difficult foods to produce profitably.

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Dr. Papanicolaou because it uses an instrument for measuring, instead of depending on human skill in recognizing cancer cells under a microscope.

Scientists have already found that certain human cancer cells have, relative to normal cells, a two and four times greater volume of the nucleus; a two to four times greater volume of the individual chromosomes; an even multiple of the basic number of nucleoli; even, odd and nonintegral multiples of the fundamental chromosome number, and many structural abnormalities of the chromosome.

In the light of their findings on the differences in nucleic acid content of cancer and non-cancer cells, the scientists state in their report in the journal *Science* (Sept. 12), that, "it is intriguing to think that the nucleic acids themselves may perpetuate these alterations in the cell."

Science News Letter, September 27, 1952