

## GEOLOGY

# Niagara Rock Fall

► ROCK FALLS which change the shape of Niagara Falls are a very old story. This great waterfall has known thousands of them and the wearing away of the falls is the price of having them at all.

The collapse of a major section of Prospect Point on the American side of this great natural wonder on July 28 was the worst rock fall since Jan. 17, 1931, when the middle of the American falls collapsed into the gorge.

Some time between 25,000 and 50,000 years ago, when the Ice Age on this continent was just ending and the Great Lakes, as we know them today, were still young, there were five Niagaras instead of only one.

The remains of these great falls have been found by geologists at a point quite remote from their single surviving sister. They thundered for centuries, with no human ear to hear them, in the region where Syracuse now stands. They were left high and dry when the level of the upper great lakes fell, and all the outlet water was concentrated in a single river, the modern Niagara.

When the modern falls first started running, they were about seven miles downriver from their present position. They have been backing up ever since, so that the recent rock fall is only a trifling incident in the whole history of the carving of the Niagara gorge.

The existence of Niagara Falls depends on the presence of a sheet of hard limestone overlying a thick bed of less resistant sandstones and shale. The churning

water at the bottom of the falls, filled with broken fragments of hard rock, carves away the softer material from under the overhanging edge whence the waters leap.

From time to time pieces of the limestone break off. Usually they are small; the recent slide, and the one that occurred in 1931 were exceptions.

The history of the falls has been the same up to the present. There will come a time, however, when there will be no more Niagara as we know it today, but a tumultuous series of cataracts dashing through tumbled gigantic boulders.

This is because the capstone that forms the river bed at Niagara dips slightly toward the south. Several miles upstream it disappears under a stratum of softer rock, which is not capable of forming a resistant rimrock for the river to jump from.

When the river finally backs up to this place, it will scour down through the soft stuff until it finds the limestone, break this up in great pieces, and thereafter flow foaming and spouting through the obstacles it will thus pile up for itself.

However, the generation that will see this still waits for a wholly undeterminable future.

Under the 1950 treaty covering use of the water of Niagara River, a joint American-Canadian project is being undertaken to control the flow of water over Horseshoe Falls which has been eroding too rapidly.

The work being done under this treaty is not in the same area as the recent rock fall, however.

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the pituitary gland function, the gland itself does not suffer structural damage. However, the symptoms of the starvation-induced pituitary inaction are very much like those of a disease in which the pituitary has been damaged structurally. This disease is known as Simmonds' disease.

Doctors may have difficulty in telling which is affecting a given patient. The treatment is different: refeeding in one and hormone drug in the other. A trial may be needed to tell which cause is operating.

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The earliest records of the use of cosmetics date back to 4500 B.C. and the Egyptians.

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## MEDICINE

# Inactivate Master Gland

► PROLONGED STARVATION puts the body's master gland out of action. This gland is the pituitary, best known perhaps as the source of a famous anti-arthritis hormone drug, ACTH.

The pituitary, however, got its name, master gland, because of its influence on other body glands, such as the adrenals which produce the other anti-arthritis hormone, cortisone and adrenalin.

When the pituitary is out of action, failing to produce its hormones, the sex glands, the thyroid gland in the neck, and later the adrenal glands showed decreased activity.

When starvation has been the cause, the pituitary can be restored to normal functioning, and with it the other glands, by refeeding, if that is possible.

Cases showing this are reported by Drs. William H. Perloff, Eunice M. Lasche, John H. Nodine, Norman G. Schneeberg and Carol B. Vieillard of Philadelphia General Hospital and Temple University School of Medicine, Philadelphia, in the *Journal of*

*the American Medical Association* (Aug 7).

One case was that of a 27-year-old woman who at the age of 15 went on a reducing diet and got her original weight of 150 pounds down to 90. When she was 20, she lost another eight pounds after "a broken romance."

She stayed at this weight for the next seven years. Her food intake had been consistently inadequate, so that, from the age of 15, she had been starving herself. Ovarian function, which had started at 13, stopped at 18.

She was encouraged to eat more and her problems were discussed with her over a considerable period of time. She was given no medicine except multivitamin tablets. As she gained some insight into her emotional problems, she began to gain weight and when she reached 95 pounds, ovarian function returned to normal. She finally reached 105 pounds after 18 months of treatment.

In patients in whom the starvation stops