moved, but the pool was only partially drained. The water has not been entirely withdrawn or the pool thoroughly cleaned since 1929. Apparently the most likely source of introduction of *Craspedacusta* to the pool was in the summer of 1936, when Mr. Harpham, Jr., emptied into it about a quart of water containing a large number of anuran amphibian eggs. This material was obtained from a nearby pond.

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POST-GLACIAL CONSEQUENT STREAMS IN MAINE

IN August, 1936, the writer came upon a gorge on the Merriland River one and three-quarter miles from tide-water, cut about twenty feet through slate. If the till and gravel overlying the slate are added, the cut must be at least thirty feet deep.

The mouth of the Merriland River is located in the northern part of the Town of Wells, near Elms, in southern Maine. The river is nine miles long and from its source runs in an easterly direction for five and one half miles, controlled entirely by the Newington Moraine, then, where the Newington Moraine is very low, bends in a southeasterly direction to the sea. It is a very small stream, and during the summer months the flow is reduced to almost nothing. Only during the seasons of melting snows or heavy rainfall can the stream be dignified by the name of "river."

On the Kennebunk topographic sheet of the U. S. Geological Survey there are eight major streams that reach the sea. Two of these, the Mousam and Kennebunk Rivers, are larger than the other six and may be somewhat older. The writer observed that the Merriland River rises close to the two-hundred-foot contour, with about a mile of headward cutting beyond this. It was then noted that thirty-four streams and branches of streams on the Kennebunk sheet rise close to the two-hundred-foot contour, with evident headward cutting in some cases. Now the upper marine limit for this part of the coast is also considered to lie close to this contour. The writer considers these streams to be *consequent* streams developed during the uplift of the land after the last ice-sheet and ocean withdrew from this region.

When the ice withdrew, the land must have risen faster than sea-level, because the sea-level was also rising, due to deglaciation. When the water stood at the upper marine limit the last ice was withdrawing and the sea washed against the ice-front, as proved by Keith and Katz and others. Antevs says: "If, as is probable, the ocean at the uncovering of the Maine coast (about 30,000 years ago) was lowered some two hundred feet, the land was lowered some two hundred feet plus the amount of the height of the marine limit above the present sea-level. Places with the marine limit at two hundred and fifty feet altitude, for instance, were lowered four hundred and fifty feet and have later risen this amount."[1] It must have taken a long time for the land and ocean to attain their present relations. The consequent streams started their careers as soon as the strand line began to move downward, those streams near the upper marine limit starting first and other streams nearer the sea starting later. The cutting of the gorge of the Merriland River did not begin until late, as it is only about one hundred feet above the tide to-day at the upper part of the gorge.

Considering the fact that cutting goes on mainly during the springs of each year and in times of heavy rainfall, 30,000 years does not seem too long a time to accomplish the results observed. It is enough to say that the time since the upper marine limit, development of consequent streams and the cutting of the gorge of the Merriland River is a very long time, and may be greater than 30,000 years.

The writer believes that such consequent streams may be used to check approximately the upper marine limit, and as a means of testing the determinations of the upper marine limit already made. The word "approximate" is used because headward cutting varies on each of the streams so they can not be used as definitely as beaches, for instance, in such determinations.

It is also possible that where the field evidence of the upper marine limit and the sources of the consequent streams do not coincide, these consequent streams might be used to determine the differential coastal movements that have taken place since the Pleistocene period.

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REPORTS

PILOT FITNESS AND AIRPLANE CRASHES[1]

IN the early days of aviation, particularly during the world war, the need for testing the fitness of pilots for flying was duly recognized. In later years, however, the importance of testing pilot fitness was overshadowed by the development of instruments and the stress laid on them as a guide for flying. In this a

[1] From the Research Laboratory of Physiological Optics, Baltimore, Md.

[1] *Am. Jour. of Science*, 15: 328, April, 1928.