

by touch; and there should be a roughening or a longitudinal corrugation on F sharp, the middle note of the scale, for the same purpose.

A third advantage would result from these two changes. The lines on the staff, in the normalized notation, correspond to the black keys on the normalized keyboard; and the spaces of the staff to the white keys. If the page be turned so that the left side becomes the top the correspondence is perfect, each written note on the staff having its corresponding place on the keyboard. The physiological reflex between eyes and fingers to be established by the learner thus becomes as simple and direct as it is possible to make it. The time required to become moderately expert in sight reading and playing would then be reduced at least to half what it is now.

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PULSATION OF A CAT'S HEART AFTER DEATH

AN interesting case of prolonged beating of a cat's heart after death came to the writer's attention a short time since. A cat was killed by the use of ether at 2:20 P.M. A short time afterwards the body was stretched on a window-sill out of doors where it stayed undisturbed, and to all appearances dead, until 3:30, when it was taken in to the laboratory and immediately skinned, and the thorax cut open exposing the pericardium and lungs. The student doing the dissecting, Mr. John M. Long, at once called the writer's attention to the fact that the right auricle (only) was beating in almost perfect rhythm, and with apparently considerable strength. This continued with only slight variation in rhythm until 3:56, when a small quantity of normal salt solution was poured over the pericardium. Beginning at this time, the pulsations began to lose their rhythm until at 4:03 the auricle was beating at the rate of three pulsations at normal speed followed by an interval of fourteen seconds, then again three beats, followed by the interval, and so on, both the beats and intervals being very regular. This continued for four minutes (until

(4:07), when the number of pulsations was reduced to two instead of three, and the length of the interval began to vary from thirteen to eighteen seconds. More salt solution was poured over the pericardium at this time, and at 4:18 the inferior vena cava was cut just above the diaphragm. No change in the regularity of the pulsations was noticed from that recorded at 4:07 until the organ abruptly stopped beating at 4:44 P.M.

This gives a total length of time from the administration of the ether until the heart stopped beating of two hours and twenty-four minutes. Of course there must be subtracted a short period at the first when the cat was dying, but this still leaves something over two hours during which the auricle continued to beat after the death of the animal. During all this time no contraction was noticed in any part of the heart other than the right auricle. The pericardium was not opened until after the heart had ceased to beat. No electrical or mechanical means were used to stimulate the heart in any way, except the application of normal salt solution, as above mentioned. So far as the writer knows, this is the longest case on record of a cat's heart continuing to pulsate after death.

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STOCK CULTURES OF A PROTOZOON

DURING the course of investigation with Protozoa, a rather convenient and easy method of obtaining and keeping stock cultures of Colopoda was found.

Colopoda, as is well known, usually occur early in soil cultures from which they can be obtained, in the active state, in large numbers. Later in the life of the culture the animals encyst and it is upon this condition that the following method is based.

From a young soil culture active Colopoda are isolated, transferred to syracuse watch glasses and ordinary hay infusion added. After one or two days the culture fluid in the watch glass is allowed to evaporate slowly by leaving exposed to the air. During this slow