

noted above and others like them are more likely to have been formed as a result of the lateral escape of earthly material in front of a downward plunging giant meteorite and the rebound that followed its impact.

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THE NON-UTILIZATION OF LACTIC ACID BY THE LACTATING MAMMARY GLAND

It was first reported by Graham,¹ working with goats, that the lactating mammary gland utilized lactic acid. This was apparently confirmed by Shaw, Boyd and Petersen² on lactating cows. Both studies were based on the decrease in blood lactic acid in the passage of the blood through the mammary gland. More recently a criterion of the excitability of the animal was made available by the finding,³ based on hemoglobin values, that any disturbance of the animal was invariably reflected in a considerable change in the concentration of the blood traversing the gland; whereas in the quiet animal there were little or no detectable blood concentration changes.

This report deals with a re-examination of the role of blood lactic acid in milk secretion based on arteriovenous differences of the lactic acid of blood in its passage through the mammary gland. Lactic acid was determined by a modification of the method of Barker and Summerson.⁴ In 17 experiments in which the concentration of the blood traversing the mammary gland was less than 0.5 per cent. and the animals showed no apparent excitation, there was a mean arteriovenous lactic acid difference of only 0.52 mg. per cent. The standard error being 0.32, the difference is not significant. In 17 experiments, in which the blood concentration in the gland exceeded 0.5 per cent. and the animals were obviously excited, there was an apparent utilization of 2.4 mg. per cent. of lactic acid. The standard error of 0.70 demonstrates that this difference is highly significant and indicates that the reported utilization of lactic acid by the active gland was only an apparent utilization due to excitation.

The mean of the arterial lactic acid values of the animals in the excited group was 10.1 mg per cent.; whereas that of the quiet group was only 7.3 mg per cent. It is believed that the apparent utilization with

excitation is due to a sudden concentration of lactic acid in the blood in which there is a diffusion of lactic acid into the glandular tissue, resulting in a temporary disproportion in the lactic acid concentration of the blood passing through the gland. This is further substantiated by experiments on both cows and goats under nembutal anesthesia. Arteriovenous samples drawn 10 to 15 minutes after placing the animals under anesthesia, at which time the blood lactic acid was still high due to excitation, showed an apparent utilization of from 2.6 to 7.7 mg per cent. of lactic acid. Samples drawn after the animals were under anesthesia 30 to 45 minutes, at which time the blood lactic acid approached normal, showed no utilization. It is concluded that the lactating mammary gland does not normally utilize blood lactic acid. A more extensive account of this work will be published soon.

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AN ENDORSEMENT OF THE USE OF GENERIC NAMES AS COMMON NOUNS

CERTAIN advantages in the use of generic names as common nouns, when the species is clearly understood, were discussed recently by Dr. S. O. Mast (SCIENCE, 96: 252, 1942); e.g., the use of "some paramecia" instead of "some specimens of *Paramecium*" or "some *Paramecium*." The second phrase, as Dr. Mast points out, comes to be burdensome and repetitious; the third, as he explains, involves a grammatical error and a taxonomic invalidity, in that there is and can be only one "*Paramecium*," namely, the single protozoan genus *Paramecium*.

In spite of the advantages cited—economy of printed space, avoidance of burdensome phraseology and elimination of grammatical inaccuracies—some authors and editors are distinctly reluctant to use generic names as common nouns. As an extreme case of such reluctance I may mention a personal experience. A paper that I submitted to a British journal was adjudged unacceptable because of my use of the expressions "an amoeba" and "the amoebae." Only upon the capitalization of the initial letter of "amoeba" and "amoebae" was the paper accepted, although "amoeba," with plural "amoebae" or "amoebas," is recognized as a common noun in the Oxford Dictionary, and hence there is no need to capitalize it.

In my work on *Didinium* and other protozoan genera, I have consistently used the generic name as a common noun, preferring in the interest of brevity "ten didinia" to "ten specimens of *Didinium*," and in the interest of grammar the constructions "ten

¹ W. R. Graham, Jr., *Jour. Biol. Chem.*, 122: 1, 1937.

² J. C. Shaw, W. L. Boyd and W. E. Petersen, *Proc. Soc. Biol. and Med.*, 38: 579, 1938.

³ J. C. Shaw and W. E. Petersen, *Proc. Soc. Biol. and Med.*, 42: 520, 1939.

⁴ S. B. Barker and W. H. Summerson, *Jour. Biol. Chem.*, 138: 535, 1941.