THE Parmly Foundation for research in hearing has been established at the Illinois Institute of Technology with an endowment of $300,000 by the late Samuel P. Parmly, Jr., who, though deaf, was a successful and well-known Chicago business man. The foundation will concentrate on the physics of hearing and will cooperate with the medical profession in studying other aspects of the problem involved.

ACCORDING to an announcement appearing in the daily press, the Swedish-American News Exchange was informed on October 16 from Stockholm that the Nobel Prizes would not be awarded this year. The prizes have not been awarded since 1939.

THE American Standards Association recently announced approval as American standards of twenty-three standards and specifications developed by the American Society for Testing Materials. All are of considerable interest to manufacturers and purchasers in the mechanical industries. Seven deal with wrought-iron and wrought-steel pipe and tubing; twelve cover specifications for testing materials for boilers, pressure vessels, flanges and boltings, locomotives, etc.; two cover malleable iron castings and cupola malleable iron and two deal with fabricated steel bars and welded steel wire fabric for concrete reinforcing. These twelve specifications cover materials for boilers, pressure vessels, flanges, locomotives, etc.

DISCUSSION

DEFORMATION OF ROCK STRATA BY EXPLOSIONS

THE greatest natural explosions produced on earth are due to the fall of giant meteorites and to volcanic explosions. Those of the first sort produce meteorite craters, those of the second calderas. Craters of both origins may be so nearly alike that surface configuration offers no sure criterion for their differentiation. Effects of the two types of explosions on the bed-rock are however quite unlike. Meteoric explosions may produce intense deformation in rock layers beneath and adjacent to craters; volcanic explosions produce little or no such deformation.

Examples to support this are found not far apart in Arizona. The famous "Meteor Crater," 4,000 feet across and 600 feet deep, records the impact and explosion of a giant meteorite, fragments of which were blown by the thousands over the surrounding plains. Sedimentary rocks exposed in the walls of the crater are tilted radially away from the center, and variation in the dips around the periphery defines a bilateral structural symmetry.[1] The brecciated wall rocks are broken by radial faults.

Evidences for violent volcanic explosions attended by eruption of lava and fragmental materials are found in the Hopi Buttes area in northeastern Arizona.[2] Some of the calderas thus formed were the size of Meteor Crater. Many have been deeply eroded, so that the structure of the underlying and adjacent bed-rock is displayed. Hack, who has studied and mapped these features in admirable detail, states that in no example was the bed-rock deformed as a result of the explosions.

From comparison of meteorite craters with volcanic calderas, it may be concluded that sudden deformation of bed-rock by flexing and faulting is characteristic only of explosion craters of the first type.

No one knows by direct observation how a dissected meteorite crater might appear or what types of structures would be revealed by deep erosion. However, the excavations at Odessa Meteorite Crater in Texas have shown that the rim rocks are folded and faulted and that deformation is highly localized around the periphery.[3] Generalizing from this observation and from the fact that fractured rim rocks of meteorite craters are usually elevated so as to dip away from the center in all directions, the type of structure to be expected beneath a large meteorite crater would consist of a central dome flanked by folds and broken by faults and joints.

Structures of this general pattern have long been known, and it is highly improbable that some of them can ever be accounted for in terms of stresses originating within the earth. Examples are the Flynn Creek structure of Tennessee,[4] formed during the Paleozoic, the Sierra Madera dome of western Texas,[5] formed between Permian and Cretaceous time, and several of the domical structures that Bucher[6] has called "cryptovolcanic."

Presumably meteorites have been falling since the beginning of geologic time, and it would be strange indeed if the lithosphere did not somewhere bear the scars of their impact and explosion.[7] The structures

[1] D. M. Barringer, *Proc. Acad. Nat. Sci. Philadelphia*, 57: 861–866; 66: 556–565.

[2] J. T. Hack, *Bull. Geol. Soc. Am.*, 53: 335–372.

[3] E. H. Sellards and G. Evans, mimeographed circular dated September 1, 1941, *Bur. Econ. Geol.*, University of Texas.

[4] C. W. Wilson and K. E. Born, *Jour. Geol.*, 44: 815–835.

[5] P. B. King, *Univ. Texas Bull.*, 3038: 123–125.

[6] W. H. Bucher, Rept. 16th Internat. Geol. Cong., p. 1055–1083.

[7] J. D. Boon and C. C. Albritton, Jr., *Field and Lab.*, 5: 1–9, 53–64; 6: 44–64.

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 Petersen[2] 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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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.

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