that the agricultural bureaucrats and the economic entomologists of the country have gone wild upon the subject and that the time has come for the whole question to be reconsidered from the ground up and some restraints applied.

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THE MICROMETRIC MUDDLE

USE the symbol μμ and it will be variously interpreted depending upon the audience. Chemists and biologists and hence most workers in agricultural sciences will almost unanimously agree that you are indicating the unit equal to one millionth of a millimeter and will permit you to call it a millimicron or a micromillimeter—though the biologists may maintain that the term micromillimeter is synonymous with micron; physicists will be certain that you mean one billionth of the millimeter (which you do if you have pledged allegiance to the U. S. Bureau of Standards) and will smile wisely if you should call it a millimicron. They know that millimicron is the term applied to the unit equivalent to one thousandth of a micron, but contrary to the other groups they would abbreviate that by the symbol mμ, again having the sanction of the Bureau of Standards and hence (probably) most handbooks. But—and this is the sad fact—the others are also correct according to the traditional usage in their fields, and they have for their authorities most of their text-books and the dictionaries.

The state of this affair is deplorable. All micrometric terms and symbols are useless, with the exception of those of the micron and Ångström unit, unless accompanied by an exact description referring back at least as far as the micron. Otherwise one runs the risk of being misinterpreted.

The various, more or less accepted, terms are as follows: The unit representing one thousandth of a millimeter is usually called the micron (symbol, μ) but it may also be called the micromillimeter according to Webster's Dictionary and certain older biological texts. The latter term, happily, is seldom applied to this unit and it may be considered obsolete. One millionth of the millimeter is commonly represented, except by light-wave measures, by the symbol μμ. Physicists apply the abbreviation mμ. All groups agree to call it either the millimicron (favored by the light-measurers) or the micromillimeter. It is indeed fortunate that these tongue-twisting twins commonly have the same meaning. The confusion is amply completed by the acceptance, mainly by physicists, of the symbol μμ to represent the smallest unit of measure, the millionth-micron or micromicron, 10^{-9} mm.

Certainly the system should be definitely put in order. What to do about it is not so easy to decide; for though it might seem proper to insist on strict adherence to the present authorization of the Bureau of Standards it can be argued that their system is that of the physicists who are a minority and that the biologists and chemists besides being greatly in the majority use the terms and symbols most widely distributed in scientific literature. But the fact remains that the common system does not provide for the micromicron (10^{-9} mm) whereas that authorized by the Bureau of Standards is complete in this respect.

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OESTRUS DURING PREGNANCY

So far as the writer is aware no cases have been reported of oestrus occurring during the period of pregnancy in the white rat and allied forms. The observation of Long and Evans[1] (1922), based upon an extended series of investigations on the rat, is that oestrus is suspended during the gestation period. From a thorough study of the vaginal smears of a great number of pregnant rats they concluded (p. 56) that, "In our experience no oestrous changes occur in the cell content of the vaginal smear during the period of pregnancy." However, they recorded two cases of animals copulating during the gestation period. Allen[2] (1922) found no instances of oestrus during pregnancy, nor did Parkes[3] (1926). The latter, however, has shown that a lactating mouse, which is suckling two or less young, may exhibit typical oestrus cycles. Animals suckling more than two do not show the rhythmical vaginal changes during the period of lactation.

During the course of some experimental work in this laboratory a series of oestrous cycles was observed in a pregnant albino rat. The animal in question was a healthy virgin female. She had been unilaterally ovariectomized several days prior to her first copulation. Five days later she again came into oestrus and copulated. Thereafter for four successive cycles her vaginal content exhibited the typical cornified cell picture on every fourth day; further copulation was observed on two of these occasions. We had no suspicion of her actual condition since her size at no time approached that of the ordinary pregnant rat. The usual "placental sign" on the thirteenth or fourteenth day also was lacking. However, on the evening of the twenty-first day after the initial copulation she gave birth to five healthy young.

[1] "The Oestrous Cycle in the Rat and Its Associated Phenomena," The Memoirs of the University of California, Vol. 6, 1922.

[2] Edgar Allen, "The Oestrous Cycle in the Mouse," *American Journal of Anatomy*, 30: 297, 1922.

[3] A. S. Parkes, "Observations on the Oestrous Cycle of the Albino Mouse," *Proceedings of the Royal Society, B*, 100: 151, 1926.

The cycles through which she passed are outlined below with the attendant events in parentheses:

Oestrus: (copulated); fifth day: oestrus (copulated); ninth day: (oestrus); thirteen day: oestrus (copulated); seventeenth day: oestrus (copulated); twenty-first day: (oestrus) (parturition).

Her vaginal smears were observed during the period of lactation, but at no time while the young were suckling were the cyclic changes found. Three days after removal of the litter she came into oestrus, but no further fertile copulations were obtained.

It is of interest to note that not only were the corpora lutea of pregnancy unable to inhibit oestrus (it is, of course, a matter of conjecture as to whether ovulation occurred or not) during the pregnant period, but also that the cervical stimulation by the vaginal plug of the initial copulation also failed to prolong the diestrous interval. Ordinarily, even infertile copulations induce a condition of pseudo-pregnancy, which lasts from ten to twelve days, through the medium of the cervical stimulation and its attendant effect upon the corpora lutea.

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ALCALIGENES ABORTUS FROM THE SPINAL FLUID

Alcaligenes abortus, the cause of undulant fever in the United States, has been reported as having been isolated from the blood, urine, feces, tonsil, joint fluid, lymph gland and ovarian cyst. No report of the isolation of this micro-organism from the spinal fluid has come to my attention. Recently, I have isolated the porcine variety from the spinal fluid in a case of suspected infantile paralysis occurring in a child two and one half years of age.

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REPORTS

THE NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL EXCURSION

THE twenty-fifth annual New England intercollegiate geological excursion was held in the vicinity of Littleton, N. H., October 11 and 12, 1929. Fifty-two persons were present, representing sixteen institutions. The excursion was arranged and directed by I. B. Crosby, geologist of the New England Power Association.

Friday afternoon, October 11, the members of the excursion assembled at Barnet, Vt., and drove by automobile to the east end of the lower dam being erected by the New England Power Association at Monroe, N. H. Fifteen Miles Falls has a total drop of 320 feet. The lower dam at Monroe will utilize approximately 160 feet of the fall. By excavating a gorge forty feet deep in the schist at the lower dam and by creating a tail-race of fifteen feet the effective head is increased to 215 feet. The upper dam between Waterford, Vt., and Littleton, N. H., will be approximately 160 feet high, making a total head of 375 feet. The project involves the expenditure of between $30,000,000 and $40,000,000. The lower dam will create a lake of 1,100 acres and the upper dam a lake of 3,300 acres. Four units of 50,000 horse-power each will be installed at the two dams and at peak load will be able to deliver 300,000 horse-power.

Excavation at the eastern end of the lower dam at Monroe had revealed four separate glacial deposits, a lower till of normal texture overlain by deltaic deposits merging westward into varve clays. A second till was deposited unconformably on the sands and varve clays and contains a large amount of clay derived from the erosion of the underlying varved clays. Overlying the second till were the second deltaic sands, forming a capping terrace.

During the last year there has been a tendency to postulate a stagnation of the ice sheet in New England, and some have doubted whether the deposits at Bethlehem, N. H., were true recessional moraine. The erosion of the varved clays at Monroe would indicate an active rather than stagnant glacier and, since it occurs approximately in line with the Bethlehem deposits, tends to confirm the determination of a recessional moraine at that place.

At the conference on Friday evening Irving B. Crosby discussed the general geology of Littleton and Dr. J. W. Goldthwait emphasized the significance of the cuttings at Monroe in relation to the glacial history of the region.

Saturday morning the party drove to Fitch Hill and studied the fossiliferous deposits of Silurian and Devonian age at that place. A few imperfect fossils were found. Driving westward to the upper dam site at Waterford, Vt., a brief stop was made to study the terraces in the valley of the Ammonoosuc River. Lunch was eaten at the upper dam and Mr. Crosby explained that it was here the Schlumberger electrical prospecting methods had first been used to locate the buried valley of the Connecticut River. The present valley lies somewhat south of its former bed. The till filling the former course is to be utilized as an impervious barrier to which will be tied the concrete structure from the southern bank of the river.