velopment of the plastics symposium are: Dr. E. O. Kraemer, Marshallton, Del., and H. F. Wakefield, Bakelite Corporation. The rubber symposium is being developed by Dr. Melvin Mooney, U. S. Rubber Products Company, and J. H. Dillon, Akron, Ohio. In addition, a general symposium on rheology is being developed by Dr. E. C. Bingham, Lafayette College, and Dr. A. Nadai, of the Westinghouse Electric and Manufacturing Company. Authors having papers which they wish to present at this time are invited to address the specified committees.

FINAL sessions of the tenth annual meeting of the Hawaiian Academy of Science were held on the evenings of May 16 and 17 at the University of Hawaii in Honolulu. Previous sessions for the presentation of papers had been held on October 24 and 25. The annual dinner was held on May 18 at the Pacific Club, followed by an address on Hawaiian birds by the retiring president, Edwin H. Bryan, Jr., curator of Collections of the Bishop Museum. The following officers were elected for the year 1935–1936: *President,* Chester K. Wentworth, geologic engineer, Board of Water Supply; *Vice-president,* Harold A. Wadsworth, soil physicist, School of Tropical Agriculture, University of Hawaii; *Secretary-treasurer,* Beatrice H. Krauss, assistant plant physiologist, Experiment Station, Pineapple Producers' Cooperative Association; *Council,* in addition to officers: E. H. Bryan, Jr., past president, *ex officio;* E. L. Caum, assistant botanist, Experiment Station, Hawaiian Sugar Planters' Association, 1935–1937; Walter Carter, entomologist, Experiment Station, Pineapple Producers' Cooperative Association.

ACCORDING to a United Press dispatch, three hundred foreign astronomers are expected at Paris between July 9 and 17 to attend the biennial congress of the International Astronomical Union. Presiding over the sessions of the congress will be Professor Frank Schlesinger, director since 1920 of the Yale University Observatory. He also heads the executive committee, which draws up the agenda. Count de la Baume Pluvinel, who is president of the French National Committee of Astronomy, is arranging for the practical aspects of the congress. He is aided by Jules Baillaud, astronomer of the Paris Observatory. Thirty nations are to be represented, as was the case in 1932, when the congress was held at Harvard University.

THE Division of Medical Sciences of the National Research Council will hold a special meeting in November, 1935, for the consideration of applications for grants-in-aid in this field. Applications to be considered at this meeting must be on file with the Secretary of the Committee on Grants-in-Aid, Dr. Clarence J. West, not later than October 1, 1935. Applications received after October 1 and prior to February 15, 1936, will be acted upon at the next regular meeting of the committee in March, 1936.

E. J. BUFFINGTON, Chicago steel manufacturer, has given $100,000 as an endowment to Vanderbilt University. Half of the endowment is to be used as a general fund and the other half is to endow a chair in the school of religion to be named the Drucilla Moore Buffington chair in memory of his late wife.

STANFORD UNIVERSITY has received a gift of $1,000 from the widow of James Perrin Smith, to be used for the maintenance and improvement of his library on the subject of fossil Cephalopoda. The library itself was presented by Mrs. Smith to the library of the university soon after the death of Dr. Smith in 1931.

JULIAN W. LOW, of the department of geology of the University of Colorado, has recently completed a mold for the striking of plaster casts of a relief model of the western half of Boulder County. The model is 50 inches by 58 inches in size, with a horizontal scale of two inches to the mile, and a vertical scale of one inch to one thousand feet. It includes the western edge of the Great Plains and all the intervening country to and a little beyond the Continental Divide. The foothills ridges, the canyon cutting below the Rocky Mountain peneplain, the peneplain remnants themselves and the glaciation near the Continental Divide are some of the topographic features brought out by this model.

DISCUSSION

THE NEW ACTIVE PRINCIPLE(S) OF ERGOT

THE arguments advanced by Dudley and Moir in connection with their recent suggestion[1] that *ergotocin* be recognized as identical with *ergometrine* and called by the latter name embody several misconceptions. For two of these the careless wording and erroneous placement of the footnote on p. 166 of our earlier publication with Davis, Adair and Rogers in the *American Journal of Obstetrics and Gynecology* (29: 155–67, February, 1935) were undoubtedly responsible. This footnote was intended to announce that Eli Lilly and Company could supply commercial quantities of the pure, active principle, ergotocin—not "an impure preparation," as assumed by Dudley and Moir. Indeed, at the time the announcemnt actually appeared the company had been preparing the pure principle

[1] SCIENCE, 81: 2110, 559, June 7, 1935.

for a period exceeding two months and had accumulated records of tests on over 200 human patients. Since Eli Lilly and Company was actually preparing pure ergotocin it might justifiably have continued to apply that name to its commercial product. Actually, however, the latter has been given the trade name, "Ergotrate."

The question as to whether or not ergotocin is an "alkaloid" seems to us to be essentially meaningless, since there are no definite chemical criteria by which a substance may be characterized as alkaloidal or non-alkaloidal. In the earlier paper already cited we called attention to the loose usage of the term "alkaloid," and made it clear that our own use of the term "non-alkaloidal" was intended merely as exclusive of the previously known ergot "alkaloids" rather than as chemically descriptive.

It is possible, though not altogether obvious, that the principle responsible for the physiological activity of ergometrine is identical with ergotocin. It is, however, obvious that ergometrine, as described by Dudley and Moir, is not identical with ergotocin. Our own analyses of pure ergotocin and several of its salts indicate the empirical formula $C_{21}H_{27}N_3O_3$ (C, 68.41 per cent.). (For details, as well as for a discussion of the cleavage products of ergotocin, see the June number of the *Journal* of the American Chemical Society.) Dudley and Moir have announced that ergometrine has a carbon content of 71.46 per cent. The discrepancy would seem great enough to survive any "slight modifications" necessitated by "more drastic purification" of an essentially pure substance. The physiological properties attributed to ergotocin and to ergometrine are similar but evidently differ in degree. The oral dose of ergometrine recommended by Dudley and Moir for human patients is 0.5–1.0 mg; ergotocin is uniformly effective in oral doses of 0.25–0.30 mg. On the whole, the assumption of identity of the active principles appears premature; moreover, that assumption would seem to lead inevitably to the conclusion that ergometrine is impure or partially inactivated ergotocin.

The implication that the chemical investigation of ergot by the present authors was suggested or inspired by Dr. Moir's American addresses seems to us irrelevant to the issue raised. As a matter of strict historical fact, however, our interest in ergot had quite another origin. Neither of us had the pleasure of hearing Dr. Moir during his American visit, nor did we, indeed, hear of him until after we had succeeded in separating ergotocin from the "known ergot alkaloids" late in 1923.

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THIOBARBITURATES

THE report of the hypnotic action of a series of barbituric acid derivatives by Fischer and von Mering[1] in 1903 led to the introduction of barbituric acid compounds into medical practice. Hundreds of substituted barbituric acids and their soluble salts, alone and in various combinations, have been prepared since then in the unceasing search for better products. Some of these compounds have been found to possess valuable therapeutic properties, and their use is rapidly increasing.

Barbiturates may be prepared by condensing urea (or a substituted urea) with derivatives of malonic ester. In a similar way we have prepared a series of thiobarbiturates, using thiourea (or a substituted thiourea), instead of urea. Only a few thiobarbiturates have been previously reported and these have been used merely as intermediates in the preparation of barbituric acid compounds.

There is almost complete lack of pharmacological, clinical and toxicological information in the literature on thiobarbiturates. This may be due to the findings of Fischer and von Mering that the administration of 120 mg per kilo of the sulfur analogue of barbital to a dog produced deep sleep, followed by death. This finding was broadcast by Fraenkel,[2] who deduced therefrom that the presence of sulfur imparts to diethylthiobarbituric acid a pronounced toxic character.

The authors have made and studied a number of thiobarbiturates, finding that they show promise as sedatives. They produce quiet, natural sleep and are free from side actions and from the after-effects observed following the use of their oxygen analogues. This work is being continued and will be reported in detail elsewhere.

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THE USE OF THE TERM POCONO

IN a recent article George H. Chadwick asks "What is Pocono?",[1] a question which has of late been troubling some stratigraphers in Pennsylvania. From Mr. Chadwick's article it appears that the original definition meant to include certain beds found under-

[1] E. Fischer and J. von Mering, Therap. d. Gegenw., 101: 97, 1903.

[2] S. Fraenkel, "Die Arzneimittel-synthese," 6th ed., 1927, p. 510.

[1] G. H. Chadwick, *Am. Jour. Sci.*, 5th ser., 29: 133–143, 1935.