In every aboriginal camp large numbers of dogs are to be found, the native dingo and the mongrels resulting from hybridization with the introduced dogs. Since they perform no obvious useful purpose it has always been assumed that their only function was to serve as pets. Reading, recently, W. H. D. Le Souëf's "Wild Life in Australia" (Christchurch, N. Z., and London, 1907), I came across a passage which very probably contains the real explanation of the aboriginal's domestication of the dog. Le Souëf writes:

> I used to wonder why the natives shifted their camp so often, but I don't now, as, although we were only in ours three days, the amount of evil-smelling refuse that the natives had thrown away close to the camp was considerable, and the odour was perceptible on the third day before the camp even came in sight, and being in thick scrub there was not much breeze to carry it off, and flies and ants were attracted in numbers. If we had had several dogs, instead of only one, it might not have been so bad.

Now, in every Australian camp the dogs *do* act as scavengers, but this fact has been overlooked as of no significance. It is only when an observer draws attention to what happens when only *one* dog is present in a small temporary camp, that we can perceive the real importance of the dog in the social life of the individual and of the group.

It is not the stench alone of the decomposing refuse, but the flies and insects and other noxious creatures which this attracts that the dog tends to eliminate, to such an extent indeed that he becomes indispensable. It may be suggested that it was probably the same or a similar complex of reasons that led to the domestication of the dog elsewhere in the world.

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FIRST CASE OF HUMAN INFECTION WITH MESOCESTOIDES

SOME tapeworms recovered from a 13-months old white child at Nacogdoches, East Texas, recently referred to me for identification, were found to belong to a species of Mesocestoides. This constitutes the first record of infection of any Primate with adults of this group of tapeworms. The specimens found conform closely in most respects with a species recently found by the writer[1] in raccoons in East Texas, which were referred to the species *M. variabilis* Mueller, 1927, 1928, previously known from foxes and skunks. Species of Mesocestoides are characteristically found in carnivores and birds of prey, although one species, *M. latus* Mueller (1927, 1928), occurs in opossums and another, *M. corti* Hoeppli (1925), has been reported from the house mouse. The full life history of these tapeworms has not been elucidated; a larval sparganum-like form known as a tetrathyrideum has been found in insectivorous reptiles, birds and small mammals, but it seems probable that there is an earlier larval stage in an arthropod. The human infection, however, was probably derived from eating the improperly cooked flesh of some animal harboring the tetrathyrideum stage.

The worms recovered from the child were stated to total over 35 feet, but individual worms have an estimated length of about 40 cm, with a maximum diameter of less than 2 mm. The child harbored the worms for at least several weeks. She was fretful and anemic, had a poor appetite and complained of abdominal pain. The worms were apparently all expelled after two treatments with oleoresin of Aspidium, and the symptoms disappeared. A fuller report, with a description of the worms, will be published elsewhere.

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[1] A. C. Chandler, *Jour. Parasitol.*, 28, 227–231, 1942.

LAND AND WATER AREAS OF THE UNITED STATES

THE Bureau of the Census has just sent to press a publication which provides the first basic remeasurement of the land and water area of the states and counties of the United States to be released since the work of Henry Gannett in 1881. In addition, for the first time, land and water areas are given for each of the 50,000 civil divisions of the counties, a fact which will provide a per-square-mile density basis for census statistics possessing sixteen times the refinement of comparable county densities.

This publication, which is the product of five years of planning, measurement and verification, employed procedures approved in conferences with the U. S. Coast and Geodetic Survey, the U. S. Geological Survey and the General Land Office. Greatly improved maps made it possible to undertake these remeasurements. This work was based on the 1937 series of the U. S. Coast and Geodetic Survey aeronautical charts on a scale of 1:500,000. The area of the United States by states was computed by using geodetic tables based on the Clarke spheroid of 1866 adjusted to conform to the legal ratio of 39.37 inches to the meter. The areas of all thirty-minute quadrilaterals falling entirely within each state, as given by these tables, were combined with the partial areas of thirty-minute quadrilaterals as determined by planimeter measurement. Counties shown on the U. S. Geological Survey and Post Office Department state maps, on scales of 1:500,000 and 1:750,000, respectively, corrected to conform to 1940 boundary conditions, were measured and adjusted to the state totals computed from the aeronautical charts. For the minor civil division and city areas, the best available

large-scale highway, post route, topographic quadrangle or miscellaneous map for each county was measured and adjusted to the county area totals. A basic contribution to the precision of area measurement is provided by adequate definitions of land and water and an objective system for establishing the outer limits of the United States in terms of readily duplicated criteria. The work on this project was initiated by and carried forward under the supervision of Clarence E. Batschelet and Malcolm J. Proudfoot, chief and assistant chief of the Division of Geography.

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SCIENTIFIC BOOKS

THE BASAL GANGLIA

The Diseases of the Basal Ganglia. Volume XXI of the Proceedings of the Association for Research in Nervous and Mental Disease; December 20 and 21, 1940, New York. 719 pp. Baltimore: Williams and Wilkins Company. 1942. $10.00.

THE year 1940 was a strategic time to hold a symposium on diseases of the basal ganglia, to bring to the attention of clinicians and physiologists that now at last this refractory field is beginning to yield to repeated attack. The volume issued by the Association for Research in Nervous and Mental Disease contains neither sweeping new revelations, nor the clear picture which may finally be put together out of the studies of many investigators working from different points of view. It does, however, contain new evidence and interpretations, both derived from, and leading to new methods of treatment. And already these are beginning to shape into a new understanding.

The nineteen papers which constituted the symposium vary greatly in length and quality, and unfortunately not all of them are significant as printed, whatever their significance in practice may be. In this medley a variety of points of view is represented. Read consecutively, there emerges a clear idea of the directions of development in the field, and also of the impediments; especially preconceptions, and the too facile use of ill-defined terms. There is probably no other field of organic neurology which is so handicapped by lack of agreement on the content of concepts and on the definition of terms.

Although the chapters are not grouped in the book, the symposium seems to have been organized in six parts: anatomy, physiology, pathology, both anatomical and physiological, non-surgical treatment and surgical treatment, with a lively historical introduction to the whole. The anatomical section runs true to form in concreteness and detail of evidence on a number of points. It is especially noteworthy, however, for Papez enlightened presentation of current concepts of neural organization of motor function in the brain stem, illustrating in this the slow molding of thought in response to painstaking anatomical analysis.

In striking contrast is the physiological section, in which concepts impinge with the still unchallenged authority of yesterday's successful experiment. Considering the physiologist's long defeat in the field, unequivocal positive results such as are presented in three of these four papers are cause for rejoicing, even though the evidence is still far from creating a picture of the working of the basal ganglia. The last of these papers, by Dusser de Barenne, Garol and McCulloch, is especially significant as a new departure in experimental attack.

Pathological anatomy has hitherto been the most rewarded field of investigation of basal ganglion disease, and perhaps not much new should be expected. It is gratifying, therefore, to find in Alexander's paper both new evidence on and an interpretation of *Status marmoratus* Striati, and a physiologically oriented reconsideration of the time factor in the development of basal ganglion syndromes.

As to pathological physiology: Goodhart's brief commentary, which accompanied a motion picture exhibition at the symposium, affects me like the account of the fine party which I missed. The film was to have been made available for teaching purposes, and should be invaluable for that, especially if it is a talking film. Hoefer's paper, also on pathological physiology, applies modern electro-physiological technique to the analysis of muscle function in dykinesias, both of basal ganglion origin and others, with results that should exact clarification of concepts and of terminology.

Non-surgical treatment of "basal ganglion disease" has been disappointing, and the section dealing with it corresponds. Nevertheless, the papers of Phelps and of Carlson, and the discussion following, raise questions which are here and there suggested in the rest of the volume, but not clearly formulated. The personal and social aspects of these disorders will undoubtedly present problems long after their pathological physiology is reasonably well understood. The unexplored direction which I feel most strongly, looking back on the volume as a whole, is the emotional and psychic; the psychosomatic relationship. Throughout the clinico-pathological and clinical and