

same center, changes in this case being induced particularly by activity of the vagus nerve or of the thyroid gland.

Thus we see that this power which we attribute to the brain, of switching by tuning of chronaxies, is not an anthropomorphic fancy, hidden behind a supposed mechanism. This power will appear as an obvious consequence of the nature of the mechanism itself when research along this line has been sufficiently advanced. In the meantime, the analysis of spinal reflexes, either simple or complicated, should be first worked out, for this is the best way to reach little by little a knowledge of the entire nervous system. Perhaps I may cite very recent researches, or rather the first result of a series just initiated. We have found that the chronaxie of the motor neurones of each muscle, in a decerebrate animal, undergoes large variations according to the posture of the limb. This indicates that reversal of a reflex depends on chronaxie switching.

Our theory easily solves the problem of inhibition. This phenomenon, until now so mysterious, does not raise any difficulty for the theory of chronaxie switching. Let us consider the question in terms of the

same classical example of an elementary nervous function that we chose for excitation itself. In the so-called "simple reflex" we have seen that extensors must not contract at the same time as flexors. There is something more than this. These extensors, in the state we call rest, are really in a condition of slight tension, designated long ago as "tonus." This tonus depends on a slight continued nervous activity. Sherrington, as is well known, has shown that in the flexion reflex at the very moment when their antagonists contract, the extensor muscles relax; that is to say, their tone is inhibited. We explain this in terms of our theory, by assuming that in the chain of neurones carrying the tonic impulses there is one whose chronaxie may undergo such a change as to produce disjunction. This is obviously only one particular aspect of the switching mechanism. We have pointed out that as between two or more pathways anatomically established, homochronism and heterochronism serve to open one of these pathways and close the other. Inhibition may be regarded as simply the closing of certain pathways. If alteration in the chronaxie of nervous elements explains the opening of nervous pathways it likewise explains their closing.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE SECOND BERKELEY MEETING OF THE PACIFIC DIVISION. II

By Dr. ARTHUR G. VESTAL, Secretary

AMERICAN ASSOCIATION OF ECONOMIC ENTOMOLOGISTS—PACIFIC SLOPE BRANCH

(Report by R. E. Campbell, Secretary)

Three sessions were held separately and one with the termite investigations committee. Chairman O. H. Swezey opened the first session with a discussion of the evolution of certain insect species in Hawaii. E. O. Essig reported that beans taken from Indian graves in Peru of periods A. D. 1 to 500 and 1000 to 1500 showed the work of the bean weevil, and one nearly perfect specimen was obtained. Ralph H. Smith showed how various practices affected the mixing and application of oil sprays. G. P. Gray and A. F. Kirkpatrick showed that a heavy dose of HCN gas followed by a light dose is more destructive to scale insects than light followed by heavy dose. They gave added proof that in certain districts the black scale is more resistant to HCN than in other districts. F. B. Herbert discussed codling-moth control in the northwest. A paper by S. L. Allman gave details of the control of the codling-moth in Australia. A. M. Boyce told of progress in study of the walnut husk fly, a new injurious insect in southern California. W.

B. Herms announced that all stages of the Hippolates fly have now been found and the breeding-places located. E. A. McGregor reported promising results in the control of citrus thrips and citricola scale by the use of very finely divided sulphur. Perez Simmons described certain advantages of ethylene gas for fumigating dried fruit to kill insects. H. J. Quayle gave observations on the Mediterranean fruit-fly in Florida. Don C. Mote gave an account of the habits of the strawberry crown borer. The crawling of newly hatched larvae down the outside of the crown may prove to be its vulnerable point. F. H. Wymore showed that hydrated lime and gypsum applied with or without an arsenical will control cucumber beetles. There was little injury from the lime. R. L. Webster reported on serious damage to potatoes in western Washington from larvae of flea-beetles. H. R. Hagan gave a paper on the principal fig insects of Smyrna, and methods employed to meet the new requirements in figs shipped to this country. G. H. Vansell reported that the German requirement of diastase in honey is unjust, as many types of honey are naturally very low in diastase. Efforts by G. H. Vansell and

S. B. Freeborn to find the source of diastase revealed a small amount in pollen and in the mid and hind gut of the honey-bee. R. W. Doane gave an account of how ambrosia beetles plant, cultivate and harvest fungi for food.

The entomologists' dinner was held on June 20 at Stephens Union. Officers for the ensuing year are: Don C. Mote, *chairman*; Perez Simmons, *vice-chairman*, and Roy E. Campbell, *secretary-treasurer*.

SAN FRANCISCO AQUARIUM SOCIETY

(Report by G. S. Myers, President)

A session was held on June 19. C. E. Grunsky, in an account of "The Aquariums of Europe," compared their equipment and collections with those of American public aquariums, particularly the Steinhart Aquarium in San Francisco. He emphasized the greater attention paid to public education in the American institutions. B. W. Evermann's paper on "The Scientific and Educational Value of Public Aquariums" referred especially to their teaching and informational value. George S. Myers spoke on "The Use of Fishes in Mosquito Control," particularly of the success in the campaign against yellow fever in the American tropics. He outlined the problems involved in combating malaria.

THE AMERICAN SOCIETY OF ICHTHYOLOGISTS AND HERPETOLOGISTS

A group of western members of the society met at luncheon on June 20 to organize a western division. Organization was effected, and the following officers were elected: J. O. Snyder, Stanford University, *president*; R. L. Bolin, Hopkins Marine Station, *vice-president*, and G. S. Myers, Stanford University, *secretary-treasurer*. Plans for a fall meeting were discussed.

TERMITE INVESTIGATIONS COMMITTEE

Since the research activities of the termite committee are centered at the University of California, it was appropriate that some of the results be presented in a special program on the occasion of the gathering of the scientific societies at Berkeley. Two programs were held on Friday, June 21, the morning session with the Western Society of Naturalists, the afternoon session with several of the biological groups. Bessie Noyes described the sense-organs of *Termopsis angusticollis*. F. H. Connell presented the life-cycle of an *Oxymonas* from *Neotermes simplicornis*. Bessie J. Andrew's experiments on refaunation in *Termopsis* were reported by S. F. Light. The internal associates are lost during ecdysis, but are reacquired in several ways. N. L. Wihr explained how the intestinal protozoa of *Termopsis* differ characteristically during suc-

cessive developmental stages. Experiments by T. D. Beckwith and E. J. Jones showed the varying effectiveness in cellulose-digestion of organisms from the termite gut. A. E. Peterson described experiments in transferring faunas from one termite species to another.

In the program of the afternoon, S. F. Light gave a general account of the geographic distribution of termites. Harold Heath, who has worked for many years at Stanford University on morphology and development of termites, told of the origin of the termite castes. A. L. Pickens described the natural history of *Reticulitermes hesperus*. Merle Randall reported on the chemical basis of the protection of wood against termite attack. Harold Kirby, Jr., outlined some of the problems in the study of the protozoa of termites.

Dr. Light's address before the Pacific Division on Friday evening was also on termites, and gave an able résumé of the economic problems occasioned by them.

ECOLOGICAL SOCIETY OF AMERICA

(Report by A. W. Sampson, Secretary for the
Pacific Coast)

A session was held on the afternoon of June 20, and a second, with the Western Society of Naturalists, the next morning. Ernest Wright presented results of experiments on tolerance of seeds of woody plants to high temperatures. Those of certain chaparral shrubs were most resistant. C. F. Shaw presented a formula summarizing factors of soil formation. These are climate and vegetation acting upon parent material through time, with results modified by deposition or erosion. E. B. Copeland reported that certain chaparral shrubs in the mountains above Chico, California, use about forty inches of water a year, as estimated by the cobalt-chloride paper method. A. W. Sampson showed that establishment of vegetation on clay horizons exposed by erosion of topsoil is retarded. Water-requirement, as found in cultures, is much higher for the B horizon. Low nitrogen content may be responsible. W. C. Lowdermilk showed that forest litter functions beyond its saturation by rain in influencing absorption of precipitation. On bare slopes, muddy water seals the pores and increases superficial run-off and erosion. H. de Forest presented data on environmental conditions in chaparral in southern California. He emphasized water relations and the reaction of the vegetation upon physical conditions. A. G. Vestal showed how chaparral bushes are killed by insufficient rainfall or by cattle, and how successional trends and dominant species vary with differences of soil texture and soil development.

R. C. Miller described the life-history of certain wood-boring mollusks of the *Teredo* group, and pre-

sented a graph of resistance of the northwest shipworm to fresh water. Results were presented of studies by T. G. Thompson, R. C. Miller, R. U. Bonnar and A. W. Snoke on physical factors and plankton-content of sea-water in Puget Sound during 1927-1928. Esther Pardee Topp and Francis Marsh Baldwin presented data on physicochemical changes in sea-water off southern California as related to occurrence of plankton. Summaries by W. E. Allen of phytoplankton collections during ten years from the Atlantic and Pacific Oceans show predominance of near-shore diatoms, with greatest abundance in the vernal period. D. H. Wenrich gave results of studies of seasonal distribution of four ciliate protozoa of ponds. The fluctuations in numbers could not be correlated with temperature. Elsworth Lumley and R. C. Miller showed that morning awakening of birds is primarily a function of illumination. Forty-five per cent. of California quail, as reported by E. C. O'Roke, are infected with *Haemoproteus lophortyx*, which has a life-cycle similar to that of the malarial parasite. The disease is transmitted by the parasitic louse-fly *Lynchia hirsuta* Ferris.

WESTERN SOCIETY OF NATURALISTS
(Report by C. V. Taylor, Secretary)

The Thursday morning program of invitation papers opened with E. L. Walker's report of his studies on leprosy, showing that stages of *Actinomyces leprae*, found in soil, are identical with bacteria from lepers, also with Hansen's acid-fast bacterium. F. W. Weymouth reported on comparative growth-rates of the Pacific razor clam over a range of 2,500 miles of coast-line. The slow initial growth of northern forms is associated with a later more rapid growth, larger size and longer life. For all localities the growth-rate throughout life forms a descending geometric series. O. L. Sponsler concluded from X-ray analysis that cellulose exhibits a crystalline structure whose components closely approximate the glucose molecule. O. Larsell demonstrated that size reduction of the right optic lobe of tadpole larvae, following removal of the left eye, was due to absence of functional stimulus normally reaching the cortical opticus.

In the afternoon program, A. R. Moore reported that fertilization and development of the sea-urchin egg can occur without either the fertilization or the hyaline membrane. In balanced lethal strains of *Drosophila melanogaster*, E. B. Babcock and J. L. Collins found that lethal mutations occurred 100 per cent. oftener under conditions of greater earth radiation. W. H. Manwaring concluded that protein symbiosis remains a possible factor in evolution. B. M. Allen, through transplants of hypophysis of 17 mm into 30 mm *Rana* larvae, induced in the latter decided

color changes. Florence Landry and F. M. Baldwin found that the body temperature changes in the Gila monster differ from environmental temperature never more than 3° C. C. H. Danforth showed by skin transplants that the factors controlling so-called hen-feathering are located chiefly in the skin, except that in the same race control is effected by the endocrines. K. Scott Bishop and A. F. Morgan reported mild xerophthalmia and other signs of vitamin-A deficiency in rats having abundance of vitamin A in diet, due to change in the Ca/P ratio. The construction of micro-thermocouples was described by D. M. Whitaker. They are used for temperature measurements within the living cell to one two-thousandth of a degree. J. F. Kessel and H. Jenks discussed identification of five species of *Eimeria* in the intestine and liver of rabbits, based on form of micropyle and residual body. It was shown by Laura Garnjobst that encystment and excystment of the ciliate *Holosticha*, found near the Plymouth Laboratory, can be induced at will and that its binary fission occurs only within the cyst. Louise Shedd gave an account of induced encystment of *Bursaria*, and the dedifferentiation of its ciliary apparatus.

Officers elected for the ensuing year are: *President*, O. L. Sponsler; *vice-president*, O. Larsell; *secretary-treasurer*, C. V. Taylor; *council*, B. M. Allen and A. R. Moore.

SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE
—PACIFIC COAST BRANCH

(Report by T. D. Beckwith, Secretary)

Sessions were held Thursday afternoon and Friday morning, in the Zoology Building. Experiments by J. M. Luck and Melville Sahyun showed that epinephrine with insulin in rabbits markedly increases the glycogen content of the liver, although there is no such change of glycogen content in the skeletal muscle. M. Barmore and J. M. Luck stated that phosphates (the PO_4 ion) increase the velocity of biological oxidations. B. M. Allen reported that injection of pars intermedia into tadpoles produces intense pigmentation, but implantation of pars nervosa does not produce pigmentation. Combined they produce also a contraction of the body wall. A second paper by Dr. Allen stated that thyroxine brings about metamorphosis of tadpoles, whether the thyroid or hypophysis be present or removed.

W. H. Manwaring, J. L. Azevedo and T. H. Boone showed by immunological technique that foreign protein injected into an experimental animal may multiply there. Dr. Azevedo and Dr. Manwaring showed that when a foreign serum albumen is injected into an experimental animal, the most persistent fraction of the alien protein is the globulin. Diseased ducks

studied by Paul A. Shaw showed rectal temperatures about 2° C. less than normal. There is a slight increase in blood sugar and an increase in uric acid. G. J. Peirce reported the use of a suspenoid of starch to determine ascent of water in stems. Only certain of the vessels in wood can carry water. Tests of absorption of agglutinins by B. S. Henry showed distinct differences between *Brucella melitensis* derived from pork and strains derived from bovine sources. K. F. Meyer and B. Eddie have discovered that in macacus monkeys the feeding of bovine *Brucella abortus* induces an infection without fever. Pork strains cause a febrile reaction. The monkey has a certain degree of intestinal immunity against these bacteria. P. J. Hanzlik and D. A. Wood, in an account of mechanism of digitalis emesis in pigeons, stated that the liver is the seat of action resulting in emesis, and that this is a vagus reflex. C. C. Johnson gave his finding that acidosis after administration of salicylates is moderate only.

According to M. L. Tainter and W. VanDeventer, antiedemic actions of calcium and parathyroid extract in experimental systemic and local edemas are conditioned more by blood pressure than by the calcium content. T. D. Beckwith showed that the green alga *Chlorella* has a somewhat bacteria-like metabolism. Certain strains reduce nitrate to nitrite; one variety changes nitrite to nitrate. Peptone stimulates them. Utilization of different food-substances varies with light conditions and tends toward a basic reaction. John F. Kessel transferred *Giardia lamblia* to kittens. He found that the cat may serve as a reservoir host for man. Olive Swezy and Herbert M. Evans reported that mammalian ova have a shorter life span if unfertilized than any group of cells in the body outside of the reproductive tract. Dr. Swezy and Dr. Evans in another paper suggested that maturation of human embryonic ova may possibly be due to the action of maternal hormones, which have no effect upon male embryonic cells. E. G. Martin found that energy requirements of individual muscle fibers during violent exercise are three thousand times greater than that of resting muscle. A. F. Morgan and G. L. Anderson found that a deficiency of vitamin A in the dog brings about a progressive decrease in allantoin secretion, compensated in part by increase in uric acid.

BOTANICAL SOCIETY OF AMERICA—PACIFIC SECTION

(Report by G. J. Peirce, Chairman)

Sessions were held in the forenoons of June 20 and 21. The first session began with the presentation by A. S. Mulay of a statistical study of total nitrogen in Bartlett pear shoots. Intensity factors in growth were discussed by H. S. Reed. Work by K. S. Mark-

ley and Charles E. Sando suggested that too much waxy material on the skins of apples may cause storage scald by retarding respiration. The relation of wind injury to gumming in orange twigs was discussed by E. T. Bartholomew. He showed in a second paper that petroleum spray oils actually penetrate into citrus tissues and are found as droplets within the cells. W. V. Cruess and W. Y. Fong described the effect of hydrogen-ion concentration on the inactivation temperature of fruit oxidases. W. B. Davis and C. G. Church reported that ethylene hastens ripening of persimmons, probably through its influence upon respiration. H. L. van de Sande Bakhuyzen gave additional experimental evidence for his colloidal theory of permeability.

A demonstration of genes was given by Dr. John Belling on Thursday afternoon. The botanists participated Thursday evening in the dinner for biologists.

The Friday morning session began with a business meeting. H. P. Barss was elected chairman for the next year, and E. T. Bartholomew, secretary-treasurer for the next two years. W. W. Mackie discussed the origin of cultivated barley in the light of genetic and pathological indications. E. E. Stanford proposed certain revisions in the classification of the Polygons of western North America. W. M. Heusi presented results of experiments on taxonomic relationships of *Zauschneria*. F. Murray Scott demonstrated Golgi apparatus in the seedling of *Vicia faba*, and presented her interpretations. Effects of high-frequency radiations on plants were shown by T. H. Goodspeed. D. N. Borodin presented tables designed to indicate effects of mitogenetic rays on cells of root-tips, and showed photomicrographs of the root sections.

AMERICAN PHYTOPATHOLOGICAL SOCIETY—PACIFIC DIVISION

(Report by B. A. Rudolph, Secretary)

Four half-day sessions of the society were held with an average attendance of forty members.

H. S. Fawcett reported transmission of *Nematospora coryli* to citrus, pomegranate and cotton bolls by *Leptoglossus zonatus*, the western leaf-footed plant-bug. C. O. Smith regards *Phyllosticta narcissi* Ander. and *Stagosporium Curtisii* (Berk.) Sacc. as identical, since either may produce pycnidia and spores of the other when inoculated in the scapes and leaves of *Amaryllis*. E. Carsner and C. F. Lackey demonstrated that mass action in sugar-beet curly-top is a factor in infection. It is suggested that this phenomenon is a reversible chemical reaction. W. W. Mackie found no resistance in bread wheats to *Septoria tritici* but by repeatedly crossing them with re-

sistant varieties has produced a resistant hybrid. Mackie also crossed hybrids highly resistant to barley "scald" with highly susceptible plants. The progeny suggested a 3:1 ratio of susceptible to resistant due to a single factor for resistance. M. Shapovalov's observations indicate that psyllid yellows may be transmitted with the tubers. The progeny may show various stages of the disease. Mixed with mosaic in the same plant distinct reactions occur. Harold E. Thomas finds there is no correlation between the growth of *Armillaria mellea* on the expressed sap from the root of a host, and its resistance. C. F. Lackey showed that curly-top virus can be attenuated by passing through certain plants. Chickweed reactivates the attenuated virus to almost its original virulence. R. H. Marloth described physiological differences existing between *Penicillium italicum* and *P. digitatum* grown in culture as a means of differentiating between them. Evidence obtained by O. Swezy and H. Severin indicates that Rickettsia-like organisms found in the intestines of infective *Eutettix tenellus* from curly-top sugar-beets have a filterable stage. J. B. Kendrick found sulphur-containing compounds to be distinctly inferior to copper-lime dusts in preventing the germination of spores of *Bremia lactucae*. Kendrick also outlined promising results obtained in the selection of *Fusarium* wilt and root-knot resistant cowpea varieties. Wm. T. Horne distinguished between the better-known diseases of avocado and suggested the new name "Carapace spot" for a certain blemish attributable to mechanical injury. The histological work by L. J. Klotz upon citrus fruit decayed by *Penicillium italicum* and *P. digitatum* shows that there is no observable difference in the method of attack of the two species. A study made by L. D. Leach indicates that under California conditions *Sphaerotheca humuli* overwinters on raspberry debris rather than in the buds of this plant, as reported elsewhere. Ruth F. Allen discussed heterothallism in *Puccinia graminis*. Her paper was generally considered to be of notable excellence. Ralph E. Smith summarized all that is known of diamond canker, the comparatively new disease of prune. Evidence that it is of parasitic origin was presented. In another paper Smith reported isolating *Sclerotinia sclerotiorum* from many healthy cultivated plants, wild flowers and weeds placed in moist chambers. Ascospores blown to these plants are believed responsible. H. N. Hansen presented evidence that *Phoma terrestria* sp. nov. is responsible for pink root of onions rather than the *Fusaria* now associated with the disease. L. J. Klotz and H. S. Fawcett have studied the relative susceptibility of seventy-eight species and varieties of citrus to bark infection by *Phytophthora citrophthora*. H. Knight, J. C. Cham-

berlin and C. D. Samuels found saturated oils of 60 seconds Saybolt viscosity to affect respiratory processes of plants less than those of 75-110 viscosity. W. Jones and T. E. Rawlins reported that the electrical resistance of juice and tissue of potato tubers affected with spindle-tuber disease is lower than that of sap and tissue of healthy tubers. H. S. Fawcett and C. L. Shear have found a *Diaporthe* to be the perfect stage of *Phomopsis californica* Fawcett. A technical description will soon appear. C. P. Sideris has studied the relative susceptibility of many economic plants to attack by *Pythiaceae* root-fungi isolated from pineapples and other Hawaiian crops. In other papers he described diagnostic characters for the genera *Nematosporangium*, *Pythium*, and *Phytophthora* of the family *Pythiaceae*, and enumerated species of these genera and other fungi which attack the pineapple. J. T. Barrett reported an unusually heavy infestation of Golden Ophelia roses with aerial crown-gall, there being practically no root infection. B. A. Rudolph has prepared a digest of the literature dealing with *Verticillium hadromycosis*, also a complete host index based on the literature.

Motion-picture films of members of the society were shown during the sessions and were greatly enjoyed.

WESTERN PSYCHOLOGICAL ASSOCIATION

(Report by P. R. Farnsworth, Secretary)

The opening session, on Thursday morning, June 20, was devoted to a wide variety of topics. H. E. Weaver discussed his work on the tachistoscopic and eye-movement aspects of the reading of music. H. E. Jones described the instruments now being used in the child work of the Institute of Child Welfare at Berkeley. J. G. Yoshioka reported that the albino rat shows no sense of direction in an ordinary maze situation, but in an open space it orients itself directly toward the goal. E. A. McAnulty displayed test item results on children of identical mental age but of very different chronological age. P. R. Farnsworth reported success in considerably raising the reliability of two "music" tests, Victor Record 35773, and no success with Columbia Record A 7539. A paper by H. H. Jasper on "Relationships between Perseveration, Introversion and Depression" concluded the session.

J. E. Coover began the Thursday afternoon session with a paper demonstrating that the learning curve of certain functions is not qualitatively homogeneous throughout. H. R. DeSilva discussed data which indicate that binocular summation of brightness exists, contrary to orthodox opinion. That there is more individuality in the heart-rate response when subjects are at rest than when at work was indicated by the work of W. R. Miles. R. H. Seashore cited advan-

tages for the project method of conducting advanced laboratory classes in psychology. The thesis that albino rats can learn a maze with the aid of visual cues alone was supported by A. Walton. The last paper was by G. M. Stratton, on the behavior of different nationalities in the United States.

C. C. Miles opened the Friday morning session with a presentation of data on sex differences in certain emotional attitudes. H. C. Gilhousen reported a study of errors in learning to work a serial choice reaction-time apparatus. J. Ball discussed a method of quantitative measurement of sexual excitability in the female albino rat. A paper by H. R. Taylor on the prediction of college success at the University of Oregon closed the session.

Three papers were offered during the last session. Herman Adler described the founding and operation of the Institute for Juvenile Research at Chicago. R. Redfield followed with a discussion of the meaning of mind to a social anthropologist. The last paper was by R. C. Tryon on genetics of learning ability in rats. After the annual banquet in the evening, retiring President Warner Brown spoke on the nature of intelligence.

WESTERN SOCIETY OF SOIL SCIENCE

The soil scientists' meetings were on the two days preceding the general meeting. The morning session of June 17 included two papers on peat soils of the west coast, and three dealing with alkaline soils and pH. Soil-moisture and soil-temperature problems were the principal subjects considered during the afternoon session. A symposium on base exchange in soils occupied the morning of June 18. The afternoon and evening sessions were chiefly devoted to problems of plant nutrition.

The new president of the Pacific Division of the American Association is Dr. Douglas Houghton Campbell, emeritus professor of botany, Stanford University. The new secretary, to fill the unexpired term of Dr. Vestal, is Dr. James Murray Luck, assistant professor of chemistry at Stanford University. The change become effective on August 1.

The 1930 meeting of the Pacific Division and associated societies will be held at the University of Oregon at Eugene; the 1931 meeting probably in southern California.

SCIENTIFIC EVENTS

THE AUSTRALIAN INSTITUTE OF ANATOMY

THE correspondent of the *Journal* of the American Medical Association writes that the commonwealth of Australia is the custodian, for the world, of an almost unique fauna. Particularly is Australia unique in regard to the marsupials, some of which, such as the kangaroo, the wallaby and the koala, are found nowhere else. It is fitting, therefore, that the comparative anatomist should seize the opportunity of studying these mammalian curiosities, for there is no doubt that the marsupial, like the Australian aboriginal, is disappearing. Both are difficult of domestication. Already the Tasmanian aboriginal has vanished, leaving behind a few skeletons. Since the position regarding the marsupials was realized, about twenty years ago, efforts have been made to study and preserve the species. Large tracts of suitable virgin country, such as Wilson's Promontory in Victoria, have been set aside as sanctuaries for native fauna. Although not receiving the recognition and encouragement it deserves, enthusiastic anatomists, chief among whom is Dr. Colin Mackenzie, have done valuable work by an extensive study of the mammals and reptiles of Australia.

Since the foundation of the national capital at Canberra, plans have been prepared for the Australian Institute of Anatomy, the erection of which is estimated to cost £100,000. The buildings will cover an

area of 44,450 square feet and will be erected on a site of 8 acres. Dr. Colin Mackenzie has been appointed director of the institute. This appointment has been universally approved. Associated with the institute will be a reservation of 80 acres occupying a peninsula of the Molongolo River, where members of the unique Australian fauna will be studied in their natural state.

Canberra is destined to become the anatomic center of the Pacific, and from the point of view of specimens the Australian Institute of Anatomy will, in the future, rank second only to the Hunterian Museum of the Royal College of Surgeons in London. Dr. Colin Mackenzie has donated his complete anatomic museum, consisting of hundreds of macroscopic specimens and thousands of microscopic preparations. Other notable gifts include the Horne-Bowle collection of aboriginal stone implements, the Murray Black collections and valuable specimens from Messrs. Otway Falkiner and E. Hill. Mr. Harry Burrell, of Sydney, has presented to the institute his unrivaled collection of specimens dealing with the life history of the platypus. The present value of the collections is estimated at £100,000, and, at the present rate of accessions, in a few years, they may be worth £250,000.

Facilities for study will be offered not only to research workers in this country but to those from overseas. The institute will afford exceptional oppor-