the disposal of agencies working toward conservation of the natural resources of Missouri.

A SUIT for recovery of $215,730, allegedly lost by the American Society of Mechanical Engineers in publishing *The Engineering Index,* was brought up in Supreme Court when the plaintiffs moved on February 16 for appointment of a temporary receiver for The Engineering Index, Inc., a separate corporation which has published the index since 1934. The plaintiffs are two members of the society, Clifford J. Stoddard and John Parker, suing on behalf of themselves and other members. The complaint alleges that in 1927 the society advanced money for the *Index* and for a service known as the Engineering Card Index Service, but that eventually the Engineering Index, Inc., was organized as a non-profit-making corporation to publish the magazine, the society receiving a small percentage of the income. The suit seeks to invalidate this agreement and wants an accounting of the corporation. A similar suit, brought in 1935, was dismissed after an official referee found that "no property or funds of the American Society of Mechanical Engineers has been misappropriated or diverted to any other purpose than for which the society was incorporated."

THE *Manchester Guardian* prints in its issue of February 7 the following: "The *Berliner Tageblatt* reports a lecture given by Geheimrat (Privy Councillor) Professor Dr. Stark, president of the National Physical and Technical Institution (Physikalisch-Technische Reichsanstalt), on 'Dogmatism and Experience in Atomic Research.' Professor Dr. Stark, according to this report, rejected the theory of the form of the atom the moment it was put forward by Lord Rutherford and Niels Bohr—less on technical (sachlichen) grounds than from fundamental objections to their acceptance of views and dogmas of Jewish physicists. He now wished not only to criticize but to bring forward something better as an alternative. He described his new model of the atom with the aid of a short film. Its main feature is that the electron has not the form of a sphere, assigned to it by the Jewish physicist Abraham, but that of a vortex-ring (Wirbelring). Jewish influence, said Professor Dr. Stark, had gone so far that even non-Jewish scientists like Planck, Bohr, Von Laue, Schrödinger and Heisenberg had become partisans of the false doctrine (Irrlehre), and no young lecturer who gave a thought to his career dared to oppose the dominant theory. Some particularly pushing physicists married Jewish women in order to advance their careers. Now that these monstrous circumstances had been discovered, German and authentic (arteigene) physics would forge ahead. 'Privy Councillor Stark's lecture is to serve,' the report concludes, 'as a new thrust to eliminate from German physics the effects of the Jewish mind.' Unfortunately, Stark said in conclusion, in the two decades no important discovery had been made by physicists of the German alignment."

DISCUSSION

SURVIVAL OF MARMOTS AFTER NEPHRECTOMY AND ADRENALECTOMY[1]

IN studying a series of nephrectomized marmots (*Arctomys monax*) during the early part of 1936, it appeared very strange that the first animals used did not seem to suffer any ill effects from the operation. Both kidneys had been completely removed at one sitting. For two, three and (in some cases) four weeks they ate and drank freely and appeared in good health, fighting vigorously with their cage-mates occasionally like normal animals. This is strikingly different from observations made on other mammals: rats, guinea-pigs, cats and dogs quickly show severe effects and survive only a few days after bilateral renal excision. All the marmots which were nephrectomized eventually succumbed, however, with the usual symptoms observed in other animal forms. In many observed cases, food was eaten within a few hours of death.

Recalling earlier observations on adrenalectomized marmots which survive for months—until spring time—when operated on during the winter, it was thought possible that seasonal variations in survival after nephrectomy might also be shown by this species. Several animals were nephrectomized, therefore, throughout the summer period—or the warmer half of the year, from April to September, in this latitude. In all these cases the post-operative life-span was very short and approximated that found in the usual laboratory types.

In the winter-nephrectomized group (October to March), four marmots survived 28 to 35 days and two others 21 days each; the average survival period in seven cases was 20 days. In 15 summer-operated animals the life-span averaged, in contrast, only 6 days. The latter group showed considerable reductions in serum sodium and chloride, and more marked rises in blood urea than the winter-operated series. Very high blood urea values, running sometimes over one per cent., were observed.

[1] Grateful acknowledgment is made of aid received from the Rockefeller Foundation.

Observations on adrenalectomized marmots are in some respects similar to the above. Prolonged survivals (average 70 days in 12 cases) occur when the adrenal glands are removed in the months from October to March, and very short survivals (average 5 days in 19 cases) are observed in summer.[2] All animals which are adrenalectomized in winter survive until spring, however, when they die with the usual symptoms of insufficiency. Early winter-operated individuals thus show much longer survival times than others. Five marmots adrenalectomized in November and December, for example, showed survivals which averaged 98 days, while 5 operated on in February and March averaged only 44 days. No comparable winter-month variations in survival have been observed after nephrectomy. There is apparently a definite survival limit of about 4 weeks for winter-nephrectomized marmots, while that for adrenalectomized animals may vary from 5 to 20 weeks according to the time of operation.

It is emphasized that the marmot does not hibernate under ordinary laboratory conditions which are kept fairly constant throughout the year. Body temperature, feeding habits and general activity are normally maintained in winter as in summer, and the body weight is frequently increased. Winter-nephrectomized (or adrenalectomized) marmots are indistinguishable from normal unoperated animals until within a few hours of death. The remarkably long survivals recorded above are probably not referable, therefore, to any reduction in metabolic activities. The dispensability of renal and adrenal functions for very prolonged periods in the marmot is well demonstrated.

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THE BLACK WIDOW SPIDER IN VIRGINIA

RECENTLY, several articles on the distribution of the black widow spider, *Latrodectus mactans*, have appeared in SCIENCE. In Lowrie's contribution[1] the statement is made that there now are " . . . only eight states (Minnesota, Iowa, Virginia, Delaware, New Jersey, Connecticut, Rhode Island, Vermont) in which the spider has not been officially recorded." If by "officially recorded," publication in a scientific periodical is meant, this statement is at variance with one in an article by D'Amour, Becker and Van Riper,[2] who combine the distribution records of Burt[3] and Bogen[4] and remark that this " . . . leaves only the following states from which the black widow has not been reported: Oregon, Minnesota, Iowa, Missouri, Wisconsin, Illinois and Vermont." If Oregon, Wisconsin and Illinois, states in which *Latrodectus* has been reported recently,[5] are subtracted from this second list, then only Minnesota, Iowa, Missouri and Vermont are left. When comparison is made with Lowrie's list, they agree on just three states, in which the spider is unreported officially, *viz.*, Minnesota, Iowa and Vermont. By implication, the Lowrie list places the black widow in Missouri while, similarly, the D'Amour article places it in Virginia, Delaware, New Jersey, Connecticut and Rhode Island.

With respect to Virginia, it was rather surprising to find it said that there was no official record from this state, since the black widow is common to abundant in most of the state. There have been several articles on the effect of its bite in the *Virginia Medical Monthly* and the *Proceedings* of the Virginia Academy of Science for 1934–1935 lists a paper on *Latrodectus* read by Elizabeth Burger, then a graduate student in the Department of Biology, College of William and Mary. The synopsis of this paper includes "the incidence of arachnidism in Virginia." In her unpublished master's thesis, on file in the William and Mary library, Miss Burger tabulates 118 cases of Virginians who suffered the serious bite of this spider, the result being fatal in one instance, that of a two-year-old boy in Charlottesville. These data, gathered from a questionnaire sent to hospitals and physicians throughout the state, can not be considered as complete, and also occasional errors in diagnosis are possible, so that the real incidence might be somewhat higher. We are privileged to quote as follows:

> The majority of these cases were in Tidewater Virginia especially around Norfolk and Richmond, and on the Eastern Shore. Fifteen cases from Bristol show that the range of the black widow extends into the mountains in this state.
>
> A large proportion of these cases occurred since 1930. Most of the cases happened in the spring, summer or fall, during the natural breeding season of the spider. . . . The spiders were located in privies in 25 instances, in a garden four times, in bed in three cases, on the ground in three instances, and once each in a stump, baseball glove, bathing suit, tobacco sticks and on a porch. Most of the patients had seen the spider, which they described as "black like a shoe-button with a red spot."

In the vicinity of Williamsburg, specimens can be secured at any time merely by investigating such sites as under stones or bits of wood, along brick walls or

[2] S. W. Britton, *Amer. Jour. Physiol.*, 99: 9, 1931.

[1] Donald C. Lowrie, SCIENCE, 84: 2185, 437, November 13, 1936.

[2] F. E. D'Amour, F. E. Becker and W. Van Riper, *Quart. Rev. Biol.*, 11: 2, 123, June, 1936.

[3] C. E. Burt, *Jour. Kans. Ent. Soc.*, 8: 4, 117, 1935 (cited by Lowrie).

[4] Emil Bogen, *Ann. Internal Medicine*, 6: 375, 1932.

[5] H. M. Field, SCIENCE, 83: 2147, 186, February 21, 1936, and L. H. Townsend, SCIENCE, 84: 2183, 392, October 30, 1936 (both cited by Lowrie).