

ring of living fibrous tissue, the old dangers of such an operation being completely obviated.

I have referred thus to my personal experience because asked to do so, and these examples are perhaps sufficient to illustrate the impediments which the existing law places in the way of research by medical men engaged in practise, whose ideas, if developed, would often be the most fruitful in beneficent results.

But even those who are specialists in physiology or pathology, and have already access to research work seriously hampered by the necessity of applying for licenses for all investigations, and the difficulty and delay often encountered in obtaining them.

Our law on this subject should never have been passed, and ought to be repealed. It serves no good purpose, and interferes seriously with inquiries which are of paramount importance to mankind. Believe me, sincerely yours. LISTER

QUOTATIONS

SCIENCE AND THE GERMAN CIVIL SERVICE¹

THE committee of the Institution of German Engineers urges that steps should be taken by modification of the law in the Confederate States, and particularly in Prussia, by removing the obstructions of the law of 1906 concerning eligibility for the higher posts in the civil service so as to make it possible that not only lawyers, but also graduates of the technical high schools should be able to take up careers in the higher civil service.

Already before the war, after exhaustive discussions extending over many years, the demand had been expressed that candidates for the higher posts in the civil service should be given a scientific academic training, so as to enable them to have a full understanding of the conditions of public life upon which industrial questions and the requirements of trade and commerce exert a preponderating influence at the present day. The war has confronted the state with an unexpected number of new problems that have caused it to call into

its service the intellect of the most diverse professions. This extension of admission to the higher careers in the civil service that has been introduced under the pressure of the circumstances of the time must be extended, the barriers that still exist in this respect must be removed, if it is to be possible to ensure the full development of the economic forces of the country after the war. It has now become an imperative necessity that the demand that has been expressed for many years by the Institution of German Engineers should be fulfilled, and that university graduates, particularly of the technical high schools, should be admitted to the higher grades of the civil service, so as to place the selection for this career on a broader basis.

Already ten years ago, on the occasion of the discussions in the Prussian Diet on the government proposals concerning the change of the course of study for law (1903), and later, after their rejection, in the discussions on the law concerning eligibility for careers in the higher civil service (1906), the government admitted readily that the training of the higher civil service officials did not correspond with the requirements of the day. The removal of this defect was unsuccessfully attempted at that time by a proposed reform of the academic curriculum, and is supposed now to have been achieved by means of the law of 1906 by measures that only take effect subsequent to the academic study. Later experience has shown that the method that has been adopted is hardly likely to be able to impart to the coming generation of state officials a special understanding of the economic processes that govern life in our days. The training of the majority of higher-grade officials in the civil service and communal bodies that has become customary and has been determined by the law consists in a secondary school education that has a particular bias towards the humanities, and a short university course which is almost exclusively composed of legal subjects.

The course of study laid down for the lawyers is at the same time, and without change, also the course of study for the officials of the civil service. This rigid connection of profes-

¹ Translation in the London *Times* Educational Supplement of a letter in favor of the opening of the German civil service to men of scientific training which has been addressed to Herr von Bethmann Hollweg by the Institution of German Engineers.

sions, that must be admitted to be very different in their practise, is unique in the whole educational system of Germany. It constitutes an inherent contradiction, and has gradually become an unsurmountable obstacle which will in all probability wreck the system that was to be built on the foundation of the law of 1906. The system of training that has been described above has created the peculiar situation that all young people who have a leaning towards any one of the numerous branches of the civil service, whether by family tradition, ideals, or special capacity, are forced, even against their inclination for science, to devote themselves completely to a legal training in order to pass the first law examination, as this provides practically the first documentary evidence obtainable for admission to a civil service career in the empire, the states, the communities, and many other posts. This route is closed to the graduates of other faculties—for instance, of all the experimental sciences—by the provisions of the above-mentioned Prussian law and of similar laws in the other German states, as well as by the custom that is developing in consequence of this law of appointing lawyers for administrative work.

In consequence of the preponderating influence that technical questions and the requirements of industry have to-day on all branches of public life and the increasing participation of the provinces; communities and towns in technical and scientific enterprises, civil servants are called upon to deal with problems the expert solution of which calls for just the type of mental equipment that is provided by the technical high schools. The greater part of the education at these institutes is not based on retrospection and definition, but is directed forwards and designed with a view to productive activity. An education among such surroundings must give at least as good a training for a civil service career as an education the principal aim of which is to classify the particular requirements of life according to legal conceptions. The knowledge of law and administration that is required by civil servants can be acquired to-day in every technical high school.

SCIENTIFIC BOOKS

The Measurement of Intelligence. By LEWIS M. TERMAN. Houghton, Mifflin Co., New York. 1916. Pp. 362.

In the past few years the practise of what is termed "clinical psychology" has tended to outrun itself, in the sense that measurements of intellect have been demanded in all quarters, while methods were still tentative. Binet conceived the idea of measuring mental development by age levels, but he died before he could perfect his work. Binet's tests were not valid above the twelve-year level of intelligence. The tests which he offered above this level were almost universally discarded by clinical workers, as failing in their purpose. Another difficulty with the original scale lay in the fact that directions for giving the tests were not standardized. Inasmuch as the directions in giving a test constitute a very important part of the test itself, this seriously impaired the scientific value of the results obtained in testing. Moreover, in the original system no means was provided for comparing the intellectual quality of a young child with that of an older child. Obviously, for example, a retardation of one year in a child three years of age has a different meaning for diagnosis and prognosis than has a retardation of one year in a child twelve years of age. Stern had suggested the use of a relative measure of mentality, *i. e.*, the quotient obtained by dividing "mental age" by actual age, but this method never came into general use in America in connection with the original system. It is true, also, as Thorndike, Brigham and others have shown, that there were discrepancies between certain of the age levels as determined by Binet, and the "true" age levels. These discrepancies were due, no doubt, to the fact that Binet had not been able to standardize his tests on a sufficient number of subjects.

Goddard, Kuhlmann and other American elaborators of Binet did not advance much beyond the first work in these particulars. More recently Yerkes, Bridges and Hardwick in their point scale have eliminated many of the original crudities, and in their mental co-