SCIENCE.

FRIDAY, FEBRUARY 11, 1887.

COMMENT AND CRITICISM.

THE AUTHORITIES of the Johns Hopkins university have always held, and rightly, that the true university must not only afford ample opportunities for original research in library and in laboratory, but that it must also afford opportunity for the publication of the results of such research. As a result of this policy, the publication of the *American journal of mathematics*, the *American chemical journal*, the *American journal of philology*, the *Studies from the biological laboratory*, and the *Studies in historical and political science*, has been successively and successfully undertaken. The announcement is now made that this formidable list is to be extended by the addition of an *American journal of psychology*, under the editorship of Prof. G. Stanley Hall. The journal is to be published quarterly, and the first number will appear at an early date. The scope of the journal is to be as wide as that of psychology itself, though we infer from the announcement, that the major portion of the space will be devoted to the results of investigation in psycho-physics, psychogenesis, and to the physiological side of mental science in general. It is purposed also to reproduce entire valuable articles from other journals, when they are not readily accessible in their original form. The journal will, it seems to us, find a field awaiting it; for the *Revue philosophique* and the *Philosophische monatshefte*, together with their continental contemporaries, are hardly read in this country at all; and their columns seldom, if ever, print an article by an American scholar. *Mind*, to be sure, has been very generous of late in its allotment of space to American authors, but it has a very limited circulation in this country. To appeal, first of all, to American readers and students of mental science, and to embody the latest results of American research, should be the particular aims of the new journal.

IN CALIFORNIA, if anywhere, forestry should claim proper attention from the state; and, apparently on the principle of better late than never, the first biennial report of the State board of forestry is now issued. A region like middle and southern California, on the borderland between sufficient and insufficient rainfall, where irrigation is essential to agriculture, must care for its streams, and must therefore care for the forests where they rise. By this it is not intended to assert that forests exercise any control over the amount of rainfall, and it is a satisfaction to see that this popular fallacy receives no very direct support in the report under consideration: but as regulators of discharge by streams, the importance of the relation between forests and rainfall cannot be questioned; and in a state like California, where the forests are peculiarly limited to the higher, rough, non-arable lands, whence the streams flow down to the farms below, the preservation of a fair share of the trees is a prime necessity. In the southern part of the state the balance of conditions is so delicate, that the forests merely survive, but have no recuperative power. If destroyed, they do not spring up again, but leave the surface barren. It is in such districts that much damage has already been done, not only in defacing the hill country, but in increasing the irregularity of stream-flow. The rain runs off from a bare hillside in a violent flood, carrying soil and gravel with it, and leaving no store of moisture in the ground to supply springs in the dry season. The forestry board and the school of forestry, inaugurated at Los Angeles in the University of southern California, have therefore a large work before them, that must become of much value to the state.

IN THE *Nineteenth century* for January, Mr. George J. Romanes replies to the critics of his paper, read some time ago before the Linnaean society, on 'Physiological selection, — an additional suggestion on the origin of species.' He says that the first mistake his critics made, was in treating his idea as a fully elaborated theory, instead of, as was intended by Mr. Romanes, a mere suggestion or working hypothesis. He quietly adds that the study of his critics' arguments only makes him think more highly of his suggestion. Mr. Romanes' hypothesis of physiological selection sets out with an attempt to prove, that, con-

sidered as a theory of the origin of species, the theory of natural selection is inadequate. The evidence going to make up this proof falls under three heads: first, the inutility to species of a larger proportional number of their specific characters; second, the general fact of sterility between allied species, which it is admitted cannot be explained by natural selection, and therefore has hitherto never been explained; and, third, the swamping influence, even upon useful variations, of free intercrossing with the parent form. Because of these facts, Mr. Romanes asserts that the theory of natural selection is not a theory of the origin of species at all, but a theory of the cumulative development of adaptations. Physiological selection or 'segregation of the fit,' on the other hand, Mr. Romanes brings forward as a theory of the origin of species. After briefly explaining what is meant by physiological selection, — which he does in a way too compact to be abridged, and too long to be quoted, — Mr. Romanes turns to his critics, and deals with the objections which they have advanced. Two of them — Messrs. A. R. Wallace and Seebohm — are referred to by name, and Mr. Romanes' criticism of them is very interesting reading. He ascribes the objections of both of these gentlemen to a misunderstanding of what physiological selection really means, and deals with the whole subject in so comprehensive and yet detailed a way, that we may be sure a reply will be provoked from such of the critics as deem themselves misrepresented or unfairly used in the present article.

THE CURRENT WORK of the U. S fish commission at its various stations shows gratifying results in hatching young fish. At Washington, 5,000,000 white-fish eggs are now being hatched, the fry to be sent to Lake Erie. Small lots of *Salmonidae* are also being hatched there, principally for the purpose of illustrating the different methods of fish-culture. At Northville and Alpina, Mich., 125,000,000 white-fish eggs were collected during the fall, of which 25,000,000 have been distributed to the state commissioners, for hatching and planting, and about 100,000,000 have been reserved to be hatched at the Northville station, the fry to be placed in the ocean and the great lakes. The station at Wood's Holl has been actively engaged in collecting, hatching, and distributing the eggs of cod-fish, of which 26,000,000 have been hatched and planted in Vineyard Sound and other adjacent waters. It is probable the total production of the season will exceed 100,000,000 cod-fish when eggs are obtained from the Ipswich-Bay school. At Wytheville, Va., the collecting of California trout eggs is now in full progress, over 100,000 eggs having been obtained, of which fifty per cent will be distributed in lots of 5,000 and 10,000 to the different state commissions, the balance to be hatched and reared at the station, and distributed as yearling fish to the streams of the Appalachian region in Pennsylvania, Virginia, West Virginia, North Carolina, Georgia, and Tennessee.

THE DEBATE in the senate on the appropriations for the support of the coast survey during the next fiscal year shows the appreciation by that body of the importance of making appropriations sufficient to carry on the service effectively. The house pared the items down in a parsimonious spirit, and with a false idea of economy, without consulting the coast survey officials, or the treasury department, or the needs of the service. The senate appropriations committee addressed a letter to the secretary of the treasury, inquiring if the estimates as submitted by the superintendent of the coast survey were satisfactory to that department. The secretary replied that the estimates as submitted were entirely satisfactory, and fully sustained the superintendent of the coast survey. He also submitted an interesting and instructive communication from Mr. Thorn, showing the reasons for each item of expenditure and the present condition of the service, which we have not room to print. The secretary closed his letter with the following observation: "From these communications it appears that the estimates made provision for the efficient and economical prosecution of the survey during the ensuing year; it also appears that the provision made by the house bill will not secure such results: consequently the arrangement there made is not satisfactory to this department."

THE EXPLANATION given by the investigators of the Plymouth epidemic of the origin of that epidemic has by some been regarded as unsatisfactory, because it required the acceptance of the theory that typhoid-fever germs could retain vitality after being exposed to the intense cold which prevails in that latitude during the winter. Dr. J. S. Billings, U.S.A., has been experimenting on this point, and gives the results of his experi-

ments to the *Sanitary engineer*. On Jan. 10, 1887, five cubic centimetres of sterilized water in a test-tube were inoculated with typhoid bacillus, and exposed to the outer air during the following night at a temperature of 10° F. It was found solidly frozen during the morning. Jan. 11, this frozen mass was thawed, and from it there were inoculated one agar and three gelatine tubes. On Jan. 13 there was a decided typical development of the typhoid bacillus in the agar tube and in two of the gelatine tubes. He says that evidently the vitality of the typhoid bacillus is not destroyed by freezing.

ONE OF THE METHODS by which infectious diseases may find an entrance into a country is exemplified in the history of the introduction of cholera into the Argentine Republic. On Nov. 1 of last year, the Italian ship Perseo arrived at Buenos Ayres from Genoa. During the voyage nearly a score of persons had died of cholera on the ship. The ambassador of the Argentine government in Italy was a passenger on the ship, and, in the anxiety of the ship's commander to permit him to land without detention, all sanitary rules seem to have been overlooked. The disease was not confined to Buenos Ayres, but was also conveyed by the same ship to Rosario, some two hundred miles farther, where there were at one time from twenty-five to fifty deaths daily. The disease still exists in both cities, but is very much less prevalent than formerly.

THE CONDITIONAL LIBERATION OF PRISONERS.

THE advances making in prison science, — or penology, as some are fond of calling it, — in this country are easily discerned. Not only do the annual meetings of the national prison congress attract wider attention and attract larger audiences, but there is a growing thoroughness and method in the current discussions on prison topics that stamps them as scientific. The reading public at large, moreover, take an interest in these subjects, for they appeal to them on many accounts, — ethical, economic, and philanthropic.

In the *International record of charities and correction* has appeared a paper by the editor of that journal, which was read by him before the recent meeting of the prison congress at Atlanta, and which not only typifies the scientific method of treating prison questions, but shows its application to a particularly interesting subject. Mr. Wines discusses, in the article in question, conditional liberation, or the paroling of prisoners. He points out both the close relation and the distinction between the so-called indeterminate sentence and the conditional discharge of a convicted criminal under parole, and says, that, while in Europe the tendency has been toward conditional liberation under sentences which are of fixed duration, in the United States we incline to an indefinite sentence. On both continents the first experiments in conditional liberation have been made with juvenile offenders. As early as 1824 the charter of the New York house of refuge contained the germ of the theory of an indefinite sentence, and sixteen years later a law was passed by the legislature of the same state foreshadowing the principle of conditional liberation; but both acts referred only to offenders in their minority.

From the early experience of France, Mr. Wines adduces some significant statistics. In 1832 provision was made that prisoners discharged from *la petite Roquette*, the Paris prison for juvenile offenders, might be intrusted to a special society, which was authorized to apprentice them and watch over their conduct. The effect of this step was to cause a decrease in a few years of the percentage of juvenile recidivists from seventy-five to seven per cent. It was then proposed by an eminent judge that the plan which had proved so successful with juveniles be made applicable to adult criminals, but it is only very recently that this was done.

With respect to adults, the English, in their 'ticket-of-leave' system, were the first to try conditional liberation. Until 1853 this ticket-of-leave provision only applied to convicts shipped to Australia, but in that year it was extended to include convicts incarcerated on English soil. In more recent years the value of the system of conditional liberation has been more widely appreciated. It was adopted by the grand duchy of Oldenburg and the kingdom of Saxony in 1862, and its success in Saxony was such that it was embodied in the criminal code of the German empire, which took effect in 1871. In 1868 it was adopted by a Swiss canton, and in the following year by Servia. Denmark put it in application in 1873, as did the Swiss canton Neuchâtel. Croatia, and cantons Vaud and Unterwalden, followed, as did the Netherlands in 1881, and France in 1885. In 1882 Japan adopted it, and it is a portion of the criminal codes under discussion in Austria, Italy, and Portugal. The first recognition of the principle of conditional liberation in the legislatures of the United States was in 1868, when the state of New York established the Elmira reformatory.