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.

The objection that a parole is a pardon, and must be granted under the laws and conditions governing pardons, Mr. Wines notices at some length. He holds that a parole is not a pardon, for the reason that when a convict is pardoned his liability under the law ceases; but when he is paroled, and until his conditional release merges into one that is absolute, he is still in the custody of the law and under sentence. This being an important point, Mr. Wines discusses it in detail. He shows, that, if a parole is unconstitutional, so is the time allowance now made in almost every state in the union to the convict, for good behavior while in confinement; and adds that "the history of the discussion of the indeterminate sentence, both at home and abroad, shows that until this legal, quasi-constitutional objection to it is disposed of, no progress can be made in the way of securing a candid and careful consideration of its practical advantages."

Passing from the legal to the practical side of the question, Mr. Wines claims, that, not only the *a priori* argument, but the results of its practical workings, are entirely in favor of the system of conditional liberation. Applied in any prison, it affects both officers and convicts. The former have a new responsibility thrown upon them, that of "judging at what moment each convict committed to their care is fitted for the test of character outside of the prison enclosure;" while the latter, finding his hope and his desire of personal freedom called upon, becomes an efficient and willing co-operator in his own amendment. "The system wakens in the breast of every prisoner who is not sunk in intellectual or moral inbecility, the sense of individual responsibility, and stimulates it to the highest degree of activity which he is capable of sustaining." The system is also recommended to students of criminal jurisprudence, because of the benefits it will confer upon society at large. It lessens the suffering of the family and friends of the criminal, and it diminishes the expense required for his maintenance. It is at once a thorough and the only practicable means of testing the prisoner's reformation in prison.

Mr. Wines does not overlook nor pass by the practical difficulties which are urged against the adoption of the system he is advocating. He considers them in turn. The first of them is "the ignorance and apathy of the public with reference to every phase of the question of prison discipline." As this has stood in the way of many important reforms before now, and has always had to yield in the end, Mr. Wines declines to give it any serious attention. It will cure itself. To the objection that a prisoner is naturally a hypocrite, and that therefore no correct judgment can be formed as to his improved character, it is answered, "How does this apply to the system of conditional liberation any more than to the good-behavior laws now so common?" In the United States, concerted action on the part of the various states would be necessary, in order to operate the system effectually. No special watching of the paroled convict is desirable, and the writer quotes prison-director Sichart of Wurtemberg, to the effect that police surveillance is undesirable; for the paroled prisoner should not be subjected to unnecessary mortification. What he requires is protection against any hinderance which may exist to his honorable success; and in no event should surveillance of any description be continued longer than the circumstances of each case seem to require.

Mr. Wines then develops his ideas as to the classes of convicts to whom the privilege of conditional liberation should be granted, the stage of imprisonment at which a parole should be granted, and the authority to whom the discretionary power of granting the parole should be entrusted. Statistics are quoted showing, that, of 1,695 paroled prisoners in Bavaria, only 59 relapsed; of 782 in Wurtemberg, only 8 relapsed; and of 286 in Saxony, only 6 relapsed, The statistics on this point gathered from the experience of the New York state reformatory at Elmira, are already known to our readers.

LONDON LETTER.

The character of the Friday-evening lectures at the Royal institution (the scene of the labors of Davy and Faraday) is probably well known to most readers of *Science*. The after-Christmas series was opened by Sir William Thomson, who discoursed to a brilliant audience upon the probable origin, extent, and duration of the sun's heat. Adopting, apparently unreservedly, Helmholtz's theory of its origin being due to the shrinkage of its mass, owing to gravitation, he pointed out that gravity was 27½ times as great at the sun (at present) as at the earth, and how different, therefore, solar physics were from terrestrial. The mystery of the relation between gravitation and the other properties of matter had hitherto proved insoluble. A body falling through only forty-five kilometres on to the sun's surface, would develop more energy than any known chemical combinations, and hence he relegated such combinations to the domain of the determining influences of merely incidental changes. Much time was devoted to calculations of solar energy from the point of view of the 'mechanical equivalent of heat.'