SCIENCE.

FRIDAY, MARCH 12, 1886.

COMMENT AND CRITICISM.

THE ENGLISH JOURNALS contain an abstract of an interesting paper read before the Statistical society, on Feb. 17, by Dr. W. Ogle, on "Suicides in England and Wales in relation to age, sex, season, and occupation." The proportion of suicides is 72 annually per million persons living. The suicide-rate increases rapidly until after middle life, but, in the more advanced age periods, again diminishes. The maximum rate is in the 55–65 years period, when it reaches 251 per million. The male rate is far higher than the female, with the exception of the period between 15 and 20 years of age, when the female rate is slightly in advance. The occupations in which suicide-rates are lowest are those which imply rough manual labor, carried on mostly out of doors. The occupations with the highest suicide-rates are those which are sedentary, like the learned professions, and also such as notoriously lead to intemperance. As regards farmers, suicides nearly doubled in the two years 1879–80, when agricultural distress was most acute; and simultaneously with this rise in their suicide-rate there was a corresponding rise in their registered bankruptcies. The amount of suicides varies with the seasons, forming a regular annual curve, of which the minimum is in December, and the maximum in June. The commonest method of suicide is hanging; then follow in order drowning, cutting or stabbing, poisoning, shooting. Women, however, select drowning before hanging, and poisoning before cutting or stabbing. Women take any poison indifferently: men choose painless and sure preparations. The choice of method is also affected by age, the young showing a comparative preference for drowning, poisoning, and shooting; by occupation, men preferring the instruments of their trades; by season, drowning being avoided in cold months.

MR. W. A. DUN has contributed an article on 'A local weather bureau' to *The present*, a monthly periodical published in Cincinnati. He contends that the signal service needs more observers, more stations, more frequent localized weather forecasts in less ambiguous language, and better means of diffusing their predictions; and, further, that the predictions as received from Washington should be open to amendment by competent observers in the various districts of the country, who have the advantage of seeing the local conditions, and being experienced in the peculiarities of their region. The suggestions are worthy of attention, as they come from a writer in sympathy with the success of the weather bureau, and not from one of the numerous irresponsible and ignorant critics of the service. The attempt to carry out some such plan as here suggested is to be made by the meteorological department of the Cincinnati society of natural history, that was organized last autumn. Its progress will be watched with interest.

RESTRICTIONS HAVE RECENTLY been proposed, limiting the hours of instruction in philosophy for students in the Austrian gymnasia. Most of the instruction in psychology, logic, and ethics, in German gymnasia, where it is still retained, is poor, traditional, and along the old-school ruts of Herbartism, as an inspection of the many school manuals shows. In the hands of many university professors, philosophy is degenerating in Germany. The historical methods so in vogue a decade ago, are still attractive to many students, but constantly less so; while the interminable changes rung on Kant's familiar problems have well been called the pure survival in modern form of scholasticism, till the cry is already heard from extreme neologists, that, instead of going back to Kant, he must be forgotten, if academic philosophy is ever to have a needed regeneration. Many students have become so practical that they cannot hear the word 'philosophy' without a grin, so current have become caricatures of its nature. The new scientific methods it has assumed may yield gradual amelioration of this state of affairs. 'Systems' should be left to decay, and metaphysics be seen to belong to science no less than to philosophy. One special object or result of philosophy is to make men uncertain where they once thought they knew. If young men are so taught that the great open questions whence flow all intellectual interests are closed

up, they had better know no philosophy at all; and those instructors who use their department to establish certainties in those matters where the most honest and wise men differ, are they who have brought it into its present disgrace. The same problem is sure, sooner or later, to arise in this country. Trustees and other college authorities are already beginning to ask whether, in the competition of many fresher and more vital interests, our old philosophical chairs cannot be at least reconstructed, and be made more practical in an ethical way. It is at least certain that those who intend to represent this department in our colleges in the future, must place themselves on far more scientific and ethico-practical foundation in the preliminary training they give themselves than ever before, whatever philosophic convictions they may cherish. One of the saddest illustrations of educational over-supply in our land at present, is the number of bright and able young men, well trained at home and abroad in the philosophical discipline from the slowly dissolving stand-point of the theory of knowledge, who can find no employment, on the one hand, and, on the other, the number of academic institutions now vainly seeking instructors in this department, embued with a more practical and a more scientific spirit and method.

Late news from Spain conveys definite intelligence of the recurrence of cholera, a number of fatal cases having been reported from Tarifa, in the southernmost part of the peninsula. We hear but little at present of the probability of the appearance of this dread epidemic in the United States, yet those who are acquainted with the histories of previous invasions need not be reminded that our danger is by no means past. Its duration in Europe is not limited to two or three years. The epidemic of 1829 was not extinguished till 1836, and the one of 1847 extended into the winter of 1855–56, while that of 1865 did not disappear till 1873. Already the disease has effected a landing in the western hemisphere, at Cayenne; and our immunity, so far, is doubtless due to the fact that our largest immigration has not been derived from the parts of Europe where the disease has been prevalent. In a recent report of an inspection of the Atlantic and Gulf quarantines, made under the direction of the Illinois state board of health, Dr. J. H. Rauch has given it as his conviction that the epidemic may be effectually excluded from the United States by an intelligent use of the agencies still at our command. Cholera has never yet been kept out of this country after becoming epidemic in Europe, but the possibility of excluding it is a subject that should properly engage the attention of national authority. The control of quarantine has hitherto remained entirely under state jurisdiction; but in the face of such an epidemic, threatening the whole nation, the matter of rigid quarantine is not one of local importance, and should not be relegated to local authorities.

The spread of the disease in Spain, dependent, as it is now being clearly seen, largely upon a lack of proper sanitary measures, furnishes a lesson that should not be lost. Of all the large towns in Spain, none suffered so severely as Granada. The river Genil, which passes through this city, has, a few miles above, near its confluence with the Aguas Blancas, a number of large paper-mills situated upon its banks, through which a part or all of its waters pass. A large part of Granada is dependent upon this river for its supply of water, notwithstanding the fact, that, when it reaches the city, it is manifestly impure from the contamination by the mills. The filthy rags used in the manufacture of paper at these mills were imported from the province of Valencia, where cholera had been prevalent for some time; and the first cases at Granada occurred in the districts supplied by the Genil. Possibly there is no connection between these two facts, yet it is hard to believe that they do not stand in some relation to each other, and further evidence seems almost conclusive. After Granada had itself become a source of infection, the sewerage discharged into the river carried the disease through the province of Granada, and even into the province of Cordova. Village after village along the banks became successively invaded by the dread disease, with the single exception of the town of Loja, with its twelve thousand inhabitants, where alone the people derived their drinking-water supply from different sources. The fatal effects resulting from river-pollution are apparent, not only from this, but other illustrations throughout Spain, and the warning conveyed should not go unheeded.

That dreaded scourge of European vineyards, the Phylloxera, for which, as well as for the al-

most as injurious grapevine mildew, certainly no debt of gratitude is owed to North America, notwithstanding stringent laws, is widely extending the fields of its devastation. A correspondent of *Nature* states that it has already made its appearance in the vineyards of Cape Colony. In a few places the pest has been found in swarms, and efforts are being made to stamp it out, or at least hold it in check. Unfortunately the habits of the insect are such that it is hardly possible that the calamity threatening the grape-growing interests there can be wholly averted.

THE NAVAL OBSERVATORY.

THE report of the National academy of sciences upon the naval observatory demands attention, not only from all interested in scientific affairs, but from those who desire only to see good administration. In reading the report, the first question to present itself to the mind of the candid inquirer would be, How does it happen that the national observatory of the country has remained so long under the direction of superintendents who were not astronomers, and whose profession has little direct relation to its work? A partial answer to this question, from the naval point of view, is found in letters addressed to President Barnard by the present superintendent, and published as an appendix to the report. In justice to Commodore Belknap, we must say that his arguments bear rather upon the question of the usefulness of the institution to the navy than upon that we have just suggested; but the two are so closely related, that, in answering one, he evidently intends to answer the other. It will therefore be interesting to examine his arguments, and note their bearings upon the several points at issue.

Commodore Belknap cites seven kinds of services which the observatory renders to the navy. A very slight consideration will, however, show that every one of these services could be rendered as well or far better by a national observatory under civilian authority; and, indeed, by an establishment far more modest in its outfit than even the present naval observatory, to say nothing of the projected new one. The navy-yards could get their time from the nearest railway-station with ample accuracy for business purposes. Naval ships in port could compare their chronometers with signals from a national observatory as well as the mercantile marine could, and any superiority for naval purposes which might invest a time-signal tapped over the wires by the hand of a commissioned officer might fairly be deemed counterbalanced by the skill of a civilian astronomer trained in this special business. The naval chronometers could be kept, tested, and rated at least as thoroughly at a national observatory as they are at the present naval observatory. Indeed, this is actually done at the Greenwich observatory, for all the chronometers purchased for the British navy. It could be better done at the Brooklyn navy-yard, whence most ships take their departure, by erecting and equipping a little observatory for this purpose at a cost of ten or fifteen thousand dollars, thus saving the expense, and danger to the rates of chronometers, incurred by transporting them back and forth between New York and Washington.

That officers who had never worked in an observatory till they went to take charge of one would not find their task smooth sailing, is to be expected; but we should never have anticipated such a picture of difficulties of administration as is held up by Commodore Belknap in one of his letters which appears in this report. It seems that Prof. Newcomb, in a letter to President Barnard, drew attention to the curious fact, that during the first twenty years of the existence of the observatory, when two instruments, the transit and the mural circle, were required to completely determine the position of a star, there was no concert of action between the observers with these instruments by which they should observe the same stars. Commenting on this subject, Commodore Belknap remarks, "It may be considered as an ideal state of things where two men of equal age and upon equal footing (with no military ideas of subordination) can engage in work upon two instruments, with but one clock and one chronograph between them, and have every thing go smoothly and without jealousy. The abandonment of the too ambitious programme first laid down was a matter of necessity, which it is probable no one regretted more than the superintendent."

To appreciate this picture, we have to reflect that only one of the observers needed a chronograph, and that the only use either of them had to make of the clock was to look at it. We are therefore led to infer, as the outcome of forty years' experience, that under naval discipline it is not found possible for two civilian astronomers to take their time from the same clock without friction and jealousy; that in consequence a well-