

20h. 50m.; secondary maxima, September 24, 0h. 45m., and September 25, 9h. 50m.

Epoch September 27, 8h., seventeenth order of magnitude. Principal maximum, September 26, 7h. 30m.; secondary maxima, September 25, 20h. 40m., and September 26, 18h. 25m.

Epoch September 28, 15h. 20m., sixth order of magnitude. Principal maximum, September 27, 5h. 45m.; secondary maxima, September 28, 3h. 30m., and 10h. 30m.

There is a considerable amount of meteoric activity in September, the first maximum of importance occurring on September 4, 6h. 10m. The principal maxima that become due on September 6, especially the first of them, and the principal maximum that falls on September 7, 21h. 5m., are of very high intensity. The principal maxima also are interesting that occur on September 13, 10h. 30m., and on the three days September 21-23.

JOHN R. HENRY.

August 26.

A Flower Sanctuary.

SOME of the correspondence in your columns on the subject of the flora of the Cheddar Cliffs seems to assume that the Somerset County Council has a power to "proclaim" the flowers in question, that is, to protect them from being gathered, and that it has not exercised this power. I should be much indebted to any of your correspondents who can show me what power the council possesses to protect particular flowers, or how a bye-law can be framed for this purpose with any chance of its being valid. I think it will be found that, without further legislation, County Councils are powerless to afford the protection desired.

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A Point in Geological Nomenclature.

WITH reference to Mr. A. Irving's communication under this heading in NATURE of August 15 (p. 608), the term *Quartär*, as German equivalent of our "Quaternary" or "Post-tertiary," is by no means a speciality of Prof. Credner, but the designation generally accepted by all German geologists since Naumann.

F. von Hochstetter (Vienna) used *Quartär* long before Credner, and it appears in the "Flötzformationslehre," written in 1856 by B. von Cotta, who succeeded Naumann in 1842 at the Mining Academy of Freiberg.

F. GILLMAN.

16 Glebe Road, West Bridgford,
Nottingham, August 17.

BOATS AND LIFE-SAVING APPLIANCES ON SHIPS.

AT the time when the *Titanic* was lost the standing Advisory Committee appointed by the Board of Trade under the provisions of Merchant Shipping Acts was engaged in the reconsideration of the regulations for boats and life-saving appliances. A report had been presented by the committee recommending an extension of the previously existing scale for boats, so as to include the largest passenger steamers; and in the course of the inquiry by Lord Mersey and his colleagues an investigation was made of the causes of an apparently long delay on the part of the Marine Department of the Board of Trade in dealing with that report. Satisfactory explanations were forthcoming; but, in view of the great calamity that

had occurred, it was obvious that the committee must reconsider the whole subject. That action was ordered by Mr. Buxton, and the committee received special instructions, its opinion being requested in regard to existing statutory regulations for boats and life-saving appliances on ships generally, and suggestions being invited in regard to "means calculated to diminish the risk or to mitigate the effects of accidents to vessels at sea."

Obviously a wide field of inquiry was laid open by these instructions; and in order to deal with this task efficiently the committee decided to co-opt additional members. A number of eminent men—shipowners, shipbuilders and professional officers of the great registration societies—were invited to join. Captain Watt, formerly commodore of the Cunard Line, was also co-opted, as his experience in command of trans-Atlantic passenger steamers had been altogether exceptional and had only recently been terminated as captain of the great steamship *Lusitania*. The original committee had been both strong and representative, so that the final report—now published as a Blue-book (Cd. 6353, 1912)—represents the views of men of great experience in the construction, command, navigation and ownership of shipping.

Since the report appeared, criticisms have been bestowed upon the constitution of the committee, which has been thought to have been biased in favour of the shipowners of the United Kingdom. A certain confusion of thought underlies such criticism. The committee was intended to be representative of all classes interested in, and having special experience of, shipping. Its functions are purely advisory; the Board of Trade reserves the right of dealing with all recommendations made by the committee, and the framing of all regulations; and in this manner, as experience has shown, the public interests have been well safeguarded. Moreover, a perusal of the report and of the Minority Reports and Reservations—of which there are five—furnishes no real ground for the criticisms to which allusion has been made.

Apart from its expressions of opinion and its recommendations for future practice, the report is of great value as a summary of facts. Five sub-committees were appointed, and their reports form parts of the main report. The first of these sub-committees dealt with types of boats; the second with wireless telegraphy; the third with steamship routes; the fourth with vessels employed to carry passengers in the home trade; the fifth with statistical information. This last sub-committee consisted solely of the chairman (Sir Norman Hill) and the secretary (Mr. Matthew); and the report really embodies returns (relating to the subjects treated) for which the Board of Trade is primarily responsible, although the comments thereon are probably the work of the chairman—a gentleman whose opinions on shipping questions are entitled to respect. It is impossible in this brief notice even to enumerate the contents of the fifth report; all that can be said here is that the extraordinary degree of safety for life and property

at sea which has been attained during the last ten years is demonstrated, and the altogether exceptional character of the circumstances which attended the loss of the *Titanic* is made clear.

The main recommendations of the report may be summarised. First, it is recognised that "the stability and seaworthy qualities of the vessel itself" must be regarded as of primary importance. This includes the question of watertight subdivision, now under investigation by a special committee. Second, as regards boats and life-saving appliances it is recommended that accommodation should be provided for the *total number* of persons which each *foreign-going* passenger steamship is licensed to carry. This has not been done hitherto in the largest passenger steamships, but the report shows that the rules hitherto in existence for such ships were sufficient to provide boats carried under davits for all persons in 343 out of 521 such ships which were examined, and that out of the 178 ships for which these rules did not require sufficient boats under davits for all persons carried no fewer than forty-nine ships actually carried sufficient boats, their equipment going beyond legal requirements.

For passenger steamers in the *home trade*—plying in estuaries and rivers, cross-channel and coasting services, etc.—the recommendation made is that the boats, life-rafts and buoyant apparatus taken together should aggregate accommodation for not less than 50 per cent. of the passengers and crew. The conditions under which these vessels work obviously render it probable that, in most cases, external help would soon be available in case of accident, and the sub-committee says that there is "a consensus of opinion that in these smaller vessels any considerable increase in the number of boats is not practicable and would be a source of danger rather than an element of safety." While the force of this argument is undoubted, it is proper to add that the considerations urged therein make it imperative that the officials of the Board of Trade in granting passenger certificates and fixing the maximum numbers to be carried should also have regard thereto.

One must be impressed afresh in reading this report with the fact that even when the provision of boats and life-saving appliances is ample, there are comparatively few cases in which these can be fully utilised in case of serious accident. In the case of the *Titanic* the boat accommodation which existed was not fully utilised, although the boats were safely lowered and a calm prevailed. Modern ocean-going steamers carry their boats at great heights above water, and with any rolling motion of the vessel it is dangerous, if not impossible, to lower the boats. In very moderate weather it may be done, but even then occupies much time. This matter has been referred to another departmental committee, the labours of which are just beginning.

When the reports have been presented from the Committee on Boat Lowering Appliances and from the Bulkhead Committee, the President of the Board of Trade and his staff in the Marine Depart-

ment will have much further material for consideration, in addition to the great mass of facts and opinions contained in the report now before us. One is disposed to ask: What will he do with it? Captain Hampson, a member of the Advisory Committee, in a lengthy reservation, which is severely dealt with by the chairman in a separate note, strongly urges the appointment of "a commission or committee composed of members independent in every way of the shipping interest, but at which various representatives of the different sections of shipping should be invited to submit their views." Such a course appears to be most undesirable; it would amount to an abandonment of the investigations by competent committees already set on foot. The materials on which future regulations ought to be based will be ample when existing committees have finished their labours, and the responsibility for these regulations must be accepted by the President of the Board of Trade. This general statement of the case applies not only to the points mentioned above, but to other important matters, including manning of British ships, boat drills, wireless telegraphy, the use of searchlights, rules for navigation, and others which cannot be mentioned.

In one direction the Advisory Committee appears to have undertaken a gratuitous task, as it has investigated the advance made in the speed of ocean-going steamships in order to demonstrate that the general increase has been small and that even now ships exceeding twenty knots are few in number. The really important question is not what maximum sea speed a ship can maintain, but what is an "undue speed" likely to lead to accidents in special circumstances. The committee itself recognises this distinction and one of its most valuable recommendations is that proposing to extend the present regulations and to prescribe to those in charge of ships the necessity for proceeding at moderate speed "at night in the known vicinity of ice." Anything less than this, after the loss of the *Titanic*, would be contrary to public feeling and to common sense.

FORESTS AND RAINFALL.

SIR W. SCHLICH, F.R.S., Professor of Forestry at Oxford, writing in the new edition of the "Encyclopædia Britannica," defines a forest as "an area which is for the most part set aside for the production of timber and other forest produce, or which is expected to exercise certain climatic effects, or to protect the locality against injurious influences." One of the most important of the climatic effects ascribed by some to forests is the increased amount of precipitation, not only in the forest areas themselves, but also in the country surrounding them, produced by the influence of the forests upon the moisture-laden air which passes over them.

Owing to the relatively small area of our forests and the rarity of serious floods or prolonged