# SCIENCE

FRIDAY, OCTOBER 21, 1887.

THE ENDEAVORS of the Australian colonies to raise money for resuming explorations in the Antarctic regions have so far been unsuccessful. The funds for rewards for whalers extending their cruises beyond the sixtieth degree of latitude have not been appropriated, and, since Allen Young's offer to take command of an expedition of this kind, nothing has been done. Sir Graham Berry has, in accordance with instructions from the government of Victoria, asked the British Government if they would contribute the sum of £5,000 towards an Antarctic expedition, provided the Australian colonies agreed to contribute a similar sum, and the subject is now under consideration by the British Government. The financial state of the Australian colonies is not very satisfactory at the present time, and therefore it is not likely that an energetic attempt will be made. The movement for resuming these explorations originated in Germany; but so far nothing has been done there to raise money and to send out an expedition, as the activity of explorers is almost exclusively directed towards Africa and the islands of the Pacific Ocean. Our American whalers are those who have the most immediate interest in the matter, as they frequent the neighboring seas and derive considerable quantities of whale-oil from that region. A few years ago one of them landed on m Graha Land, and found near its shores an abundance of sea-animals; but as he had no authority to visit those dangerous latitudes, and as the ice was closing upon his ship, he did not continue his explorations. We do not think that the endeavors of the Australian colonies will be successful for some time to come, and it would be gratifying if meanwhile American enterprise would take up this important problem, in which no nation is more interested than we are, as our vessels are those which visit the Antarctic waters most frequently, and as a successful approach is most probable close to the south point of our continent. Arctic navigation shows that progress is always most promising under the shelter of land. Graham Land can be reached comparatively easy; and under its shelter, that is, on its eastern coast, important discoveries without great risk, and at no great expense, can be made. This would be a task for one of our whaling-masters who, in their swift schooners, navigate year after year the ice-covered waters of the Arctic Ocean.

IN A RECENT SERIES of articles, the London *Chemical News* has sought to show the importance of scientific research to nations, and in the closing article of the series encounters what is the main question with Englishmen, whether the present position of science in the United Kingdom is satisfactory, and, if not, why not. Answering its own queries, *The Chemical News* says, "To the former of these queries scarcely any one has the boldness to reply in the affirmative. Were all well with us in this respect, why that feeling of dissatisfied excitement rarely felt on any subject which does not fall within the programme of faction? Why do we send out commissions to scrutinize the state of scientific and technical education in continental countries? Why do we institute new colleges and training-schools of different grades, and why propose, as it has been lately done, new parliamentary action in this direction? Why do we hear complaints made, not merely at the gatherings of purely scientific bodies, but among men of business, that in this important respect, and in comparison with rival nations, we are not holding our own, not to speak of gaining ground? That along with this feeling of discontent and this craving for improvement there is an undercurrent of indifference, or even of hostility to science, is but too true. Why, else, should Sir Henry Roscoe, in his late presidential address before the British Association, remark that science was less respected in Britain than in other civilized countries? Or how could a well-informed German contemporary take occasion to say that Britain had, whichever party happened to be in power, 'a government very unfavorably disposed to science and to her disciples' (*Eine der Wissenschaft und ihren Jüngern sehr abhold gesinnte Regierung*)? In fact, notwithstanding all that has been done of late years, all the efforts made, and all the money expended, many of the complaints urged in Babbage's 'Decline of Science' still hold good. It can no longer, indeed, be said that there is in all the universities of Britain not a single person engaged in any train of original research. We recognize with pleasure that experimental science has obtained a footing in our ancient seats of learning, and that fairly efficient laboratories — chemical, physiological, and biological — have been or are being organized. Whether these institutions, when compared with those met with abroad, e.g., at the University of Strasburg, are fairly commensurate with the importance of their task and with the wealth of the country, is another question. But we have still to complain of the paucity of research issuing from the British universities. We have tilled and manured the soil, and scattered the good seed; but the harvest, so far, is of the scantiest."

## THE 'UMBRIA'S' WAVE.

MR. HENRY TOYNBEE, marine superintendent of the English Meteorological Office, has published in *Nature* of Sept. 29 a report by William Watson of the 'Umbria's' wave. Captain Watson, who is general superintendent of the Cunard line of steamers, states that no doubt there were some big waves knocking about the Atlantic on the morning of July 26, but nothing more than could, under the conditions of weather, be expected. There is no evidence of other steamers meeting an exceptionally big wave.

**Abstract of Log, SS. 'Umbria.'**

| Date. | Wind. | Bar. | Air. | Water. | Remarks. |
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| July 25. | | | | | |
| Noon | S.W. | 29·60 | 62° | 63° | Strong wind and overcast. |
| 4 P.M. | W.S.W. | 29·50 | 60° | 61° | Fresh wind and showery. |
| 8 P.M. | W. by N. | 29·45 | 60° | 61° | Fresh wind and clear. |
| Midnight | W. by N. | 29·31 | 60° | 62° | Moderate gale, force 9. |
| 26th. | | | | | |
| 4 A.M. | N. W. by W. | 29·42 | 59° | 61° | Moderate gale and squally, force 9. |
| 8 A.M. | N. W. by W. | 29·50 | 60° | 62° | |
| Noon | N. W. by W. | 29·70 | 59° | 62° | |

"4.40 A.M., sea came on board over the bows, breaking No. 2 companion-hatch, twisting the forward bridge, breaking some iron stanchions on the bridge, breaking the short bridge between the forward end of the promenade deck and the break of the forecastle, and bending the brass rails on the port side of the main upper bridge, leaving the lower bridge intact. 8 A.M., fresh gale, force 9, with a heavy, confused sea. Noon, gale moderating and the sea going down, but still confused."

At midnight on the 25th the wind was freshening from west by north, and the weather becoming squally. A long, heavy sea was coming from west-south-west, but the ship was only taking an occasional spray over all. At 2 A.M., 26th, the wind was west-north-west, a gale, with heavy and frequent squalls, sea rising fast from north-west. At 4, the wind had veered to north-west, with heavy and frequent squalls. At this time the west-south-west sea was still very heavy, with a high north-west sea running across and over

it, making a very high and confused sea; but the ship was making 16 knots, and, though the spray was flying fore and aft, she had not up to this time taken a drop of solid water on board.

At 4.40 A.M., latitude 50° 50′ north, longitude 27° 8′ west, the officer of the watch noticed a heavy-breaking sea coming from the north-west: he ordered the officer at the engine-telegraphs to reduce to 'half speed,' but, before this could be done, the top of this sea came on board, but did no damage. The ship rose quickly to it; but, as this wave passed under the stern, she plunged heavily, and, dipping her bows into the second wave,—not breaking, or, as the officer of the watch expresses it, 'dead water,'—scooped up a mass of water, which, running aft over the break of the forecastle, fell upon No. 2 companion-hatch, breaking it to pieces, also breaking the short bridge between the fore-end of the promenade deck and the break of the forecastle. The look-out bridge between the lighthouses was twisted, and five iron stanchions and 20 feet of the iron rails on it broken, and four brass stanchions on the port side of the upper main bridge were bent. The middle part of the top-gallant forecastle deck for 40 feet in a fore-and-aft line was sent down two inches by the weight of the water passing over it. Some water got down No. 2 hatchway and frightened a few passengers.

The second officer is certain that the first sea did no damage, as only the top of it broke over the ship; but he describes the plunge the ship took, as this wave passed astern, as very heavy, and that she went bows into the solid water of the second wave, which he is quite certain was not breaking, but 'coming smoothly along.' This made the ship "stagger, and the sensation was as if she had struck something hard." After the sea came on board, the speed was reduced to 10 knots, and was not increased till noon.

The canvas screen on the port side of the upper main bridge was spread, and the spray striking this bent the brass stanchions. The lower bridge escaped, through there being no canvas screen spread.

Although the wind was three points on the starboard bow, with a heavy sea from the same direction, it seems, from the brass stanchions on the upper main bridge having been bent aft and to starboard, and from certain marks on the forecastle deck, that the second officer's statement, as to the damage being done by the second wave (probably due to the west-south-west sea, which was still running high and fast), is correct; and on more than one occasion, serious damage has been done by a sea coming up on the lee bow and breaking on board hours after the wind had been blowing three or four points on the other bow.

If we take into consideration a long and heavy sea from west-south-west, a north-west gale, and heavy sea from the same quarter, we shall have an ugly, confused sea. If a very powerful ship with very fine lines is driven at the rate of 16 knots through this confused sea, there is not the least occasion to call in the aid of tidal or earthquake waves to account for any damage the ship would receive.

In the engine-room there was no shock felt, and the sailors and firemen say they did not notice any thing unusual, save only some passengers making a noise.

The masthead light was extinguished through the chimney being unshipped and falling across the wick.

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## THE SHORTHAND CONGRESS.

THE first international shorthand congress ever held was inaugurated in London, Monday evening, Sept. 26, under the presidency of the Earl of Rosebery. We condense the report of the proceedings from an article in *The Athenæum* of Oct. 1. Though held in commemoration of events in the history of English shorthand, its interest is by no means confined to the English-speaking race, and several leading representatives of continental systems were present; while others, though not able to attend in person, sent papers on the theory and practice of the art as used in their respective countries. It is, indeed, acknowledged by common consent that England was the mother-country of modern shorthand, and that the tercentenary of English shorthand is the tercentenary of the shorthand of the world. Very little value can be assigned to the invention of Dr. Timothy Bright, which is nominally the event commemorated. It seems to be far inferior in every respect to the Tironian notes of the time of Cicero; but it is the earliest English work on shorthand known to bibliographers, and it was followed, at an interval of only some fifteen years, by a series of publications (beginning with that of John Willis, 1602) based in the main on the same principles as are now generally employed.

France began with adaptations of the well-known English system of Taylor, but the more recent French systems follow generally a plan peculiarly their own. Their alphabet of consonants contains letters of two different lengths, but of one thickness, and their vowels consist of loops and hooks which are written in with the consonants, the finer distinctions of vowel-sound being indicated, when necessary, by detached accents. These accents are seldom or never used in fast writing: the French reporting style may therefore be described as employing a few very simple vowel-signs written in with the consonants.

The German systems are still more characteristic, being what are called 'script' systems; that is, systems which employ, instead of straight lines and circular arcs, characters requiring the same movements of the hand as the letters of common writing. The vowels are very fully expressed, sometimes by characters of their own (which are usually either upstrokes or horizontal strokes), but more frequently by modifications of the form or thickness of the consonants. It will be easily understood that these forms, not being geometrical, lend themselves with special readiness to varieties of modification, just as the Gothic style of architecture is more adaptable than the Grecian. The indication thus given is often a mere general indication of the presence of a vowel without showing what the vowel is.

The founder of the German method was Gabelsberger, whose first publication is dated 1834, and his system is still the most widely used of all. Its most prominent representatives at the congress were Dr. Zeibig, professor of the Royal Stenographic Institute, Dresden, well known for his historical publications; and the Rev. J. Alteneder, domvicar of Passau, in Bavaria. It is used for reporting the debates in the Houses of Parliament of Austro-Hungary, Saxony, and Scandinavia. Next in order, both of time and of present popularity, comes the system of Stolze, first published in 1841, but since largely modified. It is used in reporting the proceedings of the Imperial Parliament at Berlin, and was ably represented at the congress by some of its leading professors and practitioners, notably by Dr. Max Bäckler, parliamentary shorthand-writer, Berlin. Two other systems, those of Arends and Roller, have also an established position, but were not, so far as we are aware, represented at the congress. The total number of shorthand societies using these four systems is given as about 1,000, and the number of adherents about 25,000.

The French systems were represented by four parliamentary reporters from Paris; and the chief stenographer, M. Guenin, though not able to attend in person, sent a paper which was read in the congress.

In America the systems mostly used are modifications of Isaac Pitman's, one of them bearing the name of his brother Benn Pitman, while two others, which aim at a higher degree of abbreviation, are known as Graham's and Munson's. Graham's was represented by Prof. W. D. Bridge of Chautauqua University, who is an expert writer, and well informed upon the state of shorthand in America. He was, so far as we know, the only member who crossed the Atlantic to attend the congress.

The first day of papers and discussions brought out several points of interest. A well-devised list of questions on parliamentary reporting had been sent to foreign countries as well as to English colonies; and the replies, which were both numerous and full, had been ably condensed into a *précis* by Mr. Gurney-Salter, the shorthand-writer to the Houses of Parliament. A lively debate ensued, in which some of the leading men from the gallery (notably Mr. Storr of the *Times*) took part, as well as some of the foreign representatives, Dr. Max Bäckler especially distinguishing himself by his ready command of the English language. The inadequacy of the accommodation provided for reporters in the Houses of Parliament, especially as regards difficulty of hearing, was made painfully prominent, while in other countries they are for the most part placed in the body of the house, in the best situations possible.

It is the practice in the French Senate to employ always two official shorthand-writers at the same time to check one another,