SCIENCE

FRIDAY, OCTOBER 7, 1887.

ACCORDING TO A Reuter's telegram, dated Sept. 9, from St. Paul de Loanda, Major Barttelot, who was left at the camp at Yambuya, at the foot of the Aruvimi Rapids, with a garrison of about one hundred men, has forwarded the following information to Leopoldville concerning Mr. H. M. Stanley's expedition: "Major Barttelot received news from Mr. Stanley, despatched about July 12, after he had made a ten-days' march from Yambuya towards the interior. Mr. Stanley was at that date still proceeding up the Aruvimi, which he had found to be navigable up to a certain distance above the rapids. Here he launched a steel whale-boat which he had brought with him, as well as several rafts manufactured by the expedition, and which had been utilized for conveying the heavy baggage. All the members of the expedition were in good health, and provisions were easily procured in the large villages near the river. The country through which the expedition was passing showed a gradual rise towards some high table-lands. Another caravan of 480 men was following the expedition on the left bank of the Aruvimi; the advanced guard, consisting of forty Zanzibari, under the command of Lieutenant Stairs, being composed of men lightly burdened, whose duty was to search for provisions. Mr. Stanley hoped to arrive about July 22 in the centre of the Mabodi district, and expected to reach Wadelai in the middle of August, or even before. The advance had been so peaceably accomplished that Mr. Stanley had instructed Major Barttelot, that, should it continue so, he would shortly send him orders to follow the expedition by the same route at the head of the one hundred men left at Yambuya." A later telegram, dated Oct. 2, from St. Paul de Loanda, states that the further progress of the expedition was very satisfactory. About July 25 the expedition had ascended the Aruvimi to the elevated country belonging to the Mabodi district. The river becoming too narrow, they left the rafts; and the men for several days had to carry a double burden of provisions. The steel whale-boat was carried past the narrows, and again launched. Stanley calculated, that, upon arriving at the summit of the table-lands giving shape to the basin of the Aruvimi, the expedition would halt two days for a rest, and would establish a camp there to be garrisoned by twenty men, with a European officer. The districts traversed were tranquil, and little difficulty was experienced in obtaining provisions from the natives. The progress of the expedition averaged twelve miles daily. Tippo-Tip, in his last message, wrote that he was still at his post at Stanley Falls, awaiting re-enforcements. He had gained the good will of several neighboring chiefs. Owing to the disturbed state of the country, Tippo-Tip could not, as he had agreed to, organize a revictualling caravan to despatch direct to Mvutan Nsige, but he intended to do so as soon as possible. Disquiet continued between Stanley Falls and the confluence of the Aruvimi and the Kongo, and many villages had been pillaged. It is believed that the garrison which Stanley left at Yambuya has been forced to interfere to maintain order in the neighborhood. It appears from all reports that Tippo-Tip, since he has become connected with the Kongo Free State, has some difficulty in regaining his former influence over his countrymen. The disquiet on the Upper Kongo, to which reference is made in the second telegram, probably refers to the ravages of the Arabs of Stanley Falls, who extend their slave-hunting expeditions down the Kongo. It is to be hoped that Tippo-Tip's influence, supported by Major Barttelot's troops, which are stationed near the mouth of the Aruvimi, will suffice to confine their raids to the territory above Stanley Falls. It is in accordance with Emin Pacha's former actions that he declares at the present time his intention to stay in his province, and to further the work of civilization he has so successfully begun. It appears from the meagre news that has reached America, that the messengers who were despatched to inform him of Stanley's expedition have met him, and that this is his reply to the message. Emin expresses the hope that England will help him to open a route of commerce to the Indian Ocean, but it seems more probable that communication with the Kongo will be opened by Stanley's expedition. Junker's travels show that there is no serious obstacle to travel in the region of the northern tributaries of the Kongo; and therefore it seems probable, that, while political complications close the routes of the Nile and of Uganda, Emin and Stanley may succeed in opening trading-routes from the Upper Kongo to the Equatorial Province.

IF THE PRESIDENTS of all our colleges would follow the example of President Barnard of Columbia, and publish each year a full report on the progress of the institutions over which they respectively preside, it would be an advantage not only to the institutions themselves, but to the cause of higher education in general. Mr. Charles F. Thwing, always an observant critic of college methods, emphasizes this point in a recently published article. President Barnard's report for the last academic year has just been issued, and, with its appendices, is a most valuable document. It rehearses the changes and improvements of the year, traces the work of the various schools separately, and discusses such questions as those of attendance, scholarship, the marking system, elective studies, and the wonderfully successful public lecture courses of the past two winters. We are glad to notice the steady growth of the graduate department, as it augurs well for the future of the institution. President Barnard says very little concerning the finances of the college, and we are therefore led to infer that no appreciable part of the sum asked for three years ago has been obtained. An announcement reaches us with the president's report, which should be referred to in this connection. It is the programme of courses in the Oriental and Hamitic languages offered for the present year. From this we learn that the most complete department of its kind in America exists at Columbia, and that, under the inspiring leadership of so cultured a scholar as Dr. H. T. Peck, no fewer than nineteen courses in the Oriental and Hamitic languages are announced. This is a remarkable showing, and when considered in connection with the courses of Professors Bloomfield and Haupt at Baltimore, Whitney at New Haven, and Lyon, Toy, and Lanman at Cambridge, proves that a great impetus has been given to advanced philological study in this country.

THE HIGHER SCHOOLS OF NORWAY.

THE Norwegian school-laws of the 17th of June, 1869, according to the *Zeitschrift für das Realschulwesen*, xii. 3, recognize three fundamental principles. First, all higher schools must have a lower course in common, so that it will not be necessary at the outset, with the choice of a school, to choose also one's ultimate vocation. Secondly, the length of the course must be so regulated that the pupil, upon its completion, shall be of an age to enter intelligently upon the active duties of his calling; the curriculum must also form in itself a whole, and be so arranged that the pupil who has completed it carries with him into life a good general education. Finally, the time devoted in the upper classes to preparatory studies must be so disposed that the pupil may confine himself more especially either to history-philology, on the one hand, or to mathematics-natural sciences, on the other.

The whole system of higher education in Norway is based upon the intermediate school. It is the preparatory school of the Gymnasium, — the Latin as well as the Real Gymnasium, — and has a six-years' course. The requirements for entrance are essentially the same as in the Prussian *höhere Bürgerschule*. The normal age at entrance is nine years. For the first three years the course is in common: with the fourth year it is divided. The pupil preparing for the Latin Gymnasium receives instruction in Latin seven hours per week, which continues through the remainder of the course. All others have instead the so-called 'Real' course; in the fourth year, English and drawing; in the fifth and sixth years, English, drawing, and an hour more of German. Otherwise the courses are identical. In the fifth and sixth years two hours of French are elective. A certificate of proficiency from the intermediate school is required for admission to a Gymnasium; it also entitles its possessor to enter a technical school, and is required of a dentist. A certificate in the Real course only, admits to the naval academy and to the telegraph service; in the latter case the pupil must also have been proficient in French. The future apothecary must possess the certificate of the Latin course.

The Gymnasium — the Latin Gymnasium as well as the Real Gymnasium — is the preparatory school of the university and of the higher technical schools. It has a three-years' course, arranged as follows: —

Latin Gymnasium.

	I.	II.	III.
Normal age at entrance	15	16	17
1. Religion	1	1	2
2. Norwegian and Old Norwegian	3	3	4
3. Latin	9	10	9
4. Greek	7	7	7
5. French	4	2	2
6. German	1	–	–
7. History and physical geography	3	3	3
8. Mathematics	2	3	3
Total number of hours	30	29	30

Real Gymnasium.

	I.	II.	III.
Normal age at entrance	15	16	17
1. Religion	1	1	2
2. Norwegian and Old Norwegian	3	4	4
3. English	4	5	5
4. French	4	2	2
5. German	1	1	–
6. History	3	3	3
7. Physical geography	1	1	2
8. Natural sciences	6	5	4
9. Mathematics	5	6	6
10. Drawing	2	2	2
Total number of hours	30	30	30

The certificate of proficiency from the Latin Gymnasium entitles its possessor to enter upon any course of study. If, however, the pupil desires to enter the military academy, he must pass an examination in mathematics, the natural sciences, and drawing, the requirements in these branches being the same as at the final examination of the Real Gymnasium.

The certificate of the Real Gymnasium entitles its possessor to enter the advanced technical courses, to pursue the study of jurisprudence, and admits to the military academy. If a graduate of the Real Gymnasium desires to study medicine, he must pass an oral examination in Latin; the requirement, however, being the same as at the final examination of the intermediate school, not of the Real Gymnasium. The candidate must show that he has read three books of 'Cæsar's Commentaries,' twenty-four chapters of 'Cicero's Orations,' and five hundred verses of 'Phædrus.' In addition, there is a short written translation from Norwegian into Latin, in which the use of a dictionary is permitted. Most of the graduates of the Real Gymnasium who are to study jurisprudence also take this examination; on the one hand, because Roman law is an important factor in the State examination, and because those who have passed this examination have especial prerogatives in the *examen philosophicum* which precedes the state examination. In order to study theology and philology, the graduate of the Real Gymnasium must pass an oral examination in Latin and Greek, the requirements being the same as at the final examination of the Latin Gymnasium.

The system of preparatory instruction here described has existed in Norway now for some twenty years, so that it is possible to judge, to some extent, of its efficiency. Statistics show that the great majority of those who discontinue their studies after the completion of the course of the intermediate school take the Real course. Of those who take a higher course in the university and the technical schools, two thirds have been graduated from the Latin Gymnasium, one third from the Real Gymnasium. This result, however, is to be explained by the fact that the transformation of the former Latin schools into Latin Gymnasiums necessitated comparatively few changes. Where circumstances, accordingly, allowed but one higher school, the Latin Gymnasium was chosen, which offers, besides, certain tangible, if not materially important prerogatives. Real Gymnasiums and Latin Gymnasiums exist side by side only in the larger cities, the number of which in Norway is very small. Eight cities have both a Real and a Latin Gymnasium, and twelve a Latin Gymnasium alone. W. H. C.

ACCLIMATIZATION IN NEW ZEALAND.

IN a former article (*Science*, viii. No. 197) reference was made to the various species of animals which had been purposely introduced into these islands. In all cases it is difficult to foretell what effect will be produced upon any species by bringing about a change in its environment, and this truth has been well exemplified in the case of many animals, now, alas! too well established in the colony. Unfortunately the age of experiments in this direction has only begun. Rabbits, having no natural enemies to keep them in check, have become such a pest and source of loss to the colony, that the latest move — taken up both by interested sheep-farmers and by the government — has been to liberate sloats, ferrets, and weasels in many parts. Slowly as these animals increase, they have already made their presence felt; not, however, in the diminution of the rabbit-pest, but by their destruction of hen-roosts, and attacks upon children. Following in the wake of settlement, but not introduced purposely by man, are many other species, mostly small and noxious. When settlers first penetrate into the untrodden parts, especially of the South Island, they are attacked by hordes of bloodthirsty sandflies and mosquitoes; while the greatest care has to be taken to ward off an abundant blowfly, which lays its eggs, or ready-hatched maggots, upon every thing exposed. Blankets, flour-bags, and clothing are just as readily 'blown' as meat or offal. But as cultivation proceeds, and the ground is cleared, these insects disappear, while common European blue and house flies take their place. The latter, like the human being they follow after, even bring their diseases with them; so that every autumn their distended bodies are found attached to window-panes by the mycelium of *Empusa muscæ*.

As settlement progresses, and new trees and plants begin to take the place of the old vegetation, the familiar pests of the mother-country begin to appear. *Aphides*, *Coccidæ*, various beetles, moths, and flies, together with parasites which infest man and beast, become all too familiar. In many cases it would seem at first as if these were going to have it all their own way. Some twenty years ago it was considered nearly impossible to grow Swede turnips in this part of the colony, so enormously abundant was the *Aphis* upon them; but within these two decades a small bird almost certainly of recent introduction from Australia, called green-eye, wax-eye, or blight bird (*Zosterops lateralis*), has increased