

GEOGRAPHICAL NEWS.

M. DE LESSEPS, on his arrival at Paris, reiterated the assertion that the Panama canal will be opened in 1889, "even if the most difficult part of the cutting is not then complete." He added, that the portion then navigable will demonstrate that the original calculations were well founded.

The latest rumors about the Kongo are, that the station at Stanley Falls (the highest station established by Stanley) has been abandoned, owing to the continued hostility of the Arab slave-traders.

English capitalists having definitely decided to have nothing to do with the proposed Kongo railway, it is stated that a committee has been formed in Brussels to proceed to the Kongo and decide upon the feasibility of the project on the spot.

There are so many travellers now exploring the central portion of Asia, that it is extremely difficult to keep track of them. Dr. Radde arrived at Sarakhs on the 22d of July, after a successful journey through the now familiar regions of Merv, Penjdeh, Meruchak, Zulfikar, Askabad. Thence he repaired to Tiflis, where he arrived in the early part of September. As might have been expected, he suffered severely from the heat.

Two Frenchmen, MM. Capus and Bonvalot, traversed a portion of the same ground, spending a whole month in Merv. They reported the moving sand-hills, or 'Barchaus,' to be great obstacles to the construction of the Transcaspian railway. Their intention, when last heard from, was to search for a route to Balkh *via* the Amu-Daria. Thence they would attempt to reach Kafiristan over the Hindu Kush, hoping to find a pass free from snow, notwithstanding the lateness of the season. They have since been captured by the Afghans, and are now in close confinement.

There is a clear and valuable account of the recent troubles in Afghanistan, from a Russian point of view, in the *London Times* for Nov. 1 and 12. This purports to be a translation of a synopsis of a Russian 'blue-book.' It appeared originally in the *Journal de St. Petersbourg*.

The officers in charge of the Indian survey have already surveyed Burma from Mandalay southward along the Irawaddy as far as Pagan. It is probable that a rough sketch-map of upper Burma on a quarter-inch scale will be published before long.

Among recent school-maps we note 'The British empire on a uniform scale of 107 geographical miles to an inch,' by William Shaw (London, Philip & Son). Naturally the most extensive limits have been assigned to the British possessions; and this in some cases, as in Africa, to the great injury of other colonial powers. Alto-

gether, the map, though useful, reflects scant credit on its author.

A good statement of the present condition of the British colonies, from the side of the colonies themselves, is 'Her majesty's colonies: a series of original papers issued under the authority of the royal commission.' The introduction is by Seeley, whose 'Expansion of England' has introduced him to a host of readers.

Determined to be up with the times, the geographers of Australasia have formed a geographical society, which has flourished so luxuriantly that a branch society, restricted to South Australia, has already put forth its first volume of Proceedings.

THE TRAINING OF THE MEMORY.

SYSTEMS of mnemonics are exceedingly numerous, and the number of persons who have discovered "the quickest and best way to acquire a perfect memory" is legion. Every once in a while some new and absurd book on the training of the memory is foisted upon the public, and each has its dupes. The trouble with them all is the same, — ignorance of the physiological conditions of memory, and a very inaccurate acquaintance with psychology. Therefore we must plead guilty to the possession of a prejudice against any book on the education of the memory. It was with this prejudice that we took up Dr. Holbrook's little book;¹ but the perusal of the preface and the introductory sections alone proved that for once at least a prejudice against books on training the memory was unfounded. Dr. Holbrook writes with a physiological and psychological knowledge of his subject, and he treats it in a plain, straightforward, common-sense way. After showing the physiological basis of memory, he draws the practical conclusion that robust health, a well-nourished brain, and a healthy nervous system are the normal physiological conditions of a good memory. The psychological conditions are strict attention to sensory impressions, repetitions of them, and the formation of chains of association for them. The value of association may be tested by any one who is foolish enough to doubt it, by making the test given by Dr. Holbrook on p. 113, quoted from Dr. Pick's work on training the memory. We ourselves have tried it with several persons, and found it a most excellent and practical illustration. The practice of making notes of important matters is adverted to and commended, even if the notes are at once thrown away, because the process of writing the fact, name, or date down increases our attention to it,

¹ *How to strengthen the memory.* By M. L. HOLBROOK, M.D. New York, Holbrook, 1886. 12°.

and deepens the original sense-impression. Dr. Holbrook gives wholesome advice to persons of weak memories, and shows how such may be trained to become very retentive and accurate. A few judicious paragraphs are given on the art of forgetting, instruction in which is quite as necessary for that class of persons who insist on overloading their memories with all sorts of mental rubbish, as is instruction in remembering for those minds which seem to retain nothing.

LONDON LETTER.

AN interesting discovery has very recently been made in the direct line between Pompeii and Nocera. The digging of a well in a vineyard revealed the existence of a street of tombs, about one thousand feet east of the amphitheatre of Pompeii. If the whole street is as closely lined with tombs as is the portion laid bare, it will be one of the most important discoveries lately made in that part of the world; but unfortunately money is wanting, so that the excavation is going on very slowly. Most of the tombs are covered with rude inscriptions painted in red, many of them being of the nature of advertisements, the tombs thus serving the purpose of a newspaper along the much-frequented road. The exact date has not yet been accurately ascertained, but they probably belong to the periods of Julius Caesar and Tiberius. A contrast may be drawn between the condition of Pompeii and that of Pergamon, which, although double the size of Pompeii, has, thanks to the energy of the Prussian government, been laid clear within eight years. In the latter, beautiful, finely painted statues, votive offerings to Athena, and belonging to the sixth century B.C., have been found buried in the earth, and literally forming the foundation of the houses above. Their style of art is one hitherto not supposed possible at so remote a period, and they cause Pompeii to appear quite modern.

The discovery of an aqueduct which probably dates back to the time of King Solomon is reported from Jerusalem, and it is confidently anticipated that the further excavation of it will bring to light some extremely interesting and valuable inscriptions.

The following particulars with regard to the Severn tunnel, which shortens the distance between the South Wales coal-field and the south and west of England, and which was opened yesterday for passenger traffic, may be of interest. The first sod was turned in March, 1873. The length of the tunnel is 7,664 yards, or $4\frac{1}{4}$ miles, of which $2\frac{1}{4}$ miles are under the river-bed, with a minimum 'cover' of 45 feet, and a maximum of

100; all this portion being bored through hard sandstone, conglomerate, and red marl, and costing roughly £100 per yard. The works have been flooded by land-springs four times, and the total cost is about two millions sterling. The tunnel is lined throughout with vitrified brick, set in about three feet thickness of cement.

It is announced to-day that Professor Rücker, F.R.S., has been appointed by the lord president of the council to the professorship of physics in the Normal school of science, and Royal school of mines, South Kensington, London, made vacant by the death of Professor Guthrie, F.R.S. The friends of the latter will regret to learn that his widow and family are but ill provided for, in consequence of the numerous family claims upon him during his life, and it is probable that the Physical society of London will start a fund on their behalf. Professor Rücker was, until recently, professor of physics at the Yorkshire college, Leeds, after which he unsuccessfully contested a parliamentary election for that city.

The reading and discussion of Mr. Gisbert Kapp's paper on the 'Predetermination of dynamo characteristics' have occupied three evenings (one a special and extra meeting) at the Society of telegraph engineers and electricians. The paper dealt with the construction beforehand of what may be called the 'idle' characteristic curve of dynamos; and the discussion turned in great part upon the questions of magnetic resistance, and especially of air resistance, as well as on the analogy between the electric and magnetic circuits. Before commencing his paper, Mr. Kapp stated that only two days previously he had found that many of his points had been anticipated in a paper on dynamo-electric machinery, by Dr. J. and Dr. E. Hopkinson, communicated to the Royal society in May last, but which had only just been published. It is greatly to be regretted that the routine of the Royal society prevents an earlier publication of important scientific papers which have a direct bearing upon industrial progress.

One result of the more extended adoption of the electric light in public buildings in London is a notable increase in the number of winter exhibitions of pictures. Nearly all artistic societies of any importance now hold their 'winter exhibitions' with as great regularity as the summer ones, which open in May. The electric lighting of the Grosvenor gallery, due chiefly to Sir Coutts Lindsay, first demonstrated the advantages which were thus obtainable.

The disinfection of articles of clothing, and of dwellings, after infectious ailments, is admittedly one of the most important duties which attends the work of preventing disease. A recent report