

SCIENCE

FRIDAY, AUGUST 10, 1888.

WHILE THE LACK of reliable information prevents us from gaining an understanding of Stanley's fate and the ultimate objects of his expedition, news has been received as to the events in Khartum. In May two messengers arrived in Cairo, carrying brief notes from Slatin Bey and several other European captives of the Mahdi. The handwriting of the writers was recognized by their friends, so that there can be no doubt as to their being genuine. The fate of the captives is pitiful. Only the missionaries are at liberty, and they are allowed to make a living by selling boiled beans in the streets of Khartum. Lupton Bey, formerly governor of the province Bahr-el-Gazel, was made to work in the armory like a common Arab. Recently he has been employed in the mint of the Mahdi. Slatin Bey is made the Mahdi's runner, and has to hold his stirrup. Others are imprisoned, and the Mahdi threatens to execute them. The messengers describe the state of affairs in the Mahdi's province as miserable. The inhabitants of Khartum are said to be starving, and there is a great want of clothing and of money. Discord prevails between the followers of the Mahdi and several chiefs. One of the latter recently tried to gain his independence, but as the Mahdi's party was more numerous he submitted. Although a formal peace was made, the Mahdi made the chief a prisoner and had him hanged. The messenger says that a force of five hundred men of Turkish or Egyptian troops approaching from Wadi Halfa would be able to destroy the Mahdi's power. The tribes of the Sudan are discontented with his rule, and after a short time he would find himself deserted by everybody, a few fanatics excepted. It is considered impossible to ransom the prisoners, as caravans conveying money or goods would be robbed and murdered before arriving in Khartum. Last year a sheik of Berber offered to re-open the trade between Khartum and Egypt. Although the Mahdi was not unwilling to accept the offer, his council rejected it. This news is considered reliable, and shows the difficulties which would be encountered in an attempt to liberate the unfortunate captives. Various letters of Emin Pacha confirm these reports, for he describes the effect of the despotic rule of the Mahdi about in the same way. In how far, however, the subjected tribes would be ready to assist in an attack upon the Mahdi appears doubtful, as we might else expect that they would join Emin, whose difficulties seem to be comparatively great. From recent reports it would seem that the Mahdi is contemplating a new attack upon the Equatorial Province, and that Emin is going northward to meet him. This news must be received with due reserve, as it does not agree with former letters of Emin and the apparent decline of the Mahdi's power. The despatch says, "Two native messengers who were captured from an earlier expedition by tribes in the Uganda district, bordering on the Albert Nyanza, and who escaped from their captors about the beginning of April, have just arrived here. They report that Emin Bey was in a situation of great difficulty. Provisions were scarce, and difficult to procure, and his troops were beginning to be discouraged. On April 4 Emin received a summons from the Mahdi, dated Khartum, calling on him to surrender and to disband his troops, the Mahdi threatening to attack if Emin refused." It will be remembered that Emin kept up friendly relations with Uganda and Unyoro up to the end of last year, and that he was able to purchase supplies in Uganda. In November, 1887, he sent letters from the southern part of Lake Albert Nyanza, and stated that he was extending the limits of his province southward. Since the unex-

pected retreat of the Mahdi during the great war in the Sudan, he has not been molested by serious attacks from the north.

AT LAST THERE IS REASON to hope that the publications of the Geological Survey will be printed. There are now in the hands of the public printer more than forty volumes prepared by the Geological Survey and the Bureau of Ethnology. Among these are the annual reports of the Geological Survey for 1886 and 1887. The 'copy' of that of 1888 is also nearly ready. The Government Printing-Office is full of work from all of the departments, and which has been ordered by Congress, and, as a rule, it is left to the discretion of the public printer as to the order in which the work shall be done. The work of the Geological Survey and Bureau of Ethnology has generally been postponed. The appropriation for the printing of the publications of these two offices for the present fiscal year has been made a specific one: it cannot be used for any thing else. This will cause the public printer to do the work in order to get the money. Provision has been made for the printing of fifteen thousand extra copies of the annual reports of the Geological Survey, and six thousand copies of the bulletins of the Bureau of Ethnology for last year and this. The prompt issue of the publications of these two offices is certain to make them more popular, and to commend them more strongly to Congress for liberal support. They have gone on in the past, year after year, expending large sums of money, and making very little show in the way of printed matter in return for it. But this has not been the fault of Director Powell or of his assistants. They have prepared a great mass of matter, but the public printer has allowed it to accumulate in his office without putting it into type. It is now expected that the arrears of this work will be brought up during the coming year. The volumes that will appear during the next twelve months contain a great fund of popular and scientific matter.

THE APPROPRIATION OF \$250,000 for the purpose of investigating the extent to which the arid region of the United States can be redeemed by irrigation, and the segregation of the irrigable lands, and for the selection of sites for reservoirs and other hydraulic works necessary for the storage and utilization of water for irrigation, and to make the necessary maps, which was attached to the sundry civil appropriation bill by the Senate, will be agreed to by the House. A careful canvass of the members shows that a sufficient number will vote for it, whether the committee report favorably or otherwise upon it. In authorizing the beginning of this important work, the government enters upon an enterprise of greater magnitude than any of the kind it has ever engaged in. Director Powell of the Geological Survey has estimated, that, of the arid region, now not susceptible of cultivation, fifteen per cent, or 150,000 square miles, or an area exceeding that of one-half the land now cultivated in the United States, may be redeemed. At thirty dollars an acre, which is a low estimate of the value of the rich lands of the West when plentifully supplied with water, this land, which is now worth almost nothing, would have a value of \$2,880,000,000. By comparison the building of the Pacific Railroad sinks almost into insignificance as a means of adding to the wealth of the nation.

THE CENSUS MAPS OF THE UNITED STATES.

As the time is approaching for the Eleventh Census of the United States, the question whether the maps used for the purposes of the Tenth Census are satisfactory or not becomes impor-