navigation of the estuary of the Ob is better known, the voyage may be made in even a shorter time. Indeed if depôts were established at suitable points on the north Norwegian coast, it might be possible for a ship to make two journeys to Siberia in one summer. Probably the Ob is the most important of the Siberian rivers so far as commerce is concerned. Trade on the Ob is already considerably developed, the river being navigated by over thirty steamers. The region around the river is the most productive and most thickly inhabited in Siberia.

IN an article in the September number of Petermann's *Mittheilungen*, on the chief branches of the Russians, much interesting information is given on the characteristics and distribution of the Great, Little, and White Russians, illustrated by a carefully constructed map. In the same number Dr. Junker, in a letter to Dr. G. Schweinfurth, describes his travels in the south-west part of the Nile Region in January-October, 1877, adding considerably to our knowledge of the region, and making several corrections on existing maps. Lieut. Weyprecht describes the results of his observations in 1871-4, on the temperature and depth of the sea to the east of Spitzbergen. The sea, he finds, is comparatively shallow, seldom exceeding 400 metres.

WE have received a handsome atlas of the State of New Hampshire (U.S.), containing, besides a series of beautifully-executed maps of the state and of its counties, —meteorological, geological, agricultural, and arboricultural,—a vast amount of well-arranged information on its topography, geography, river systems, climatology, railroads, educational institutions, agricultural and botanical productions, mechanical and manufacturing interests, &c. The work is edited by Mr. H. F. Walling, C.E., and Prof. C. H. Hitchcock, and is published by Comstock and Clive, New York. The work is creditable both to the editors and publishers. The long list of "patrons" of the atlas appended—mostly people in business—speaks well for the intelligence of the inhabitants of New Hampshire.

IN a letter to Sir Samuel Baker from a gentleman in the Khedive's service, the latter describes a successful journey which had been made with some Indian elephants in the White Nile region, proving that this powerful and useful animal may be utilised advantageously in African travel and exploration.

OUR ASTRONOMICAL COLUMN

THE INTRA-MERCURIAL PLANET.—In addition to the letter addressed to the Astronomer-Royal by Prof. James Watson, after revising his first position of the object near θ Cancri, more carefully at Ann Arbor, similar communications have been made to M. Fizeau (*Comptes Rendus*, May 2), Prof. Förster (*Circular zum Berliner Astronomischen Jahrbuch*, No. 98), and to Prof. Peters (*Astronomische Nachrichten*, No. 2,217). The definite position is in R.A. 8h. 27m. 24s., Decl. + 18° 16′ for July 29, at 5h. 16m. 37s. Washington M.T., or 10h. 24m. 49s. M.T. at Greenwich, which position Prof. Watson considers to be trustworthy within five minutes of arc, with a greater probable error in the declination than in the right ascension. The other points named by the discoverer, upon which stress is to be laid, are the fact of the star θ Cancri being also observed, the appearance of a sensible disk with a power of 45 on a 4½-inch refractor, its ruddy colour and much greater brightness than that of the neighbouring star. There has never been a suspicion of a variable star in this vicinity, nor can the appearance of a disc be so explained. Prof. Watson seems to have satisfied himself that the object was not a comet; indeed, such a body would hardly appear round and well-defined with the sun totally eclipsed. In the case of the comet of March 1847, which was observed in full daylight, at a similar distance from the sun to that of Prof. Watson's object, two short tails were visible though the head was circular, and the great comet of February, 1843, also exhibited a bifid tail, which was bright and distinct to the naked eye. Mr. Hartnup, who observed the comet of Klinkerfues, 1853, in broad daylight, described it as circular, well-defined, and without tail, but the case is hardly analogous to that of a comet viewed while the sun is wholly hidden.

[Since the above was in type, the full details of Prof. Watson's observations and reductions have been received.]

THE VARIABLE NEBULA IN TAURUS (HIND, 1852).—In the diagram attached to M. Tempel's remarks upon this object in *Astron. Nach.*, No. 2,212, a distinction is made between the position given in No. 839 of the same periodical and that assigned with reference to the neighbouring variable star T Tauri. To prevent misconception on this point it may be well to remark that, on the first night the nebula was perceived with Mr. Bishop's seven-inch equatorial—October 11, 1852—it preceded the variable star 1s.·2, and was south of it 0′·7, as stated in the *Astron. Nach.*, and that at no subsequent time when the nebula was observed with the same instrument was any difference of position noticed: it appeared to nearly touch the star on the S.P. side. No. 1 on M. Tempel's diagram should be therefore erased. In a note in his Supplementary Catalogue Mr. Dreyer states that he found no appearance of nebulosity near the well-known variable; nor did Dr. Copeland, observing with the large refractor at Lord Lindsay's Observatory; nor M. Tempel, with a fine Amici of 11-in. aperture, at Arcetri. On the other hand, M. Otto Struve still found traces of nebulosity with the Pulkova instrument, which he "believes is certainly the variable nebula itself, only in altered brightness and spread over a larger space;" and he adds, "some traces of nebulosity are still to be seen exactly on the spot where Hind and d'Arrest placed the variable nebula." The accurate position of T Tauri has yet to be determined by meridional observation. Argelander re-observed Bessel's star of the ninth magnitude, which precedes it 16·5s., about 4′ south.

THE LATE DR. E. VON ASTEN.—By the early death of Dr. von Asten astronomy has lost a most able worker in a branch which has numbered of late years fewer distinguished names than formerly. He was one of Argelander's pupils and intended to apply himself to observations, but, we believe, through a serious accident, he was incapacitated for active occupation, and his desire to devote his attention to astronomy could only be gratified by obtaining employment in calculation. This he was so fortunate as to effect through the director of the Imperial Observatory at Pulkova, M. Otto Struve, who engaged him as one of the staff of computers. In this position Dr. von Asten had for some time carried on a rigorous investigation on the motions of Encke's comet, one of the most interesting results of which has been to prove that while in some revolutions an acceleration similar to that attributed by Encke to the existence of a resisting medium has made itself evident; in others the motion of the comet could be precisely followed without such hypothesis, and hence a different cause might be found for the cases of acceleration. Dr. von Asten previous to his connection with Pulkova, minutely discussed the whole of the observations of the great comet of Donati (1858 vi.), arriving at the conclusion that at the time it was visible it was moving in an elliptical orbit with a period of nearly 1,900 years.

NOTES

THE Association of German Naturalists and Physicians commenced its sittings at Cassel on Wednesday last week, and judging from the numbers of the *Tageblatt* and of the Cassel papers that have been sent us, the meeting has been quite as