

and stone, brought there by devotees. Behind this, again, is another figure of Buddha, erect, and in the act of giving a blessing. From Muang Fang Mr. Bock went to Tatong, a small Ngiou village on the River Mekok, which is here only 150 feet across. This stream he followed down to its point of junction with the Mekong, which is twice as wide here as the Menam at Bangkok. Ascending the Mekong, Mr. Bock went to Chen Tsen and Chengmai, where again he had difficulties with the natives, who destroyed nearly all his collection of animals, &c. Hence he returned down the valley of the Mekong, and ultimately reached Bangkok on June 14.

THE COMET

MERIDIAN observations of the comet which was first detected in this country by Mr. Ainslie Common, at Ealing, at 10.45 a.m. on September 17, were made at the Observatory of Coimbra on the 18th, 19th, and 20th, and the following first approximation to the orbit has been deduced from them by Dr. Hind :—

Perihelion passage September 17<sup>h</sup> 10<sup>m</sup> 47<sup>s</sup>, M.T. at Greenwich.

Longitude of perihelion	... ..	271° 39' 5"
"    ascending node	... ..	347° 44' 6"
Inclination	... ..	37° 9' 6"
Logarithm of perihelion distance	... ..	8.09201

Motion—retrograde.

These elements bear a striking resemblance to those of the great comet of 1843 and 1880, and it hardly admits of a doubt that we have here a return of that body, which will have experienced an amount of diminution of velocity at the perihelion passage on January 27, 1880, sufficient to cause the last revolution to occupy only two years and eight months, and which if experienced to the same extent on the 17th of last month, may bring the comet round again in October 1883.

The comet was perceived in the forenoon of September 18, at many places in the South of France, Spain, Portugal, Italy, &c. From Nice we read :—"Toute la ville a admiré aujourd'hui (September 18), pendant cinq heures, un astre nébuleux brillant vers 3° à l'ouest du soleil." It was seen a day earlier at Reus. M. Jaime Pedro y Ferrier reports : "Le dimanche, 17, à 10h. du matin, les habitants s'arrêtaient avec étonnement sur les places pour admirer la comète visible près du soleil vers 1° 5' à l'ouest. Elle était si brillante qu'on l'apercevait à travers de légers nuages. En l'examinant à l'aide d'une jumelle munie d'un verre noir, on distinguait la queue qui s'allongeait en s'élargissant." The comet was observed at 11 a.m. on September 22, by Prof. Riccò, with the refractor of the Observatory at Palermo: its approximate position at noon was in R.A. 11h. 5m. 39s., and Decl. -1° 51', according to a communication in the *Giornale di Sicilia* of the 24th, from Prof. Cacciatore, director of the Observatory; it was not then visible without a telescope, but on the following morning, shortly before sunrise, it was visible to the naked eye, exhibiting a very distinct nucleus, and a tail about 6° in length, leaning towards the south.

A circular from Prof. Krueger, editor of the *Astronomische Nachrichten*, states that the comet was observed at Vienna on September 28, at 17h. 15m. Vienna mean time, in right ascension 161° 28', and declination -5° 51'. Prof. Auwers observed it at St. Vincent, on his voyage from Hamburg to Punta Arenas, to take part in the observation of the coming transit of Venus. Signor Luciano Toschi found it very distinct to the naked eye at Imola, in Italy, on the morning of the 25th, the apparent length of the tail being equal to the distance between Sirius and  $\kappa$  Orionis, which assigns it an extent of more than 15°.

The Coimbra meridian observations, to which reference has been made, furnish the following places :—

Greenwich M.T.	Right Ascension.	Declination.		
			h.	m.
Sept. 18 <sup>h</sup> 01 <sup>m</sup> 05 <sup>s</sup> 2	... ..	11 30 58	... ..	+ 1° 22' 24"
19 <sup>h</sup> 00 <sup>m</sup> 16 <sup>s</sup> 6	... ..	11 21 59	... ..	+ 0 24 38
19 <sup>h</sup> 99 <sup>m</sup> 43 <sup>s</sup> 7	... ..	11 15 24	... ..	- 0 25 32

It appears probable that between the time of Mr. Common's observation on the 17th, some hours before the perihelion passage and the meridian observations at Dun Echt and Coimbra on the following day, material perturbation of the elements defining the position of the plane of the orbit may have taken place; at any rate, the above orbit deviates considerably from the Ealing observations. Assuming that the comet is identical with that discovered by M. Cruls at Rio de Janeiro on the morning of September 12, and that he has obtained a good series of observations of position on the following days, it will be interesting to compare the elements deduced from them with those calculated upon observations made subsequent to the perihelion passage.

From a circular which we have received from the Observatory of Palermo, it appears that Prof. Cacciatore utilised the appearance of the comet in an unwonted manner; we read: "Mentre l'Italia tutta commuovesi per la grande sciagura toccata ai nostri fratelli delle provincie venete e lombarde, ed in ogni regione costituisconsi con nobile e patriottico slancio comitati di soccorso per venire in aiuto a tanti mali, a secondare il pietoso intento, l'Osservatorio aprirà la sue sale all'alba del 26 alle ore 5 precise, a quei generosi visitatori, che versando una contribuzione di L. 200 vorran godere del sorprendente spettacolo osservandolo al grande e magnifico nostro Refrattore. Siam certi che la sperimentata filantropia della classe agiata di Palermo non renderà vano l'appello dell'Osservatorio. Per tal guisa l'apparizione di questa cometa, che in altri tempi sarebbe stata segnata come foriera dell'ira divina, e causa delle attuali miserie verrà invece registrata come apparizione benefica alla umanità."

[Since the above was in type, we learn by a communication from Mr. David Gill, dated Royal Observatory, Cape of Good Hope, September 11, that the comet was remarked by Mr. Finlay, the First Assistant, at 5h. a.m. on September 8, or four days before it was found by M. Cruls, at Rio de Janeiro. An exact determination of position on the following morning gave—

Cape M.T.	R.A.	Decl.		
			h.	m.
Sept. 8, at 17 13 58	... ..	144 59 51.4	... ..	- 0° 45' 30.0"

Observations were made on the morning of discovery, but the comparison star was not identified with certainty.

Prof. Riccò reports marked changes in the spectrum of the comet from day to day, from Palermo observations.

In the *New York Daily Tribune* of September 21, the identity of this comet with that of 1843 and 1880 is pointed out by Prof. Lewis Boss.]

SPECTROSCOPIC WEATHER DISCUSSIONS

TO readers of NATURE who have attended years ago to Mr. Norman Lockyer's most accurate quantitative determinations, by spark spectroscopy, of the relative proportions of silver and gold in certain alloys; and to Prof. Hartley's similar quantitative analyses more recently by photographed spectra of the strength of different solutions of metallic salts—there need be no difficulty in allowing, that if a meteorological spectroscopy can ordinarily show the standard fact of watery vapour being in the atmosphere, it may also, by a little extra nicety and tact in its use, be able to quantify to some extent the proportions of such aerial supply of water-gas at different times, and so to become, in conjunction with the natural