should be made simultaneously at all stations, at short intervals of time, for a certain number of hours and at fixed periods of the year, precisely similar to the plan which has been recommended and adopted by Sir John Herschel with reference to observations of the barometer and thermometer.

Referring in terms of commendation to the magnetical observations which have originated in this country, M. de Humboldt expresses his wish that such observations may, by the adoption of an uniform plan, and by connecting them with the observations now in progress on the continent of Europe and of Northern Asia, be rendered more proper for the manifestation of great physical laws. He then enters into a historical detail of the establishment of stations for magnetical observations, stating the important results obtained by MM. Arago and Kupffer by means of simultaneous observations, which appear to establish the isochronism of the perturbations of the needle at Paris and Kasan, stations separated by 47° of longitude. Under the patronage of the Governments of France, of Prussia, of Denmark, and of Russia, magnetical observatories I ave been established at Paris, at Berlin, in the mines of Freyberg, at Copenhagen, in Iceland, at St. Petersburg, Kasan, Moscow, Barnoul at the foot of the Altai Chain, Nertschinsk near the frontiers of China, even at Pekin, and at Nicolajeff in Crimea.

M. de Humboldt states that the lines representing the horary variations at Berlin, Freyberg, Petersburg, and Nicolajeff affect parallelism, notwithstanding the great separation of the stations and the influence of extraordinary perturbations; that this, however, is not invariable, since even at small distances, for example, at Berlin and in the mines of Freyberg, one of the needles may show considerable perturbations, while the other continues that regular course which is a function of the solar time of the place.

The epochs at which it had been proposed that simultaneous observations should be made at all stations were,

20th and 21st of March, 4th and 5th of May,

21st and 22nd of June, 6th and 7th of August, 23 and 24th of September, 5th and 6th of November, 21st and 22nd of December, from 4 o'clock in the morning of the first day until midnight of the second, coerving, at least hourly, night, and day, at each magnetic station.

But as many observers have considered these as too near to each other, the observations most to be insisted upon are those at the times of the solstices and equinoxes.

England from the times of Gilbert, Graham, and Halley to the present, observes M. de Humboldt, has afforded a copious collection of materials, adapted to the discovery of the physical laws which govern the changes of the variation, whether at the same place, according to the hours of the day and the seasons of the year, or at different distances from the magnetic equator and from the lines of no variation. After adverting to the continued observations of