Leicester, Newark, and so to Lincoln. The fourth, called *Erming* or *Errninage Street,* extends from St David’s, in Wales, to Southampton.

WAYGHTES, or Waits, a word which is used only in the plural number, and signifies *hautboys.* It is now ap­plied to the performers on these and other musical instru­ments, by a transition from the instruments themselves, and particularly to those performers who parade the streets by night, about the Christmas season of the year.

WAYGIOU. See Wλgeeo.

WAYTE, a rocky island in the Straits of Macassar, near the west coast of Celebes. Long. 119.18. E. Lat. 0. 40. S.

WAYWODE is a title formerly given to the governors of the chief places in the dominions of the czar of Muscovy. The palatines or governors of provinces in Poland also bore the quality of *waywodes* or *waiwodes.* The Poles likewise called the princes of Wallachia and Moldavia *waywodes,* as esteeming them no other than on the footing of governors, pretending that Wallachia and Moldavia are provinces of Poland. Everywhere else these are called *hospodars.* Du Cange says, that the name *waywode* is used in Dalmatia, Croatia, and Hungary, for a general of an army ; and Leun- clavius, in his Pandects of Turkey, tells us it usually signi­fies *captain* or *commander.*

WEARY Bay, on the north-east coast of New Holland, south of Endeavour River.

WEATHER. The term *weather* is used, in the popular sense which is commonly attached to the word, to express the general condition of the atmosphere resulting from heat or cold, tranquillity or commotion, dryness or humidity, in all its modifications of visible and invisible vapour, together with the other variable phenomena accompanying the me­teorological changes which are exhibited in ceaseless rota­tion by that great mass of attenuated matter. There being no department of physical inquiry where the desire of knowledge and the gratification of a rational curiosity is so constantly and inseparably connected with our personal comfort, the state of the weather has, in all ages and in every country, occupied a large share of the attention of na­turalists, as well as of ordinary observers. It is not a little remarkable, however, that notwithstanding thc general in­terest which the subject is fitted to excite, and the constant attention that has been devoted to it, there is no branch of science in which, with all the advantages of accurate instru­ments and accumulated observations, there is less of syste­matic and well-established principles, or more of arrogant and unfounded pretension. This must be ascribed, not so much to the defective state of our knowledge concerning the actual condition of that portion of the atmosphere which is within the immediate sphere of our observation, as to the fact that the causes which contribute to produce changes in thc meteorological phenomena which it exhibits in some particular geographical situation, frequently have their origin in regions far beyond the reach of the observer ; and hence predictions respecting the state of the weather must be founded more upon conjectures suggested by a cautious induction than upon the indications of instruments which, however well fitted to give precise and accurate information respecting the condition of the surrounding air with regard to pressure, temperature, or humidity, furnish no means of discovering the remote causes by which that condition was produced, or may be afterwards affected and even entirely subverted.

It may be hoped, however, that the efforts which have been lately made for the erection of magnetic and meteo­rological observatories in almost every important station of the globe, and the liberal encouragement which has been granted by the various governments of Europe for supplying

these establishments with suitable instruments, under the su­perintendence of skilful observers, will, at no distant period, furnish precise and accurate data for determining the si­multaneous condition of the atmosphere over an extensive portion of the surface of the earth, and thus enabling us to ascertain whether the meteorological appearances which dis­tinguish different seasons are altogether of an anomalous character ; or, otherwise, to what extent they are, like other physical phenomena, the result of fixed and invariable laws, which, though involved in obscurity as to their mode of action, do not fail, after a certain lapse of time, to display their operation by the periodical revolutions in the weather, to which they give birth.

Though this country can scarcely claim the honour of having first set the example to other states, of engaging with zeal and alacrity in this great and important undertaking, it must be admitted that the British Association for the Advancement of Science has contributed in no small degree to draw the attention of other learned bodies to the subject, while it has annually devoted a considerable portion of its funds to the investigation of objects which are calculated to throw great light upon the leading principles of meteorology. At the recommendation of that institution, the British go­vernment has established magnetic and meteorological ob­servatories at various places in the empire, as well as in the colonies, particularly at Greenwich, Dublin, Plymouth, the Cape of Good Hope, Van Diemen’s Land, Madras, Sinca- pore, Simla in the Himalaya range, Aden in the Arabian Gulf, and Toronto in Canada. It has also furnished instru­ments to the observatories established at Breslau in Prussia, at Hammerfest in Norway, as well as to those established at Cairo and at Algiers. The liberal and enlightened views evinced by the British government for the support of these institutions have been followed by corresponding efforts on the part of other civilized states ; and accordingly we learn that establishments for similar purposes are now fixed at St Petersburg, Kasan, Catherinehourg, Barnaoul, Nicolaieff, and various other places in the Russian empire, as well as at Berlin, Brussels, Copenhagen, Göttingen, Gotha, Ha­nover, Heidelberg, Leipzig, Milan, Munich, Philadelphia, Prague, Upsala, &c.

It is only by the co-operation of numerous observers pur­suing with regularity and perseverance a system of judicious observations, at stations so remote from each other, that we can obtain, in the first place, an accurate register of the meteorological phenomena which are connected with geo­graphical position, and be afterwards enabled to apply suit­able equations to the general laws by which these pheno­mena are regulated, for the purpose of adapting them to the local peculiarities which distinguish the climates of par­ticular places. Many years may be necessary for the full development of these laws ; but already have the magnetic observations recorded at stations separated widely by dis­tance indicated the existence and operation of a diffusive principle, probably of a thermo-electric character, which, exerting its influence in the bowels of the earth, is capable of producing contemporaneous magnetic effects of the most palpable kind at the surface. The relation subsisting be­tween caloric and the distribution of the electric fluid may lead us to expect from these observations new discoveries respecting the mysterious laws which govern the periodical and secular changes of terrestrial temperature that have so long perplexed geologists, and may thus authorize us to an­ticipate some of the great thermal revolutions to which our globe is from time to time exposed. For further informa­tion on this subject, the reader may consult the articles Ba­rometer, Climate, Clouds, Colo, Evaporation, Hy­grometry, Meteorology, Temperature, (v. v. v.)