corresponds with the terrestrial pole than does the *thermal* equator, which connects together the hottest points of all meridians with the geographical equator. Arago concludes, from the gradual decrease of mean temperatures, that the degree of cold at the northern terrestrial pole is -13° , if the maximum cold observed by Captain Back at Fort Reliance (62° 46' lat.) in January, 1834, were actually -70° ($-56^{\circ} \cdot 6$ Cent., or $-45^{\circ} \cdot 3$ Reaum.).* The lowest temperature that, as far as we know, has as yet been observed on the earth, is probably that noted by Neveroff, at Jakutsk ($62^{\circ} 2'$ lat.), on the 21st of January, 1838. The instruments used in this observation were compared with his own by Middendorff, whose operations were always conducted with extreme exactitude. Neveroff found the temperature on the day above named to be -76° (or -48° Reaum.).

Among the many grounds of uncertainty in obtaining a numerical result for the thermal condition of the regions of space, must be reckoned that of our inability at present to ascertain the mean of the temperatures of the poles of greatest cold of the two hemispheres, owing to our insufficient acquaintance with the meteorology of the antarctic pole, from which the mean annual temperature must be determined. I attach but little physical probability to the hypothesis of Poisson, that the different regions of space must have a very various temperature, owing to the unequal distribution of heatradiating stars, and that the earth, during its motion with the

* Arago, Sur la Température du Pôle et des espaces Célestes, in the Annuaire du Bureau des Long. pour 1825, p. 189, et pour 1834, p. 192; also Saigey, Physique du Globe, 1832, p. 60-76. Swanberg found, from considerations on refraction, that the temperature of the regions of space was $-58^{\circ}.5.$ — Berzelius, Jahresbericht für 1830, s. 54. Arago, from polar observations, fixed it at -70° ; and Pectet at -76° . Saigey, by calculating the decrease of heat in the atmosphere, from 367 observations made by myself in the chain of the Andes and in Mexico, found it -85°; and from thermometrical measurements made at Mont Blanc. and during the aeronautic ascent of Gay-Lussac, -1070.2. Sir John Herschel (Edinburgh Review, vol. 87, 1848, p. 223) gives it at -132°. We feel considerable surprise, and have our faith in the correctness of the methods hitherto adopted somewhat shaken, when we find that Poisson, notwithstanding that the mean temperature of Melville Island (74° 47' N. lat.) is -1° 66', gives the mean temperature of the regions of space at only 8°.6, having obtained his data from purely theoretical premises, according to which the regions of space are warmer than the outer limits of the atmosphere (see the work already referred to, § 227, p. 520); while Pouillet states it, from actinometric experiments, to be as low as -223°.6. See Comptes Rendus de l'Académie des Sciences. tom. vii., 1838, p. 25-65.