

southwest winds which prevail in those regions, and which are land winds to eastern coasts, and sea winds to western coasts, extending over a space which, from the great mass and the sinking of its cooled particles, is not capable of any considerable degree of cooling, and hence it follows that the east winds of the Continent must be cooler than the west winds, where their temperature is not affected by the occurrence of oceanic currents near the shore. Cook's young companion on his second voyage of circumnavigation, the intelligent George Forster, to whom I am indebted for the lively interest which prompted me to undertake distant travels, was the first who drew attention, in a definite manner, to the climatic differences of temperature existing in the eastern and western coasts of both continents, and to the similarity of temperature of the western coast of North America in the middle latitudes, with that of Western Europe.* Even in northern latitudes exact observations show a striking difference between the *mean annual temperature* of the east and west coasts of America. The mean annual temperature of Nain, in Labrador (lat. $57^{\circ} 10'$), is fully $6^{\circ} \cdot 8$ below the freezing point, while on the northwest coast, at New Archangel, in Russian America (lat. $57^{\circ} 3'$), it is $12^{\circ} \cdot 4$ above this point. At the first-named place, the mean summer temperature hardly amounts to 43° , while at the latter place it is 57° . Pekin ($39^{\circ} 54'$), on the eastern coast of Asia, has a mean annual temperature of $52^{\circ} \cdot 3$, which is 9° below that of Naples, situated somewhat further to the north. The mean winter temperature of Pekin is at least $5^{\circ} \cdot 4$ below the freezing point, while in Western Europe, even at Paris ($48^{\circ} 50'$), it is nearly 6° above the freezing point. Pekin has also a mean winter cold which is $4^{\circ} \cdot 5$ lower than that of Copenhagen, lying 17° further to the north.

We have already seen the slowness with which the great mass of the ocean follows the variations of temperature in the atmosphere, and how the sea acts in equalizing temperatures, moderating simultaneously the severity of winter and the heat of summer. Hence arises a second more important contrast—that, namely, between insular and littoral climates enjoyed by all articulated continents having deeply-indented bays and peninsulas, and between the climate of the interior of great masses of solid land. This remarkable contrast has been fully

* George Forster, *Kleine Schriften*, th. iii., 1794, s. 87; Dove, in Schumacher's *Jahrbuch für 1841*, s. 289; Kämtz, *Meteorologie*, bd. ii., s. 41, 43, 67, and 96; Arago, in the *Comptes Rendus*, t. i., p. 268.