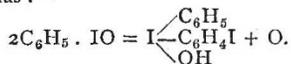


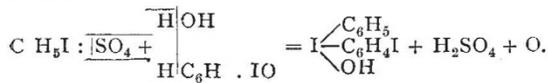
The formula of the base itself must consequently be



The reaction for its formation from iodobenzene may be most simply stated thus:—



It may also be expressed so as to account for the action of the sulphuric acid as follows, starting with the sulphate of iodobenzene:—



The chloride, $C_{12}H_9I_2Cl$, is a white curdy precipitate much resembling silver chloride. It crystallises from warm acetic acid, but the crystals are most readily obtained by mixing the aqueous solution of the free base with cold acetyl chloride, and boiling the resulting precipitate in the liquid for a short time; the clear solution deposits white rosettes of needles on cooling. The crystals melt at $200^\circ-201^\circ$, decomposing into chlorbenzenes like the iodide.

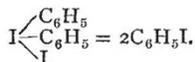
The bromide, $C_{12}H_9I_2Br$, is a pale yellow precipitate similar to silver bromide; it melts at $167^\circ-168^\circ$ with similar decomposition. The melting point of the iodide is 144° .

The nitrate was obtained from the sulphuric acid solution by the addition of nitric acid, in the form of a white semi-solid precipitate, which changes into a mass of crystals upon agitation with ether. It dissolves in hot water.

The sulphate is readily soluble in water, as is evident from the mode of preparation; it dries to a solid, which has not yet been crystallised.

Concerning the second member of the series, $I \begin{matrix} \diagup C_6H_5 \\ - C_6H_5 \\ \diagdown OH \end{matrix}$, it is

stated that it has been obtained from its iodide by the action of moist silver oxide, and that it is likewise a strongly alkaline substance readily soluble in water. The iodide, a polymer of iodobenzene, passes completely into the latter substance upon dry distillation.



Further details of these interesting compounds, which must of necessity considerably modify our conception of the nature of iodine, are promised for the next number of the *Berichte*.

A. E. TUTTON.

PRINCE HENRY THE NAVIGATOR.

THE Royal Geographical Society held a special meeting on March 5, to celebrate the five-hundredth anniversary of the birth of Prince Henry the Navigator, the real initiator of modern maritime exploration. H.R.H. the Duke of York and the Portuguese Minister were present amongst the large audience, and appropriate addresses, illustrated by reproductions of early charts and historical portraits, were given by Mr. Clements R. Markham, F.R.S., President of the Society, Sir George Taubman-Goldie, Captain Wharton, F.R.S., Hydrographer, Mr. Beazley, Mr. H. Yule Oldham, Lecturer on Geography at Cambridge, and the Portuguese Minister. The anniversary was celebrated on a large scale with considerable pomp at Oporto, the ceremonies occupying three days.

If the formal celebration of the lives of the initiators of great movements in history and in science is a privilege of which their successors do well to avail themselves, the ceremonies observed at Oporto and in London, on March 4 and 5, were grateful acts. Prince Henry, distinguished from all his namesakes by his inseparable surname "the Navigator," was born on March 4, 1394, the son of King John I. of Portugal, and of Philippa, daughter of the Duke of Lancaster. From his early years he showed himself exceptionally studious, and when taking part in the siege of Ceuta, in 1415, he undoubtedly learned much of the interior trade of Africa, which supplemented the knowledge derived from the Arab geographers. But it is probable that the main incentive in his life-long effort to promote naviga-

tion and maritime discovery was the prospect of achieving the sea-route to India, and of making his country the first mercantile power in Europe. At the age of twenty-four he had definitely made up his mind on the subject of his life-work, and chose as his residence Sagres, at the extreme south-western corner of the Iberian peninsula facing the unknown ocean. The Prince made himself a master of the mathematics and astronomy of the day, and strove to induce mariners to follow his example and make use of the astrolabe in navigation. Observations at sea with an instrument so crude were necessarily very unsatisfactory, and, like their predecessors, the sailors of that day kept prudently within sight of land. Aided by the funds of the Order of Christ, Prince Henry fitted out expedition after expedition to trace out the African coast to the southward past Cape Nun. Inducements to trade were held out to adventurous merchant seamen of all nations, but these were insufficient as long as the explorers ventured no further than Cape Bojador. In 1434 Gil Eannes rounded that Cape, but the barren coast of the Sahara still met his eyes. In 1443 Antonio Goncalvez crossed the Tropic of Cancer, reached and passed Cape Blanco, and brought home gold and slaves. From this time advance was more rapid, the inducements of commerce brought more volunteers to the work, and in three years the fertile coasts beyond Cape Verde were reached, and before the death of the Prince, in 1460, his efforts were rewarded by the rolling back of the cloud of absolute ignorance from over 1500 miles of hitherto unknown coast. The enterprise thus inaugurated went on with increasing success until Diaz rounded the Cape of Good Hope in 1486, and Vasco da Gama fulfilled the life's ambition of Prince Henry by reaching India in 1497, and raising Portugal to the height of its short-lived fame.

Prince Henry emphatically lived for his work, pursuing it without intermission in spite of the vast weight of prejudice and indifference against which he had to fight, and the result of that work is his best monument. He, if any one man, was the first to stir into strength the movement toward maritime exploration, which not only revealed the true form and extent of the most ancient continent, but in direct succession led to the discovery by Cabral of the new world, a discovery in no way brought about by the earlier voyages of Columbus, although these in a sense were the outcome of the same original impulse. It is through Ca da Mosto, a Venetian sailor engaged in African discovery for the Prince, that the best account of him as a man, and of his methods as a patron of exploration, are handed down. In his words—"He was the noblest Prince of his age, a man whose smallest virtue would suffice to immortalise him."

SCIENCE IN THE MAGAZINES.

SCIENCE makes a good show in the March magazines. Sir Robert Ball, F.R.S., contributes to the *Fortnightly* an article on "The Significance of Carbon in the Universe." The object of the article is to call attention to an investigation carried out by Dr. G. Johnstone Stoney, F.R.S., nearly thirty years ago, but the significance of which has not been widely recognised. From the tenor of the article we presume that the author refers to Dr. Stoney's paper "On the Physical Constitution of the Sun and Stars," read before the Royal Society in 1867. The paper is well known to workers in astronomical physics, though Sir Robert laments that some eminent physicists whom he questioned were unaware of its existence. Dr. Stoney gave evidence to show that the photospheric clouds on the sun were composed of carbon. In his words—"We have strong reasons for suspecting that the luminous clouds consist, like nearly all the sources of artificial light, of minutely divided carbon; and that the clouds themselves lie at a very short distance above the situation in which the heat is so fierce that carbon, in spite of its want of volatility, and of the enormous pressure to which it is there subjected, boils." (*Roy. Soc. Proc.* vol. xvi. p. 29, 1867-8.) Sir Robert Ball has taken the result contained in this conclusion, and expanded it into a lucid article containing much that is interesting. Dr. J. W. Gregory describes his adventurous journey to Mount Kenya. It is impossible not to admire the indomitable spirit he displayed throughout the whole expedition. He went to Africa to obtain information upon certain points, and though he found himself stranded at Mombasa before anything had been done, he got together a party of forty Zanzibaris, marched into the interior, accomplished his task, and returned to the