

observation of the angular distance of the two objects to that of the coincidence of their images in one field. In his instrument the telescope is fixed at such a distance from the centre that the rays of light may arrive at the centre-glass both from the right and the left: double distances and cross observations are thus easily obtained, which essentially correct any imperfection in the construction of the instrument.

The peculiar advantages of these improvements being chiefly to afford the means of multiplying the observations of the distance required, Mr. Mendoza has directed his attention to some further improvements, which he thought might be deduced from the same principle. He accordingly favours us with an account of his new reflecting circle, of which a distinct idea can only be obtained by an inspection of the three accurate delineations which accompany his paper.

One of the additions is a compound handle, which facilitates the holding the instrument with the same ease in every direction. But the chief improvement appears to be a divided circle, moving round the centre, within, and close to the graduated limb, and capable of being alternately attached to each of the indexes. This the author calls the *Flying Nonius*; and shows how in every direction the two divisions may be made to exhibit the number of degrees on the limb, and of the minutes and seconds on the flying nonius. The manner in particular of making the crossed observations, by connecting the limb and the nonius alternately with the centre and horizon indexes, is here fully explained. And lastly, a small graduated semicircle is added to the horizon index, the use of which is to prepare the instrument previous to an observation, so as to facilitate the operation of bringing the images to coincide in the field of the telescope.

*Observations and Experiments upon Dr. James's Powder; with a Method of preparing, in the humid Way, a similar Substance. By Richard Chenevix, Esq. F.R.S. M.R.I.A. Read June 4, 1801. [Phil. Trans. 1801, p. 375.]*

From the experiments of Dr. Pearson on the nature of Dr. James's powder, published in the 81st volume of the Philosophical Transactions, our author infers that the mode in which it is prepared is far from being the best that the present improved state of chemical knowledge might afford; the use of fire in delicate processes, whether analytical or synthetical, being in general thought inferior to those performed in the humid way.

This powder, we are told, is prepared by mixing equal quantities of bone shavings (or phosphate of lime) and crude antimony, and calcining them together in an intense heat.

Here it is observed, that the portion of oxide of antimony, which is not volatilized in the process, becomes in a great measure insoluble in all acids. The humid process which Mr. Chenevix recommends as preferable to the above, consists in dissolving together or separately,

in the least possible portion of muriatic acid, equal parts of the white oxide of antimony and phosphate of lime; after which, pouring this solution gradually into distilled water previously alkalinized by a sufficient quantity of ammonia, a white and abundant precipitate will be produced, which, being well washed and dried, is the substitute he proposes for James's powder. A few observations are added on the theory of this combination; as also an assertion, that this powder, administered as a medicine, perfectly agreed in its general effects with James's powder, and the pulvis antimonialis, often prescribed in lieu of it, with this advantage, that being more mild, it may be given in larger doses, without producing the nausea or other stimulating symptoms that usually attend it.

*Case of a young Gentleman, who recovered his Sight when seven Years of Age, after having been deprived of it by Cataracts, before he was a Year old; with Remarks. By Mr. James Ware, Surgeon. Communicated by Maxwell Garthshore, M.D. F.R.S. Read June 11, 1801. [Phil. Trans. 1801, p. 382.]*

The subject of this case was the son of a clergyman in Somersetshire, who in his early infancy had every appearance of being a healthy, perfect child; but, when about a year old, was accidentally observed to be deprived of sight. A surgeon in the country pronounced that he had a complete cataract in each eye; and Mr. Ware, on being consulted, did not hesitate to decide that the only cure would be the removal of the opaque crystalline humour; but he added, that he did not think the child would be fit for the operation until he was at least thirteen or fourteen years of age. At the age of seven, however, the child's parents brought him to London, in order to enable Mr. Ware to form an opinion from his own observation. A recent case, in which this eminent operator had succeeded to restore sight to a youth about fourteen years of age, without extracting the cataract, but merely by making a large puncture in the capsule, so as to bring the opaque crystalline into free contact with the aqueous and vitreous humours, having induced him to retract his opinion concerning the necessity of extracting the cataract, he proposed to perform the above operation immediately on one of the eyes of this new patient. This he effected without giving much pain; and in a few days the child described without hesitation all the objects that were set before him.

The author now draws a comparison between this case of restored sight and those described by Mr. Cheselden in the 35th volume of the Philosophical Transactions; and finding a considerable deviation in the results, he is induced to form several conclusions, which differ materially from those of his predecessors. These are briefly, That when children are born blind, in consequence of having cataracts in their eyes, they are never so totally deprived of sight as not to be able to distinguish colours:—that they have likewise some perception of distances; and that hence, when they recover their sight,