

lies, or acids, produced very little effect, although they are better conductors.

Lastly, some general applications of these singular facts are pointed out by Mr. Davy ; such, for instance, as the application of electricity to the analysis of animal and vegetable substances. Muscular fibre being electrified for some time, became dry and hard ; and it left, upon incineration, no saline matter. Potash, soda, ammonia, lime, and oxide of iron, were collected on the negative side ; and the sulphuric, nitric, muriatic, phosphoric, and acetous acids, on the positive. Laurel-leaf was rendered brown and parched ; green colouring matter, with resin, alkali, and lime, appeared in the negative vessel, and prussic acid in the positive.

By using charcoal and plumbago, or charcoal and iron, as the exciting powers, along with neutro-saline solutions, large quantities of acids and alkalies might be procured with little trouble or expense.

It is very probable that many mineral formations have been materially influenced or even occasioned by the agency of the electricity ; and the electrical power of transference may thus be applied to the explanation of the principal points in geology.

*On the Precession of the Equinoxes. By the Rev. Abram Robertson, M.A. F.R.S. Savilian Professor of Geometry in the University of Oxford. Read December 18, 1806. [Phil. Trans. 1807, p. 57.]*

The Professor observes, that Sir Isaac Newton was the first mathematician who endeavoured to estimate the quantity of the precession from the attractive influence of the sun and moon on the spheroidal figure of the earth. His investigations relating to this subject evince the same transcendent abilities that are displayed in other parts of his Principia ; but it is admitted, that, from a mistake in his process, his conclusion is erroneous.

The investigations of other mathematicians in attempting the solution of the same problem are arranged by the author under three general heads. The first arrive at wrong conclusions, in consequence of mistake in some part of their proceedings ; the second obtain just conclusions, but rendered so by balance of opposite errors ; the third approach as near the truth as the nature of the subject will admit, but, in the author's estimation, are liable to the charge of obscurity and perplexity.

The defects in all their investigations Professor Robertson ascribes to the same cause—the uncultivated state of the doctrine of compound rotatory motion.

The author's endeavours are, consequently, first directed to the investigation of the principles of compound rotatory motion from principles which he considers clear and unexceptionable.

He next proceeds to calculate the disturbing solar force on the spheroidal figure of the earth, and thence the angular velocity which it produces.

The quantity of annual precession is then computed ; and, lastly,

that of nutation, as far as these are produced by the disturbing force of the sun.

A similar deviation, the author observes, is produced by the action of the moon; but a minute investigation of the deviation from that cause is foreign to the design of the present communication.

*An Account of two Children born with Cataracts in their Eyes, to show that their Sight was obscured in very different Degrees; with Experiments to determine the proportional Knowledge of Objects acquired by them immediately after the Cataracts were removed. By Everard Home, Esq. F.R.S. Read January 15, 1807. [Phil. Trans. 1807, p. 83.]*

The design of the present communication is to explain a disagreement between the results of former experiments on this subject; since a very intelligent boy, thirteen years of age, couched by Mr. Cheselden in 1728, was unable, upon receiving his sight, to distinguish the outline of any object placed before him, and thought that everything before him touched his eye; but the cases communicated to this Society by Mr. Ware in 1801 lead to a different conclusion.

The subjects of Mr. Home's experiments were not equally sensible of light previous to the operation of couching, and consequently were not similarly affected by objects presented to them after receiving their sight.

The first was a lad twelve years of age, with cataracts in both eyes, that appeared to have existed from the time of his birth, as it had been noticed from his earliest infancy that his eyes rolled about in an unusual manner, and were not directed to objects before him, nor were his hands ever stretched out to catch at anything; but it was not till the child was six months old that his mother examined his eyes with attention, and observed cataracts as distinct as when he was brought to Mr. Home.

Previous to the operation, this boy could distinguish light from darkness, and the light of the sun from that of a candle, saying, it was redder and more pleasant to look at; but lightning made a still stronger impression. He was accustomed to call all light red. He had some conception of size, and said the sun was the size of his hat, and that the flame of the candle was larger than his finger, but less than his arm. He directed both his eyes at once to these objects; and when a candle was nearer than twelve inches he said it touched him, but at twenty-two inches it was invisible.

The operation of extracting the crystalline lens was first performed on the left eye; but as the cataract was in this instance found to be fluid, and the inflammation which followed was considerable, the operation of couching was preferred to it for the right eye, and was performed after an interval of eight weeks.

After the first operation, the eye was so imperfect in its powers, the pupil so contracted, and the surface of the cornea so irregular, that he could not discern any object distinctly, but imagined that