

burgh, Mr. Balfour has worthily sustained the distinction of his family name. His masterly treatises "Philosophic Doubt," "The Foundations of Belief," and other works, have given him eminence as a speculative philosopher. The late Principal John Caird, of Glasgow, once said, in my hearing, "It is easy to be a great philosopher in the company of scientists, and easy to be a great scientific man amongst philosophers; but Mr. Balfour is a great philosopher among philosophers, and a scientist among scientists." Of Mr. Balfour's real interest in science I have personal knowledge, and I well remember when I had the honor of first meeting him, that I was startled by his familiarity with a line of special zoological research in which I was at the time engaged, fifteen or sixteen years ago.

Cambridge which boasted a Newton, a Couch-Adams, and a Darwin in the past, and can claim to-day a Kelvin, and a Rayleigh and other leading scientists, was privileged to listen to a profound and closely-reasoned address on the Aim and Basis of Scientific Investigation from the President of the British Association, the membership of which Association this year exceeds 2,500.

The precise title chosen by Mr. Balfour was "Reflections suggested by the New Theory of Matter," and after pointing out that physical reality, not mere appearances or changing phenomena, formed the object of the highest scientific research, the President rapidly reviewed the ideas about matter which have prevailed since Newton's epoch-making "Principia" (published in 1687).

#### OLD CONCEPTION OF MATTER.

In the 17th century the average scientist regarded the universe as composed of ponderable matter, various in kind, permanent and indestructible: but capable of transformation by heat, chemical affinity, &c. Interstellar space in the vast heavens was conceived to be occupied by a thin, continuous kind of matter called ether, whose undulatory motions resulted in light, radiant heat, and electricity. Young's wave theory of light, a hundred years ago, led to the abandonment of such theories as Newton's light corpuscles or the emission by luminous bodies of material molecules which produced the sensation of light in the brain.