

be able to establish absolute motion, a contradiction of the first assumption of the principle of relativity.

Hence in all physical problems where there is a possibility of two solutions, the one which leads to the establishment of an absolute velocity must be rejected, and the alternative solution accepted as valid.

The principle of relativity, besides clearing our minds of the cobwebs of absolute time and space, gives us, through its explanation of physical experiments, a deeper consciousness of the manifoldness of space, in which time is, not the flow of duration suggested by the immortal Newton, but any one of the spacial manifolds so beautifully developed by Heinrich Minkowski in his "Raum und Zeit," and by Wilson and Lewis in the *Proceedings of the American Academy* for 1912.

REINHARD A. WETZEL

THE COLLEGE OF THE CITY OF NEW YORK

#### GRANTS BY THE BRITISH ASSOCIATION

At the Birmingham meeting of the British Association for the Advancement of Science grants in aid of scientific research amounting to about \$6,000 were made as follows:

*Mathematical and Physical Science:* Professor H. H. Turner, seismological observations, £60; Dr. W. N. Shaw, upper atmosphere, £25; Sir W. Ramsay, constants and numerical data, £40; Professor M. J. M. Hill, calculation of mathematical tables, £20; Lieut.-Col. A. Cunningham, copies of the "Binary Canon" for presentation, £5.

*Chemistry:* Dr. W. H. Perkin, study of hydro-aromatic substances, £15; Professor H. E. Armstrong, dynamic isomerism, £25; Professor F. S. Kipping, transformation of aromatic nitroamines, £15; A. D. Hall, plant enzymes, £25; Professor W. J. Pope, correlation of crystalline form with molecular structure, £25; Professor H. E. Armstrong, solubility phenomena, £15.

*Geology:* R. H. Tiddeman, erratic blocks, £5; Professor P. F. Kendall, list of characteristic fossils, £5; Dr. A. Strahan, Ramsay Island, Pembroke, £10; Professor Grenville Cole, old red sandstone of Kiltorecan, £10; G. Barrow, trias of western midlands, £10; Professor W. W. Watts, sections in Lower Paleozoic rocks, £15.

*Zoology:* Dr. A. E. Shipley, Belmullet Whaling Station, £20; Dr. Chalmers Mitchell, nomenclator animalium, £50; S. F. Harmer, Antarctic whaling industry, £90.

*Geography:* Professor J. L. Myres, maps for school and university use, £40; Professor H. N. Dickson, tidal currents in Moray and adjacent firths, £40.

*Engineering:* Sir W. H. Preece, gaseous explosions, £50; Professor J. Perry, stress distributions, £50.

*Anthropology:* Dr. R. Munro, Glastonbury Lake Village, £20; Sir C. H. Read, age of stone circles, £20; Dr. R. Munro, artificial islands in Highland lochs, £5; Professor G. Elliot Smith, physical character of ancient Egyptians, £34; Professor J. L. Myres, anthropometric investigations in Cyprus, £50; Professor W. Ridgeway, Roman sites in Britain, £20; Dr. R. R. Marett, Paleolithic site in Jersey, £50.

*Physiology:* Professor E. A. Schäfer, the ductless glands, £35; Professor A. D. Waller, anesthetics, £20; Professor J. S. Macdonald, calorimetric observations, £40; Professor C. S. Sherrington, mammalian heart, £30.

*Botany:* Professor F. J. Oliver, structure of fossil plants, £15; Professor A. C. Seward, Jurassic flora of Yorkshire, £5; Professor F. Keeble, flora of peat of Kennet Valley, £15; A. G. Tansley, vegetation of Ditchan Park, £20; Professor F. F. Blackman, physiology of heredity, £30; Professor F. O. Bower, renting of Cinchona Botanic Station in Jamaica, £25; Professor W. Bateson, breeding experiments with *Oenotheras*, £20.

*Education:* Professor J. J. Findlay, mental and physical factors, £30; Dr. G. A. Auden, influence of school books on eye-sight, £15; Sir H. Miers, number, etc., of scholarships, held by university students, £5; Dr. C. S. Myers, binocular combination of kinematograph pictures, £10; Professor J. A. Green, character and maintenance of museums, £10.

#### SCIENTIFIC NOTES AND NEWS

THE British Association for the Advancement of Science has accepted an invitation to hold the meeting of 1915 at Manchester. It will be remembered that next year's meeting will be held in Australia under the presidency of Dr. William Bateson.

THERE have been called to the Research Institute for Biology, established under the