

### River Bank Protection

FOR the Inland Navigation Section of the Sixteenth International Congress of Navigation, Brussels, 1935, Dr. Brysson Cunningham prepared a report on "The Estuarial Embankments of the River Thames". Of the origins of these walls little is definitely known and, in his "History of the Port of London", Sir Joseph Broodbank inclines to the view that their construction was a gradual and piecemeal process undertaken locally with the purpose of reclaiming for agriculture the valuable lands along the banks of the river, and probably initiated by immigrants from Flanders familiar with work of this kind. As he also says, "The builders in carrying out their object would not trouble themselves as to the effect their work had on the stream nor did they realise that they were, in fact, performing a mighty service in providing for London one of its greatest assets as a Port". Records of repairs and alterations have been traced back to the time of Edward II, and about that time Commissions of Sewers—using the word in its original sense—began to be appointed to exercise jurisdiction in several localities. Until 1930, when the Land Drainage Act established Catchment and Drainage Boards to take over their duties, these Commissions acted under the authority of an Act of 1531 to protect the lands from being flooded either by inundation or accumulation of superfluous waters. As consultant engineer to two of these bodies entrusted with portions of the Thames Embankments, Dr. Brysson Cunningham was able to advise the Congress as to the nature of the problems presented, and gave an account of the construction, maintenance, repair and renewal of these walls. Altogether, the earthworks on both sides of the river below London Bridge have a total length of approximately 120 miles and give protection to 64 square miles of low-lying marshland. Being 4–5 feet above Ordnance Datum while H.W.O.S.T. level is 10–13 feet, these extensive lands would, without protection, become permanently flooded. In the report, the several inimical agencies are described and, by maps, sections and diagrams, the methods and materials used to ensure adequate defence are fully exhibited.

### Research on Combustion

No one is better qualified than Prof. W. A. Bone to give an account of "Fifty Years of Combustion Research"—the title of his William Young Memorial Lecture, delivered to the North British Association of Gas Managers on September 12. The account gives a readable and comprehensive story mainly of the work due to the late Prof. H. B. Dixon and his school, and not least of Prof. Bone himself and his pupils. The lecture included some of the more recent observations on the combustion of gases at very high initial pressures, with activation of nitrogen, the description of some of the curious phenomena such as the 'spin' of the flame head in the detonation wave—observations calling for remarkable achievements in high-speed photography. The existence recently observed of double ranges of ignition temperatures of gases with an intervening 'inert' zone of temperature

emphasises the complexity of the process of ignition. The 'chain theory' which has been so extensively used to account for combustion phenomena is held to be not 'mere moonshine' but to merit critical reception when capable of being harmonised with experiment. Prof. Bone closes with the insistence on the necessity of perpetual experimentation, for as Priestley said, "Speculations without experiments have always been the bane of natural philosophy".

### Chemical and Physical Society, University College

THE Chemical and Physical Society, now the senior Society of University College, London, opened its sixtieth session on October 15. Before a large and distinguished gathering Dr. Henry Forster Morley, a founder-member and third president of the Society, unveiled oak panels bearing the names of the former presidents, many of whom were actually present. It was unfortunate that Sir Oliver Lodge, who was president of the Society in its first two years, was unavoidably absent on this occasion. The unveiling itself, in accordance with the principles of the Society, was performed electrically by means of an engraved silver switch, which was afterwards formally presented to Dr. Forster Morley. Mr. C. F. Goodeve, this year's president, who was in the chair, then introduced the other speakers, among whom were the Provost, who accepted the panels on behalf of the College, and Prof. A. W. Porter and Prof. M. W. Travers, who made a few interesting remarks about the earlier presidents. The secretary, Mr. R. H. Leach, thanked the many friends of the Society for their assistance, financial and otherwise.

### Preservation of Cliff Scenery

IN a paper to Section E (Geography) of the British Association at Norwich on September 5, Dr. Vaughan Cornish directed attention to the menace afforded by private enclosure to the best of the cliff scenery of England and Wales. Of the 1,800 miles of coast line, about five hundred are cliff land, of which more than three hundred miles are in Devon, Somerset and Cornwall. For the most part, the cliff edge is still accessible to the pedestrian, but too often the landward side has been enclosed and thus the full enjoyment of the view is impaired. Dr. Cornish calculates that 40,000 houses would line the whole of the five hundred miles, and believes that with the present rate and spread of building it will not be many years before much of the cliffs will be enclosed. He advocates the public acquisition under the Town and Country Planning Act, supplemented if possible by other funds, of a strip of land 110 yards wide along all the cliffs. This would amount in all to 20,000 acres and the purchase figure would be approximately £2,000,000. Thus, for a relatively small cost the finest scenic treasures of the country would be preserved.

### Fossil Human Occipital Bone from Thames Gravels

DURING the recent meeting of the British Association at Norwich, Mr. Alvan T. Marston exhibited to Section H (Anthropology) a complete human