

conclusion of the fifth part of the paper, that "the commencement of the 'epoch' of the Gault is represented not by the base of the fossiliferous clays, but by some part of the non-fossiliferous sands now included in the Lower Greensand," is quite valid. Mr. Leighton's discovery of the nodule bed at Westcott proves, however, that the extent to which this is the case was exaggerated in the paper.

March 11, 1895.

J. W. GREGORY.

ON *PINITES HEXAGONUS*, CARRUTHERS.

SIR,—I desire to correct the statement in the foot-note, relating to my paper at a recent meeting of the Geological Society, referred to on page 102 of Dr. Gregory's paper.¹ I said at the meeting that the specimen had been sent to Mr. Carruthers some months before for determination, and that he at once replied (on May 25, 1894) that it appeared to agree with a specimen he had described from the Gault of Eastware Bay, sent to him by Mr. Starkie Gardner, but if I would explain the exact horizon of Mr. Mangles' specimen he would look further into the matter. That I did, and but for unforeseen circumstances Mr Carruthers' note would have been in the hands of the meeting. The species has *not yet* been determined, but no doubt it is one of those which have been recorded from the Gault.

I think it is a pity that Dr. Gregory has included unfossiliferous beds, about which we have no relative evidence, in the table on page 100 of his paper. Of course, if we were under obligation to divide the Lower Greensand into divisions, fossils or no fossils, the Survey classification could be retained by simply placing the Leith Hill Cherts and Dorking Clayey Sands, into which they pass, in the Sandgate Beds. As to the latter of these (the Clayey Sands), this was suggested in 1892 by Professor Boulger and myself, and two years later by Mr. F. Chapman. Were it necessary, other difficulties brought out by detailed mapping could be similarly dealt with. Looking at Dr. Gregory's table, one is inclined to enquire, since he deals with the Leith Hill Cherts, where the Reigate-Tilburstow Hill Cherts are to be placed?

THOS. LEIGHTON.

March 5, 1895.

GAULT AND LOWER GREENSAND.

SIR,—Dr. Gregory's paper on some fossils from the Lower Greensand of Great Chart, in Kent, is a welcome contribution to the classification of the Lower Cretaceous series of the Wealden area. His views with regard to the general grouping together of the Sandgate Beds, Bargate Beds, Fuller's Earth, and Farrington Beds coincide with a conclusion I came to some years ago. His subdivision of the whole series into three instead of four, and his correlation of the two upper groups—the (1) Folkestone and Sandgate, and (2) the Hythe Beds—with the Aptian of the continent, is exactly the arrangement I suggested in this *MAGAZINE* nine years ago.²

¹ *GEOL. MAG.* March 1895.

² *GEOL. MAG.* 1886, Dec. III. Vol. III. p. 316 *et seq.*

Whether it is desirable to introduce the term Aptian into English nomenclature is another question, into which I forbear from entering. The suggestion that some part of the Folkestone sands may be equivalent to the basal part of the Gault made by my friend Mr. Strahan in the Geological Survey Memoir on the Isle of Wight, second edition, 1889. It will no doubt be decided by future investigations, but I must be allowed to point out that it stands on very different ground from the equivalency of the Upper Gault and Upper Greensand. That has been established by palæontological evidence, the other has not.

One more word as a caution, and this is that the numerous zones into which the Folkestone Gault has been divided cannot all be recognized elsewhere: I do not think the Lower Gault generally can be divided into more than *two* zones, those of *Ammonites interruptus* and *Amm. lautus*.
A. J. JUKES-BROWNE.

OBITUARY.

JOHN WHITAKER HULKE, F.R.S.,

President of the Royal College of Surgeons of England; Foreign Secretary
of the Geological Society of London.

BORN NOVEMBER 6TH, 1830.

DIED FEBRUARY 19TH, 1895.

GEOLOGISTS, both at home and abroad, indeed, men of science generally, will have learned with deep concern of the death of Mr. J. W. Hulke, the Foreign Secretary of the Geological Society, the President of the Royal College of Surgeons of England, and Senior Surgeon to the Middlesex Hospital.

Viewed as a surgeon, Mr. Hulke had a career of singular distinction as well as of wide range. But he was also a most accomplished geologist and palæontologist. He was a learned Shakespearian; also an excellent linguist, and while keeping up a more than ordinary acquaintance with the classics, he was a fluent and accurate French and German scholar, and possessed also a knowledge of Italian. He was a first-rate botanist, both in the lecture-room and the field, as may be seen from the opening half of the Hunterian Oration this year, which illness prevented him from delivering. He was an excellent diagrammatic artist, painted in water-colours, and was not unskilled in modelling.

John Whitaker Hulke was born on November 6th, 1830, being the elder son of a well-known and widely respected general practitioner at Deal. The original family name was Hulcher, his ancestors being Dutch by origin, who had escaped from Holland during the Spanish persecutions under Philip II. and Ferdinand, Duke of Alva, and settled on the Kentish coast. There for some two hundred years they have followed the vocation of medicine. He was educated at King's College School, and at Neuwied, in Germany, and at the age of nineteen entered the medical school of King's College, where he was a dresser to Mr. (afterwards Sir) William Bowman, and house surgeon to Sir William Ferguson.