

## James Reid Moir, F.R.S. (1879-1944)\*

IN the early years of the present century a Scotsman exiled in the wilds of East Anglia found satisfaction in promoting the cause of education in Ipswich. He was Lewis John Moir, the father of James Reid Moir. As a frequent visitor to my old School he impressed me on many occasions before I came to know his son. Possibly my favourable impression may have been influenced by the fact that one of his functions was to hand out prizes. In those days science was given a special place (a matter for comment) in the curriculum of the school with which Lewis Moir was undoubtedly proud to be associated, so that it seems an irony of fate that he should show a complete lack of sympathy with his only son's desire to carve out for himself a scientific career. But Lewis Moir was a man of business and his decree was that the boy should follow him in the firm of tailors and outfitters. Since Sir Arthur Keith has already put on record (Obituary Notices of Fellows of the Royal Society, 4, 1944) the details of Reid Moir's schooling and of his early and unwilling confinement to office duties, I need not say more of these matters: I therefore take up the story in 1909 (when we first met) and would only note in passing that much of Moir's intolerance of criticism and pugnacity in controversy during the early days of his archaeological studies appears to me to have had its foundation in the clash of personalities between this tall, upright and kindly man and his more thick-set, no less sincere and straightforward son, who showed physical and mental characteristics derived from his mother's side.

At school Moir had learnt a certain amount of elementary chemistry but was unable to pursue the study of science, although he continued to read and think upon such matters until his sudden 'conversion' changed the course of his life. The story of the finding of a flint arrowhead on the Rushmere Road course at Ipswich at the end of a round of golf has often been related. His resulting decision to take up the study of prehistoric man brought him into touch with many kindred spirits in the district. It would be a mistake to think of him as a voice crying in the wilderness in the early years of his work, since there was considerable activity in the field of archaeology in East Anglia at the time. For example, W. G. Clarke had been collecting (in 1905-6) what he believed to be humanly worked flints from the basement-bed beneath the Norwich Crag, and Miss Nina Layard had discovered the implements of 'River Man' in the Glacial brickearths, encouraged by Sir John Evans's visits to Ipswich. Allen Sturge, Frank Corner, and many others were actively studying the occurrence of industries of early man in deposits of which the stratigraphy was far from clear. J. S. Holden, in particular, was finding chipped flints, which he regarded as humanly worked, in the 'Middle Glacial' Sands in the Stour valley near Sudbury. But geologists at that time could afford them little assistance in dating precisely the horizons.

The exposures in the large brickfield of Messrs Bolton and Laughlin near his house led Moir to search the beds for implements. In the ferruginous gravelly bed which overlay the London Clay and contained fragmentary bones, teeth and shells obviously derived from the Red Crag, he found massive chipped flint nodules which he was convinced were worked by early man. Unfortunately, the succession was much disturbed by glacial action: beds were contorted and overthrust, so that stratigraphically older beds came to rest on younger. The ferruginous bed might have been the true base of the Red Crag, but on the other hand, it might have been Crag material rearranged in Glacial times, in

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\*Reid Moir, who read his first paper to the Society on March 23rd, 1909, was twice President of the Prehistoric Society of East Anglia. His election to the Royal Society in 1937 set the seal on his career as a prehistorian.

which younger deposits had been incorporated. Therefore, when Moir proposed to write the now well-known letter to *The Times* (Oct. 1910), announcing the great extension of human ancestry resulting from the discovery of evidence of Man's existence in (as he put it) pre-Crag times, I strongly urged him to delay it until he had examined the Red Crag and its basement-bed at other localities where there was no doubt about its being in place and undisturbed: also to use the more non-committal (because non-chronological) term sub-Crag. It was clear at that time that (notwithstanding W. G. Clarke's finds in the Norwich Crag basement-bed) there would arise much controversy over the nature of the flaking of the flints—human or natural—and it would be undesirable to have the argument clouded by other controversies about the age of the deposit and the possibility of contamination. But Moir was loth to wait: the letter was despatched. The storm broke and in the ensuing years much energy was wasted and much heat engendered over the non-essential controversy—non-essential because Moir subsequently found similar rostro-carinate and other forms in undisturbed Crag. A perusal of the early numbers of the *Proceedings* of our Society revives memories of the bitterness of the fight.

Unfortunately, Moir's background had been such that he regarded opposition as the marshalling of the forces of reaction against him, and he became impatient about exercising the caution recommended by some of his scientific friends in their genuine desire to promote his interests: it became very difficult to help him at this period. Consequently, we have records of over-optimistic views which his colleagues could not share, such as those relating to the flaking on certain of his 'implements,' the great antiquity of the Ipswich skeleton, the association of pottery and Upper Palaeolithic industries, and the interpretation of hill-washes and weathered materials; moreover, there was his tendency to support what they considered to be lost causes.

The assertions of his opponents that the flaking on the sub-Crag implements was produced by natural impact and pressure caused Moir to make experiments on the effects of such action. Here he revealed his innate scientific habit of mind, for he recorded as accurately as he could the conditions of his experiments and the measurements of the flakes and bulbs produced. Although his equipment did not permit him to continue this line of work in a difficult field, it is proper to say that his contributions to knowledge of the flaking of flint by human, as compared to natural, action have been illuminating and suggestive.

Meanwhile, however, his attention was by no means solely directed to establishing a greater antiquity for man by investigating a large number of these relatively ancient deposits. The activities of the members of the youthful Prehistoric Society of East Anglia had resulted in the discovery of implements in various 'post-Glacial' deposits in the South-East of England, but the work was, geologically speaking, haphazard. Moreover, our style was cramped by the prevailing belief in monoglaciation, that is, the view that all glacial deposits were the product of an undivided Ice Age, during which only minor vicissitudes of climate caused small retreats and re-advances of the ice-sheets. But a leaven was at work and some of the younger spirits were reverting to the belief in a polyphase Ice Age that included stages of great cold separated by mild interglacial periods.

Moir approached the problem systematically, helped by his wide reading and the study of the results that were being achieved abroad, especially in France. It became evident that former sites from which implements had been collected in East Anglia needed to be re-excavated and the successions, geological and archaeological, recorded in detail, using modern technique. The list of Moir's publications shows how numerous and widespread were his discoveries belonging to various industries (less well defined than now);

from Acheulian to Solutrean he located for us each industrial stage in the sequence of Glacial and Post-glacial strata. Special mention should be made of the results of his labours at two famous sites, Foxhall Road, Ipswich (sometimes referred to as Derby Road, and not to be confused with the Red Crag locality of Foxhall village) and Hoxne, in northern Suffolk, since the evidence which it was hoped that they would yield would be critical in establishing the new chronology. The revival of belief in a composite Ice Age was already receiving support from archaeological discoveries: and the re-excavation of the two sites mentioned left no doubt that there were at least two Chalky Boulder Clays in eastern England, one that preceded a late Acheulian industry and the other which followed it and was associated with a flake industry ('early Mousterian'); further, that the glaciations which produced them were separated by a lengthy and mainly mild interglacial period when man and warmth-loving animals roamed the country. The Suffolk succession, however, was known to be incomplete, whereas in Norfolk there were older as well as younger glacial deposits. The older were exposed in the classic cliff-sections from Sheringham to Cromer and Trimmingham. Moir was inspired to search this ground for implements, with the result that he made collections from the pre-glacial Cromer Forest Bed, a basement-bed resting on the Chalk on the Cromer foreshore (of uncertain age geologically) and the various boulder clays and glacial gravels. Even if all of his claims to have found humanly worked bones and flints in this district are not accepted, he has provided a wealth of material which can be discussed by experts for years to come. In summary, he (with his co-workers) contended that the Cromer Forest Bed and foreshore material was early Chellian, that the Cromer Till (Lower Glacial) contained late Chellian, and that the 'Middle Glacial sands and gravels' above the Cromer Till were of early Acheulian age and contained also a primitive flake industry somewhat resembling the early Clactonian.

In Norfolk, also, Moir was naturally attracted to the latest Boulder Clay of which we have knowledge in the East of England, that of Hunstanton, which differs in colour and constitution from any of the earlier deposits. In this Brown Boulder Clay he found implements which he regarded as Aurignacian. Although difference of opinion arose over the 'humanity' of the flaking and the question of the character and age of the weathered material in which they occurred, J. D. Solomon's later discovery of similar flakes in Brown Boulder Clay at Morston seems to confirm Moir's claim.

Thus Moir arrived at the conclusion that there were definitely four glaciations of East Anglia which, related to human industries, comprised one post-Chellian, one post-Acheulian, one straddling Mousterian-Levalloisian, and one post-Aurignacian.

Some of us had long felt that the glacial succession in the largest Suffolk valley, that of the River Stour, needed elucidation, since the geological characters of the deposits and their fossils had proved inadequate for correlation. Other work delayed Moir's attack on them, but after 1930 he was able to make a start at Brundon and other sites, and to establish a succession of hand-axe and flake industries. That work, alas, did not reach an advanced stage, for war intervened, but I had letters from him during recent years, announcing new and interesting finds.

Considerations of space necessitate my passing over many other aspects of Moir's work, but in conclusion it may be said that, from the standpoint of the correlation of prehistoric archaeology with Later Tertiary and Quaternary geology, no higher tribute can be paid to his labours than to compare our outlook on the history of pre-Palaeolithic and Palaeolithic man in the East of England (and, by repercussion, in many other parts of the world) and on the chronology of the Pliocene-Pleistocene succession as it was in 1910 with that in 1940. We have indeed witnessed a revolution; and one of its greatest moving spirits, pioneering and persistent, although impatient of opposition (as such spirits often are) was James Reid Moir.

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