ARTICLE 11.

The Paton Cottage, Torthorwald.

By GEORGE BARTHOLOMEW, A.R.I.B.A.

Towards the end of November, 1948, work on the demolition of a small, thatched cottage at Torthorwald began. In a few days nothing remained but a pile of debris, and when the ground was cleared a little cairn was erected to mark the site.

The disappearance of any old structure must always be a matter of some regret, but particularly so in this case. The cottage was the boyhood home of Dr. John Gibson Paton, missionary to the New Hebrides, who was taken to the cottage by his parents in 1830 as a boy of five. Educated at the local school and the son of devout parents, John G. Paton interested himself in social work at an early age, and was ordained into the Reformed Presbyterian Church in 1857 at the age of thirty-three, and a few months later, in April, 1858, he sailed from Greenock to the New Hebrides, arriving at the island of Tana in November of the same year, and spent the rest of his active life as a missionary in this part of the world, dying in Australia in 1906. He exercised a great and wholesome influence in his own time. Few notable men of that generation are appreciated to-day, but one would hope that the courage, initiative, and devotion to the service of mankind so characteristic of John G. Paton would long continue to be a source of inspiration to Scottish people, particularly in Dumfriesshire.

The house was interesting for another reason. It was very old, and an excellent example of a primitive form of house construction. By primitive, of course, I do not mean remote in sense of time or merely crude, but rather a peasant mode of building suitable to semi-skilled labour and making use of materials available on or near the site. There grew up in this country a well-defined tradition in primitive house-building which continued over many centuries, and the structural qualities of the Paton house can only be fully appreciated when set against this background.

One of man's basic needs is shelter from the weather, and the story of his efforts to satisfy this need has been re-told from time to time. The best books on the subject are probably *The Evolution of the English House*, by Sidney Ordall Addy, M.A. (Fourth Impression, 1933), and *The Development of English Building Construction*, by C. P. Innocent.

Unfortunately these early houses were, by reason of their construction, only semi-permanent and having normally only a short life usually disappeared, leaving little trace.

The very earliest forms of dwellings—holes in the earth and cave dwellings—belong to a very remote antiquity, but can hardly be called houses at all. They are little better than the burrows of the rabbit or the fox.

The first houses in this country properly so-called were probably evolved from the summer tent, and were of a round shape with a central open hearth. They were built of wood or basket work, light was admitted by the door or by the aperture in the roof which formed a vent for smoke, and the walls were made wind and water-tight by a plaster of mud-clay. The so-called "beehive" houses were probably imitations in stone of these round houses. The size of a round house of this construction was, of course, strictly limited, and the desire for more accommodation necessitated the development of the rectangular form of house, with not only greater width but also length.

The constructional system in this case was quite different from that of the round house, consisting of pairs of wooden forks or crutches, known technically as cruks or cruk frames (in Scotland "kipples"), at convenient distances apart, jointed together by a ridge pole from the apex of one fork to the apex of another, and the framework was covered with twigs, peat, thatch, or any other suitable materials which could be procured locally. The whole weight of the roof and roof covering was carried by these rough wooden cruk frames, the walls being built quite independently and carrying only their own weight. This seems to-day a simple and obvious solution, but in a significant sense necessity proved the mother of invention, and the effort to satisfy clamant needs with

limited means produced a new principle in structional design which became the prototype of what is known to-day as the " pier and panel " form of construction universally employed on large buildings where the weight not only of the roofs but also the floors is concentrated on steel or concrete columns, the walls being mere panels to protect the interior of the building against the weather.

In the case of the Paton cottage there were four such pairs of cruk frames formed from suitable branches taken from trees, roughly squared where necessary, and jointed with wooden pins or dowels. The trusses were linked together by three rough purlins which were covered with twigs, a layer

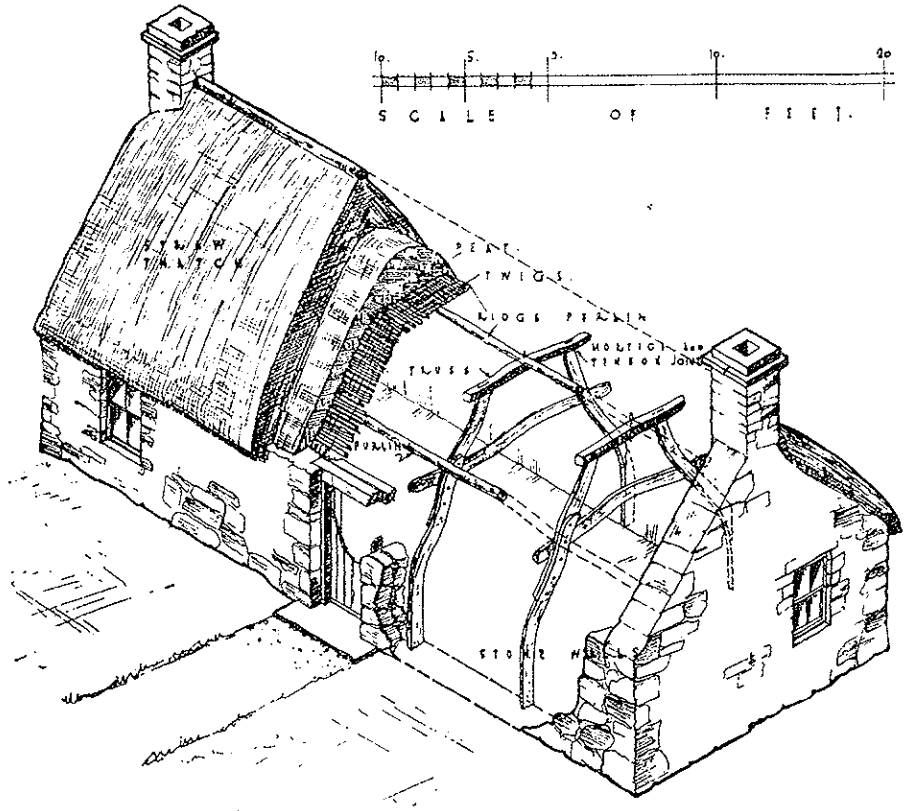

Fig. 4—ISOMETRIC DRAWING OF PATON COTTAGE.

of peat, and covered externally with straw thatch. The gables and walls, which were constructed of rubble pointed with sand, clay, and lime, were built quite independently of this timber framework. Dr. Paton in his *Autobiography* suggests that these walls were re-built from time to time and the roof re-covered with thatch about every year, the only permanent part of the structure being, in fact, the wooden cruk frames.

The over-all dimensions of the cottage were approximately 42 feet x 17 feet, and the accommodation consisted of two large apartments, probably a living-room and a bedroom, and a small room or closet between, opposite the door. A large fireplace and a chimney was provided in each gable, and even under the most severe weather conditions the house must have been very comfortable owing to the high insulation value of the materials forming the walls and the roof.

In later years the house was provided with concrete floors and the walls and ceiling were lined, but it is probable that the original floors would be covered with rough stone slabs and the walls roughly plastered internally.

Dr. Paton's *Autobiography*, published in 1889, suggests that the house when his parents occupied it had been in existence for 300 years. This book contains a careful description of the house as he knew it in his boyhood days and of the kind of life lived by his family and by the villagers of Torthorwald over 100 years ago.

The disappearance of his house is to be regretted, but the fact is that under present-day conditions maintenance is a serious problem, and modernisation for any purpose is difficult without altering the whole character of the structure.

A cottage very similar to the Paton cottage still stands on an adjacent site, but this must be one of the very few houses of this type still remaining in the county.[1]

[1] When the house was in course of demolition and only the cruks remained standing, a member of this Society, Sir Walter Aitchison, Bart., passing by Torthorwald in his car, noticed the gaunt, skeletal framework still standing and fortunately photographed it. To him we are indebted for the illustration which has formed the basis of the technical drawings that accompany it.—Ed.

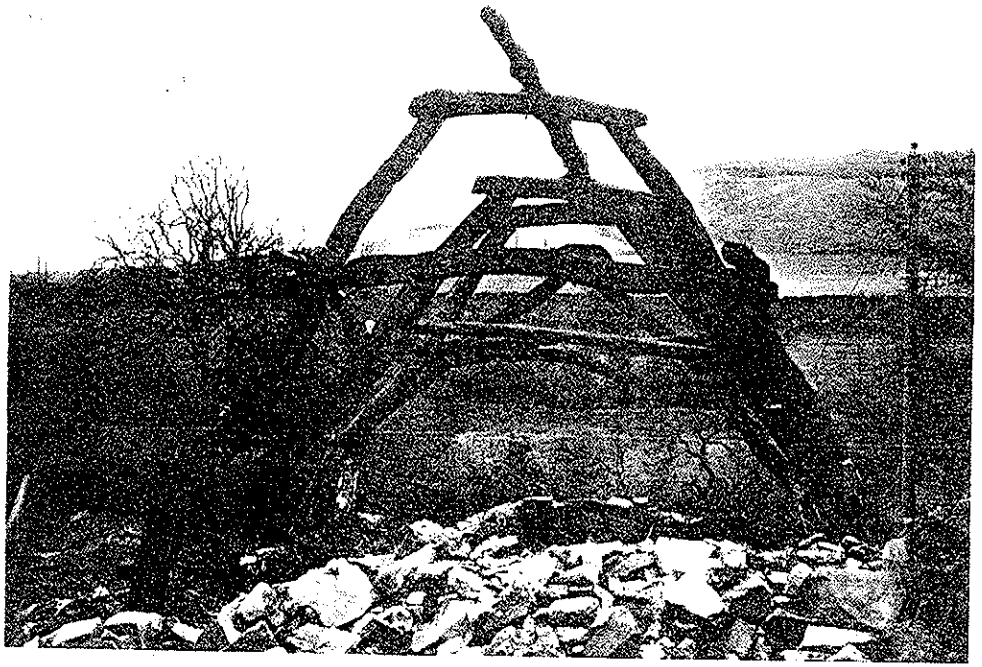

Plate V. VIEW OF CRUCK FRAME TAKEN DURING DEMOLITION.