

## AMPLEFORTH BUILDINGS

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**B**ISHOP HEDLEY in his address at the laying of the Foundation Stone of the Preparatory School in 1914 said that " It was a privilege and a duty of each generation to add stone to stone and roof to roof ... for the promotion of God's kingdom upon earth." Many stones and many roofs have been added by the generation to which he spoke. The JOURNAL has described and reviewed these new buildings as they were occupied and it is not intended here to repeat those descriptions but only to place before the reader some explanatory notes.

In the Builder of April 8th, 1893 is given Mr Bernard Smith's design for the new Monastery and a general plan including his proposals for a new church, six more class rooms, a chemical laboratory, additional libraries and play-rooms, a dormitory, a large Academy Hall, workshops, Infirmary, a large refectory for 200, a large lavatory with 150 basins and a new guesthouse. The estimated cost was £130,000 and if that sum had been available, and if the work of the house could have been carried on during the demolition and rebuilding, this scheme would have met our needs for many years.

In 1898 it was found that the new Monastery had cost more than had been expected and that the finances of the house could not meet any great further development. The building of the small connecting cloister, the reconditioning of the laundry, the installation of the Lancashire Boiler with its ornate chimney and the building of the Procurator's Office with better accommodation for the staff was in fact the abandonment of Mr Smith's general plan.

As the idea of building to a general plan was invariably brought forward while discussing the buildings of the period under consideration, a few paragraphs must be devoted to stating some of the difficulties of working to a fixed plan : especially in the days before we had purchased certain fields east and west.

The first difficulty is that the site of our buildings is on Kimmeridge clay in the geological feature known as the Coxwold Gilling fault-trough. The depth of this clay has not yet been ascertained. A boring at Wass revealed 400 feet and the boring for water at Oswaldkirk gave a similar depth. The recollection of ground difficulties in the foundations of the new College, the nature of the ground excavations for the basement of the new Monastery and the collapse of the Bath at the Gasworks site warned the authorities how costly such a general plan as Mr Smith's might be. In those days reinforced concrete piles were unknown at Ampleforth.

Byland Abbey is built on the same Kimmeridge clay but Byland has a level area at 300 feet above ordnance datum whereas Ampleforth is on a sloping site as the following figures from the ordnance survey show:—

<i>Above ordnance datum:</i>	<i>Feet</i>	<i>Metres</i>
Rugger fields lie	175	
Cricket	225	
Ballplace	317	
Penance Walk	350	
Cloister	359	
Post Office	396	
Bolton House	500	

Terrace	550
Beacon Farm	674

The site chosen by Father Bolton for Ampleforth Lodge was at Cloister level, 359 feet above ordnance datum. Experience has shown that any building below that level is not so free from the mists which invade the valley during the winter months. At this level or above it, but not below it, is enjoyed the view of which many with Bishop Hedley could say " I have been in many places but I know of no view which gives me such pleasure as this." When there was a proposal for moving all to By land in 1856 it was the charm of the present site that decided the question. The same decision would be made to-day.

The ground available for building between Father Bolton's house and the road from Ampleforth to Oswaldkirk is only 300 feet. In his general plan Mr Smith could not extend eastwards because there was a strip of land, belonging to the Spensleys, which could not be purchased. Extension on the west was obstructed by the Grange and by the Farm. On that side also there was the Waller property which was not purchased un-till 1921. At that time a general plan had to be contrived within a very limited area. Many flights of steps were unavoidable. Access to quadrangles by vehicles would be impossible.

Another and much more important problem in keeping to a general plan has been the difficulty of getting agreement on the numbers that Ampleforth must build for. A Monastery of 40 monks and a School not exceeding 200 boys seems to have been the plan of 1893.

In 1900 no one knew how the house would fare in the generation then beginning. The following table of figures shows what did actually happen in the period. It was a critical situation at the beginning and then one to be very grateful for.

	Boys		Boys		Boys		Boys
1900	113	1910	124	1920	237	1930	309
1901	105	1911	122	1921	255	1931	348
1902	96	1912	129	1922	237	1932	360
1903	78	1913	126	1923	247	1933	387
1904	80	1914	147	1924	250	1934	428
1905	100	1915	145	1925	267	1935	447
1906	108	1916	155	1926	301	1936	474
1907	110	1917	176	1927	295	1937	500
1908	127	1918	195	1928	294		
1909	131	1919	206	1929	298		

The policy acted upon was that one generation could not bind another either as to number or method of teaching or kind of school government. Each generation would be loyal in preserving the traditional Benedictine spirit of Ampleforth whatever number it thought best to provide for.

#### MAKING GOOD 1900-1908

Except for Refectory and a Common Room the monks had transferred themselves to the new Monastery by 1900. The old Monastery was taken over gradually by the School for Chemistry, Physics and Mechanics. The Sixth Form boys were given private rooms, and St

Cuthbert's Gallery and the Bishop's room were set apart as an infirmary. Every sacrifice to obtain efficiency in the teaching and every effort to give the right training of mind and body were made. Gradually the confidence of the parents was obtained and the numbers in the School increased. But if the School had to be recognized as efficient it was evident that certain improvements must be carried out by new buildings. An infirmary, a theatre, an indoor swimming bath, a Preparatory School and a gymnasium were all discussed.

#### AN INFIRMARY

An infirmary was fixed upon as the first requirement. Each spring term brought its quota of influenza victims. The Headmaster was anxious that safer provision should be secured for isolation in case an epidemic should break out in the School.

Mr Charles Walker of Newcastle was invited in 1907 to prepare a scheme, but during his visits to Ampleforth at that time his proposals were so lacking in decision that it was thought best not to proceed with him as our architect. The garden Infirmary was then planned and built by the ordinary College Staff. The stone used for this building was the same as that used for the Procurator's Office. The new Monastery had exhausted all the good stone of our own quarry and the

small quarry of Sleightholme Dale, six miles from Kirby Moorside, was made use of. Unfortunately, the quarry owner could not keep pace with the masons and, in order to complete the building before November, additional supplies were obtained from Pateley Bridge. The Pateley Bridge stone is a good hard freestone but not so pleasing in colour as the Sleightholme Dale or Bramley Fall stone. Rock-faced wall-stones had been introduced for the building of the Church and College. This method is prevalent in the West Riding and is said to preserve the stone. This rock-faced style continued in use until condemned and abandoned by Sir Giles G. Scott.

#### THE THEATRE 1909-1910

The use of the Study for the choir, band and theatricals caused great inconvenience and told adversely on the Examinations. All were anxious that some remedy should be found. Early in 1908 Mr Peter Feeny offered £2,000 towards the building of a theatre and recommended as architect Mr Gilbertson of Liverpool. This donation encouraged the house to go forward with proposals which would provide a permanent stage, adequate green rooms, and seating accommodation for 400. The site finally chosen was the south bank of the Square and that portion of the Bounds once occupied by the "Giant Stride." This site seemed to be the only available one for safety and convenience since land now occupied by Refectories and classrooms, Rifle Range and Hard Courts, could not at that time be purchased. Hope of our getting possession of it was almost abandoned.

Suggestions for a small indoor swimming bath, changing rooms and clothes drying apparatus were also put before Mr Gilbertson and the design which he submitted was accepted. The contract was given to Messrs Armitage and Hodgson of Leeds. The builders took possession of the Bounds in February, 1909 and remained there until the end of July, 1910. In the settlement of the account there was a discrepancy between the architect's quantities, taken from his drawings, and the measure-

ments of the actual building. The solicitors agreed upon a final account without taking the case into court. This experience showed the necessity of having our own qualified surveyor for future contracts and incidentally brought us into touch with Messrs Daniel Powell and Worthy to whom was given the planning of the next extensions.

### THE GYMNASIUM

In the years 1909 and 1910, during the building of the Theatre, there was much discussion whether the next development should be a Preparatory School. Several changes in 1911 conspired to give that place to the Gymnasium. In 1907, for the first time in its history, the school had been inspected by the examiners from the Oxford and Cambridge Board. The Headmaster was encouraged by Mr Laffan to join the Conference of Public School Headmasters and it was in 1911 that he was elected to the Conference and thus in 1911 Ampleforth became a Public School. In 1911 also, the Ampleforth Contingent of the O.T.C. was officially recognised. The Inspectors from the Oxford and Cambridge Board were to examine the school again in 1912 and the Headmaster was anxious that he might be in a position to tell the examiners that an architect had been instructed to draw out plans for a Gymnasium. Permission to do this was given by the Abbey Council in October 1911.

It should be remembered that it was only in the early years of this century that gymnastics began to find a place in a school curriculum. Hitherto they had been regarded merely as a form of recreation. At Ampleforth this is shown by the fact that Mr Bernard Smith in his general plan of 1893 did not make any provision for a Gymnasium, nor does he use the word in his description of the plan. This omission seems to have been forgotten in the discussions which took place on the plan for the Gymnasium submitted by the architect in January 1912. In that discussion it was again urged that there should be a comprehensive plan for the development of the College, and that a fixed policy as to numbers should be determined upon. Previous to 1890 the rooms under the Study Hall had been: (i) Senior Boys' Library, (2) Playroom, (3) Reading Room, (4) Lower Library. In January 1890, in order to make the Playroom into a Junior Library, the gymnastic apparatus was taken out and erected at the lower end of the Passage. This apparatus, consisting of the bridge ladder, the plank and the horizontal and parallel bars, remained in the Passage until the Midsummer of 1911 when it was removed to facilitate the replacing of the old flags with a " terrazzo " floor. The apparatus in the Passage could not be called a Gymnasium but its removal emphasised the fact that Ampleforth did not possess one.

In January 1912 the architect submitted and explained five plans for the proposed Gymnasium. Plan No. 5 was accepted as a basis for further consideration. Various sites were shown to the architect and he chose the one to the south of the Theatre. On this very site there still existed in the eighties some gymnastic apparatus, but the ladder and planks had seen better days and they were not regarded as too safe. They were removed in order to make room for the new building.

The final plan for the Gymnasium matured very slowly. The O.T.C. petitioned for a Miniature Rifle Range to be in some way incorporated in it and the Games Master put in a request for Fives Courts. In the correspondence with the architect it soon became evident that there was a great difference of opinion throughout the country concerning the best type of building, apparatus and the best system of drill. There was also much difference of

opinion about the kind of Fives Courts most suitable for us. In June 1912 Rugby, Eton, Winchester, Cheltenham and Wellington were visited to ascertain the types most in favour in these schools.

In July 1912 Council passed a plan for a Gymnasium which should be 80 feet long by 40 feet wide and constructed in such a way as to be suitable for Swedish drill. On the south side of the building provision was made for two Rugby Fives Courts : on the east side for a Miniature Rifle Range. The architect forecasted a cost of approximately £1,500. Various firms were invited to tender but the lowest estimate was found to be £3,300. This figure caused further delay. Certain reductions were found possible and a contract was signed in January 1913 by Messrs Birch and Sons of York. The contractor did not begin work until the last week of February, but he made rapid progress during the first three months. The building was then held up for lack of stone. It soon became evident that the contractor had sub-let the stone-work and that the sub-contractor obtained the Pateley Bridge stone from a middleman. From one cause or another (it was difficult to discover), building dragged on until the end of the year.

In the Spring and Summer terms of 1914 the Gymnasium became a place of great activity in school life. Swedish drill and boxing under Sergeant Andrews gained immediate popularity. On Exhibition Day, June 9th, 1914, after the distribution of prizes in the Theatre, the guests assembled for lunch in the Gymnasium and later in the afternoon it was formally opened with a gymnastic display by a picked team of boys.

#### THE PREPARATORY SCHOOL

As far back as 1872 Prior Bede Prest had a scheme for a Preparatory School and from 1885 to 1895 Prior Burge gave special attention to the Preparatory forms, but it was not until 1908 that a project of a Preparatory School, staffed by members of the Ampleforth Community, entered into practical politics. In 1908 a Preparatory section of the school was started with Fr Aelred Dawson in charge as House Master rather than merely assistant to the Prefect. Rumour became busy that Ampleforth was go'ng to have a separate Preparatory School, but in what part of the country this Preparatory School should be was still a matter for consideration. In 1910 a property in North Oxford was offered to us and in the same year another property was offered in Great Malvern. Both these offers engaged the attention of the Abbey Council which was prepared to accept one of them if permission could be obtained from the Bishop of Birmingham to establish a Preparatory School in his diocese. These offers did much to forward the case for a Preparatory School.

At the Conventual Chapter of 1910 a discussion took place on the general question of Preparatory Schools and a practically unanimous vote was given on the desirability of establishing one. When the permission was at last given by the Bishop, it included a condition which made it impossible for us to proceed further in the negotiations about the properties in North Oxford and Great Malvern. Since efforts to secure a Preparatory School elsewhere had failed, the Conventual Chapter of 1913 was asked to sanction the building of one at Ampleforth. The demand for such development induced the Chapter to give again an almost unanimous vote for the undertaking.

It was further decided to ask Messrs. Powell and Westly to prepare plans for an entirely independent house at Ampleforth. Full and minute instructions were given to them for what

they should provide. At the end of November the architects were able to explain to the Council their first small-scale plans. They were asked to make several alterations and to submit alternative elevations. The site which the Building Committee had proposed was on the edge of the Abbey property west of the new Monastery. The trial hole on this site satisfied the architects and the Council gave its approval. The plans and elevations were ready for the January Council. These were approved and the architects were instructed to proceed with the Quantities. On the 19th of May 1914 the tenders of four firms of contractors were considered. That of Birch and Sons of York was the lowest but the architects recommended that of Ullathorne of Selby on account of this firm's greater experience in stonework. When the architects interviewed the contractor various difficulties were raised and it seemed probable that we should have the same trouble as had occurred during the building of the Gymnasium if the contract were given to any of the firms that had already tendered. At this juncture Mr Corballis put us in touch with Messrs. Lumsden and Son of Jarrow who consented to tender for the work. This was accepted on July 23rd. On July 29th the first shots of the Great War had been fired and on August 4th England entered the war. In this crisis our York Bank was consulted on the advisability of going forward with the contract, and as the instructions which they had received from London were to advise their patrons to carry on as usual so as not to throw the country all at once into confusion, this advice was followed. The first sod was cut on August 10th, the feast of St Laurence. Mr Lumsden sent an excellent foreman to take charge of the work, and he saw that his workshop in Jarrow prepared all the joinery and forwarded it as required. In the Spring of 1915 sickness, which proved fatal, deprived us of our architect, Mr Daniel Powell. Mr Worthy, his Quantity Surveyor and partner in the business, was fortunate in having such a firm as Lumsden's to see the contract carried out without Mr Powell to refer to.

The building made such good progress that hopes were raised that the opening of the Preparatory School could be fixed for January 1916, but, from July 1915 onwards, the war called away all the younger men and made certain building materials difficult to obtain. Some materials that had been specified could not be had. Teak floor-boards had to be substituted for pitch-pine. Lead was not available for the valley gutter on the roof. This was overcome by the use of tiles in place of the Westmoreland slates. During the Spring of 1916 a very much reduced staff struggled along as best it could and it was not till Midsummer 1916 that the contract was fulfilled.

The new building was blessed by Abbot Oswald Smith on September 22nd, 1916. Fr Basil Mawson and Fr Maurus Powell began the first term of the Preparatory School. One of the class-rooms on the first floor was used as a chapel but before the end of the term a temporary building, to be used as a chapel, was asked for. It was not till the Spring of 1918 that the disused tin chapel of the Catholic undergraduates of Oxford was given to us and erected at the west end of the school. From 1915 onwards there were repeated requests for more accommodation, but so many were the demands on the Abbey funds that the Preparatory had to wait till July 1921 before the completion of the west wing was sanctioned. The architect was instructed that the ground floor of this wing should be a chapel and sacristy.

## THE NEW ABBEY CHURCH

In July 1917 the Abbey Council appointed a Committee of their members to report at their next meeting on the form a memorial should take for the Old Boys killed in the war. The report was considered at the November meeting and the Council accepted that part of the report which thought that the War Memorial should be of a religious character. As it was decided that certain Old Amplefordians should be invited to discuss this with Fr Abbot and the Council, Messrs George Chamberlain, James Blackledge, Edward Forster and Cyril Simpson attended the Council on January 15th 1918. The majority of the Council and the laymen were in favour of the development of the Church which should include a Chantry in memory of Amplefordians who had fallen in the war. In July 1918 another committee was appointed to report exhaustively on schemes of Church development, sites and financial resources and to get as much expert advice as possible. In April 1919 the Council approved that Mr (later Sir) Giles Gilbert Scott should be asked for advice and it was prepared to accept him as architect. The Committee thought that a large Abbey Church of Cathedral dimensions would cripple other developments at Ampleforth, and that the site of the existing Church was the best available considering the actual position of the monastic and school buildings.

On June 25th 1919 Mr Scott visited Ampleforth, examined the buildings and then met the Committee. When urged to make his own suggestions regarding the site he replied that in view of the arrangement of the buildings there was no other than the present site except possibly a site parallel to the present one, immediately to the south, i.e. on a level with the " Penance Walk." The Committee put before Mr Scott the requirements they considered necessary for Sanctuary, Choir, Chapels and seating accommodation. He was asked to prepare drawings for Chapter in September. At this meeting Mr Scott's plan showing the Sanctuary in the Western Bay of the Church was accepted in preference to the plan showing the Sanctuary in the Eastern Bay. Rievaulx was cited as not having adhered to strict orientation and Mr Bernard Smith in his general plan had arranged for the Altar, Sanctuary and Monks' Choir to be transferred from the East to the West for the convenience of the monks. In April 1920 full-sized drawings were considered and passed by Council but it was not until April 1922 that Council received tenders for the Building.

Several causes accounted for this long delay. There was much tedious work in the Architect's office preparing exact drawings of all mouldings, tracery, plinths, etc., before it was possible for the Quantity Surveyor to begin his work. Yorkshire was searched for a quarry that could supply large quantities of stone satisfactory in quality and colour. Bramley Fall stone from Whitakers', Horsforth, Leeds was eventually chosen by Mr Scott. While the Quantities for the Church were being made, other building schemes were under consideration. There was the extension of the Preparatory School, already mentioned and there was the scheme for the first portion of the Science Block on the site of the " Flag Walk." In the Spring of 1922 the Bills of Quantities were completed for these three : The Church, the Preparatory School and the Science Block. The tenders of Messrs Hughes Stirling and Co. of Liverpool, Ullathorne and Son of Selby and of Holloway Bros., London, were the lowest. That of Messrs Lumsden and Son of Jarrow was the highest. The Council decided that the Science Block tender should not be accepted but passed the tenders for the

Church and Preparatory School, giving the contracts for these two buildings to Messrs Holloway Bros, of London.

The excavations and foundations were begun in June and on August 1st 1922 Cardinal Bourne laid the Foundation Stone of the Church eighteen feet below ground level. With it was laid a vessel containing a copy of the Times of that day, a list of the Ampleforth community, and silver coinage of King George V. It was not till December 1924 that the new Church was sufficiently advanced to allow the West wall of the old Church to be taken out and the New and Old united. On March 12th 1925 the first ceremony in it was the Blessing of Abbot Edmund Matthews.

#### NOTES BY THE ARCHITECT

Sir Giles Gilbert Scott, R.A. contributed some notes on all the buildings at Ampleforth for which he has been architect.

"There was a period of great building activity between 1922 and 1936. The initial building of this period was the first portion of the Church. The complete scheme for this consisted, broadly, of three large bays (the centre one having the tower above it) with chapels arranged along the south side, the building being planned to stand on the site of the old Church but of course being much longer in extent. It was impossible to proceed with the whole scheme, and only the western bay was built, this being linked up with the old Church so as to provide, for the time being, the accommodation required. Advantage was taken of the sloping site to arrange for a Crypt on the south side, containing a row of chapels beneath those on the ground floor level. An important feature of the interior is the double Altar and arched stone Reredos dividing the Monks' Choir from the remainder of the Church (consisting of the old building and used by the boys). Another noticeable feature is the War Memorial Chapel occupying the space to the south of the Monks' Choir.

Mention should perhaps be made of the domed ceiling over the Monks' Choir (which will be repeated in the future bays); this is not a common feature in England, but it is sometimes found on the Continent, particularly in the south of France. The style of the building is, broadly, that of the thirteenth century, but there is a hint of the Romanesque in some of the features: this certainly applies to the domed ceiling mentioned above. The stone of the exterior of the building is from Bramley Fall. Internally the walls are plastered and with dressings of Blue Hornton stone. The first section of the Church was completed structurally in 1925, though various fittings have been added since.

In Mr Scott's ground plan the High Altar was shown under the West window and the Choir Stalls were shown as extending from part of the Western Bay into part of the Central Bay with the pillars supporting the domes projecting among the stalls. As the walls of the Church began to rise above ground and the centering for the dome was fixed, it was realised that the chanting and recitation would be rendered difficult if the voices were not all under one dome. As yet the architect had not designed any Reredos for the High Altar. When it was suggested that a Retro-Choir might help the singing and bring the school nearer to the Altar, he welcomed the suggestion. He then designed the arched stone Reredos, which after long discussion was accepted by the Community. Mr F. I. I. Gibbons, K.S.G., was the donor. This great benefaction is commemorated by the figures of St Francis and St Etheldreda above those of St Laurence and Our Lady of the Presentation.

The War Memorial Chapel with Reredos and Shrine for the Roll of Honour was the gift of the War Memorial Fund. The Reredos, stained glass windows and furnishings of St



Benet's Chapel were the gift of Mr William Clapham Milburn of York in memory of his son Leonard.

The design for the Stalls brought long discussions on the Organ for the new Church. In the plan the great organ was to be in the North Transept, but it was felt that provision should be made for a small choir organ. This was arranged for by two small chambers at the north and south ends of the West row of Stalls. It was not till 1927 that the first section of Stalls with their canopies and organ chambers were carved and erected by Mr Robert Thompson of Kilburn. In the same year Mrs Mee-Power gave the stained glass window of Christ the King in memory of her son, Dominic, who died in London in February of 1927. Mr Hendrie of the Edinburgh School of Art designed and made this window. In 1930 the Guild of St Laurence was founded to further the efforts made by the Abbey to build the remaining two bays of the Church.

### ST CUTHBERT'S HOUSE

On June 12th 1912 the Golden Jubilee of the East Wing of the College was celebrated and the July number of the *Journal* devoted its pages to aims and ideals in Ampleforth Education. An article on "Liberty and Responsibility for Boys" over the signature V.P.N. was regarded by outsiders as the first announcement that Ampleforth intended to adopt the "House System." In the autumn of that year the "Monitorial System" was introduced. It was not, however, till 1920 that an architect was asked to give us a design for a School House.

The building of the Theatre, Gymnasium and Preparatory School all helped to give room in the Old Monastery and College for the increase in numbers. But as soon as the Preparatory School began to send up, at the beginning of each autumn term, the top form of the previous year, it was realised that the Preparatory School did not relieve but rather increased the problem.

In the Autumn of 1919 a Committee was formed to consider the possibility of meeting the immediate demands by some form of temporary building and to report upon the general scheme of school buildings for the future. At Easter 1920 the Committee reported to the Council that they had considered a plan for a temporary building which should accommodate 20 boys and which should run West to East from St Bede's gallery. They stated that they were not satisfied with the plan and advised that the scheme for temporary building should not go forward. The Headmaster then explained that he had come to the view that Ampleforth should develop along the lines of the "House System." He felt that the number of applications justified such a development and he agreed with the members of the Committee that it was a sounder policy than spending money on temporary buildings. Mr Scott had just submitted his design for the new Church and the Council agreed that he should be asked to give a design for a School House.

His first sketch plan was laid before the Council on July 17th 1920. The general impression was that it was excellent, but the estimated cost for 36 boys was more than double the sum we were prepared to spend. The Building Committee was instructed to consider in what respects reductions could be made in the accommodation and to ask Mr Scott to prepare a second plan to bring down the cost. This revised plan was submitted to the Council on July 26th 1920 and again the estimated cost was considered beyond our means. It was then decided to ask Mr Scott to give a plan in which only ten per cent, of the

boys should have private rooms. Before attempting this third design Mr. Scott again surveyed all possible sites and came to the conclusion that we had an excellent one on the Bathing-Wood Hill. If this site could be used for the School Houses he could depart from the expensive Gothic and use brick and stucco instead of stone. In this way he could give us a design which would bring down the cost to a figure acceptable to us. This third design—a modern treatment of fifteenth century Lombardy art—was put before the Council in December 1920. The coloured sketch of this House has often been spoken of as the most attractive design Mr Scott has given us, but it did not succeed in securing approval. It gave rise to much opposition for placing the first House so far away from the central block of buildings. The scheme was delayed for several years.

In 1923 Mr Scott had ready the design which has been carried out in St Cuthbert's. At a Council held on August 1st 1923 it was agreed that the time had come to make a start with this House. Various sites nearer to the College than the Bathing-Wood Hill were proposed, the architect chose the one between the Monastery and the Preparatory School. In June 1924 the tenders were submitted to the Council and that of Messrs Ullathorne and Son was accepted.<sup>1</sup> Sir Giles has this note on St Cuthbert's :

St Cuthbert's House was begun in the early part of 1925. It occupies a site mid-way between the Monastery and the Preparatory School. So far as style is concerned the general character of the work is Jacobean.

In September 1926 the workmen had many odds and ends to finish but the House System was begun that term by the four Houses, St Cuthbert's, St Oswald's, St Bede's and St Aidan's.

#### SCIENCE AND CLASSROOM BUILDING

In 1901, the old Study, now St Dunstan's Common Room was fitted as a Chemistry Room. In 1911 the rooms north of this were fitted for Physics and in 1912 what is now St Oswald's Common Room was turned into a Mechanics Room. In 1921 the Building Committee was instructed by the Council to interview Mr Scott and ask his advice on the building of the first portion of the Science Block to the East of the College. At the Council held in June 1921 it was reported that Mr Scott had visited the site, that he considered it peculiarly depressing and that the foundation work might be excessive in cost. He suggested and presented a plan of a Science Block running along the " Flag Walk " with a flat roof at the level of the " Penance Walk." He thought that it would be an architectural feature; the rooms would face south with a pleasant aspect. The Council accepted these suggestions, consulted the Science Masters and asked Mr Scott to meet their criticisms by various alterations in the plan.

As already mentioned in the notes on the new Church the tender for this Science Block on the "Flag Walk" was not passed. The idea of building on the " Flag Walk" was given up as being too costly. It was thought that Science rooms could be planned in a cheaper style on some other less prominent site. The numbers in the school kept on increasing and the demand for more Science-room accommodation was pressing. In August 1923 a scheme drawn up by Mr Worthy to provide a boot-room, more wash-basins and a rearrangement of

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<sup>1</sup> The Contractor took possession of the site during the Autumn but waited till the Spring of 1925 when he could make full use of the tram-lines. This contract was the last to make use of the line. In future, motor-lorries did the haulage.

the Chemistry rooms was put before the Council but rejected. It was then decided that Mr Scott should be asked to consider and give us a plan for a central block to the east of the College which should include a lavatory and knee-washing facilities, a boot-room with lockers, science rooms, classrooms and music rooms. Mr Scott's plan for this central block on the east of the College, surrounding a quadrangle 170 feet by 130 feet, was laid before the Council in April 1924. In his report on this plan he advised that we should not allow existing buildings to guide our policy. He gave the impression that some of these buildings ought to be re-conditioned before very long.

The Building Committee had many meetings to discuss the best way of utilising this plan in order to make provision as soon as possible for boot-room and lavatory. In the plan these had been placed at the south east corner of the College. The Committee suggested that a beginning should be made by a one storey building on the north side of the quadrangle and the entrance to it made through the "Byland" window. Sir Giles gave us a design for this first portion of the central block and it was passed by the Council in October 1924. In his notes Sir Giles thus describes it. " While this building (St Cuthbert's) was in progress it was decided to erect this lavatory block under the same contract. This forms an extension eastwards from the main building. The general style is similar to that of St Cuthbert's."

When this building was first designed it had only a ground-floor for 120 wash-basins and a boot-room with 120 lockers. But such strong concrete piers were put into the foundations that the architect agreed that a first floor with a flat roof might be added. On this first floor the Mechanics and Physics rooms were placed. The Chemistry room was also built under this contract and placed at the north-east corner of the quadrangle. In a later contract of 1933 the advanced Chemistry and Biology rooms were added.

The other buildings, described below in the notes Sir Giles has written for this record, had a fairly easy passage through the Abbey Council. It was now realised that these developments were necessary to give efficiency to the educational work and to enable Ampleforth to do for Catholic boys all that the best types of English Public Schools were doing for non-Catholics.

#### SCOTT'S NOTES ON THE LATER BUILDINGS

*The Infirmary:* This was the next work to be undertaken, being started in the summer of 1928. It stands some little distance to the eastward of the main group of buildings and is sufficiently far away to enable a different style to be adopted without introducing any sense of discord. A plain Georgian style was accordingly selected, for economy. The building is of brick, treated with a rough stucco, and consists of a main central block, two storeys in height, with a one-storey wing, forming a ward, at either side. The building was completed in 1929, and the General Contractors were Messrs F. Shepherd and Son, Ltd, of York.

*The new Monastery Wing:* This building was started in 1928. It projects southward at the south-west corner of the new Monastery and consists of four floors, of which the three upper are devoted to bedroom accommodation, etc., while the lowest (basement floor) is occupied by the library. In general character, the treatment of this block follows the standard set by St Cuthbert's House. The General Contractors were Messrs Collins and Godfrey, of Tewkesbury, and the work was finished in 1930.

*Gilling Castle*

The conversion of this building for use as a Preparatory School was begun in 1930 and completed in 1931, the General Contractor being Mr Walter Thompson, of Ampleforth.

*Two School Houses and the extension of Science:* This work was executed under one Contract and was begun in 1933. The two Houses stand some little distance to the north-east of the main group of buildings, and their comparative isolation allows of some freedom in the choice of style; hence, a definitely more modern character prevails here than in the buildings previously mentioned. The Science Building projects southward from the east end of the Lavatory Block and the style of this latter is naturally carried on in the extension. The General Contractors for this work were Messrs Benfield and Loxley, of Oxford, and the Contract was completed in 1935.

*The Rifle Range and Armoury:* This building was begun in 1934. It consists of one storey only and is built into the side of the hill on the south side of the eastern portion of the Penance Walk, its flat roof forming a terrace to all intents and purposes level with the Penance Walk. All lighting is obtained from the south side, an arrangement rendered easy by the steepness of the slope. The work was completed in 1935, the General Contractors being Messrs Benfield and Loxley.

*Gilling Castle Infirmary:* This work was begun towards the end of 1934 and consisted in the remodelling of the old stables to adapt them for use as the Preparatory School Infirmary. A considerable amount of new work had to be done in addition to the alterations to existing work. As part of the scheme, a covered Swimming Bath was constructed. The General Contractors were Messrs Benfield and Loxley and the work was completed towards the end of 1935.

*The Refectory Building:* This building, which was undertaken in 1935, stands a little to the north of the Lavatory Block mentioned earlier in these notes. It consists essentially of two main storeys, but advantage has been taken of the sloping site to introduce a basement storey along the south front, which is treated as a cloister. So far as style is concerned, this building harmonises in general character with the Lavatory Block and Science Building. The work was completed in 1936, the General Contractors being Messrs Benfield and Loxley.

*The new Classroom Building:* This was put in hand early in 1936. It extends eastward from the south-east corner of the old Library Building, and at its eastern end it links up with the Science Building mentioned above, thus forming the southern side of a quadrangle, bounded on the west by the old Library Building, on the north by the Lavatory Block and on the east by the Science Building. It consists of three floors, of which the two lower are devoted mainly to classrooms, etc., while the topmost floor is occupied by bedrooms. As regards style, this building naturally carries on the treatment of the Lavatory Block and Science Building. The General Contractors were Messrs Benfield and Loxley, and the work was completed in 1937.

*Miscellaneous:* During the period covered by the above notes, certain subsidiary building works were undertaken, including the Extension of the Old Infirmary, some cottages, farm buildings, the boiler house and a garage.

G.G.S.

## THE ENGINEER'S NOTES ON FOUNDATIONS

*St Wilfrid's & St Edward's:* When the question of constructing the new Houses was considered in 1933, and the available data as to the nature of the sub-soil was considered, it was realised that the site presented considerable difficulties which if mis-handled might prove disastrous. The site is considerably above the level of the Ampleforth - Oswaldkirk Road, and the whole of the adjoining land slopes steadily down to the southward for some 300 feet or more. There has in the past been a very considerable slip of the ground and there was doubt as to whether the site as a whole was stable. A recommendation therefore was made to drive piles and that these should start at the south face and work upward with a view to forming a toe for this portion of the bank and pinning it down. The type of pile adopted was a tapered pile with a thin steel shell (subsequently filled with concrete), and driven to a set of 40 blows for 6in. penetration with a heavy hammer, through the medium of a mandrel capable of being expanded, contracted and withdrawn by hydraulic means. It was considered that this was a case where a tapered pile possessed a positive advantage over a parallel sided pile.

Although at the time the nature of the foundations was considered it was not intended to complete the second House, St Edward's, it was decided to drive the piles for the future extension so that any future disturbance of the site could be eliminated and the danger of driving piles in the future on such a site adjacent to an existing building avoided. The general average length of the piles was about 24 feet, and in certain cases where piles were driven to refusal, and were very short, suspicion arose and by digging down an examination was made of the obstruction upon which the points were resting. This disclosed a second fault in the rock and overburden, which was overcome by remodelling the concrete foundations at these points.

The sub-soil generally was of poor supporting power, consisting of black mud and unstable clays and shales, but at a depth of about 20 feet a reasonably hard shale was found. The various strata were found to be in varying order on different parts of the site, and it appeared to be quite clear that at some time they had undergone both a motion of translation and rotation. The loads of the building were carried upon reinforced concrete beams tying the piles together in all directions through pile caps on the tops of the piles or pile groups.

*The Rifle range:* In constructing the Rifle Range in the Summer of 1934, the sub-soil was found to be poor, but by taking advantage of the shape of the Rifle Range, and by constructing this with a monolithic reinforced concrete foundation and retaining wall to the north, it was possible to form a rigid box. This provided a large frictional surface to prevent sliding, and a big enough bearing area to reduce the ground pressure to the low figure which the soil could safely carry.

*The Refectory Building:* In constructing the foundations of this building, attention had to be given to the close proximity of adjoining buildings and also to the difficulty of introducing heavy piling plant to the required position. For this reason it was decided to adopt hand-bored piles and, with a view to stabilising the building, a number of raking piles were introduced.

The examination of this site showed it to be an even more difficult one than the last, and the result of boring the first few piles showed unstable clays and broken shale down to a depth of 28 feet at which a bed of fairly good shale was met but which gave way to earthy black clay at about 36 feet. It was therefore decided to test two piles bored down to and just into this fairly solid shale, and the two piles were each loaded with 35 tons. The subsidence after prolonged exposure to this load was found to be reasonable. The policy was therefore adopted to bore down to this fairly hard shale, assuming it existed throughout, and it was in fact found to be fairly consistent over the site. The loads from the building were carried upon reinforced concrete beams and pile caps joining the piles together in all directions so far as possible. The

construction of the raking piles was overcome satisfactorily and the general behaviour of the completed building since it was built has proved satisfactory.

*The Lower Building:* Experience with the previous buildings drew attention to the advisability of going carefully into the question of foundations, and trial pits were taken out from which it emerged that any attempt to construct foundations by building mass concrete piers would probably be more expensive than by piling. A decision was taken to adopt the same method of bored piles as in the case of the Refectory Block, the foundations being treated in a similar fashion so far as concerned the design.

The whole of the piling work was executed by the Francois Cementation Co., Ltd, of Doncaster, and the foundations were designed by Mr Burnard Geen, M.Inst.C.E., of Westminster, in conjunction with the Architect.

B. G.