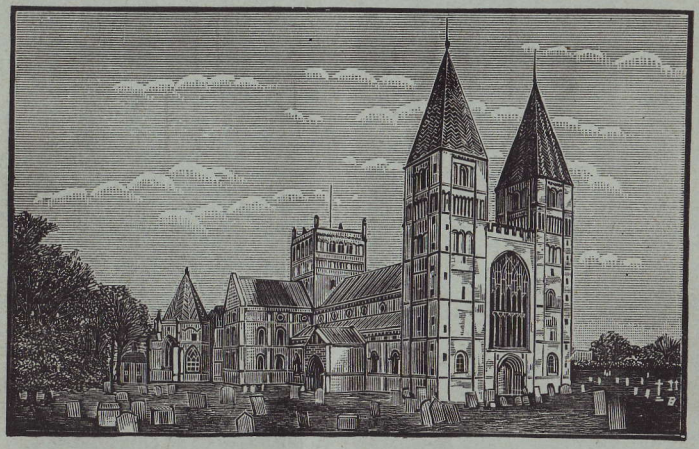
Vol. III. EASTER, 1904. No. 3.

The Southwellian.



SOUTHWELL MINSTER.

THE Grammar School Magazine.

SOUTHWELL:

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THE last number of "The Southwellian" contained the account of the re-organisation of the School as far as it had then proceeded.

The issue of a Scheme by the Board of Education was referred to. By that Scheme a Governing Body was constituted. Since that time the first Election of Governors has taken place. The Parish Council of Southwell has elected Mr. Starkey and Mr. Buttrum; the District Council, Mr. Merryweather and Mr. W. Wright; the County Council, Major-General Warrand and Colonel Nicholson; the Chapter of Southwell Cathedral appointed Canon Pavey and Canon Lewis; St. John's College, Cambridge, Canon Prior; Trinity College, Canon Parry; Nottingham University College, Professor Kipping. In addition there are two *ex-officio* Governors, The Lord Bishop of Southwell and the Rector of Southwell, Archdeacon Richardson; the former was appointed the first chairman of the new body.

The attempt to collect £1000 for the improvement of School-buildings, etc., has also been successful. At Christmas, 1902, subscriptions to the amount of £963 16s. 6d. had been promised and were announced in the last Number.

Since then the following further sums have been given:

	£	s.	d.
Canon Mason	5	0	0
Canon Molyneux	1	1	0
Honorary Canons of Southwell Cathedral, 2nd subscription	10	0	0
Mr. F. Hill	2	2	0
Canon Pavey, 2nd subscription ..	2	2	0
Canon Lewis	1	1	0
Mr. W. Wright	5	0	0
The Lord Bishop of Southwell, 2nd subscription	10	0	0
	£1,000	2	6

The last number of the Magazine brought the history of our doings down to the end of the Lent Term, 1903.

The Summer Term is a busy one and full of interest, both from the point of view of work and play. In it the School year closes and the Annual Examination is held. The Annual Athletic Sports, too, take place in this Term, and the Eleven are busy with the list of matches arranged.

The Summer Term of 1903 was a satisfactory one from all these varied points of view.

In the Examination held by the Board of Education more certificates were gained than had been gained before.

In Chemistry, Frank Foster gained a First-Class; S. Drury, L. Gilbert, H. S. Edmonds, E. Rooston, A. H. Thornton, and F. L. Bailey obtained Second-Class Certificates, and nobody fell to the level of a mere pass.

In Mathematics, H. Wall, F. Foster, and F. L. Bailey gained Second-Class Certificates.

L. Gilbert and H. Wall passed the Oxford Local Examination: the former in English Grammar, Shakespeare's Macbeth and Essay, French, Arithmetic, Algebra, Chemistry, Model Drawing; the latter in Acts, English Grammar, Macbeth, Essay, French, Arithmetic, Algebra, Geometry; F. Bailey passed in St. Luke's Gospel, Essay (marked Good), Geography, French, Arithmetic, Algebra; and Drury in English Grammar, Essay, Arithmetic, Algebra, Geometry and Model Drawing. They were placed in the order in which they are named.

In the School Examination Form IV. were placed in the following order :—

Rooston	Lee	Thornton
Edmonds	Wilson	Walton
Rumford, H.	Smith	Webster
Wright	Jamieson	Ball
Hill	Ames	

Coppock and Draper absent.

The order of Form III. was as follows :—

Daft	Blythe	Allfree
Wilkinson	Schumach, G.	Chambers, J.
Eaton	Rumford, C. E.	Hunt, J.
Hillam	Chambers, A.	Taylor
Sail	Machin	Longmore

In this order the places are decided by the total number of marks gained, therefore boys who do not follow the regular curriculum and omit subjects, or who were absent from part of

the Examination, are placed at a disadvantage. Allfree and Hunt omitted French; Chambers, J. and Chambers, A., and Longmore, were absent from the Examination in English.

The order of Form II. was as follows :—

Walker	Marriott	Basilico
Musgrave	Boyes	Bates
Blake	Warwick	

The order of Form I. was as follows :—

Moore	Chambers, E.
Slim	Worman
Hunt	

The School Staff was strengthened by the addition of Mr. G. D. Magee, London University, formerly a Master at Tuxford Grammar School; his presence enabled Mr. Scott to give more attention and more time to the Practical Chemistry. Although the numbers of the class scarcely justified this additional expense, yet a desire was felt to give every advantage to those who were willing to avail themselves of opportunities: the result was shown in the increased number of certificates gained.

Mr. Magee was a decided acquisition in the Cricket Field also. He was a great help in the matches; while the tuition and example given by him and Mr. Glanville, combined with the coaching of Tinley (who was again engaged as Professional Bowler), ought to produce an improvement in the style of play, of which we shall reap the fruits in the Season of 1904.

We are glad to be able to include in this Number an article by an old Master, Mr. Barbour. He is now a Chemist at the Government Powder Factory at Waltham. Doubtless the search for a new explosive oftentimes engages his attention. We wish him success, and make him a present of a name for the new Compound—at once appropriate and expressive—"Barborite." Mr. Barbour gives us a description of the Factory, which few people have an opportunity of visiting.

Attention is also drawn to a letter by Mr. W. Lee, an Old Southwellian, who gives advice, drawn from his own experience, which, if followed, will save many boys from the mistakes that they sometimes discover when it is too late.

The Autumn Term opened on September 16th.

This Term, which is the first of the School Year, is unusually a Term of steady work, everybody comes back invigorated by the long holiday, determined to make better use of his time than before, and to win a better place in the Examination at the end of the year upon which he has just started than he did in the year just ended.

The Prize Day, with its representation of a play of Shakespeare, is the chief public event in the School during the Autumn Term.

The Lord Bishop of Southwell very kindly consented to preside and distribute the Prizes. It was very fitting that the first Chairman of the Governing Body should perform this office at the first gathering after the re-construction of the School. 1903

Our gratitude is the more due as the Bishop came at the sacrifice of considerable personal convenience.

Preparation and Recitals for the Prize Day commenced at once, as changes in the caste had to be made in order to fill the places of boys who had left School at the end of the School year in July.

A satisfactory Hippolyta was found in B. Wright. Hillam recited the lines of the Prologue excellently. Ames entered *con amore* into the part of the Lion, whilst Bailey undertook with dignity the part of Theseus. The important part of Bottom was entrusted to Hill, who gave an excellent representation of the character.

A departure was made from long established custom by holding the Prize Distribution in the Assembly Rooms. They are easier of access than the Masonic Hall, but they lack the arrangements for Stage and Proscenium possessed by the other Hall, and they are not so large, so that all friends of the School who desired tickets could not be accommodated ; but Mr. Knowles fitted up a Stage, Proscenium and Curtain which admirably met our requirements in that direction.

On December 7th the Distribution of Prizes, in connection with the Minster Grammar School, took place in the Assembly Rooms, Southwell. The chair was taken by his Lordship, who was supported by the Rev. J. S. Wright, M.A. (Headmaster), the Ven. Archdeacon Richardson, Rev. Canon Pavey, General Warrand, Mr. L. R. Starkey, and Mr. H. Merryweather (governors). The assistant masters present were Mr. E. R. Glanville, Mr. D. R. Lloyd, Mr. G. D. Magee, and Mr. W. T. Wright, A.R.C.O., and there was a large attendance of parents and friends.

The Bishop, who is chairman of the Governors, said his first business was to ask the Headmaster to give them the report, which he was sure they would expect and listen to with interest.

The Headmaster said : Since the last gathering of this sort, very important changes have taken place in connection with this ancient school, changes which I doubt not, will be a source of advantage to it, and the district that it serves. All of us therefore who are interested in the maintenance of a School in Southwell, are indebted to our two *ex-officio* Governors for the trouble

they took in securing the accomplishment of certain conditions, which had to be satisfied before any further progress could be made, and to them, in common with the other Governors, for the interest they have since taken in the School. It is, however, with the work of the School looked at from within, that I have to deal to-night, and though I cannot claim that any development so important as that to which I have referred, has taken place, yet I am sure that there has been steady progress made, both in the character and amount of work done. We have this year gained more Board of Education Certificates than for several years past ; a result owing largely, on the one side, to the energy and ability of Mr. Glanville and Mr. Scott, on the other of course to the industry of the boys themselves. He next read extracts from the reports of the examiners, which were most satisfactory. Another subject, he went on to say, upon which they had outside testimony, was drawing and wood-working. This, of course, was not taught with any idea of preparing boys for a trade, but firstly it was valuable in itself, for mental development usually accompanied increased manual dexterity ; and secondly, in the case of some boys, the importance of accuracy, and attention and observation could be more readily brought home to them in this way than by book learning alone ; and thirdly it was valuable because it taught them to appreciate good manual work wherever it was found, and not to look down upon it, as perhaps there had been a tendency to do in past years, even more than at the present. In this subject, then, which had thus an importance of its own, a very good report had been received from the County Council Inspector. The practical work received the highest possible mark and the Drawing (of Plans, Sections and Elevations) was marked Good. With regard to the health of the School, he was thankful to say that they had enjoyed complete immunity from sickness, and when they re-called that during a part of the period under review there was a good deal of infectious illness around them, he thought it pointed to the fact that they worked under healthy conditions, and he hoped that those conditions would be further improved shortly, with a view of providing greater convenience for work, and more comfortable accommodation for boarders. He wished to thank sincerely the donors of special prizes, and he would add that any further offers would be an encouragement greatly appreciated. In conclusion, he had pleasure in announcing an honour won by an Old Boy of which he had heard that morning. Mr. Frank Stenton, who last year had taken a First Class Honours Degree in History, and had been three times Prizeman of his College, had written to say that he could not be present with them that evening, as he had recently been appointed Lecturer on History at his College, and had therefore returned to Oxford. (Applause.)

The Bishop, who was loudly applauded on rising, said he had listened with great interest and satisfaction to the remarks of the Headmaster. He was not going to detain them long, because

there was to be an entertainment later, for it could be suggested that they were to have bread and jam. (Laughter). He had the bread first because that was dry—in the way of speeches, and the jam afterwards—in the entertainment, and the drier the bread was the more sweet would be the jam. (Laughter). He did not know how many of those he saw present had received prizes in past times, and he did not feel able or justified in asking them to hold up their hands, and requesting those who had not to abstain. It was he thought hardly possible to do so, because some of those he saw before him belonged to those days when competitive education was not extended to them—the ladies of England, some of whom completed their education before the doors of competitive examination for prizes were open to them. (Laughter). But he would like to ask the receivers of prizes—no doubt, many in spite of this qualification—to consider what was the reason which made them attach value and pleasure to the prizes. He did not doubt that those who had been brought up in a school like that, did not think so much of the value of the prizes given them, as the object and effort they made for the sake of gaining them, for the possession of them was, perhaps secondary, they were set on learning something and had learnt it. But he doubted very much whether those young gentlemen who received the prizes would think very much of the books, unless they were more attractive and interesting than they used to be in his day. He well remembered his first school prize, and the beautiful volumes bound in green and gold, with which he was then presented, stood on his shelf ever since and he had never opened them. (Laughter.) He confessed, however, that the value of them lay in the memories which they recalled, and which could never be effaced. (Applause). Once again, in his early child-days, he won a first prize; but he was told by his master that if he wanted to go home two days before the date fixed for the regular breaking up of the school he must forfeit his prize. He well remembered that the value which he at that time attached to his prize, having once won it, seemed to him so inconsiderable that he at once chose the extra two days at home, only to find on opening his portmanteau that it was all a joke, and that his prize had been neatly packed in. (Laughter). He impressed the point upon them of the importance of making learning a pleasure, and memory, whether it was in the practice of handicraft, of science, or of the arts, it was all a matter of memory, and the capacity to retain the stores derived from instruction and environment. What they learnt one day to do with their fingers did not go back, and they had not to learn it over again. Some of them might recollect how Cicero said that memory was everything in intellectual professions; and so it was in everything. Memory was the machine by whose operation every mental impression was stored away for reproduction and use, and much of their success in later life depended very much upon the manner in which their memory had been charged. Memory was going to be part of themselves, and if they chose

to store good things, they would have good in them, and if they stored bad things, they would have bad in them; but it rested with them never to store the latter, but those which were pure and profitable to them, and those would be sure to give them pleasure and satisfaction. (Applause.) Their Headmaster had spoken of certain improvements which he hoped would be established in building, and he (the Bishop) hoped very much indeed all the expenses the local authorities involved would leave, somehow or other, something so that that valuable school of education could be further developed.

The Bishop next alluded to the School at Winchester, at which he was both pupil and headmaster, and remarked that a great part of their love for their school arose from the close connection that it gave them with the Cathedral there. He pointed out that their position at Southwell was analagous, for they were closely connected with a Cathedral, the beauties of which they probably had no idea of, and which were not surpassed by any Cathedral in England, and he urged them to make use of their opportunities to worship God and value religion. (Applause).

His Lordship then presented the prizes as follows :—

Form V.—First in Oxford local Examination (Mr. Starkey's), L. Gilbert; Divinity (the Archdeacon's), H. Wall; Latin and French, L. Gilbert; English essay (Headmaster's), F. L. Bailey; reading, senior (Canon Pavey's), G. Hill; science, F. Foster; mathematics, W. S. Drury.

Form IV.—Divinity, S. Smith; French and English, E. Roos-ton; mathematics, H. Rumford; science, H. Thornton; drawing (Mr. Walley's), W. Jamieson.

Form III.—Form prize (Headmaster's), A. Machin and J. Eaton, equal; examination prize, 1, L. Daft; 2, M. Wilkinson.

Form II.—Form prize (Headmaster's), and examination prize, H. Walker.

Form I.—Reading, junior (Canon Pavey's), H. Slim; form prize (Headmaster's), A. Hunt; examination prize, G. Moore.

Certificates.—Cambridge local: preliminary, F. L. Bailey; junior, L. Gilbert; Oxford local, H. Wall and L. Gilbert, junior. Board of Education; chemistry, first class, F. Foster; second class, F. L. Bailey, S. Drury, H. Edmonds, L. Gilbert, E. Roos-ton, H. Thornton; mathematics, second class, F. L. Bailey, F. Foster, H. Wall.

The Ven. Archdeacon Richardson proposed a very hearty vote of thanks to the Bishop for his presence on that occasion. (Applause). He knew his presence would be appreciated, and he was glad that appreciation was so hearty as they had made it, for they all knew that the life of the Bishop was a very busy one, and they were all gratified that he took so much interest in that affair, though it was by no means of small account to them. As they had been told, the school had passed through a great

crisis in its existence, and was now furnished with a governing body, and he hoped before long it would also be furnished with other valuable additions. It was a matter of great honour and a privilege to the school that the first Chairman of the Governors should have been one with the Bishop's experience in the education of boys. (Applause). He hoped the school had a long and valnable life before it in the future, and he also trusted that those occasions for many years to come would be graced by the presence of the Bishop of Southwell, but he could hardly hope that they would always have a Bishop so well qualified to speak on matters of education of boys as the Bishop, who had been pleased to come that night. He moved a hearty vote of thanks to him. (Applause).

Mr. L. R. Starkey said he could assure them it gave him very great pleasure to be there that night, and still more so to have the pleasure of seconding the resolution to his Lordship for being present and taking the chair at that the first gathering of the school after its re-organisation, if he might so term it. He did not intend to enlarge upon the work which had been done in bringing all this about, because they had heard it mentioned two or three times that evening, or to estimate how great was the labour of love of their Bishop in getting this new scheme which had been altered to suit the requirements of the school. He could only hope that in the future the governors would be able to maintain the ancient traditions of the school, so that it would be a benefit and use not only to the immediate locality, but also to the county of Notts. He alluded to the generous response there had been to the appeal for subscriptions, many of which had come from old boys, and he hoped those present now, when they left school by and bye, would also be able to give some impetus to the work in the future. He had great pleasure in seconding the resolution. (Loud applause.)

The Bishop briefly replied, and he and others then left the platform, as his Lordship jocularly remarked, to make room for the younger generation.

The programme was next proceeded with, and every item was most creditably given, reflecting the highest credit on the tuition by the Headmaster and his staff, and the capability of inception on the part of the boys. The programme was as follows :—Song, "Come, merry comrades all" (*Becker*), The Singing Class; pianoforte solo, H. Rumford; song, "Hearts feel that love thee" (*Mendelssohn*), the Choristers; French recitation, Scene from "Le Grondeur" (*Brueys*), Grichard—W. Wall, Ariste (his brother)—F. L. Bailey, Lolive (the valet)—L. Gilbert; song, "School life" (*Thomson*), the Singing Class; English Play, the Interlude from Shakespeare's "Midsummer Night's Dream." Scene I., Quince's Workshop; Scene II., The Duke's Palace: Theseus, F. L. Bailey; Hippolyta, B. Wright; Demetrius, W. H. Jamieson; Philostrate, M. Wilkinson; Quince, H. Wall; Bottom, G. Hill; Flute, L. Gilbert; Snout, A. Wilson; Snug, H. Ames; Prologue, C. N. Hillam.

The Play, as has been remarked elsewhere, was admirably rendered: all the actors were dressed in correct costumes for their parts, and shewed a proper appreciation of the characters they represented. Bailey, Wall and Gilbert also spoke their extract from the French play well, and shewed that they had acquired ability to speak the language in such a way as to make it of practical use. The contrasts in the three characters, the querulous master, his plegmatic brother, and the smug manservant, were cleverly emphasised.

The Bishop's remarks on the value attached to Prizes seems to have aroused a great deal of interest, and Southwell Grammar School Prize Day was referred to in three or four of the London papers. Southwell boys will probably, however, not agree that their Prizes are un-interesting.

At the end of the Christmas Term the Headmaster, in dismissing the School and making his closing address, read an extract from a speech by Mr. Bryan, once a candidate for the Presidency of the United States, and a man whose wide outlook and practical acquaintance with the conditions of the life of our enterprising friends and competitors across the Atlantic entitles his opinions to respect. The Headmaster said that Mr. Bryan's remarks on two subjects were worth their attention and that of their parents. They are therefore reproduced here. They deal with two points which are certainly of an importance that does not receive due recognition. The first is the value of each lesson and how the missing of a single lesson is a distinct loss, just as the withdrawal of single bricks from a building soon weakens the whole structure. The second is the value of having a well educated mind with which to tackle the work of life, and the mistake that is made in supposing that progress in life is accelerated by starting early in business instead of staying at school sufficiently long to get the mental faculties well trained—the axe sharpened, as Mr. Bryan's metaphor puts it.

"Mr. Bryan remarked:—I have heard a great deal of the manufacturing greatness of Great Britain, and over in our country we sometimes see evidence of the skill that has been developed in your great manufacturing establishments. But you know I think there is a manufacturing establishment that is more important than any establishment that turns out either the product of iron, or of cotton, or of wool. I regard the schoolhouse as the greatest manufacturing establishment on earth, for it deals with a priceless raw material, and turns out a finished product above value, for when a school makes men and women out of boys and girls, it has given to the world the greatest thing that the world has. Therefore, I am always more interested in seeing the schoolhouse than in seeing mere manufacturing plants, and even more interested than in seeing the farms where we have a certain other kind of product. There is one thought that I wish to leave with you, and I am not going to detain you with more than one thought. You have a brick building here, and it occurs to me that the brick illustrates a very important thing for the student to learn. If you see a brick lying on the ground you will kick it about, and think it is about as worthless a thing as you can imagine, and yet when those bricks are put together in a wall and laid in cement they complete an

edifice that is valuable for your protection. The brick house is an enduring house, and out of these individual pieces of burnt clay we make structures that last for ages. Now, a single lesson seems to me much like the brick. Sometimes the student regards it as of little importance, and if something else comes along the student may be willing even to miss it. That is so in our country, at any rate. If a circus turns out, it sometimes seems to be of more importance than any lesson that a student may receive. And yet these lessons that seem so insignificant when taken one by one, are, when finished and put together by great purpose and firm resolve, built up into an education, and that education is of immense value in after life. If you want to see the difference between an educated mind and an uneducated one, if you want something that illustrates the advantage of the educated mind over the uneducated one, you go and watch two persons cutting wood, one cutting with a dull axe, and the other with a sharp axe. If you watch them, after a while you will find that the person with the sharp axe will do a great deal more work, and if you think it is time wasted that you spend in school, just remember that the time you spend sharpening the axe will soon be made up in the efficiency of the tool when you come to work with it. And so these days you spend in school, putting your lessons together, and connecting them into an education, you will find are really the most valuable hours and days which you spend in the whole course of your life. If you think you can go out and make a few dollars, lay that money away, and thus become rich, I want to remind you that the wealth that you store away in your minds at school is a wealth that is permanent in form, and *more lasting in value than any money you can make by leaving school early in order to make a few extra shillings or pounds.*"

Boys who do not attend school on the opening and closing days, and on Saturday mornings should weigh well Mr. Bryan's remarks.

ATHLETIC SPORTS.

(From the Newark Herald.)

On Thursday afternoon and evening, July 9th, favoured with delightful weather, the Annual Sports in connection with Southwell Minster Grammar School took place on Lowe's Wong. There was a large attendance of parents and friends of the boys, and many of the events were closely contested, thus adding materially to the pleasures of those who were present. The officials included—Committee: Rev. J. S. Wright (headmaster), Mr. E. H. Scott, Mr. A. W. L. Dixon, Mr. G. D. Magee, W. S. Drury, G. Hill, F. Foster, F. Bailey, H. Wall, H. S. Edmonds. Starter: Mr. F. B. Johnson. Judges: Rev. F. H. Burnside, Mr. H. Merryweather, Mr. C. Pyatt, Mr. F. Walley, Mr. W. T. Wright. Secretary: Mr. E. R. Glanville.

The ground had been carefully prepared, with a line round the interior of the course, and the races over short distances, such as 100 yards, were run between strings, thus enabling the competitors to go straight ahead. Chairs were placed alongside the track; but during the afternoon, owing to the fierce glare of the sun, they were removed further back to the shade of the trees, the thick foliage of which formed a welcome retreat. The Southwell Brass Band was engaged for the day, and played a

number of selections, which enlivened the proceedings. The Sports were timed to commence at two o'clock, and about that hour the first event on the programme was taken.

Egg and spoon race.—First heat: 1 H. Rumford, 2 Jamieson, 3 Smith. Second heat: 1 Wright, 2 Martin Wilkinson, 3 F. Schumach. Third heat: 1 Allfree, 2 Gilbert, 3 Machin. Final heat: 1 H. Rumford, 2 Allfree, 3 Martin Wilkinson. This race produced a considerable amount of fun owing to the boys dropping their eggs, and thus spoiling their chances. Rumford, who took the most care of his, came from behind, and taking advantage of the misfortunes of his colleagues, won easily.

Team race.—Three teams entered for this, and a most interesting competition was the outcome. Eventually the race was won by B team, viz., Edmonds, Martin Wilkinson, Smith, Allfree, Rooston, and Walton.

Sack race.—First heat: 1 Wright, 2 H. Rumford. Second heat: 1 Edmonds, 2 Jamieson. Third heat: 1 Walton, 2 C. Rumford. Final: 1 Wright, 2 Edmonds, 3 Rumford. The entrants were sewn up within the sacks and laid on their backs, heads facing the direction they had to traverse. When the pistol was fired much difficulty was experienced in getting started and the contortions of the boys caused great laughter.

Hurdle race.—First heat: 1 Rooston, 10 yards, 2 Sail, 8 yards, 3 Allfree, 8 yards; well run. Second heat: 1 Wright, 10 yards, 2 Jamieson, 12 yards, 3 Edmonds, 8 yards. Final: 1 Wright, 2 Rooston, 3 Sail. Just having won the sack race Wright was obliged to take part in the final for the hurdle race, a rather arduous task under such warm atmospheric conditions; but he pluckily adapted himself to the circumstances, and won handsomely, his being one of the most popular successes of the day.

100 yards handicap (under 12).—First heat: 1 Smith, scratch, 2 A. Hunt, 8 yards, 3 Slim, 10 yards. Second heat: 1 Taylor, 8 yards, 2 Boyes, 8 yards, 3 G. Schumach, 4 yards. Final: 1 Taylor, 2 Hunt, 3 Smith. This was an exciting end to a hard struggle for premier honours, and all the competitors ran with the undoubted intention of winning, but Taylor showed best form.

100 yards handicap (12 to 14).—Final: 1 J. Hunt, 5 yards, 2 Martin Wilkinson, 8 yards, 3 Sail, scratch; time 13secs. Although originally there should have been two heats in this handicap, as one or two of the boys did not turn out it was agreed to run the whole race off at once. Sail, who was scratch, made a most commendable effort, and almost a dead heat resulted for second place, Wilkinson, however, securing it by about two inches.

100 yards handicap (over 14).—First heat: 1 Hill, scratch, 2 Drury, 3 yards, 3 Ames, 5 yards. This was a good race, and Hill made headway from start to finish, though he should exercise a little more care in future, for by not holding himself together better a great deal more energy is taken out of him than would otherwise be the case. Second heat: 1 Machin, 7 yards, 2 Walton, 8 yards, 3 H. Rumford, 8 yards. The first three came down the course in a line, till within a few yards of home, when Machin sprinted through and won cleverly. Third heat: 1 Bailey, 10 yards, 2 Wright, 8 yards, 3 Rooston, 8 yards. Rooston had the best stride of the lot, but lacked pace, still Bailey and Wright did well and ably held their own. Final: 1 Hill, 2 Drury, 3 Bailey; time 12secs. The elder and more powerful boys secured the honours, though the others finished gamely.

220 yards handicap (under 13).—1 A. Hunt, 20 yards, 2 H. Slim, 30 yards, 3 Smith, scratch; time 32 1-5th secs. Hunt and Slim were both little fellows and they got along at a very fair speed, which obtained for them the awards. Smith took matters too easily and did not put on a spurt soon enough, otherwise the result would have been better.

High jump.—1 Hill, 2 Jamieson, 3 Sail. From a spectator's point of view this is by far the most attractive competition. Hill and Jamieson failed at 53 inches, and the tape was lowered to 52, which they cleared as they had done previously. Then it was raised to 53 once more, and Hill succeeded in getting over and leaving everything intact. It might be mentioned that an old boy, Mr. E. D. Mettham, of Nottingham, was present, who holds the record for the school in connection with the high jump, having cleared 5ft. 4in. at the sports, and 5ft. 6in. when at practice—a fine performance. The excellent performance of Jamieson came as a surprise, for he had not previously shown much devotion to outdoor sports.

Half-mile handicap (under 13).—1 Blake, 100 yards, 2 Smith, scratch, 3 Boyes, 30 yards; time 2 min. 55 secs. Blake was, perhaps, the smallest competitor on the field, and from the moment the signal to start was given he scampered off, never faltering, and kept his lead throughout. Smith, with all respect to the fine endeavour he made towards the finish, again lacked judgment in not making a final spurt sooner.

220 yards handicap (over 13)—1 Hillam, 25 yards, 2 Rooston, 20 yards, 3 Hill, scratch; time 29secs. As in the last race, the limit boy won, after leading the whole distance, though there is little doubt that he would have been overtaken if there had been about 10 yards further to go.

Three-legged race, 120 yards handicap.—1 Hillam and C. Rumford, 20 yards, 2 Ames and Wall, scratch, 3 Smith and Wright, 15 yards. The winners gave clear proof that they had been training together to compete in this event, for they stepped evenly and quickly from the beginning to the finish.

Throwing the cricket ball.—1 Drury, about 90 yards. The winner was far in advance of any of the others, and won this contest last year.

440 yards handicap (over 13).—1 Walton, 40 yards, 2 Ames, 25 yards, 3 Edmonds, 30 yards; time 65 2-5th secs. Walton ran exceedingly well and deserved his place.

440 yards handicap (under 13).—1 A. Hunt, 40 yards, 2 Eaton, 20 yards, 3 Slim, 60 yards; time 70 4-5th secs. Hunt, who was only 10 years of age, displayed capital style, and should make a fine runner in the future.

One mile handicap (over 13).—1 Hillam, 130 yards, 2 J. Chambers, 100 yards, 3 Gilbert, 50 yards; time 5 mins. 55 secs. So far as stamina was concerned there could be no doubt that this was the *piece de resistance* of the programme, and its commencement was eagerly awaited by the majority of the boys, though in order to ensure a rest for those who had recently been running it was placed after the Old boys' race. Thirteen entered, and Hillam, who was limit, go off finely. He ran for all he was worth, and did not look as though he would last out till the end; but having obtained a commanding lead he was persuaded by the spectators to take things a little easier, which gave him the first prize. At one period Gilbert made a dash to get in front but failed to do so, and was in difficulties on nearing home, though he managed to hold out and get the third award; but J. Chambers, who ran pluckily for the second position, appeared to be the least distressed.

Old boys' 220 yards handicap.— 1 E. D. Mettham, scratch, 2 J. W. Davies, 15 yards, 3 R. E. Jackson, 10 yards; time 26 2-5th secs. Other entrants were F. B. Johnson, scratch, P. Johnson, scratch, T. Pyatt, 10 yards, A. G. Attenborough, 10 yards, W. H. C. Pyatt, 15 yards, and H. Mills, 20 yards. Considerable enthusiasm was aroused by this race, and it proved to be a popular event. Mettham, already referred to as the record holder of the high jump, showed that his athletic days did not end at the conclusion of school-life, for he came through from scratch and won cleverly. The prizes were given by the Headmaster.

Tug of war.—Hill's team beat Ames's, and Drury's beat Foster's. Final, Drury's beat Hill's, after a remarkable exhibition of tenacity and doggedness. Drury's team consisted of himself, Edmonds, Sail, J. Hunt, Smith, Hillam, A. Chambers, and Boyes.

Tea and Distribution of Prizes.

Shortly after four o'clock an adjournment was made for afternoon tea to the Headmaster's guests, for whom tea was provided in a marquee on the ground. At the conclusion of the Sports a semi-circle was formed around the large marquee, a small one having been used as a dressing tent. At a table, well covered with prizes, sat Mrs. Richardson and the Ven. Archdeacon Richardson, supported by the Rev. Joseph S. Wright, the headmaster, and Mr. E. R. Glanville, one of the assistant masters.

The Headmaster said before beginning the actual distribution of prizes, he should like to thank those who had so generously subscribed for the prizes which had been provided this year, and he also wished to thank them for their encouraging presence in such large numbers. No records had been broken, but the Sports were a proof that they did not lack in facilities for the physical training and development of the boys, and he should like to see this extended in other directions, such as swimming and bathing. (Applause). Parents often asked "Do you teach swimming?" but so far they had no facilities for such a purpose, though he had heard it mooted that very shortly some provision would be made to attain that end, and they should be very glad when that was completed. (Applause). Now he had to welcome, in their name and in his own, Mrs. Richardson, who had come so kindly to distribute the prizes; and they were also very grateful to her for this token of her interest in the school, and in that expression of thanks should like to include the Archdeacon, who had devoted so much time to the recent re-organisation of the school, in which he had been ably supported by the other Governors. (Applause.)

Mrs. Richardson then presented the prizes to the winners, whose names were called by Mr. Glanville. At the conclusion of this three cheers were given for Mrs. Richardson and three more for the Headmaster, when the Band played the National Anthem, and a most successful programme came to an end, everything having passed off without a single untoward accident or occurrence, and adding another laurel to the already long list in the annals of the school.

Prizes were presented by Mr. Bates, Nottingham (Cricket Ball), Mr. Wilkinson, Newark (Watch), Mrs. Wilkinson (Silver Chain), Mr. Hutchinson, Newark (Knife), Mr. A. W. L. Dixon (Fishing Rod), Mr. Slim (Cricket Bat), Mrs. Glanville Brushes), Miss Whittingham (Ping Pong Set), Mr. Bealby, Finchley (Gold Studs), Mr. Mondy (Salt Cellars), Mrs. Sheard (Writing Case), Mr. Horace Mills (Wicker Chair), Mr. Drury (Scent Bottle), Rev. J. S. Wright (Gem Scarf Pin and Case of Razors).

ATHLETIC SPORTS SUBSCRIPTION LIST.

	£	s.	d.
Mr. Ashwell		5	0
Mr. Ames		10	6
Mr. Allfree		5	0
Mr. Attenborough		5	0
Mr. Barnett		5	0
Mr. Barbour		5	0
Mr. Basilico		1	0
Mr. Biddle		5	0
Mr. Blake		2	6
Mr. Blythe		10	0
Mr. Brown		2	6
Mr. Buttrum		10	0
Rev. L. W. Cox		5	0
Mr. Cooper		5	0
Mr. Daft		2	6
Mr. Dalgleish		5	0
Mr. Davies		4	6
Mrs. Drury		2	6
Mr. W. Drury		2	6
Mr. F. A. Dixon,		5	0
Mr. Edmonds		2	6
Mr. Godber		5	0
Mr. Gilbert		3	0
Mr. G. Hallam		10	6
Mr. J. R. Hallam		5	0
Mrs. Heath		10	0
Mr. Hunt		10	0
Mr. Kirkby		2	6
Mr. Kirkland		5	0
Mr. Jamieson		10	6
Mr. F. W. Johnson		10	0
Mr. R. Lee		2	6
Mr. W. Lee		2	6
Canon Lewis		5	0
Mr. Longmore		2	6
Mr. Maltby		5	0
Mr. Metcalfe		5	0
Mr. Merryfield		5	0
Mr. Marriott		2	6
Mr. Merryweather		2	6
Mr. Partington		2	0
Canon Pavey		10	0
Mr. Pyatt		10	0
Mr. Palmer		2	6
Mr. Rooston		2	6
Archdeacon Richardson		10	0
Mr. Rumford		2	6
Mr. Starkey	1	1	0
Mr. Stanley		2	6
Mr. Sail		2	6
Mr. W. Smith		5	0
Mr. Thornton		2	6
Mr. Walley		10	6
Mr. Wall		10	0
Mr. Cyril Warwick		1	0
Mr. J. Wand		2	6
Mr. E. Wand		2	6
Mr. Walton		5	0
Dr. Walker		5	0
Mr. Warwick		5	0
Mr. Wells		2	6
Mr. Webster		5	0
Mr. H. Wilkinson		5	0
Mr. Wilson		5	0
Mr. Wright (Nottingham)		5	0
Mr. Wright (Fiskerton)		5	0
Mr. Vickers		2	6
General Warrand		10	0
	£17	19	6

SPORTS BALANCE SHEET.

Receipts.	£	s.	d.
By List	17	19	6
	£17	19	6

Expenditure.	£	s.	d.
Bills:—			
Bates & Co.	1	5	6
Pearson & Co.	1	2	4
Guy & Co.		10	0
Woodward		8	6
Saxton		2	6
Wilkinson	2	9	0
Whittingham	3	8	0
Ford	2	5	0
Chairs		5	0
Band	2	12	6
Stamps, &c.		6	10
Labour		18	6
Police		3	6
	15	17	2
Balance carried to School Library and Games Club	2	2	4
	£17	19	6

CRICKET MATCHES—1903.

S.G.S. *v.* Mr. J. W. Davies's XI.

May 14th. An Eleven of Old Southwellians, recruited and captained by J. W. Davies, came over from Nottingham to play our opening match of the season. The visitors won the toss and took first innings. Three weeks of continuous rain had left us a sodden wicket, and big scores were out of the question. Nevertheless we did well to dismiss this strong eleven for the very moderate score of 30. Unfortunately, the bad weather had also much curtailed our practice, and, after a very exciting finish, we just failed to reach their score and were beaten by one run.

S.G.S. *v.* Grosvenor School, Nottingham.

May 21st. This match was played on the Forest at Nottingham. Taking first innings our team failed miserably before the bowling of Stevenson and . . . . who dismissed the whole side for 16. The home team proved very difficult to dislodge, and, in spite of the bowling of nearly every member of our eleven, compiled the respectable score of 97. H. Wall, who scored 10 runs and took 3 wickets, was the only player of our eleven to do himself credit.

S.G.S. *v.* Southwell Reserve.

May 24. This match was played in splendid weather on the Town ground. The Reserve won the toss and batted first. They made the moderate score of 24, Mr. Magee taking 5 wickets for 4 runs. The start of our innings was disastrous, as 4 wickets fell for only 2 runs. Mr. Magee played a free innings of 25, and the last wicket fell for 40. We thus won by 16 runs.

S.G.S. *v.* Notts. Chemists.

May 28th. This team, captained by Mr. W. Lee (O.S.), looked at first a lot too good for us; but, winning the toss, our side made themselves safe by knocking ap 100 for 7 wickets and then declaring their innings closed. Mr. Magee (32) and Mr. Wright (28) were our chief scorers. Our opponents compiled 66, of which "Extras," with 15, was top scorer. Three of the side were run out, and a little more judgment in running might have increased their score.

S.G.S. *v.* Nottingham St. John's.

June 4th. We batted first and the innings opened in an exciting manner, Mr. Magee hitting the first ball he received for 4, and following it by scoring 14 in the over. This pace did not last, and the last wicket fell at 53. H. Wall played a very useful innings for 11 not out. In spite of many bowling changes, six members of the team going on to bowl, the St. John's men were not disposed of until stumps were drawn, when they had scored 92 for 7 wickets.

S.G.S. Past and Present *v.* Southwell Club.

June 13th. Two days continued rain effectually prevented any play in this match, and we are sorry that no date was possible for the postponed fixture.

S.G.S. *v.* Grosvenor School, Nottingham.

June 17th. The school batted first, and Ames (19) and Wall (15) were principal scorers in a total of 48. On Grosvenor School going in Drury displayed unexpected deadliness with the ball, and, by taking 6 wickets for 11 runs, had a share in a handsome victory. The whole side were out for 31, and no batsman obtained double figures.

S.G.S. *v.* Kirklington.

June 20th. Played on our ground on one of the best cricketing days of this exceptional season. Having won the toss we took first innings, and made 166 for 6 wickets—the highest score of the year in our matches. Towards this number Mr. Magee, by very free hitting, contributed 131 not out—the first century made for the school since the days of his brother, J. G. R. Magee. It was a very fine punishing innings, and roused the enthusiasm of spectators drawn from the match on the neighbouring town ground. Edmonds stayed with Mr. Magee a long time for 14. On Kirklington going in to bat, the first wicket fell to the second ball of the innings. Then P. Bett and Foster made a stand; and injuries to the bowlers in attempting to hold hot returns from Bett caused a double change. Foster alone offered any resistance to the bowling, and was not out with 34 to his credit. Mr. Glanville took 8 wickets for 28 runs.

The return match was played at Kirklington of July 4th. The ground was of a very rustic character, and short balls bumped dangerously. The School had first innings, but nobody but Mr. Magee (24) made any defence to the bowling of Bartlett (6 wickets) and Woodward (4). The innings closed for 32. This aspect of affairs seemed so much more favourable than in the former match that the Kirklington team went to the wickets with some assurance. They failed again, however, to time Mr. Glanville's bowling. He took 8 wickets, and the side were all out for 23. With a balance of 9 runs in our favour on the first innings we batted again, but failed as completely as our opponents. The total was 25, and no less than five members of the team "bagged a brace." With 35 to get to win, Kirklington began the fourth innings of the match. One wicket fell for 6, two for 28; and then P. Bett and Tipping knocked off the runs.

S.G.S. *v.* Bleasby.

The first match with Bleasby was played at Bleasby on June 27th. The pitch was a great improvement on that of last year, and showed signs of careful preparation. We batted first, but no one got double figures, and the total was only 38. Bleasby opened well, the first wicket falling at 21, six were down for 34, but the total was 49 ere the last man was out. Mr. Magee took 4 wickets for 3 runs, and W. Lee (O.S.), who played for us in place of Mr. Wright, took 5 for 15. "Extras," which totalled 11, probably lost us the match.

The return match was played at Southwell on July 18th. The School, by the aid of Mr. Scott (22 not out), Mr. Wright (14), and Ames (10), totalled 73. Our opponents, however, were not disposed of before they had scored 129 for 7 wickets. E. H. Williams (26), Glazebrook (34), and J. Wild (22), were, with "Mr. Extras" (29), the principal scorers.

S.G.S. *v.* Nottingham High School.

Through an unfortunate misunderstanding as to dates, our first match with the High School at Nottingham fell through. Their team visited us on July 22nd. By the fortune which followed us throughout the season, we won the toss and batted first. Mr. Glanville (25 not out) and Mr. Magee (18) helped our score to the respectable total of 62. In the High School innings Ames took 5 wickets for 17 runs, and 7 wickets were down for 24. Then Bartlett (15) and Holgate (16) by resolute play raised the total to 51, but the effort came too late. No one else made a stand, and the innings closed for 55.

S.G.S. *v.* Ollerton Juniors.

On July 25th the boarders accompanied the team by brake and cycle to Ollerton, to play the junior Eleven of that village. The juniors, helped by some seniors, turned out to be rather too heavy a contract for our boys, and they scored 73; Hayes (22), Greaves (18) and Beaumont (13) reaching double figures. Ames, with 8 wickets for 43, carried off the bowling honours. The School battled poorly in reply, and only succeeded in making 35, Ames again taking the lead with 14.

S.G.S. *v.* Notts. Chemists (return).

The last match of the season was played on the last day of the Summer Term, July 30th. Mr. Magee (18) and Mr. Scott (13 not out) helped us to make 64, in reply to which the Chemists scored 79. Five bowlers were tried, of whom Mr. Scott took 4 wickets at a comparatively cheap rate. The match was lost by poor fielding. Those of the players who made any runs had several lives from benevolent fielders.

In summing up the season's work we must admit that the batting was disappointing, the bowling generally good, and the fielding very uneven.

Catches held, Season 1903.

Wall, 7; Edmonds, 4; Hill, 4; Allfree, 2; Ames, Drury, Rooston, 1 each

THE FOOTBALL SEASON 1903-4.

In spite of the fact that the School Eleven lost more matches than they won, we cannot admit that the season was altogether disastrous. Had we not underrated the strength of teams whom we met for the first time, and placed weak teams in the field against them, the gains would most probably have much exceeded the losses.

The season opened with a match against the Notts. Chemists whom we had already met at cricket. Heavy rains had made the top ground very soft, and our heavier opponents did not find its watery surface quite their element. Only the most dainty on either side succeeded in keeping their feet, and soaked and muddy clothes were the order of the day. At half-time the score was three to two against us, but our forwards managed to score twice more to our opponents once, and we won by four goals to three.

A challenge from Mansfield Grammar School was accepted this year, but we could not accede to their request to play "boys only." In fact our full team found them too strong. In the first match on Lowe's Wong the Mansfield boys won by five goals to three. In the return match at Mansfield, with a weaker team, we managed to lose again by four goals to one.

We played our first match with the Technical School at Mansfield in a dense fog. The goals could be only dimly discerned from the middle of the ground, and that is the reason, we presume, why our forwards could not find them. The Technical School scored eight times, and Ames, breaking away and finding an open goal, scored our solitary point.

The Westhorpe Institute Eleven were too strong a team for our boys' eleven. The school played pluckily, and were unlucky to be beaten by two goals to one in the first match. In the return match our forwards failed to take advantage of a hurricane behind them in the first half, and crossing over saw the Institute pile up a score of seven goals to one.

In the return match with the Technical School the visiting team came a man short, and in consequence one master played on each side. This stiffening of our side by the inclusion of Mr. Magee gained for us a drawn game with our sturdy opponents.

The Nottingham High School Second Eleven were well beaten in both matches: by five goals to three at Nottingham, and by four goals to one on Lowe's Wong.

The Eleven was seriously crippled at Christmas by the loss of H. Ames and H. Edmonds. Edmonds had been one or our most reliable players for three seasons. The places of these two were filled by R. Longmore and C. Hall, who would have been of more use to us if they had practised more regularly.

MATCHES PLAYED: 9.

Against.	Result.	GOALS. For.	Against.
Notts. Chemists	Won	4	3
Mansfield Grammar School	Lost	3	5
,, ,, ,, (away)	Lost	3	4
Mansfield Technical School	Lost	1	8
,, ,, ,,	Drawn	4	4
Nottingham High School	Won	5	3
,, ,, ,,	Won	4	1

SUMMARY.

Matches played	9
,, won	3
,, lost	5
,, drawn	1
Goals scored: For	24
,, ,, Against	28

OLD BOYS' COLUMN.

J. Godber continues his successful career at the Royal Veterinary College, having obtained Silver Medals for Chemistry, Anatomy and Botany in the Annual Examination.

Rev. J. Massingberd Teale sends his Year Book, from which we gather he is doing good work as Rector of Geraldton, Queensland.

Harold F. Sanders receives the good wishes of us all on the occasion of his marriage with Miss S. Bryce Lang, daughter of the Town Clerk of Leith, which took place on April 2nd. Mr. Sanders now holds an appointment in Newcastle.

Mr. W. T. Wright, A.R.C.O., was presented, on December 10th, by the congregation of St. Leonard's with a cheque on his departure to become the Organist of Newark Parish Church. Rev. E. Spanton, in making the presentation, expressed gratitude for the work done by both Mr. and Mrs. Wright; while the Vicar of Newark, in the *Parish Magazine*, expressed his satisfaction that they had secured so able a musician as their Organist.

Eric Bertram Hibbert is congratulated on his admission as a solicitor of the Supreme Court. Mr. Hibbert is now in partnership with his father at Mansfield.

As we go to press the following news reaches us:—Madame Vve. C. Fleury, Monsieur and Madame Georges Fleury ont l'honneur de vous faire part du mariage de leur petit fils et fils Monsieur Alexis Fleury, avec Mademoiselle Cecile Dubois. Those Old Boys who remember Alexis Fleury will wish him every happiness. His address is 28, rue du Sentier, Paris.

OBITUARY.

On Sunday, February 1st, Arthur Chambers, the youngest of the Choristers, died of Tubercular Meningitis.

A MIDNIGHT FEAST.

THE window was shaded, not a sound was heard,
As the Food to the bedside we carried:
Not loudly did we utter a single word,
While at the bedside we tarried.

We laid it out quickly at dead of night,
Our sheets into table-cloths turning,
By a Christmas candle's feeble light,
And a night light dimly burning.

No useless trifles encumbered our Feast—
Neither Bread nor Water we tasted;
But the Raspberry Jam, and the Buns that were greased
Were eaten, and nothing was wasted.

We thought, as the Ginger-beer poured o'er the bed,
And the Jam lay in lumps on the pillow,
That the morrow would see us arraigned by the "Head,"
And probably whacked with a — willow.

A BOARDER.

LEAVING SCHOOL.

Nottingham,
April 15th, 1904.

Dear Sir,

Perhaps you will not regard a few lines on the above subject as inappropriate for insertion in our Magazine. I have wondered why our Grammar Schools and other schools are filled with boys so much younger and smaller than used to be the case some years ago. Is it because there has been such an improvement in the methods of imparting instruction that a boy has learnt all that is necessary by the time that he has reached the age of 13 or 14? I think not. Indeed, if there has been such a marked advance in the general level of education, it is all the more necessary that a boy who attends a Grammar School should himself participate in this advance, so as to be able to control those who may be under his direction in the future. Moreover, it is well known that up to the age I have named, the foundations of an education are being laid, and it is during the next three or four years that real progress is made. Well! if this is so, why do parents thus cut short their sons' education? I do not think it is always the parents who do so. Very often the boy himself, with his immature knowledge of the world and what is needed, has too much influence in deciding this important question. He hears that Tom Brown is going to leave next Term (and frequently he knows nothing about it), and so he wants to do the same. So he tells his parents that Tom Brown, who is not so high in school as himself, is going to business, and he would like to go too; and he is so persistent

in his requests that at last his parents, with mistaken kindness, consent.

Perhaps a particular example will carry more weight than a mere statement of opinion: so I give my own experience. When I had been at school three or four years, and had meanwhile worked up to Class I, two or three of my schoolfellows said they were leaving at the end of the Term; so, when the holidays arrived, I had become firmly convinced that I must leave too, and on reaching home asked my parents' consent. They would not hear of it, but I was continually recurring to the matter, and at last my parents very unwillingly consented. When my mother told my schoolmaster at the beginning of the Term, I remember he at once asked what I was going to do. Ah! I had never thought of that. He strongly advised that I should stay at least one Term beyond the end of that one, in order to take the College of Preceptors' Examination: but I would not take good advice; and, at the end of the Term, bade adieu to my old school. As nothing had been decided with regard to my future, I was kept at home for more than a year helping in the business, and then I decided that I should like to be a chemist. I was apprenticed at Newark, but soon found that I had a Preliminary Examination to pass, from which the College of Preceptors' Examination would have exempted me if I had passed it at school. I found studying in the evening, after business hours, a very different matter from working at school, where everything is arranged to help one; however at last I succeeded in passing both that and my qualifying examination; but my refusing to stay at school long enough to pass the Prelininary Examination has been the cause of considerable pecuniary loss to me. Not only was there the expense of coaching for my Examination, but there was also the loss of money I might have earned if I had not been delayed in passing my Qualifying Examination by the necessity of working for the Preliminary.

In conclusion, I hope that the narrative of my experience may save some from a similar mistake, and induce them to prolong their schooldays (which are far happier than we think at the time), so that they may be qualified to get to the top of the ladder in their own particular calling.

Yours, etc.,

W. LEE, M.P.S.

[Our correspondent's remarks about the size of school-boys now are those usually made by Old Boys. They used to be made in his time. He forgets that he looks down on his successors from a height rendered dignified by the addition of several inches since he left school. Nevertheless it is to be hoped that his letter will avail to prevent some from neglecting opportunities of studying subjects which they at a later time find requisite. His experience is proof of the truth of Mr. Bryan's remarks quoted elsewhere.

Ed. of "The Southwellian."]

by R. Barbour M.A.

THE ROYAL GUNPOWDER FACTORY.

A WALK round the Royal Gunpowder Factory for sight-seeing purposes would tire you out; and you would be equally tired if you were to read through an adequate description of it. In this article, therefore, I shall confine myself to sketching mere outlines in the hope of retaining your interest, and of omitting details which would proved dry as dust to you.

Picture a great flat expanse of marsh, such as you have in the Fen district of Lincolnshire, flanked by rising ground which runs north and south. The marsh is comparatively bare of trees, but the hill sides are well wooded, and indeed the eastern ridge forms a portion of the far-famed Epping Forest. It is at the foot of this ridge and running parallel to it that the Royal Gunpowder Factory lies. Scattered across the valley are the old-world townships of Waltham Abbey, Waltham Cross and Cheshunt; the road leading from the Abbey to the Eleanor Cross divides the Factory into two portions. You remember the Battle of Senlac? And you have heard of Queen Eleanor's stately funeral, and of the crosses which were erected to mark those spots at which a halt was made. Waltham Abbey holds the mortal remains of King Harold, and Waltham Cross is one of Queen Eleanor's memorial crosses. The Abbey, of which the Waltham people are very proud, is a fine building with a beautiful Norman interior, and, though not so fine as Southwell Minster, possesses a charm all its own in the way it stands sturdily upright in its old age and tells us something of its long and interesting career by showing the scars and furrows, the holes and cracks, which any respectably constituted Britisher, be he man or building, shows after many strenuous years.

The countryside has numerous associations with great men who are dead and gone. Hazlitt, Lamb, Fox, Tom Hood and Tennyson, not to mention Anthony Trollope, have all been connected more or less remotely with this Lea Valley, and Izaak Walton loved it for a reason which is obvious. There are many fish still in the Lea, and its banks are thronged with disciples of Walton in the summer time. John Walton, Izaak's brother, once owned the site of the Royal Gunpowder Factory, and his name is engraved on the sun-dial which stands before the superintendent's office.

The Factory itself is four miles long, and is as unlike your conception of a factory as it can possibly be. A factory in the woods, a factory through which the rabbits scamper in broad daylight, where the cry of the cock-pheasant sounds shrilly in the stillness, where the growth of tree and shrub and bracken hides teeming multitudes of winged and crawling and creeping things; a factory traversed by asphalt walks, seamed and cross-stitched with numerous canals, having in its very midst meandering streams and long vistas of beautifully typical English woodland.

Scattered throughout it, away among the trees, are the danger buildings, some of them surrounded by enormous traverses or mounds of earth. In other places there are clearings where the clank of machinery is heard and clouds of steam issue from a score of pipes, or elsewhere again the atmosphere is pungent with those smells which are generally denoted chemical. There are many evidences of activity, but the scene as viewed from a distance is singularly calm and peaceful. To one who knows the tremendous forces which lie sleeping in that belt of picturesque plantation there is something incongruous and yet fascinating about the place.

Sometimes, without a moment's warning, the countryside is shaken with terrific force, and in a trice the women of Waltham are at the Factory gates waiting in dread suspense for news from within. Happily these sad scenes are rare now, but the last explosion, or "blow" as it is termed, occurred as recently as December, 1902. An incorporating house in the northern section was obliterated, and three valuable lives were lost. The writer happened to be in the southern half of the Factory at the time. The day was clear, bright and sunshiny, the place was looking exceedingly well, it was a day on which one felt it was good to be alive. Looking northwards from Quinton Hill one could see the whole Lea Valley basking sleepily in the sun. Suddenly there was a puff of vapour, a cloud of dust and hurtling débris and simultaneously a loud report. In a minute everything was calm and peaceful again. The sun still shone on the sleepy township and the quiet valley—but over there men were busy saving men from death, and the roll was being called. The Factory had once more taken toll of its workmen.

Every conceivable precaution is taken to prevent accidents, and a most elaborate system of searching is in force. The machinery and plant are frequently examined in order that undesirable features may be detected, and have to be certified "safe and in working order" before a new shift of workmen begins operations.

The articles allowed to be used in each building are simply such as are absolutely necessary, and are constructed of such material and in such a way that their use is attended with the minimum of risk. No grit or dirt can find its way into the Danger Buildings. An arrangement known as the "Clean Barrier" ensures this. To prevent the accidental entrance of particles of grit into the covered boats used for carrying explosives, no one is allowed to cross a bridge under which such a boat is passing.

For nitroglycerine manufacture the best workmen available are chosen. They must be steady, reliable, intelligent and quick to do the right thing, without waiting for orders, when unusual circumstances arise. They receive a higher wage than all the other workmen.

A body of men known as "Danger Building Visitors" are employed in continually going the round of the Factory, inspecting buildings, watching workmen, and noting and reporting all irregularities and possible sources of danger. These men have the right to search any workman.

Then there is a large police force kept always patrolling the paths of the Factory and in charge of all the entrances. They search the men as they come to work and search them again when they leave for home. The possession of a single match, a pipe, tobacco or anything of the sort, ensures a man's being instantly dismissed.

No habitual drunkard can hope to retain his employment here even if he come sober to work, and no intoxicating liquors can pass inside the gate. And in addition to these precautions there are warders stationed in little huts at the entrance to each danger-area who likewise search workmen on their way to and from the dining-rooms, and relieve strange visitors of their coins, keys, knives, or other metallic possessions. They see that the men have no pockets in their clothes, that their trouser legs are not turned up at the bottom, and that their shirt buttons are made of bone. The clothes worn by the men while at work are supplied by the Government, and are made of blue serge. Their special peculiarity is their lack of either pockets or buttons, the place of the latter being taken by blue tape-strings.

These are the main outlines of the scheme of prevention. There is no cure known for stopping an explosion which has once started, but a most excellent fire brigade, in charge of some old sailors, aided by a fine system of periodical fire drills among the men, serves to extinguish fires following explosions, and confines the disaster to as narrow limits as possible. A well-equipped little hospital, with a resident nurse in charge, has done splendid work for the unfortunate victims of accidents.

The explosives made in the Factory consist almost entirely of the modern "high" type. The old black gunpowder is being made in gradually diminishing quantities, so we shall not say much about it here. You all know that it is a mixture, and that the components of the mixture are charcoal or carbon, saltpetre and sulphur—two oxidizable and one oxidizing. Its manufacture is most interesting, and in many respects very dangerous, but cordite has supplanted it as the service explosive, so we shall confine our attention to this.

Some Southwell Grammar School boys do as much work in a given time as any three or four of their class mates—though such very marked pre-eminence is oftenest shown on the football field. And some explosives are very much more powerful than others. Cordite, for instance, is much stronger than gunpowder. Again, it is practically smokeless, and shows no sign of deterioration under the varied climatic conditions to which the British service subjects it. In appearance it resembles string or cord or vermicelli, cut into strands of various lengths, though for big guns the diameter of the sticks may be as much as half-an-inch.

These sticks look like moulded sugar-toffee, but they are neither palatable nor nourishing.

Cordite, like gunpowder, is a mixture, the constituents being nitroglycerine, guncotton and mineral jelly or vaseline; in this case, however, the nitroglycerine and guncotton, which together form ninety-five per cent. by weight of the finished cordite, are chemical compounds containing oxidizing and oxidizable matter in a much more intimate degree of mutual proximity than is possible with a mere mechanical mixture.

Mineral jelly is simply a form of vaseline or semi-solid hydrocarbon, obtained from crude petroleum, and is supplied to the Factory from outside sources. Cordite contains five per cent. by weight of mineral jelly; its function is more than that of a mere diluent, but the question need not be enlarged upon here.

Nitroglycerine is an oily liquid which does not mix with water, is very sensitive to shock, and in the preparation of which extreme care is required. All the operations are conducted in a group of buildings known as a "nitroglycerine hill." As you can imagine, the less this compound is handled or carried about, the better for all concerned; so when the first stage of its manufacture is completed, the nitration, separation and preliminary washing, it is allowed to flow down channels to another building which stands on a lower level than the first. In this second building the nitroglycerine is subjected to repeated washings with solution of carbonate of soda, in order to eliminate traces of acids and unstable compounds, then with water. After being thoroughly washed and stabilized (the washing liquids are frequently changed by the way), the nitroglycerine is filtered, measured out in fixed quantities, and poured into special bags containing dry guncotton. The bags are carried to the Mixing House, where the paste is well kneaded by hand and rubbed through a coarse sieve. Thus assurance is made doubly sure that no foreign bodies are present which would prove dangerous in subsequent operations. The paste is then taken by boat to the cordite mills.

The aspect of the inside of the nitroglycerine buildings would inspire you with awe. As you approach "The Hill" the warder's request for all articles of a metallic nature, the sight of the enormous traverses and the red flag fluttering about the nitrating house, convey to your mind a vague impression of insecurity. But to enter a house by a long tunnel, to see the huge vessels, each with a still larger "drowning tank" beneath, to see men solemnly and quietly, and very very carefully noting temperatures as they turn on the taps controlling the compressed air, or glycerine, or soda solution or water supplies; above all, to see a mass of nitroglycerine weighing half-a-ton swirling and seething as it is churned round and round with water, &c., by the air-supply, and knowing something of the force which five grains can exert, is to ensure your feeling decidedly uncomfortable. Possibly, you think of queer things sometimes, you recall

Virgil's lines on the process of returning from Hades, having once got in, and the phrase *superasque evadere ad auras* strikes you by force of contrast as being quite inaptly described as a toilsome process in this age of high culture.

Briefly, the simple process is as follows—I mean the manufacture of nitroglycerine. Glycerine, of a high degree of purity, is sprayed into a large bulk of mixed acids, kept well cooled, and constantly stirred in a vessel called the nitrator. The cooling and stirring are necessary to prevent local heating, which is dangerous. The mixed acids contain about 33 per cent. of nitric acid and 62 per cent. of sulphuric acid. The nitric acid combines with the glycerine to form nitroglycerine, and the sulphuric acid simply takes up the water which is formed at the same time, and which, if sulphuric acid were absent, would retard the process considerably.

A man sits watching the thermometer, which at the point marked 22°c. has a conspicuous red mark across it. The temperature of the mixture must on no account rise above this point. When it approaches 22°c. the man in charge checks the glycerine supply until the mixture has cooled. If the temperature still rises, or if red fumes appear the glycerine supply is again checked and the compressed air supply is increased. If this effects no improvement the whole charge is run into the drowning tank, which contains a large bulk of water, and the men leave the building precipitately. This happens very rarely indeed.

We shall suppose that the charge has been successfully nitrated. A cock at the bottom of the nitrator is now opened and the charge is run into "the separator." This is simply a very large and specially-shaped funnel. In the course of about half-an-hour the nitroglycerine separates from the mixed acids and forms a layer above them. The acids are run off beneath, and go to the "after-separating" house. The nitroglycerine is run into the preliminary washing tank, which stands at a slightly lower elevation. It is now given a washing with water, and then leaves the building by the channels before mentioned for the washing house. Here it receives several washings with carbonate of soda solution, and afterwards a final washing with water. It should now be free from acid, and if so, is filtered to free from moisture and measured into the bags containing guncotton.

Guncotton.

The manufacture of guncotton is a long and complicated process, which cannot be described in detail here. As its name denotes, guncotton is made from cotton. Cotton waste from the spinning mills is dipped for some time in a mixture of nitric and sulphuric acids. The reaction which takes place is quite similar to that which we saw took place in the manufacture of nitroglycerine, only in this case we get nitro-cellulose, or, as it is usually termed, guncotton. This is taken from the mixed acids

and wrung in a centrifugal machine. It is then plunged into a large bulk of water and again wrung in another centrifugal machine, whence it is sent to the boiling house. Here it is boiled in large vats, with frequent changes of water, until it reaches a high degree of stability. It then leaves the boiling house and is reduced to a fine state of division in beating machines, such as are used for making paper pulp. After it is pulped it is digested and washed, with constant stirring, in large machines called "poachers." The water having been drawn off, the wet powdered guncotton is transferred to a large chest standing a considerable height above the ground, whence it is drawn off into moulds and treated to great pressure by means of hydraulic presses. That guncotton which is required for the manufacture of cordite is sent in the form of cylinders to the stoves to be dried. The remaining portion is subjected to very great pressure, assumes the form of slabs or cylinders, is packed wet and sent to Woolwich in boxes, where the slabs are built up to make the charges for torpedoes or mines.

Let us follow the cylinders to be used for making cordite. They are packed in boxes, placed on trucks or boats and taken to the stove, which is a building surrounded by a very heavy traverse. The men take off their boots in the porch and perambulate in their stocking feet on the metal-lined floor. They take the cylinders out of the boxes and place them on racks. When the racks are full the door is closed, and a blast of warm air, conducted from a distance through pipes, is injected into the building through a number of orifices. Thus the moisture in the cylinders is gradually driven off and the guncotton is ultimately dry. Dry guncotton is extremely dangerous to work with. It is easily electrified, is sensitive to shock and friction, and if not perfectly stabilized is apt to undergo change at moderately high temperatures. Obviously it is more sensitive when hot than cold. With great care then fixed quantities are weighed out in the porch of the stove into waterproofed bags, being crumbled by hand as they are transferred to the bag. The bags of dry guncotton are then taken in a covered boat to "The Hill" where, as we have seen, the nitroglycerine is added to the guncotton. After mixing, the material is known as Cordite Paste.

Cordite.

The paste is now taken to the cordite mills, which are divided into detached groups. It is first transferred to an incorporating machine, together with a certain amount of the organic solvent acetone. Acetone changes the mass into a jelly. Incorporation or mixing goes on without interruption, except for the further addition of mineral jelly and acetone, until a perfectly homogeneous, gelatinous mass is obtained. This is placed in a cylinder, open at one end and having a hole of a given size in the bottom. The gelatinous mass is forced through this hole by means of hydraulic pressure, and issues as a continuous brown cord, which is either wound on reels or cut into given lengths

and sent to the cordite stoves to be dried. These stoves are buildings heated by means of steam pipes, and in them the acetone is gradually driven off, and the finished cordite remains ready for use. Acetone is a very expensive liquid, and until recently was completely lost on evaporating off in the cordite stoves. It could not be recovered by simple condensation owing to the small percentage present in the stove atmosphere at any given time. But a process has now been devised by two of the Factory Chemists by means of which it is nearly all cheaply recovered, and is then used again for making a fresh batch of cordite.

There are various Chemical Laboratories in the Factory in which the innumerable tests, necessary at every stage of the manufacture of explosives, are arrived at. All raw materials used in the Factory are examined and reported on by the Chemical Staff. The Main or Central Laboratory is, for the most part, devoted to research bearing on the manufactures, and is very well equipped.

There are three nitric acid factories, plant for the recovery of nitric acid from waste acid, and two large Kessler installations for concentrating sulphuric acid.

In the explosives section there are two nitroglycerine hills, a guncotton factory, a gunpowder factory, and an experimental department. All the plumbing work is carried out by a most efficient staff of craftsmen, and the machinery branch is a big department in itself. The Factory also possesses a gasworks and several electric light stations. Electric current will shortly find extensive use for power purposes also.

I hope I have not wearied you by those details I have given you—I have suppressed many more than I have given; I hope, on the other hand, that I have succeeded in interesting some of you, and in conveying to you all a faint idea of the important bearing which science (and that includes a lot) has upon the welfare of your country's industries.