PREFACE.

VERY little apology we trust is necessary for the appearance of this indication of our life as a School. At any rate, on the principle of "qui s'excuse s'accuse," we shall abstain from much speaking on the point.

Every healthy body pre-supposes a voice. We hope we have firmly established our existence as a vigorous corporate body. The ELIZABETHAN will be our voice. It will make itself heard in various ways:—

1. It will from term to term chronicle the manifold events which go to make up the exuberant life of a schoolboy. These events, though trivial to the grown-up world, are not so to us; nor, rightly deemed, should they be to anyone. "The child is father to the man"; and many a man can point to some definite event in his schoolboy life as having made a lasting mark on his character. To preserve for Barnet boys a permanent record of many such events, is a main object of the ELIZABETHAN.

2. In a growing community wants many and various must ever be arising which can only take definite shape under the wear and tear of every-day life. To make such wants known and to discuss the best means of supplying them our voice will from time to time make itself heard.

3. We confidently expect that now and then some Barnet boy, present or past, will inhale the divine "afflatus" of the Muses, under which he will long for deliverance in original composition in prose or verse. For such utterances the columns of the ELIZABETHAN will provide a natural channel.

4. Finally, we trust that we have to look forward to a long roll of successes achieved and victories won by Barnet boys, both in the world of school and in the world at large. Of such heroes, though the trumpet of fame proclaim not their names, there will always be a grateful record in the pages of the ELIZABETHAN and a fitting shrine in the loving memories of their old schoolfellows. And so we trust that heroic deeds however humble may not altogether perish "carent quia vate sacro."

QUEEN ELIZABETH'S SCHOOL,
October, 1876.

"Reading maketh a full man; Conference a ready man; and writing an exact man."—BACON.

THE Elizabethan.

ORIGINES BARNETIENSES.

(I.)

Some account of our start into a fresh lease of life will not be out of place in the present number of the *Elizabethan;* we hope in future numbers to summon up from time to time the ghosts of our former selves and to make them tell us how that, in bygone times, the sixth form wore knee breeches and wigs, and how that they were obliged under pains and penalties duly set forth in statutes and ordinances to speak nothing but Latin within the school precincts. Have we not a survival of this custom of speaking Latin in the considerable number of words still in daily use among us such as *quis? ego, sum, cave, præfect,* etc.

Leaving however for the present our connexion with the past and the great historical interest that attaches to it, and saying nothing about the spirit of honourable pride and emulation which it engenders, we will give some account of the events which

preceded and accompanied the re-opening of the Grammar School, merely premising that in altering the school buildings themselves not a single relic of the olden time has been displaced, not even the bricks on which departed scholars have, at the cost of many a pocket knife perhaps, engraved their initials. Although the walls have been freshened up a little they are substantially and actually the same as they were three hundred years ago.

The school was founded under Queen Elizabeth in 1573 and when the Schools Enquiry Commissioners visited it in 1866 though it was doing in its sphere a good work it was found that like many other schools it had not kept pace with the times for want of money. In 1868 the visitors of Jesus Hospital were debating what could best be done with their surplus. Jesus Hospital we should state was founded in Barnet by JAMES RAVENSCROFT in the reign of CHARLES II. for the support of six poor sisters. The hospital property situated in Bethnal Green had for many years produced about sufficient for the sisters, but its rents had then reached about £1200 a year. The Endowed Schools Act gave powers to the Grammar School to take out of this £5000 for building purposes and a further annual endowment. The governors then procured the royal assent to the transfer and to the new school scheme. This was obtained in July 1873 and the formal opening of the school took place on Saturday, April the 25th, 1875, the interval being

occupied by the building of the new class-rooms and master's house. The hall was well filled. The chairman of the Governors, H. E. CHETWYND-STAPYLTON, Esq. M.A. J.P. presided. The Rector of Barnet having opened with prayer, the Rev. F. C. CASS, M.A. Rector of Monken Hadley, one of the Governors, gave a rapid and interesting sketch of the past history of the school. The chairman then traced the history of the new school scheme which he said was fortunately "a very "elastic one, and would allow them to keep pace "with the age and to make whatever alterations "might be necessary." In the course of his speech he explained the use of the "whipping post," from the vivid recollection of one who had had part of his education based on it. He told his audience how in days past one of the oldest inhabitants of Barnet had when a boy been taken up by the legs and arms by four of his fellows and then brought into somewhat sharp contact with the post. But the whipping post is for the present a whipping post only in name. As, however, we find we have already overpassed the space allotted to us we must postpone farther remarks to the next number of the *Elizabethan*.

FASTI.

Speech Day.—Our first Speech Day was on Saturday, July 29th. The chair was taken at 4 p.m. by the Head Master, who was supported on the platform by the Assistant Masters and a goodly number of the Governors. The body of the Hall was well filled by the parents and friends of the boys and other invited guests. It is to be regretted that the invitations could not have been spread over a wider field; but the walls of the Hall not being elastic this is for the present impossible. We hope however at no distant day when the School has more nearly approached its expected size to see this defect remedied by the erection of a suitable "Big School" or "Theatre" in which there will be ample room not only for the boys and their friends, but for many a visitor from all the country-side.

Meanwhile we try to make the best of our picturesque old Tudor Hall and on Speech Day it presented a pretty sight.

The spectator on entering found on the wall facing him the device *Floreat Schola Barnetiensis;* opposite this on the minstrels' gallery was the School motto *Reginæ erunt nutrices tuæ* so appro-

priate to a Royal and Ancient Foundation like ours which was founded under the "Virgin Queen," and which has sprung up into new vigour *regnante Victoria.* The School Choir conducted by MR. WHITMORE opened with the Winchester Domum. EDWARDS gave the first "Speech"—the address of King Henry V. to his soldiers on the eve of the battle of Agincourt (Shakspere's Henry V., iv. 3). He was perhaps a little nervous at the outset, but due consideration must be had for his trying position as the first "Speaker" the School had seen, at any rate under the new régime. As he proceeded he seemed to catch the spirit of the passage and was duly applauded. MITCHELL mi. then gave an extract from Goldsmith's "Deserted Village." The Choir followed, giving the part-song, "Raise again the bold refrain" (Russian melody) with much spirit and precision. We next had a successful rendering of a German "Speech," "Der alte Krieger" by MITCHELL ma. The popular old English Ballad "The Miller of the Dee" was next given by RITCHIE. The charming little song, "Why do summer roses fade" was then sung by HERRING. SPICER then gave us Dido's speech to Æneas, from Virgil's Fourth Æneid. The Choir then sang Schumann's "Happy peasants" which opens and concludes with the air in the bass which was effectively brought out by MILNE ma. who presided at the harmonium. Then followed WATCHURST, who was quite at home in his part

of Casabianca. But the "Speech" of the day was the dialogue between M. Jourdain and the Maître de Philosophie from Molière's Bourgeois Act ii., Scene 6, which was rendered with great humour by SPICER and MITCHELL ma., the enunciation and pronunciation of the latter being very good, while SPICER brought out the gradual interest the Bourgeois takes in his studies as their full force begins to dawn on his mind. This interest reaches a climax in his "Ah l'habile homme que vous êtes, et que j'ai perdu de temps."

After the music and "Speeches" were over, the Head Master rose and thanked the company for their presence. He said it was right that people should show their interest in education not by talk merely which was often mischievous but by hearty and genuine support of those who had devoted their lives to the work. For education was not a matter for schoolmasters and boys only but for all the world. He then spoke of the steady advance which the School had made since it was opened in May 1875. During the four terms which had elapsed since that time 117 boys had been entered. The class rooms were now full, and the Governors were accordingly about to erect more. Acting on a well recognised maxim of political economy, that supply creates demand as well as demand supply, they were going to provide the neighbourhood with much more accommodation for Education. And, lookin_ to the result of

the past year, he thought they were amply justified. When he came to Barnet he came with the full intention that the work of the School should be thorough from the top to the bottom, that there should be no single boy overlooked, that the School should not devote its energies to producing a few show boys while the others had been neglected. This was a thing which he most strongly reprobated. And he was anxious to impress upon those present the great advantage which a Public School like theirs had in this respect over private schools. This was a point which perhaps above all others they should carry away from this their first annual gathering. There was now revived in their midst a School which by its very character as a Public Endowed School secured independent and conscientious work without any temptation to serve private ends. And this security was redoubled here by the character of the Examination to which the School was subjected. There had been and would be no sending of picked boys to certain centres of examination to show how successfully a few could be crammed. But the whole School had been examined in all the branches of its work by an Examiner sent by the Oxford Examining Board. And the Examiner's Report justified him in believing that the general aim of the School had been so far attained. He might be allowed to anticipate the reading of the Report as a whole by quoting one sentence which bore on this point,

"What struck me most," said the Examiner, "in the whole examination was the very small number of boys whose work could be called a failure, and the high average of marks obtained in nearly every subject." This was an end which he (the Head Master) thought most desirable for a School to aim at; and he thought he might be pardoned for congratulating himself and the whole School upon having attained it. And he wished most emphatically to thank all his colleagues for the able and conscientious way in which they had seconded all his efforts.

But it would not be right to let them go away under the impression that he had no other side of the picture to present. There were one or two points which had been forced upon his notice during the past year with which he was not satisfied.

And first he would call attention to what he considered the low standard of knowledge of the Holy Scriptures which he found throughout the School. It was true that the Examiner had expressed himself satisfied with the Divinity papers, but he himself should not feel satisfied until a very great advance had been made in this most important subject. And when they considered the vast importance of it, he felt sure parents would pardon him when he said that a great deal of the failure which he regretted must be owing to previous training. He would there-

fore most earnestly and seriously impress upon them the necessity of furthering at home the efforts of the School in this matter. For a boy who was only taught, as was the fashion now-a-days in many quarters, to abstain from vice merely as being degrading to his own moral nature or offensive to society would, when a season of great temptation came, be certain to fall away; for he had no ultimate standard to which to refer his actions. Not so with the boy who had learnt to do right because he was thereby pleasing his Heavenly Father and because he was thereby acting up to his Christian calling. Such a boy would have his principles founded on a rock, and under temptation could be trusted to remain firm and immovable. Let them, then, give more earnest and diligent attention to the study of Holy Scripture.

Another point in which he felt the School was not just now presenting to the world a right view of education he must notice before he sat down. For education was not merely learning this that and the other for the purpose of getting money by it; rather it was the drawing out and cultivation of the faculties which God had given. The best education then was that which employed the best means of training a boy's powers so as to ensure the most vigorous grasp of his calling in after life. And chief among these means, as the experience of all great teachers had testified,

was the study of Greek. No language in the world could equal Greek in its logical qualities, in its forms of construction, in its power of delicate expression. Unfortunately, through one of those unreasoning prejudices by which the popular mind was so often swayed, the study of Greek had for a time fallen into disrepute; and this prejudice was reflected in this school by groundless objections to the study of the language. It was said that Greek was no good now because it did not pay. This was a view of education which at the outset he (the Master) must most strongly repudiate. Man was surely made for something nobler than for getting money. But even on these unworthy grounds the objection was suicidal. Greek could and did "pay," and now-a-days perhaps more than ever. For not only did the study of Greek contribute most largely to a general knowledge of English, but in the special department of science —now so widely cultivated—a knowledge of Greek was indispensable for a right understanding of the very terminology. Almost every scientific word was derived from Greek. On these grounds he felt most strongly that a boy who did not learn Greek was but receiving a mutilated education after all; and he was unwilling to compromise his reputation as a teacher by allowing the world to suppose that he professed to give a sound education without it. He looked forward with confidence to the time when the false views now prevailing would be corrected.

The Head Master then read the following list of School Exhibitioners and of boys who had passed the Science and Art Examinations :—

School Exhibitioners.—From boys already in the School. Upper School: Sutton, ma. From outside candidates—Upper School: Golding from New Barnet School. Lower School: Honeybourne from Fryern Barnet School.

Science and Art Examinations, under the direction of the Education Committee of the Privy Council. *Physical Geography*, Examiner Professor Ansted M.A. F.R.S. Class I. Milne, ma., Spicer (these receive Queen's Prizes). Class II. Beattie ma., Cotton, Cross ma., Cull, Currie, Dale, Edwards, Ranken ma., Ritchie, Samuels ma. Samuels mi., Seaman, Stewart, ma. (these receive certificates of honour). *Pure Mathematics*, Examiners C. A. Merrifield, Esq. F.R.S., E. Savage, Esq. M.A. Class I. Beattie ma., Dale, Samuels mi., Spicer (these receive Queen's Prizes). Class II. Cotton, Cross ma., Cull, French ma., Milne ma., Stewart ma. (these receive certificates of honour). N.B.—The boys in each class are arranged in alphabetical order.

The Head Master then distributed the prizes as follows complimenting in turn each of the recipients upon the industry he had displayed during the term :—

1. English History Prizes, given by H. E. C. Stapylton, Esq., Chairman of the Governors—
   - Prize open to the School .. Spicer.
   - Prize for Boys under 13 Sutton ma.

2. Head Master's Divinity Prizes—
   - Prize open to the School .. Beattie ma.
   - Prize for Boys under 13 .. Hart.

3. English Literature Prizes—
   - Form III. .. .. .. Spicer.
   - Form II. .. .. Dale.
   - Form I. and Lower School .. Sutton ma.

4. Mathematics—
   - First Prize .. .. Spicer.
   - Second Prize .. .. .. Milne ma.

5. Arithmetic Prizes—
   - Prize open to the School .. Spicer.
   - Prize for Boys under 13. .. Seaman.

6. Head Master's Prizes for Christmas Holiday Work (Physical Geography)—
   - Prize open to the School.. .. Spicer.
   - Prize for Boys under 13 .. Samuels mi.

7. Class Prizes, for Divinity, Latin, French, and English subjects generally as taught by the Form Master—
   - Form III. .. .. { Spicer (i.) / Beattie ma. (ii.)
   - Form II. .. .. .. { Dale (i.) / McDonald (ii.)
   - Form I. .. .. { Hildebrand (i.) / Sutton (ii.)
   - Lower School .. { Fram (i.) Shenton (ii.) / Langdale (iii.)

8. Greek .. .. .. Stewart ma.

9. German .. .. { Mitchell ma. (i.) / Huggins (ii.)

The Rev. R. R. Hutton then read the Report of the Examiner, and the proceedings closed by a vote of thanks to the Head Master proposed by the Rev. F. C. Cass.

The Cricket Field.—We got into our new field last term. It is a little over six acres and is very level, and as nothing but hay has been grown in it for generations the turf is magnificent. Much has still to be done to the ground before it can be regarded as being in a satisfactory condition. We have only made a beginning so far in getting things straight, our more immediate wants are a lawn mower and a field roller. We hope to be able this winter to prepare a pitch of about six hundred square yards for the First Eleven, and to get practice grounds in condition for all three Elevens.

We are very sorry that we are prevented through want of space from giving one of the Third Eleven matches in which much spirit and good play was shewn, the bowling of Newth min. proving particularly destructive. We think that several boys in this eleven deserve much credit for the energy and organizing spirit they have displayed. With a field such as ours and with vigorous players we look forward to long scores next summer. We will now give an account of some of our more important matches.

OFFICERS 2ND ROYAL MIDDLESEX MILITIA RIFLES *v.* B. G. S.
Played in the School Field.

First Innings.

Sergt. Ford, b. Mr. Whitmore	0
Pt. Messam, c. & b. Mr. Whitmore	0
Pt. Bassam, c. Cotton, b. Mr. Whitmore	4
Lt. Boultbee, b Dale	6
Lt. Richards, b. Dale	34
Pt. Bird, b Dale	6
Capt. Hussey, b. Mr. Whitmore	5
Lt. Sedgwick, b. Mr. Whitmore	0
Lt. Schreiber, b. Dale	8
Lt. Jackson, b. Mr. Whitmore	3
Lt. Hughes not out	13
Extras	23
	102

First Innings of School.		*Second Innings.*	
Mr. Whitmore, b. Ford	0	l. b. w.	1
Mr. Stevens, b. Ford ..	0	b. Boultbee ..	1
Herring, b. Ford..	3	b. Hussey	5
Cotton, b. Ford ..	0	b. Ford.. ..	4
Huggins, b. Ford	3	b. Ford	1
French, b. Hussey ..	4	b. Ford.. ..	3
Ritchie, run out ..	5	b. Ford	0
Cull, not out ..	2	Hit wicket ..	0
Edwards, b. Hussey	1	Stumped	2
Glave ma., c. & b. Hussey	1	b. Ford.. ..	0
Dale, b. Hussey ..	0	Not out	2
Extra ..	1	Extras ..	3
	20		22

In this match, the first of the season, and which we hope will be an annual one, Ford's bowling was decidedly too good for our fellows. With all our efforts we could not make the runs amount to more than 20. In our bowling we were somewhat more fortunate than might have been expected from the batting; with the exception of Lieut. Richards all the officers succumbed with tolerable ease to the bowling of Messrs. Dale and Whitmore; the last wicket of the officers fell with the score at 102. In our second innings we were as unfortunate as in the first, and the bowling of Ford was still very destructive. Our score only reached 22.

MATCH BETWEEN B. G. S. AND HERTFORD GRAMMAR SCHOOL, in the School Field.

First Innings of the B. G. S.

Huggins, b. Crawley	2
Dale, b. Crawley	4
Edwards, st. Crawley	4
Spicer (Capt.) not out	23
Ritchie, l. b. w.	0
Herring, c. Clark, b. Coleman	1
Glave, b. Crawley	3
Cull, b. Crawley	2
French, c. Spratt, b. Coleman	0
Newth, b. Crawley	1
Dearberg, c. Clarke, b. Coleman	0
Extras	9
	49

HERTFORD SCHOOL.

First Innings.		*Second Innings.*	
Coleman, run out ..	5	b. Newth	5
Crawley, c. Newth, b. Dale	7	c. Edwards, b. Ritchie	5
Gilbert, b. Spicer ..	1	b. Spicer ..	3
Povey, b. Spicer ..	0	c. Huggins, b. Spicer ..	0
Spratt, b. Spicer ..	4	c. Dearberg, b. Dale	7
Clark, c. Dearberg, b. Dale	0	not out	2
Elsdow, c. Ritchie, b. Dale	0	hit wicket, b. Spicer	0
Alexander, b. Dale ..	0		
Nicholl, c. & b. Dale	0		
Topham, run out ..	1		
Morris, not out ..	0		
Extra	1	Extras	7
	19		29

This Match was played on June 14th, and resulted in a complete victory for the home team. As this was the first victory gained by the School in our new field it served to give spirit to our players. We won the toss and sent in Huggins and Dale, one of whom soon made way for Edwards; our Captain went in next, and with steady play kept up his wicket till the end and was "not out" with a score of 23. Ritchie was evidently surprised at being given out "leg before wicket." Crawley's bowling proved very destructive to most of the rest, and when the last wicket fell the runs amounted to 49. Our bowling was also very good and our opponents were unable to do much against Spicer and Dale who were very true

in their bowling. Newth made a splendid catch at long on from Crawley, Dearberg also made a good catch. The total of the Hertford players only amounted to 19 which was owing in part to our good fielding. In the second innings after one or two wickets Dale and Spicer made room for Newth and Ritchie and when time was called six wickets were down for 29 runs. No doubt our good fielding is to a great extent due to the fact that nets are prohibited in the field. We think however we cannot look for satisfactory progress in cricket until the boys shew more interest in School Matches.

MATCH BETWEEN SECOND ELEVEN B. G. S. AND FIFTH ELEVEN CHRIST COLLEGE, FINCHLEY.

First Innings of B. G. S.

Keeling, run out, b. Barker	1
Herring, c. Hammond, b. Baker	0
Pritchard, c. Hammond, b. Garfit	0
Galloway, b. Garfit	0
French, b. Garfit	7
Newth, b. Barker	2
Cull, b. Bowyer	0
Dearberg, b. Garfit	0
Glave ma., b. Garfit	10
Wilson, not out	0
Fraser, b. Garfit	2
Extras	9
	31

First Innings of Finchley.

Bowyer, b. Galloway	0
Garfit, b. Newth	10
Fowler, b. Newth	1
Barker, b. Galloway	5
Hammond b. Galloway	5
Chater b. Newth	0
Levy b. Cull	2
Steer b. Galloway	1
Cooper, not out..	7
Ellison, c. & b. Galloway	0
Boning, b. Galloway	1
Extras	6
	38

Had our Second Eleven shewn more energy in practising in the field they would have made a better show; as it is they lost every match they played.

We cannot insist too strongly on the importance of an eleven practising together. The most important duty of a captain undoubtedly is to see that his eleven practise regularly every day, for it is only in this way that he can learn to appreciate the various strong and weak points of his team. Nothing is more unsatisfactory than to see a captain continually shifting his "field," through ignorance of their strong and weak points during a match, and because runs are being "stolen." Such a course can only tend to discourage his side and encourage his opponents.

Queen Elizabeth's School v. Hertford.

After CHAUCER.

How mote I sain the innings of cricket,
And the downfallings of ashen wicket;
When the scholes of Hertford and Barnet,
Of late in friendlie rivalrie ymet;
Who coudè rime in English properly
What then befell? Forsooth it am not I.
Therefore I pass as lightly as I may
How for Hertford Crawley bowled that day,
How Newth and Dearberg for Barnet the ball
Well ycaught and without mischaunce withall.
How with joye and hope I ween well to fare
Spicer then into the wicket was fare.
Yonge was he and mighty eke for the nones
And ther to he was strong and big of bones.
Armèd was he with paddès soft and stout,
His fellowes hopen he will long hold out.
And now the balle with bat he striketh straight
And of runnès eftsoones he hath made eight.

How up how down, as bocket in a well,
'Twixt wickets he runneth were long to tell.
Ritchie meanwhile maugre his subtill finesse,
Soon feleth double sorwe and hevinesse,
For the balle his leg upstriketh wrong,
And out with nothing gained he is gone.
Now Huggins, Dale and French full sturdilie
Ywroughten; the score runneth merrilie,
And everich one that day of all the rest,
Striveth and playeth eke I ween his best.
And now all playen stoppe Barnet Schole has [wonne;
And there is a noise of boyès begonne,
For joye of this so loud and high withall,
As seemeth that the skyes wulden fall.
And thus that day it cometh to an ende
The boys taken leve and home they wend.

Explicit.

GEOFFREY CRAYON.

SOMETHING ABOUT THE PLANETS.

From a Tiro in Astronomy.

The most conspicuous object in the heavens is of course the sun; and not only does it seem the most important, but to us it is the most important of all the heavenly bodies. From it we receive light and heat, and by it we are kept in our path and prevented from wandering into space. The diameter of this luminary is 107 times that of the earth; he is also the centre of a large system of bodies revolving round him. Of these bodies our earth is one, the third in order of distance from the sun.

These bodies are called planets—they are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. Besides these principal planets there are a number of smaller ones; upwards of a hundred have been discovered revolving round the sun between the orbits of Mars and Jupiter. Some of the principal planets also are attended by satellites; when Galileo first turned his telescope towards Jupiter he saw a picture of the solar system in miniature; from this he was enabled to shew how the planets revolved round the sun.

All the planets describe orbits more or less elliptical round the sun, they have several peculiarities in their appearance. The planet nearest to the sun

is called Mercury. It is too near to the sun to be examined with any degree of precision. It has phases like the moon but very little else has been discovered about it. It completes its journey round the sun in about 88 days, and is about 3000 miles in diameter. Venus, the next in order of distance from the sun, is larger than Mercury, her diameter being about 7500 miles; she has always been remarked for her extreme brilliancy, her light is often powerful enough to cast a sensible shadow. She goes round the sun in about $224\frac{3}{4}$ days; like Mercury she has phases. Mercury and Venus being nearer to the sun than the earth are called inferior planets; those exterior to the earth's orbit are called superior planets.

The Earth is larger than either of the inferior planets, its diameter being about 7900 miles. Its peculiarities are too well known to introduce them here. It completes the revolution in its orbit in about $365\frac{1}{4}$ days.

The Earth is the first of the planets from the sun known to possess a satellite, this satellite we know attends us in our path round the sun, at the same time revolving round its primary, the earth. When the moon is sufficiently in a line with the earth and the sun, an eclipse of the sun takes place if the moon is between the earth and the sun; but an eclipse of the moon takes place if the moon is on the opposite side of the earth from the sun.

Next to the earth comes Mars. This planet more than any other resembles the earth both in appearance, length of day, and in its seasons. With a good telescope the continents and seas of Mars can be seen, and also the white spots at the poles. The diameter of Mars is less than that of the earth, being only about 4400 miles long. The phases of Mars are not so complete as those of the inferior planets as it only appears to us gibbous. Mars goes round his path in about 687 days. No satellite has been discovered accompanying Mars.

Next to Mars comes, not one planet, but a large number of planets. Upwards of 100 of these small planets, have been discovered. No doubt there are many more, but their diameters are so small as to be invisible except with powerful telescopes. Many of their diameters do not exceed 50 miles.

Proceeding onwards we come to Jupiter, the largest of all the planets having the sun as centre. This immense planet revolves round the sun in about 11 years and 10 months; he is accompanied by four moons, of which the largest is the size of Mercury. To the possessor of a good telescope Jupiter is a very interesting object, as the eclipses of his satellites, and also their passage across his disc, may be well seen. Besides these moons another interesting object in Jupiter is that he is surrounded by belts, supposed to be clouds, between which the dark body of the planet may be seen.

Saturn, the next largest planet to Jupiter, now comes. This planet is more wonderful than any we have yet turned our attention to, for he has features peculiar to himself; he is surrounded by a vast system of rings, which give him a very singular and interesting appearance. Galileo, when he turned his telescope towards the planet, thought that it was double; he never could make out the rings distinctly. Besides these rings Saturn is attended by eight moons, most of which are too small to be seen except by the most powerful telescopes.

An immense space separates Saturn from Uranus, the next planet. This was discovered by Sir W. Herschel, and was called by him Georgium Sidus, in honour of the reigning king. It is doubtful how many moons accompany this planet, as his immense distance renders him a difficult object to be studied accurately. His diameter is about 34,000 miles.

In the discovery of the planet Neptune was displayed a very great triumph of mathematical skill. It was observed that the planet Uranus did not travel through its orbit regularly, at one time being in advance, at another in rear of its calculated place. After allowing for all known attractions, there was still something which disturbed the planet's course, and astronomers concluded that it must be another planet. On these grounds two

mathematicians, Adams and Leverrier, set to work to solve the problem, the result being that they calculated that the planet would be found in a certain direction. When telescopes were turned in this direction the planet was found not very far from the place assigned. Neptune's diameter is 37,000 miles, he is known to be accompanied by one moon.

In the planets and other bodies of the solar system the observer will find much to interest him; in the moon he will be able with a moderate telescope to trace out the most interesting features; the phases of Venus and the eclipses of Jupiter's satellites will also afford him interesting study.

Besides the members of the solar system, there are many other interesting objects for the telescope, such as nebulæ, double stars, and star clusters.

And now a word on telescopes. Although a large telescope is necessary to view celestial objects with great exactness, yet a small glass should not be despised. Galileo saw Jupiter's satellites with a telescope magnifying only 7 times, he never used one magnifying more than 30 times. A small telescope of less than 3in. object glass, powers from 60 to 300, is sufficient to pursue useful investigations. M. Goldschmidt discovered 14 minor planets with such a one.

W. T. H. S.

WAITING FOR BREAKFAST,

OR,

MY EXPERIENCE WITH A LUNATIC.

One morning I invited a friend to breakfast, and having half an-hour to wait, I sat ruminating (as I thought) in my easy chair, before an ample fire. Whilst in this state, a sharp rap on the door was followed by the entrance of a broad-shouldered stoutly-built man, whom I did not know from Adam, but he addressed me as an acquaintance. He touched on my well-known patronage of science and scientific men, and then began detailing to me a scheme of which he professed to be the inventor, the object of which was the navigation of the air. I listened with attention, for his plan seemed feasible, and I had no suspicions as to his sanity. The idea was as follows: he intended that the motive power of his aerial machine was to be caused by immense screws, resembling the sails of a windmill, which were to be moved by a light but powerful steam engine. But doubts arose in my mind when he informed me that the bottom of his air-ship was to be flat, and in shape like a boy's kite, and initial velocity was to be obtained by fastening this wonderful machine to a train, which was to drag it for several miles, and after it had been liberated, a speed of ninety miles an hour

was to be obtained. I expressed my misgivings as to the feasibility of his wonderful scheme, to which he cheerfully rejoined, "Well, that is just what my friends said, and they were so jealous of my plans, that they got me shut up in a lunatic asylum; but that was of no use, for by the aid of the Genius of the air, I constructed a model machine and sailed away through the window." It now dawned on my mind that an eccentric character, to say the least of it, had honoured me with his company, and I thought the best plan would be to humour him and gain as much time as possible, hoping that my guest would arrive speedily. I accordingly began to applaud his ingenuity, and then unluckily asked if I could be of any assistance in starting his philanthrophical project. He replied, with animation, "You just remind me of the object of my visit. Up till now my apparatus has never exactly succeeded; I at last discovered the reason to be that I had made use of unsuitable grease for diminishing the friction, and I never should have hit upon the right one, had not the Genius of the air let me know that I must sacrifice you to the success of my enterprise, by roasting you alive before a furnace, until I had obtained sufficient lubricating matter for my purpose." He had hardly uttered these words before he was upon me. My struggles were of no avail; he overcame me, kept me down, fastened my limbs with cord which he took from his pocket, and after tying my legs, forced my knees against

my chest, passed a walking stick in the angle my knees thus formed, arranged my arms so as to come under the stick, and then tied them firmly over my knees like a trussed chicken. I had given up all hopes of rescue, as my visitor was now holding me over the fire and my toes were beginning to frizzle, when I was suddenly startled by a hearty voice saying, "Why, what on earth are you burning?" It was my long-expected friend. I am afraid I had taken forty winks in my chair, for I found that the toe of my right slipper, which I had unconsciously allowed to approach too near the fire, was charred; its unpleasant odour had caused my friend's exclamation, and my flesh was beginning to smart from the heat.

GEOFFREY CRAYON.

NOTES OF NEWS.

NEW MASTER.—Mr. E. J. PAUL has been appointed to the mastership of the Lower School, Mr. WHITMORE now taking the preparatory form in the Upper School.

NEW PRIZE.—We believe that the Rev. T. H. WINBOLT, one of the Governors, has given money for a prize, but the subject has not yet been fixed.

ROYAL ACADEMY.—Mr. SWALLOW, our drawing master, had a picture in the last Academy. It was entitled "The Larder."

SCHOOL LIBRARY.—We understand that the Governors have made a grant for the School Library, and that they have also fixed a terminal fee of 1s. to be paid by every boy in the Upper School. We therefore hope before long to have some of our library shelves fairly stocked, but donations of books would still be very welcome.

DEBATING SOCIETY.—There has been some talk of starting a debating society. With a library and reading-room, a magazine wherein to record the debates, and energy among the boys, we have every requisite for good debates.

CLASS LIST.—A new class list will be published at Christmas, containing the results of this term's work and of the Christmas examinations.

EXHIBITIONERS.—We believe that the exhibitioners elected from schools in the neighbourhood will be supplied with books free of cost. This will considerably increase the value of their exhibitions.

SCIENCE TEACHING.—The Science Department have decided to remove Physical Geography from the list of their subjects after two years. We have

just started the study of Chemistry, but for this experiments are absolutely necessary. At present we have very little convenience for these, and it would be a great boon to the school if some liberal benefactor would immortalize his name by building us a separate Laboratory with Museum over.

SCHOOL CONCERT.—Practice has begun, and we look forward to a successful evening at the end of term.

NEWSPAPER NOTICES.—We have to thank the editors of *Land and Water* and of the *Barnet Press* for inserting notices of our doings from time to time. The "Public Schools column" of *Land and Water* is always perused with interest in our reading room.

THE NEXT NUMBER.—We hope that the next number of the *Elizabethan* will be published about the middle of next term. Now that our magazine is started we trust the School generally will supply contributions of different kinds. We purpose to introduce a "Notes and Queries" column in future numbers, in which matters of interest to the School and education generally may be discussed; so that we may thus look for greater variety. Communications should be sent in early in the term addressed to the Editor of the *Elizabethan* care of the Publisher, High Street, Barnet.