

26 JUN 1946

SECOND

SERIES :

Volume 2

Part III.



SESSION :

1942-1943

Proceedings and Reports

of the
BELFAST NATURAL HISTORY
and
PHILOSOPHICAL SOCIETY

PRICE - TWO SHILLINGS

PROCEEDINGS and REPORTS

of the
BELFAST NATURAL HISTORY
AND PHILOSOPHICAL SOCIETY

Second Series: - Volume 2, Part III.
SESSION - - - 1942-1943.

EDITED BY ARTHUR DEANE.
HON. SECRETARY

BELFAST:
PRINTED BY THE NORTHERN WHIG, LTD., BRIDGE STREET,

1944.

BELFAST NATURAL HISTORY AND PHILOSOPHICAL SOCIETY

[ESTABLISHED 1821.]

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The membership of the Society consists of Shareholders, Annual Subscribers and Honorary Members.

Shareholders holding more than two shares are not liable for an annual subscription, but shareholders of two shares pay an annual subscription of five shillings, and holders of one pay ten shillings.

In 1914 a new class of membership was created including persons of either sex, to be elected under the bye-laws of the Society, and admitted by the Council on payment of ten shillings per annum. Such members have all the privileges of the Society, and take part in any business of the Society not affecting the ownership of the property. In 1917 an Archaeological Section was founded. Persons wishing to join the Section must be members of the Society and pay an additional minimum subscription of five shillings per annum.

A general meeting of Shareholders and Members is held annually to receive the Report of the Council and the Statement of Accounts for the preceding year ending 31st October, to elect members of Council, to replace those retiring by rotation or for other reasons and to transact any other business incidental to an Annual Meeting.

The Council elect from among their own number the President and other officers of the Society.

Each member has the right of personal attendance at the ordinary lectures of the Society, and the privilege of introducing two friends for admission to such.

Any further information required may be obtained from the Hon. Secretary, at 7 College Square North, Belfast.

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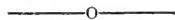
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Persons wishing to join the Archaeological Section must be Members of the Society, and pay an additional minimum subscription of five shillings per annum. State below if you wish to join this section.

I desire to join the Archaeological Section.

Signature }
of }
Candidate }

[All applications for Membership to the Section are subject to the approval of the Archaeological Committee.]

This form, when filled in, should be addressed to the

HON. SECRETARY,
B. N. H. & P. SOCIETY,
OLD MUSEUM BUILDINGS,
7 COLLEGE SQUARE N.

28th November, 1942.

DR. S. W. ALLWORTHY, M.A., President, in the Chair.

SOVIET RUSSIA.

DONALD GRANT, M.A.

[Abstract.]

There are three reasons why we are all so keenly interested to-day in Soviet Russia. First, Soviet Russia is big. Nearly three times the size of U.S.A., the Soviet Union would contain England 135 times. Second, they have a different system from that of other modern countries. Soviet Russia is a Socialist State. Third—and this derives from points 1 and 2—Soviet Russia is making so magnificent contribution to the war against Nazi Power that there is universal admiration for her achievements.

The Soviet revolution was launched 25 years ago, yet the constructive period has only been half as long. The reason is that the revolution, launched in 1917, after the Russian Empire, our ally in the last war, had been defeated by the German armies, was followed by invasions, counter-revolutions and civil wars. This turmoil filled five years with destruction and death, and culminated in the terrible famine of 1922. At this time Revolutionary Russia was at her lowest ebb and greatest weakness. Allied forces in the west had evacuated Russian soil, but Japanese troops still held the Far Eastern Province and Vladivostock.

Recovery after the devastating famine was slow. Not until 1928 was the first Five-Year Plan launched. The preparations for the plan, however, were discussed and completed during the period of recovery. Hope had never waned, but confidence began to wax when the building up of Soviet economy really began. The industrialisation of Soviet Russia was the great purpose, accompanied by the collectivisation of agriculture.

Collectivisation was not easy; ruthlessness was employed to achieve it. Opponents were "liquidated." The plan went ahead keenly. It is confirming for us to-day to know that the immense collectivisation was organised around machine stations or "tractor-centres." Russia was to have a completely mechanised agriculture; and now industrialisation was to provide the machines. The two things came to pass; but the foresight and realism of the episode come home to us to-day when we are so deeply impressed by the capacity of the Russians to switch their industry over from the making of agricultural machines to the making of machines for war.

Given the prospect of peace, the Russians would have built much more and improved the standard of life of the whole population by means of the second and third Five-Year Plans. For that was their purpose. But Hitler held power in Germany already in 1933, and that, to the Russians although not yet in the

opinion of the British, brought the fear of war. Their realism made them take all possible steps to prepare the population and the Russian economy for the supreme test, when it should come.

It is important that we should be quite clear about the cleavage between Stalin and Trotsky. Lenin died in 1924, only 54 years old. At that time Trotsky was possibly the best known bolshevik after Lenin. Trotsky maintained that Soviet Russia would not get a chance to build her revolutionary system unless revolution should spread throughout the world as well. "In every way," he said, "promote world revolution." Stalin, who was now secretary of the all-important Communist Party, took the opposite line. "World revolution," he said, "is now an illusion. Let us give up even the idea. We can, however, build Socialism in our own great territory. Let us give all our forces to this task of Socialist construction."

The break between the two led to the exile of Trotsky. Stalin got the chance and took it to lead Soviet Russia towards the fulfilment of her goal—industrial, social and international. The Five Year Plans followed soon. The danger of war supervened by 1933. Opposition to the Stalin line also continued. These confusing forces worked together up to the period of suspicion, purges and trials, culminating in the "liquidation" of saboteurs, of disloyal generals, and of "trotskyite opposition" by 1938.

These developments diminished the prestige of Soviet Russia in the rest of the world. The Nazi-Soviet Pact, August, 1939, continued this process, and the war on Finland brought Soviet reputation lower still.

That was all changed, when Hitler attacked Soviet Russia in June, 1941, and Churchill claimed her the same day as an ally of the United Nations. The Nazi attack, however, did not at once bring the relief and hope which later were to be so marked. For, in spite of the appreciation extended almost universally by the enemies of Hitler, the opinion was nearly as widespread that the Soviet armies could not long stand up to the immense and arrogantly successful Nazi power.

The Russians themselves were more confident. Giving space for time, they withdrew further and further towards the Volga and the steppes. The time they gained enabled Britain and America to get ready to take part in the Hitler War on an adequate scale. This they did by landing in great force in North Africa in November, 1942—an operation following El Alamein and the beginning of the great Russian winter offensive, which held the promise of increasingly powerful blows against the Axis until they should be driven out of Africa and out of Russia, and finally broken in the fortress of Europe.

But we have one more aspect of the matter to consider. Since Hitler had a pact of non-aggression with Soviet Russia, why was he not content with that? Why did he break it and attack the Soviets in June, 1941?

This brings us to the more important part of international affairs, into which few people make the effort to penetrate. I mean the understanding of the deeper realities, in the light of which pacts and even treaties are only surface happenings.

The real fact, after 1933, between Nazi Germany and Soviet Russia was that of inevitable antagonism and conflict. The inevitability lay in Nazi policy;

for it was expansion and aggression. The deplorable fact that nearly everybody in Britain failed to see this menace (also for Britain) only made success easier for Hitler. Soviet Russia, like Britain, needs and wants peace and development. But the expansion of Nazi Germany and her increasing power and arrogance would certainly lead her to take steps which Soviet Russia would have to resist. Stalin knew this. Hitler knew it too. The pact—which was not and could not be an alliance—was merely a means of gaining time, for Soviet Russia, and for Hitler it was the price of Russian time.

Then Hitler in 1940 was defeated in the air over Britain. So he turned in the other direction in order to defeat Britain in Egypt and at Suez. Before launching his immense power thither, Hitler—because of the fundamental factor, inevitable conflict—was compelled first to defeat the Russian armies and hold them down, thus protecting his long left flank. He expected to complete that by November, 1941.

Another reason for Hitler's attack was the, for him, uncomfortable fact that Stalin, from the start of the war Hitler made on Poland, had followed an *active* policy: moving into the regions that had been eastern Poland; arranging to use the sea-ports of the Baltic States and the air fields; also the strengthening of Leningrad at the expense of Finland. Stalin had to do all that for strategic reasons, which flowed (once more) from the fundamental antagonism. Where would it lead to? Hitler terminated it by attacking.

The fourth reason was Soviet oil. The fifth, which for many reasons operates as the first, was to secure for Nazi Germany the food, the raw materials, the industries and the population of Russia's most developed and richest region, the Ukraine.

Clearly Soviet Russia has already, in November, 1942, taken the measure of her powerful foe, arrogant with conquest. After suffering and enduring, Soviet Russia is striking powerfully, extensively. The Nazi power will die of their victories in Russia, and Soviet Russia is destined to be the greatest land power in the world.

19th December, 1942.

 DR. S. W. ALLWORTHY, M.A., M.D., President, in the Chair.

SIR JOSEPH LARMOR.

Lecture delivered in the Old Museum Buildings by
EMERITUS PROFESSOR W. B. MORTON.

On 19th May, 1942, there passed away a very great Belfastman. We may call him that, although he was actually born near Lisburn, did his work mainly in Cambridge and London, and died at Holywood, for an Inst. boy and a Queen's student must always be a Belfastman. And further, notwithstanding his great eminence in the larger world, he did not look upon our provincial city merely as the pit from which he had been digged, but as a place cherished by him in grateful memory. Of this the provisions of his will, which we have all read in the newspapers, are sufficient evidence. In common gratitude it is fitting that one of our lectures should be devoted to his memory.

I have been given the honour of delivering this as an old member of the Society whose work has been concerned with the subjects to which Larmor made such important contributions: it happens also that I have had slight personal contacts with him of a purely accidental kind. I have debated with myself whether I should speak of these to-day. On the one hand it is obviously improper for one lecturing upon a great man to obtrude his own personality, but, on the other hand, such contacts, however trifling they may be, are pleasant to talk about—if boring to listen to.

“ Ah, did you once see Shelley plain,
And did he stop and speak to you
And did you speak to him again?
How strange it seems, and new!”

Without comparing Larmor and myself to Shelley and Browning, I have decided to talk about my subject as I knew him; if I took a more impersonal line I should have to occupy my time with a fuller account of his scientific work, and that you might find too technical. His life was outwardly uneventful, his adventures were all in abstract thought. Besides, I am a Belfastman, and it is Larmor, the Belfastman, whom we commemorate.

I take you to the Antrim Road, a melancholy thoroughfare in these days, after the German raids. Not far from Carlisle Circus, on the left, are two houses which have escaped the surrounding ruin, standing at opposite corners of a small side-street, called Adela Street. Both are now shops, the names on the sign-boards being Crilly and Young: the first is a grocery, the second a hardware place. In the later sixties of last century the former; then too a grocery shop, was occupied by Hugh Larmor, the father of Joseph. The other was a small dwelling-house, to which a newly-married book-keeper brought his young wife; I was his

19

57

MATRICULATED STUDENTS.

FACULTY OF ARTS.

No. 1. *Smith*

Name (in full), *Joseph Larnor* Age, *14*

At what School were you educated? *Academy of St. John, Belfast.*

Father's Name and place of Residence, *Hugh Larnor, 57 Victoria Road, Belfast.*

Religious Denomination, *Presbyterian S. A.*

Year of your Course, *1st year* Do you like the whole Course? *Yes*

If not, what classes do you select? *12*

Any other Classes besides those in your Year's regular course?

Which do you select when you have a choice between any two classes? *English*

Do you propose to compete for a Scholarship, and if so, which? *Rev. James Keble's*

Have you attended this College before, or when? *No.*

Or in any other of the Queen's Colleges, or in any University? *No.*

If so, what was your standing? _____

Have you held any, or what Scholarship therein? _____

Reference in Belfast—*St. Andrew's Road.*

Signed, *Joseph Larnor*

Dated, *16th* of *October*, *1942*



Plate I.

first-born child. So Joseph Larmor and I were next-door neighbours, across Adela Street, until, when I was eight or nine years of age, we moved further along the road. My mother told me that my first independent excursion was to toddle across to Larmor's with a penny in my hand to buy my egg; and my first knowledge of tragedy was when news came one evening of Hugh Larmor's sudden death. Another memory of childhood dates from the time when, apparently, I showed signs of being fond of reading. My uncle, who was the Larmors', and our own, family doctor, warned me not to read too much, or I would get "curvature of the spine, like Joe Larmor"! Now Larmor, to the end of his life, was a very erect figure—so it was a case of faulty diagnosis, or, perhaps, my uncle cured him!

After these examples of the accidental contacts of which I spoke, I come to the origin of the family. As is generally known, its home was at Magheragall, near Lisburn. Here I am indebted to the kindness of Dr. D. A. Chart for information in his possession. He has sent me the following notes: "There is a lease to Hugh Larmor of 35 acres of land in Ballycarrickmaddy, parish of Magheragall, by the Marquis of Hertford in 1856. A marginal map shows the area concerned. It appears to coincide with the holding of one Alexander Larmor as shown in a map of Ballycarrickmaddy, 1828. This Alexander, who preceded Hugh in title, was probably his father. Further back from that we cannot see very clearly. Our Hertford estate maps of 1883 and 1865 show various Larmors around Magheragall, but only one Hugh, and his holding was in Ballycarrickmaddy. It would be safe to say that Joseph's father, Hugh, was a well-to-do farmer, living at Ballycarrickmaddy, about a mile south-west of the present position of Stoneford reservoir, and the farm had been in the family possession for at least forty years. The name, under various spelling variations, is probably old in the district."

Old Belfast directories show that Hugh Larmor came into town and started business in 1863 or 1864. What was the reason for the migration? Such movements often mean that the ancestral farm has become inadequate to support the increasing family and the younger sons are compelled to seek a livelihood in business; but Hugh Larmor was the owner of the farm, which remained in the possession of the family. Another reason must be guessed at: I think the most likely one is the desire for education of her children which animated the mother of the Larmors, Hannah Larmor, née Wright. I always heard her spoken of as ardently ambitious for the intellectual advancement of her family. There were seven children, five sons and two daughters; Joseph was the eldest of the family and the last survivor. His younger brothers, Alexander, Hugh, John and William, all followed him to Queen's College, and graduated there. In his academic career Alexander came nearest to his great brother. He alone followed Joseph to Cambridge where he was 11th wrangler in 1889 and Fellow of Clare College. Afterwards he was Headmaster of Derry Academical Institution and finally Professor of Natural Philosophy at Magee College. Here he was a most efficient teacher, in marked contrast to Joseph, who, as I shall explain later, did not excel in that line. Alexander was the only one of Sir Joseph's brothers whom I knew personally. He asked me to his rooms when I was an undergraduate at St. John's. I have a pleasant memory of a time after breakfast on a fine summer's morning when we sat in the Clare Fellows' garden and watched a thrush digging out worms on the lawn. In later years, when he came back to Ireland, I kept in very friendly contact with him as a colleague.

Hugh Larmor went through Queen's in the same year as Alexander, but died at an early age. John became an engineer; he is mentioned in a couple of Joseph's papers as having helped in carrying out calculations and preparing diagrams, work which was always very distasteful to the author. He was a man of wide culture and many interests, a good talker and letter-writer, who, but for an infirm physique, might have gone far. Alexander, John and their two sisters lived together ultimately in the house, "Drumadiller," in Holywood, where they were joined by Joseph. The youngest brother, William, who was engaged in the work of a surveyor, was the only member of the family who married; he and his wife also lived in Holywood. The brothers and sisters all died before Joseph, who was left alone in the care of an old family servant for almost a year before the end.

I am indebted for much of this detail to my friends, Dr. R. M. Jones and Rev. Dr. D. H. Maconochie, who were friends of the Larmor family.

When his father came to Belfast, Joseph was first sent to a National School in Eglinton Street, which runs from the Crumlin to the Old Lodge Road, a little above Carlisle Circus. The school building has been "destroyed by enemy action." I know an old lady who remembers "Joe Larmor" as a fellow-pupil there, "good at all his lessons." In 1869, at the age of twelve, he passed on to the Royal Academical Institution, and came under the teaching and guidance of R. C. J. Nixon, the mathematical master, who was a very efficient teacher—when a pupil was good enough to take trouble about. Larmor was fortunate in his early teachers, for at Queen's he passed from Nixon to Purser, the most inspiring lecturer on Mathematics whom I ever heard. A man of Larmor's genius and originality is less dependent than ordinary men on the quality of his teachers, but he shared to the full in the admiration and regard which all Professor Purser's pupils felt for him.

His career after his schooldays was remarkable for precocity; he entered Queen's at the age of 14 and was a B.A. at 17. This was possible for a brilliant boy in those days; afterwards, when the Intermediate examinations ruled the schools, a boy who wanted to collect the money for his education from Exhibitions was forced to conform to a fixed age-scheme, taking Junior Grade at 15, Middle at 16, Senior at 17 and Matriculating at 18.

Relics of schooldays survive in the shape of a few school-books, with his name written in a boyish hand. These signatures of an early date reveal an error in the contemporary Belfast directories in which Hugh Larmor's surname is given as "Larmour." It is pleasant to see the future Lucasian Professor behaving like an ordinary schoolboy and writing his address as "Antrim Road, Belfast, Co. Antrim, Ulster, Ireland." One prize-book which has found its way to the Queen's Library is interesting for its inscription:

" Royal Academical Institution.

Arithmetic Prize for boys under 14 years of age.

Awarded to

Joseph Larmor.

Belfast:

18 June, 1869.

Given by

W. T. Bottomley, Esq."

The giver of the prize was a former Inst. boy who married a daughter of Professor James Thomson, the elder, so becoming a brother-in-law of Lord Kelvin. His son, J. T. Bottomley, was his uncle's assistant at Glasgow and compiler of "Bottomley's Tables" which were, and I think still are, in the hands of all computers. His uncle is said to have relied on him in all emergencies, for example when he forgot in which direction the earth rotates! The prize itself is one of those expensive books which used to be presented to schoolboys and never read by anybody—a description, with many beautiful engravings, of the river Danube from its source to its mouth.

In the interval between graduation in the Queen's University and going to Cambridge Larmor's course becomes less clear. After taking his B.A. he remained at Queen's for a year as Senior Scholar in Mathematics, a position usually held by the best man of the year in each subject. He took the M.A. degree at the end of that year, but then comes a gap of two years before he went up to Cambridge in 1877, at the age of 20. Of this period details are wanting; I have seen it stated that he suffered a breakdown in health. In 1880 he was Senior Wrangler, and the second wrangler was J. J. Thomson, afterwards the Cavendish Professor of Experimental Physics and Master of Trinity College, Cambridge. It was truly a great year.

Here I must refer to a boasting statement made by Larmor's old schoolmaster, Nixon; I heard him make it once in Professor's Purser's house; many people have heard it, and it has appeared in print. Before Larmor went to Cambridge Nixon wrote to his own former tutor at Peterhouse, saying that he had a boy who would be Senior Wrangler, and asking what amount the College could grant him by way of a scholarship. In reply the Cambridge don suggested that Nixon must have forgotten the severity of the ordeal of the Tripos, or he would not have made so confident a prophecy. He named the value of the available scholarship; Nixon thought it inadequate and applied to other Colleges. St. John's made the best offer, and so Larmor went there. It was a curious kind of academic auction which had happy results for the College for, since then, most Belfastmen who have gone to Cambridge from Queen's have followed Larmor to St. John's.

The weak point of the story is the doubt about the time at which the prophecy was made. Larmor left school at the age of 14 and was Senior Wrangler at 23, and the interval is a long one. I should add that Alexander Larmor, when I once told him the story, expressed disbelief in it.

Larmor was not Nixon's only Senior Wrangler. Entering the school in the same year (1869) there was another boy, A. J. C. Allen, son of W. J. C. Allen who had been the last Registrar of the Institution and the first at Queen's College. He went to Cambridge a year earlier than Larmor, and came out first in the Mathematical Tripos of 1879. After this he became a clergyman in the Church of England and did nothing more as a Mathematician. Queen's was to have a third Senior, in W. M'Fadden Orr, who was a Methody boy and headed the list of 1888. Nowadays there are no Senior Wranglers; the resounding honour was abolished when the scheme of the Tripos was changed in 1910.

Mention may be inserted here of a curious side-episode of Larmor's academic career when he took the degree of London University, which was then a mere

examining board. At the degree examination in 1877 he won the "Neil Arnot Medal" for the best Mathematician of the year. Afterwards he acted as Examiner for the London University.

Coming back to the triumph of 1880. I have a boyish memory of that. From a window of a house in Fitzwilliam Place, opposite the College, I watched the torchlight procession by which the students celebrated the event in the primitive orgy then customary. A youthful uncle, then a medical student, was among the black-faced revellers. I gained a new impression of college life. The celebration obtained a certain publicity, for the "Graphic" published a woodcut of the scene in front of Queen's, made from a sketch sent in by Mr. S. Gaffikin, of Queen's Elms. The college library possesses a copy of this number, presented by Miss Gaffikin. It gives a good picture of the college building, but the wall which then bounded the grounds is shown too high (Plate II).

The next five years of Larmor's life were spent in Galway, as Professor of Natural Philosophy at Queen's College there. One is not surprised to hear that he treated his subject in a purely theoretical and mathematical manner. Alexander Anderson, who succeeded him in the chair and later became President of the College, has described to me the lectures which he attended as a student. He only remembered Larmor showing one experiment: that was when he brought out the electrical machine, and, with some difficulty, got it to work. He showed a certain timidity about drawing sparks from the instrument. He had a curious attitude towards experimental physicists; he did not rate highly their type of work, but he kept himself informed about the results they obtained and was very quick to seize on anything which he could turn to use in theory. I can give an incident which illustrates this attitude. In my time it was common for Mathematical graduates who looked forward to school-mastering to attend the elementary course at the Cavendish laboratory, during the Long Vacation following their degree. Some knowledge of practical work in Physics would often help in getting a post. A friend of mine, another Queensman, was attending this course and met Larmor in the College court one day. Larmor was always very kind to all of us; he stopped and asked what my friend was doing. On being told he said: "Ah! dismal business, isn't it?"

Between the great contemporaries, Larmor and J. J. Thomson, there was, not hostility, but a mutual lack of appreciation. On one occasion the Cavendish men invited Larmor as their guest of honour at the annual laboratory dinner. A friend who was present has described to me the amused interest with which his speech was anticipated; how would he deal with "J.J."? He met the situation very adroitly. He said that it was a common criticism of mathematical physicists, such as himself, that they obtained their results by ignoring some important factors in the problem; he proposed that evening to ignore Professor Thomson!

I have memories of two chance contacts in the interval before I went up to St. John's, both with a certain degree of vagueness. The first was of a "popular" scientific lecture to which I was taken as a boy, in some hall in Belfast. The subject was "Light," and I remember Larmor standing on the platform and holding up a small glass ball in his fingers. The lecture may have been given under the auspices of the Central Presbyterian Association, which got going in the early 'eighties. I have failed to find any record of it and I have never heard of Larmor in the rôle of a popular lecturer.

The other episode I can date precisely. At my "Second Arts Examination" of the Royal University of Ireland, in 1888, Larmor was one of my examiners in Practical Physics. Incidentally, this was the only practical examination I ever had to endure, though I have inflicted them on others very often. I remember the things Larmor set me to do, and the undisguised boredom he felt at the task, but I do not know how he came to be there. He left Galway in 1885 and normally should have relinquished his R.U.I. Examinership at the same time. His successor, Anderson, must for some reason have been prevented from examining. In later years Larmor was appointed to examine in special cases of advanced work; I have had the privilege of acting as a colleague with him, and a very pleasant experience it was.

In 1885 Larmor took up residence in St. John's College, of which, as a matter of course, he had been elected a Fellow immediately after his Tripos. Here, while engaged in his original researches, he had to deliver courses of lectures. It was evident, even to his undergraduate hearers, that he did not enjoy this part of his work. He would give a wide and general title to his course, take up each morning some special topic which seemed to occur to him casually, throw a light upon it, often of a very striking kind, go a short way in development, and then, when the discussion became a little too detailed for his taste, suddenly abandon the subject for another. I remember thinking that if only one took the trouble to carry on in detail the matters dealt with, in the ways suggested by the lecturer, a very fine treatment of the subject would result. But we were preparing ourselves for the ordeal of the Tripos Examination, under the tuition of our "coaches," and so much depended on the place we took in the list, that we could not afford time for work which would not "pay." I speak, of course, of the old days, before the Tripos was "reformed."

Although we might not feel that attendance at these lectures was contributing much to our prospects at the examination, we could not fail to recognise the profound knowledge and the originality of the lecturer. I have heard it said of him that he was a man who could "sit in an armchair and think." He had a wide and deep acquaintance with the classical writings in his subjects, and a sense of their historical perspective; this made the more effective the fresh light thrown upon them by his own thinking. But he was not a great teacher, either by word of mouth or by his writings, which had in general a curiously involved style. Sir Arthur Eddington, in an obituary notice, said that "habitual obscurity of style makes his published work almost as unreadable as his handwriting"! I confess that this downright statement gave me a certain comfort, for I had many times felt very stupid in my efforts to read Larmor's papers.

Here I may interpolate an experience of a later day, when Relativity was occupying all our minds and Einstein's theory of time and space needed much effort to assimilate. Larmor's work had done much to prepare the way for Einstein's stroke of genius, and another of our fellow-townsmen, Alfred A. Robb, had come after Einstein with a profound, philosophical treatment, on which he had been working independently. I had read with some difficulty Eddington's masterly treatise, in which he mentioned Robb's work as fundamentally important—but "difficult." Then a paper by Larmor appeared in "Nature" on "Astronomical Time." Before tackling this, I took an opportunity of asking Robb whether it was worth the trouble. Robb said: "I don't know; I can't

understand it." Eddington, Robb, Larmor, three great men obscure to one another—a consolatory state of affairs for ordinary people! I left Larmor's paper unread

I now hark back and try to complete personal impressions of Larmor. Two qualities in him were strangely associated—kindness and aloofness. I speak primarily of his relations with his juniors, but I think the statement may be taken more generally. When freshmen came up to St. John's from Queen's he always paid a visit to their rooms, and afterwards he was ready to give advice and help in their difficulties; his aloofness was something inherent in his manner and his quiet speech which could, on occasions, be used with crushing effect. One gesture of kindness I remember with special pleasure. Immediately after taking my degree I came back here to take up the position of assistant to Professor Everett, instead of remaining for the fourth year of advanced work and taking Part II of the Tripos. It was about this time that Larmor published the first of his great papers on the aether which established his reputation; he sent a copy of this to me. It was a compliment which gave me a warm feeling of gratitude, still vivid after half a century. It was one of many kindnesses for which I have had to thank him.

The stages in his progress to eminence may be rapidly enumerated. In 1892 he was made a Fellow of the Royal Society and in 1901 he became one of its Secretaries. This is a position of great importance in the world of Science, and one involving an immense amount of work, for all the papers sent in to the Society pass through the hands of the Secretaries. There are two of them, one dealing with Mathematical and Physical papers, the other with Biological. They naturally have an influential voice in the choice of candidates for the coveted distinction of the Fellowship. Larmor held the position till 1912. In 1921 he received the Copley Medal, the highest honour in the gift of the Society. In Cambridge he was elected to the Lucasian chair in 1903, to succeed Sir George Stokes; this is the chair of which Sir Isaac Newton was the second holder. In 1911 he followed Stokes in another position, that of M.P. for Cambridge University. He held the seat till 1922, the Professorship till 1932. He was knighted in 1909, and, speaking in this place, I must not omit to mention that the freedom of our city was conferred on him, along with Sir Almroth Wright, in 1912.

In the exercise of his great influence he did not forget old friends. A notable example of this, and one which gave great satisfaction to all Queensmen, occurred when the British Association met here in 1902. Professor John Purser, who had resigned his chair in the preceding year, was chosen to preside over "Section A," that concerned with Mathematical and Physical Science. I think there can be no doubt that this was the work of Larmor, for Purser, incomparable as a teacher, was almost unknown outside Ireland; his published work, though of high order, was very scanty.

The same scientific patriotism was shown in other ways. He always laid great stress on the value of the work of the Irish school, that of Sir William Rowan Hamilton and George F. FitzGerald in particular. He edited the collected papers of the Thomsons, Lord Kelvin and his elder brother, James Thomson, who was Professor of Engineering here before he joined his brother in Glasgow. As of course you know, both were born in one of the two houses now forming the "Kelvin Picture-house," which were built by their father, the elder James

Thomson, Professor of Mathematics at the "Inst." and then at Glasgow. Lord Kelvin, before his death, had issued three of the five volumes of his collected papers. The work was completed by Larmor; the silver bowl which you see on the table was presented to him by Lady Kelvin in gratitude for this service, and is now a "Prize Bowl" at "Inst."

He was an ideal man for the task, for his own most important papers were concerned with the problem which occupied Lord Kelvin's mind throughout his whole life: the constitution and properties of the medium conveying light, and "wireless" waves. Larmor's book, "Aether and Matter," was the last great theoretical discussion of this subject before physical speculation abandoned it for new lines associated with the names of Einstein, Schrödinger and Bohr. The aether has not been superseded, but it has been supplemented. It may be mentioned in passing that this book re-established the old spelling of the word, making it different from the form used in chemistry. I am reminded of the paper read at a college meeting on "Ether Waves," when one of the speakers disclaimed any knowledge of the subject, "the smell is enough for me."

Larmor issued his own papers at intervals, in bound form, and finally collected them in two large volumes in 1928. They cover a very wide range of subjects, for he kept himself informed of all that went on in theoretical physics, and usually had illuminating contributions to make. Up till the end of his life one found him writing letters to "Nature" on current topics; the last of these appeared on 5th July, 1941.

As he grew old it was natural that the influence he wielded in University and Scientific affairs should pass to younger men. He accepted this with dignity, but it cannot have been pleasant. In a letter to me he referred to Cambridge as "no longer the ancient and renowned university of our days, and it seems to know it." I was sensible of a compliment in the word "our"! Again, on October 21, 1941, he wrote sadly: "I have outlived my generation and am also the last of my race. I appear to be lingering on in a world to which I do not belong."

It remains to make a reference to his parliamentary career. I have looked up Hansard for his speeches and found some half-dozen mentions, always in connexion with some academic matter. His maiden speech, in the Home Rule debate of 1912, dealt with the difficulties of the University situation in Ireland. Afterwards he intervened on vivisection, on the proposal to invade the ground of Glasgow University by the city tramways, on the glass industry, and so on, subjects on which a University member might have something special to say. One highly valued result of his political life was the friendship of Mr. A. J. Balfour, who had a high regard for him and appreciation of his intellectual stature. It is told that Balfour once visited him in his rooms at St. John's, and, looking at the book-shelves which covered the walls, said: "I suppose I should not understand a single sentence in one of these books." To which his host replied: "Probably not." The friendship of these two great men is recorded very pleasantly by a photograph which hung on the wall of the house at Holywood. It shows them in conversation at some outdoor party, and gives excellent likenesses of both (Plate II).

I do not think many men enjoyed intimate contact with Larmor's mind, but in this I may be mistaken. The only other whom I knew as his friend was Hastings Crossley, Professor of Greek at Queen's in my undergraduate days.

I happened to meet him one day in the court in St. John's College; he had then retired from his chair and been succeeded by Sir Samuel Dill. He recognized me as a former member of his class and we had some conversation. He said he had come up to visit his friend, Joseph Larmor. I asked if he knew also Alexander Larmor, of Clare. He said: "Yes, but he has not the charm of Joseph."

The books which Balfour regarded with such awe have now gone to the Library of St. John's, while at Queen's we have a selection of those which were in the Holywood home. I should like to be able to tell you something about Larmor's general taste in literature, what kind of books he read when he turned from his scientific studies, but of this I know nothing. The Holywood books were the collection of the Larmor family and it is not possible to ascertain which of them were the choice of Joseph.

I have found in his collected papers just one poetical quotation; I think the context is worth quoting by way of conclusion. Sir Joseph Larmor is giving the Presidential address to the London Mathematical Society in 1916; his words must appeal to us to-day:

"Such heavy sacrifices of colleagues, who could so ill be spared we must deeply deplore, but not as if they were made in vain. May we not detect, beyond them and on account of them, the promise of nobler and more disinterested times, when the vast destruction of perishable material resources will be far more than compensated in the remembrance of the heroism of the youth of our generation, and the gain in moral and intellectual wealth that it will stimulate as an abiding possession?

"The world's great age begins anew,
The golden years return.
The earth doth, like a snake, renew
Her winter weeds outworn."

It is the old prophecy of a new heaven and a new earth, but those who have foretold it, from St. John to Shelley have, I think, used too short a time-scale.

POSTSCRIPT: For those who may desire to supplement this very inadequate account of Sir Joseph Larmor, the following references may be welcome. Sir Arthur Eddington's obituary appeared in "Nature" of 6th June, 1942 (vol. 149, p. 631). A more sympathetic tribute was given in the Proceedings of the Physical Society of 1st May, 1943 (vol. 55, p. 248) over the initials "E. C.," which are, I think, those of Mr. Cunningham, a colleague of Larmor's in St. John's College, who was the Senior Wrangler in 1902. After my lecture was delivered, Mr. Deane was kind enough to show me the obituary notice in the year-book of the Royal Society of Edinburgh, 1941-1942 (p. 11). This was written by Sir D'Arcy Thompson, Professor of Natural History at St. Andrew's, whose father, of the same name, was Professor of Greek at Galway when Larmor was there, a well-known man in his day and author of "Day-dreams of a School-master." This is the only account I have seen which is really intimate, the tribute of a close friend with whom Larmor shared his inner mind, and for whom the barrier of aloofness was dropped. The concluding sentence may be quoted: "Larmor made few friends, perhaps; but while he lived, and they lived, he lost none."

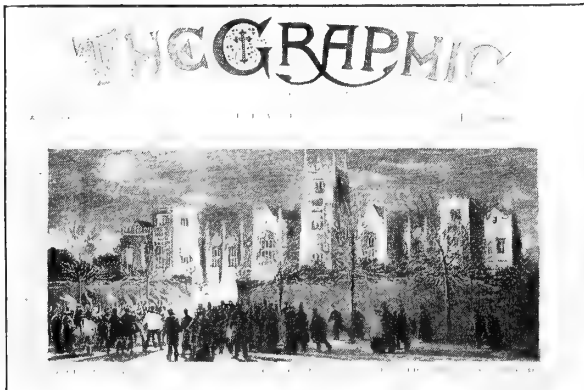


Plate II.

2nd January, 1943.

DR. S. W. ALLWORTHY, M.A., President, in the Chair.

“AFRICAN ADVENTURE.”

Illustrated by Films.

CAPTAIN C. W. R. KNIGHT, M.C.

[No Abstract.]

6th February, 1943.

DR. S. W. ALLWORTHY, M.A., President, in the Chair.

“ADVENTURES WITH BOOKS.”

MISS CHRISTINA FOYLE.

[No Abstract.]

26th March, 1943.

DR. S. W. ALLWORTHY, M.A., President, in the Chair.

“ANCIENT IRISH MUSIC.”

Illustrated by Slides and Musical Items.

ALFRED H. COULTER, J.P.

[No Abstract.]

27th February, 1943.

DR. S. W. ALLWORTHY, M.A., President, in the Chair.

THE FORMATION OF THE BRITISH EDUCATIONAL IDEAL.

D. LINDSAY KEIR, M.A.

I approach this subject with considerable hesitation, for like many other people actively engaged in teaching, I have never been much concerned with theories of education or with their history. To the familiar and sardonic epigram, "Those who can, do; those who can't, teach," I have sometimes been tempted to add, "Those who can't teach become educational theorists." I have felt that it was sufficient to be able to arouse intellectual curiosity, to prompt and guide the spirit of enquiry, to encourage intellectual self-discipline; these and similar purposes were an end in themselves; there was no need to work out any elaborate philosophy about the whole educational process and its ultimate values. But, again like many others, both in academic life and outside, I have in the end felt obliged to try to shape some sort of ideas on a subject which hitherto had seemed to possess little practical importance. Questions of ultimate values have arisen. Education has been recognised as determining a nation's whole scheme of life. It creates the mental and moral atmosphere in which a particular system and the human qualities associated with it are either enabled to flourish or condemned to decay. Control over the educational system of a State, a power once little regarded, has become one of the most valuable of political prizes. In it lies the power which moulds the future.

Control over education, power to determine its content and purpose, have come to form an essential attribute of the modern sovereign State. It is impossible not to feel some anxiety about the manner in which this new and potent force has been or could be used. We have seen it in certain countries applied to sinister purposes and used to break up the unity and solidarity of European culture. In our own country, it may be, the same danger need not be feared. Yet it would be unintelligent not to grasp the significance of certain principles which are at present being urged, as for example, that the whole educational system should be standardised on lines laid down by the State, that the education provided should be common to all children, and that an end should be made of all schools which lie outside the State-administered system. To a large extent these proposals connect themselves with the attack at present being so heavily pressed against the so-called "public schools," and the tradition which they are supposed to perpetuate. The lines of criticism have become familiar to us all. These schools are alleged to create or at least to strengthen an undesirable set of distinctions between social classes. They are described as homes of intolerant privilege, recruiting themselves on a narrow and bad basis; as authoritarian in tone and temper, breeding a semi-Fascist type. They profess to train for leadership, which only means that the young men who pass through them, though they may

not on the whole be distinguished by high intellectual attainments, are led to expect for themselves a natural reversion of the good things and the high places of life, and in effect turn themselves into a kind of mutual benefit society for making sure that they do.

I am not particularly concerned to-day to uphold the public schools, which have their own advocates and are well able to put their own case. I am concerned only that whatever may happen to them, a particular educational tradition which has been specially connected with them, which they have helped to preserve and to diffuse, and which is now in some danger, should be rightly understood and strongly defended. It should not be allowed to get mixed up with any controversy about the future of the public schools. It exists independently of them, though they have been its chief guardians and exponents. It is in fact our national tradition. It is expressive of our distinctive way of living. To its formation and characteristics I wish to devote this paper.

It will help in the task if I first try to set out, even in a rough and unsystematic way, the main features of the British educational ideal we are to examine. Here, then, is a kind of catalogue or inventory of them. They comprise a three-fold cultivation of body, mind and spirit. The first requires the cultivation of physical aptitude and ability, which in practice comes to mean chiefly, and perhaps unduly, proficiency in games, though the games chiefly valued are team games, and the skill chiefly valued is that of the amateur and not the professional. Intellectual cultivation is imparted through a literary and mainly classical discipline. Purely vocational studies are suspect, and there is a tendency, which manifests unexpected strength, to cling to the study of "dead" languages and "useless" subjects. And yet, curiously enough, the literary discipline which is most preferred and admired, that of the classical culture of Greece and Rome, is considered chiefly in relation to practical ends. There is both a real respect for pure scholarship as such, but also, and more strongly, a belief that from the humanities there is to be derived a practical training for a life of responsibility and of rulership. On the whole, therefore, learning tends to be somewhat unprofessionally regarded and even those few who live by it would not be altogether displeased by being thought of as gifted amateurs. At least it may be said that the bias towards non-professionalism is sufficiently strong to enable learning to be easily associated with gentility, as in the phrase "a scholar and a gentleman." Learning being so regarded, it may readily be conceived that culture tends to be wide rather than deep, that the cultivated amateur of many interests is more admired than the devotee of one, and that pedantry is even less admired among us than elsewhere. Learning, in short, should, we think, be lightly borne. Finally, it may be said, the cultivation of body and mind is accompanied by, and in fact grounded on, the cultivation of the life of the spirit. Religion underpins education. It inspires the view that the object of education is fitness for responsibility and service, and that the world must be regarded as a place in which responsibility is to be assumed and service rendered. Religion therefore has an eminently practical bent. It is not greatly concerned with dogma, but is greatly concerned with conduct and example. It regards manners and behaviour not as purely external things, however rigidly they may be codified or however uniformly observed, but as the mirror of the inner man. Good manners are more than a mere set of rules for deportment: they are related to morals, and through morals to religion.

However rough and unsystematic, this description should have served to suggest the outlines of a familiar type. It may have recalled Thomas Arnold's

famous definition of his purpose of a teacher, "to make boys first Christians, then gentlemen, and then scholars." Such an ideal has inspired the British ideal in education, as in one way or another it has so often been realised in practice and demonstrated in life.

It is natural enough that the British ideal should have become particularly associated with the public schools. They long antedate every other part of our educational system except the old grammar schools (from which they are only accidentally dissociated) and the ancient Universities and Colleges. All the rest has been a modern creation, and bears certain of the marks of the more utilitarian age in which it originated. Moreover, this ideal has specially flourished in conjunction with the residential system, under which the influence of the school or the college over the pupil is raised to the highest power. If the expense of that system be borne in mind, it is natural to connect the tradition we are considering with the type of education which is enjoyed by the wealthy and closed to all others. It seems like the prerogative of a class. It is contrasted with the education available to the bulk of the nation. As such it is exposed to severe criticism.

Yet the criticism is misconceived. The chief reason why the tradition is so much linked with the older schools and Universities, which are mostly residential and mostly expensive, is simply that being the oldest they were the first to develop it, and that through them it has chiefly been transmitted. Properly understood, it is a national possession. To-day, in a world of change, uncertain of itself and distrustful of what is old, it is in danger of being thrown away. We cannot, in my view, do without it. It reaches back a long way into our history, and is an essential part of our national character. Nor is it ours alone. I have called it British, and so it is, in the widest sense, for it has been carried wherever British thought and the British way of living have been extended.

Our educational ideal is therefore to be regarded as a national inheritance with a long history. The educational institutions by which it has been conveyed to our modern age derived it from the experience of bygone centuries. It is a composite product, and my task is to indicate the various elements which are blended in it.

The beginnings of our enquiry take us back to the Middle Ages. There we find two educational disciplines. The mediaeval school was chiefly intended for the training of the clerk and the lawyer, and was ecclesiastical and vocational. It had little relation to the needs of the layman. For him, the main provision made was connected with the feudal household and court. Such households and courts were in effect schools with a curriculum, and a teaching staff, both clerical and lay. The curriculum is summed up in this description of the duties of the Master of Henxmen in the Court of King Edward IV—"to teach the urbanity and nurture of England, to learn them to ride cleanly and surely: to draw them out also to justice: to learn them wear their harness: to have all courtesy in words, deeds and degrees: diligently to keep them in rules of goings and sittings after they be of honour. Moreover to teach them sundry languages and other learnings virtuous: to harp, to pipe, sing and dance, and withal other honest and temperate behaviour and patience: and each of them to be used to that thing of virtue that he shall be most apt to learn, with remembrance duly of God's service accustomed." This curriculum sums up the various elements which one by one had been brought within the nurture of chivalry.

Chivalry presented a complete way of life, and a complete scheme of training for life. It began when the child at the age of seven years was sent from home and from his mother's care to the Court of his father's feudal lord. There he served for seven years as a page. The women instructed him in household and even menial duties, and in the rendering of personal service, and from them he acquired the elements of religion and of moral principle—and, oddly enough, considering his tender age, the etiquette of love. By the men he was taught running and leaping, wrestling, and riding. At fourteen he became a squire. He learned to use weapons, to manage a war-horse, to keep martial equipment in good order. He became proficient in sports like hawking and hunting. The art of hospitality demanded that he should know how to adorn a room for a ball or a charade, how to wait at table, and how to carve. The requirements of social intercourse in hall and bower, demanded due observance of etiquette, encouraged some degree of proficiency in music and poetry, and in games like chess and backgammon, and even permitted a modest indulgence in the art of literary composition. These aptitudes acquired, at the age of twenty-one, and to the accompaniment of a solemn ceremonial of *adoubement*, or dubbing to knighthood, a ceremonial which developed an elaborate symbolism deeply charged with religious significance, the young man received the sword and harness of a knight.

In its developed form, chivalry meant an enlargement, enrichment, and refinement of a way of life originally crude and barbaric, an example of which may be found in the legendary Sir Bevis of Hampton, of whom Professor Hearnshaw remarks that "his only considerable activity was homicide." This development, a slow and gradual process, was governed by the influences of courtly life and of the Christian Church. From the former came rules of courtesy and demeanour, a taste for music and the arts, and perhaps a dawning appreciation of learning in a society not greatly addicted to its cultivation. From the latter was derived a moral code, imparting a new excellence and deeper sanctions to the knightly virtues of courage and fidelity, which were of pagan origin, and adding other virtues more distinctively Christian, such as humility, beneficence and chastity.

However much developed and refined, the chivalric ideal suffered from characteristic defects. It remained essentially the vocational training of a military class. It trained men for careers of action as soldiers, implied a military conception of life, glorified war for its own sake, regarded arms as the only career worthy of a gentleman, and inspired love of bloodshed and contempt for human suffering. While encouraging individual daring, initiative and independence of character, it overemphasised the merely impulsive virtues. Prizing instinct above reason, it led to the wildest extremes of conduct. While in theory chivalry did not denote a class, for no one could be born into it, and any man might achieve it, it tended to become closed. In mediaeval stories, as Dr. Coulton has remarked, the baseborn man who shows knightly virtue generally turns out in the end to be a king's or nobleman's son in disguise. Finally, since chivalry valued arms above all else, it tended to give rise among its less intelligent exponents to a boorish and noisy contempt for books and learning. Pace, writing at the beginning of the sixteenth century, tells us of one such instance. A gentleman angrily exclaimed in his hearing: "I swear by God's body I'd rather my son should hang than learn letters. For it becomes the sons of gentlemen to blow the horn well, to hunt skilfully, and elegantly carry and train the hawk. But the study of letters should be left to the sons of rustics." To this Pace replied: "You

do not seem to me, good Sir, to think aright. For if any man should come to the King, such as the ambassadors of princes are, and an answer had to be given to him, your son if he were educated as you wish could only blow his horn, and the learned sons of rustics would be called to answer, and would be far preferred to your hunter or fowler son." Skelton celebrates the same type in characteristic verses:

" But noblemen born,
To learn they have scorn.
But hunt and blow an horn,
Leap over lakes and dykes,
Set nothing by polytykes."

That the English tradition of education, so far as it was derived from the nurture of chivalry, drew rather on its nobler than its baser elements, must be ascribed to historical processes which underlay the very being of the nation. Nowhere had feudalism been less military than in England. The English landed class had so long been engaged in the business of governing their country as members of parliament, sheriffs, and justices of the peace, that they could only think of themselves as soldiers in the most amateurish fashion. To them, arms were an accomplishment rather than a profession. Nowhere else, again, were the lines of demarcation between class and class more easily overpassed, so that the lesser landowner or even the merchant could rise to knighthood, while the younger sons of knightly families sought fortunes in trade. By the sixteenth century the diffusion of gentility was wide. Sir Thomas Smith observes with some disgust: "As for gentlemen, they be made good cheap in England. Whosoever studieth the laws of the realm, who studieth in the Universities, who professeth liberal sciences, and, to be short, who can live idly and without manual labour . . . shall be taken for a gentleman." So the law, so far as judges, serjeants, benchers and barristers were concerned; medicine, though its claim was inferior as it dealt with the body and in its nature might be loathsome, and other professions came to be adjudged not incompatible with gentility and knightly rank. What was essential was that a gentleman should be brave, truthful, courteous and generous. The chivalric virtues were to be shown chiefly in its discharge of the duties of private and public life. Experience shewed, however, that by themselves they were insufficient for the proper fulfilment of these duties.

The sphere throughout which the English gentleman was expected to prove his quality had by the Tudor age become immensely wider. As the Crown grew stronger he had to deal with local administrative and judicial business in petty or quarter sessions and to apply the "stacks of statutes" beneath which his back was bowed. He had to exercise the local levies under a commission of array. On a higher level of duty he might have to represent a shire or borough in Parliament. He might rise to command the ships and the armies of the Crown, or share in the deliberations of the Privy Council and Star Chamber. No other government in the world depended so largely as the English on the unpaid service of the gentry. They were no mere class of officials. They were unpaid amateurs. They were *generosi*, able to show to their inferiors a nobler way of life, and to prove that a gentleman is "one who accepts his position and its responsibilities." Their obligations were unrelated to material considerations and must be grounded on a sense of honour. On this, as on other essential matters, they were fortified by the inherited tradition of chivalry. Yet the chivalric nurture was insufficient to meet the total demands made on them. A far wider

range of aptitudes must be cultivated. The ruler needed an education which imparted a knowledge of the law, the politics and the institutions of his own and other countries, of languages and of oratory: one which set before him the instruction and inspiration of great historical examples and instilled into him a keen and delicate sense not merely of personal loyalty, as chivalry had done, but of public duty: above all, one which gave knowledge. To *rule*, it was evident, a man must *know*.

What was needed was provided by the Renaissance, in the peculiar form which it assumed in England.

The essential quality of the Renaissance in England was not the cultivation of pure classical scholarship. Indeed the succession of great English scholars which began in the late fifteenth and early sixteenth century, and which was justly comparable with the greatest elsewhere in Europe, fell off remarkably during the Elizabethan age. Yet the influence of the ancient classics on English life and thought mounted steadily meanwhile. Two special features of the process indicate its significance. The first is the preference which was evinced for works of history, biography, politics and oratory, rather than for the great masterpieces of classical poetry and drama. The second is the remarkable vogue enjoyed by translations, which brought the teaching of the ancient world to a far wider public than was reached by the labours of pure scholars. The fact seems to be that the English mind in this formative period was little attracted by pure scholarship, but immensely interested in the practical applications of classical thought.

Classical influence entered English education through yet another channel. Besides direct contact with the classics and acquaintance through the translations, Renaissance England drew on French and Italian writings deeply imbued with the classical spirit. One of these—there were many—deserves special mention. The *Cortegiano* of Baldassare Castiglione, translated by Sir Thomas Hoby, appeared in four editions between 1561 and 1603. Deeply imbued with Platonism, it depicted an ideal of all-round human excellence. The courtier was to be developed alike in physical aptitude, in intellectual cultivation, in courtly elegance, and in wisdom as the counsellor of princes. The book was immensely influential. But its influence was transmuted into a characteristic form. Where Castiglione had set forth the excellences of a courtier, English thought delineated the qualities of a governor, a gentleman engaged in the practical business of ruling.

What was needed in order to apply the Renaissance conception to English conditions was provided by Sir Thomas Elyot in his *Governour*. Here we find in an English form the full Platonic conception of life. Knowledge is not enough. It must issue in action, and that action will shape the world into a pattern of perfection which will mirror the inward perfection of those individuals who rule it. Through his qualities of justice, courage, perseverance, incorruptibility, moderation and self-control, the governor will make England a "common weal equivalent to the Greeks and Romans." He will not vulgarly regard authority as a mere privilege. He will soberly assume it as a charge and a responsibility. Honour is the vital principle of authority.

At this point the close sympathy between the ideals of chivalry and of classicism becomes evident. Where they did not coincide they were complementary. At the point however at which they fused, to constitute the English educational tradition, a third vital influence entered. It was that of religion.

It was of course contained in each of the other two. But the piety associated with chivalry had been formal and ceremonious, and that associated with Christian humanism had been scholarly, bland and unemotional. Neither inculcated any profound personal piety, and neither tended to assign to religion any high place in education. But the formative sixteenth century, which witnessed the fusion of the chivalric and the classical ideals, was also an age deeply moved by religious forces, which in England tended strongly in a single direction, that of making religion individual and personal, the unobtrusive driving force of personal conduct. As it became less ecclesiastical, it became more lay in spirit. As it became less institutional, it became more individual. Its supreme end was to communicate spiritual energy and guidance to individual life.

The sixteenth century exhibits many examples of the combination of the three-fold influence of chivalry, of classicism and of religion in shaping personal character and determining the type of training best fitted to produce the type most admired. On these individual examples, which would include Sidney, Spenser, and others, there is no time to dwell. The point I wish to emphasise is that, to an increasing extent, these great men of a great century were products of schools and universities. At the beginning of the century, it was a rare thing to find in public life a man who had passed through that discipline. By the close, it was the rule. Elyot was the last English educational writer who favoured education in the household and not the school. The century was marked by numerous foundations of schools and colleges, and into these, rather than as in earlier times into feudal households, the highborn youth of England passed. On both, a profound and lasting change was brought. As before, they were dedicated to religion, but it was now the religion of laymen rather than of professional ecclesiastics. In both schools and colleges, learning turned from the old scholasticism to the liberal studies fostered by the classical revival. In both, manners and ways of living began to bear an increasingly aristocratic character.

By the end of the sixteenth century the main lines of the English educational ideal, which has become the British one, were firmly fixed. It was animated by a profound sense of public duty, stimulated by classical influences, fired by religious ardour and fortified by the personal loyalty engendered by chivalry. From chivalry was also inherited the tradition of personal prowess. The knight had gone forth to meet danger. The English gentleman faced it boldly when it came. To him, however, war was not the purpose of the State. Love of peace pervades English educational literature, and love of the arts of peace, such as letters and music, fine building and furnishing, pictures and tapestries. In this respect classical influence is strong, and that of chivalry shades off into a characteristic love of physical pursuits, of games, of field sports of the open air and the country. To be a gentleman may mean being a warrior, but it includes much else, and notably the pursuit of learning. Learning should not be vocational. Yet it has a practical outcome. It is a preparation for action. It must not be kept for one's own enjoyment. It does not mean seclusion in an ivory tower. "A right gentleman must be fit for the wars and fit for the peace, meet for the court and meet for the country." Ready adaptability, an easy mastery of all means, should distinguish him. All his attributes are to be regarded as polite accomplishments. Alike as warrior, statesman, scholar, man of letters, musician and artist, the English gentleman loves to be considered an amateur, widely-cultivated and humane.

In its subsequent history, the ideal has at times sadly degenerated. Yet it has never been wholly lost and has often been powerfully revived. It is now in danger. Its defects are obvious. Its too aristocratic temper tends to make it distrustful of competitors for power and slow to concede the claims of others for political advance. Its high individualism seems to fit ill into an increasingly collective world. Its amateurism puts it at a disadvantage in an age of technocracy, which is increasingly inclined to rely on the professional and the expert. In time of war it becomes especially evident that fighting is no longer a chivalric game. In time of peace what seems to be needed is no longer the cultivated amateur, but the trained scientist who is the master of industrial and productive processes. Attachment to a literary tradition seems to offer an inadequate training for the problems of modern government. Yet our age will do well not to become unduly preoccupied with the deficiencies of the great tradition. Its better qualities may prove in the end far to outweigh them. Its sharp insistence on individual duty may not be misplaced in a society which has lately been more concerned to emphasise men's rights than their duties. Its demand for individual initiative and service may serve to correct tendencies towards leaving everything to the action of the State. The value it attaches to a broad culture grounded on the humanities, including letters, art and music, may balance the defects of a purely scientific discipline. Most of all, perhaps, the central position which it assigns to religion may serve to inspire a sense of ultimate spiritual values which a purely secular notion of education omits, neglects and even despises. The task which awaits us, I would suggest, is that of preserving and developing those elements which we judge to be noble and great, and of using it as the inheritance of a broadly democratic society.

ANNUAL MEETING.

The Annual Meeting of Shareholders and Members was held in the Old Museum Buildings on Wednesday, the 3rd November, 1943, at 3.30 p.m.

Among those present were Dr. S. W. Allworthy, M.A., M.R.I.A., President (in the Chair), Messrs. Gilbert J. Chapman, J.P., F. J. Cole, M.R.S.A.I., Alec Davison. Mrs. Jeanne Cooper-Foster, Dr. R. H. Hunter, M.R.I.A., Messrs. R. S. Lepper, M.A., Hugh C. Love, Trevor Montgomery, Professor W. B. Morton, M.A., D.Sc., Professor Gregg Wilson, M.A., D.Sc., Mr. W. H. Workman, M.B.O.U., Capt. J. R. Young, F.R.I.B.A., Messrs. W. B. Burrowes, F.R.S.A.I. and A. Deane.

Apologies for inability to attend were read from Lord Londonderry, Col. Berry, M.R.I.A., Mr. A. Albert Campbell, F.R.S.A.I., Professor T. T. Flynn, D.Sc., Rev. J. R. McDonald, M.A., and Mr. Robert A. Mitchell, LL.B.

The Hon. Secretary read the notice convening the meeting and reported that it had been advertised in the daily papers.

ANNUAL REPORT.

The Chairman called upon the Hon. Secretary to read the Council's report for the year ending 31st October, 1943, as follows:—

Your Council submits to the Shareholders and Members the report of the work of the Society during the year 1942-43, its 122nd session:

LECTURES. The war has curtailed to some extent the Society's activities but it can be said with satisfaction that the lectures arranged during the present session by the Council were very successful, being well attended and appreciated, provoking an interesting discussion at the close of each lecture.

Perhaps it would be as well to note here that your Council has arranged an equally interesting series of lectures for the coming session.

Mr. Denis Winston, the Chief Architect of the Ministry of Home Affairs, will deal with "The Problem of the Industrial Town," and no doubt the lecturer will refer particularly to the problems of Belfast.

A natural history lecture entitled "Wild Wings," illustrated by slides, will be given by Mr. Eric Hosking. Mr. Hosking is a well-known popular lecturer on nature subjects and is among Britain's foremost nature photographers. His illustrations on the screen will be of great interest.

The Rev. Dr. W. L. Northridge, whose interest in psychology is well known, will speak on "Obsessions."

"Stones and Builders." This will be an account of human civilisation enshrined in durable material throughout the ages. The subject will be dealt with by Mr. J. E. Barton. Mr. Barton has been Dominion Art Lecturer for the National Gallery, Canada, and has visited Sweden on behalf of the British Council to address societies on British art and literature. He has also figured from time to time in the "Brains Trust" programmes of the B.B.C.

Ann Bridge, who in private life is Lady O'Malley, a well-known novelist and who has spent a good deal of her time abroad, will give an address on "A Problem for the Balkans," while Mrs. Jeanne Cooper-Foster will speak on "Ulster Folklore." Mrs. Cooper-Foster has lectured to various societies and for many years has broadcast in the programmes of the B.B.C. and Radio Eireann.

Much of her work has been published in "The Lecturer" and other journals. At the last meeting in March I propose to deal with a botanical subject, "The Life History of a Tree," illustrated by slides.

Your Council feels that the success of the meetings during the session just closed was largely due to holding them on Saturday afternoons and during the coming session the meetings will be held again on Saturday afternoons. Large attendances are expected with such an attractive programme.

A printed list of the lectures will be sent to Shareholders and Members and each lecture will be advertised in the papers, but no further notices will be sent owing to paper shortage.

R. I. Academy Members of the Council learned with pleasure and satisfaction that our President, Dr. S. W. Allworthy, has been elected a member of the Royal Irish Academy. For many years Dr. Allworthy has taken an active and practical interest in local organisations and educational matters generally.

SHAREHOLDERS AND MEMBERS. The number of Shareholders and Members at the end of the year just closed stands at 150 as compared with 141 in the previous year. Eight ordinary members have been elected during the year.

One Share (No. 370) which was registered in the name of the late Sir Joseph Larmor has been transferred to the name of Dr. Richard H. Hunter, Queen's University.

One Share (No. 451) registered in the name of the late E. J. Elliott, a transfer has been effected into the name of Mr. J. Crawford Shaw, 2 Wellington Place, Belfast.

Three Shares (No. 227) registered in the name of the late Thomas Workman have been re-issued to Major Robert Workman, Craigdarragh, Helen's Bay.

H. C. LAWLOR. Your Council announces with regret the death of Mr. H. C. Lawlor who played a notable part in Irish Historical and Archaeological research especially in Northern Ireland; and was the author of many contributions to these studies. Your Council has recorded in its minutes at a meeting held on the 20th October the following resolution:—

"The Council desires to record with regret at this first meeting assembled since the death on the 4th September, 1943, of Mr. H. C. Lawlor who was well known as an archaeologist and historian. He was President of the Society in 1933-34 and it was largely due to his efforts that an Archaeological Section was founded in 1917. He acted as its Honorary Secretary for many years, organising and directing excavations under its auspices. He took an active interest in originating and framing the Ancient Monuments Act (N.I.), 1926, of which he was a member of its Council since its inception. He published four books and many papers, the results of his own research, which were printed in the Society's Proceedings and other journals. He was made a Member of the Royal Irish Academy in 1916 and received the honorary degree of M.A. from Queen's University in 1924."

An obituary by Mr. F. J. Cole, a member of Council, will be printed in the Proceedings (pages 107 and 108).

BEQUEST. During the year your Council has received a cheque for £250, being the legacy bequeathed to the Society under the will of Sir Joseph Larmor for the advancement of the Society's objects. The address on Sir Joseph Larmor given this session by Professor Morton will be published in the Proceedings. (Page 82).

EXCHANGE OF PUBLICATIONS. Your Honorary Librarian reports that in spite of the war a number of publications of societies and institutions have been received and acknowledged. The usual distributions have been made between the Libraries of Queen's University and the Museum and Art Gallery. No new exchanges have been effected during the year. A letter was received from the Norwegian Ministry of Education, London, asking to have reserved for the Bergen Museum copies of all publications issued during the present war.

THE BUILDING. Your agents, Messrs. Davison & Dickey, report that the building has been fully let during the year. They are glad to state the nightly lettings show a substantial increase, the income being £32 14s. 6d. for the year ending 31st October, 1943, which with the rent of £14 10s. 0d. paid by the Naturalists' Field Club makes a total of £47 4s. 6d. as compared with £20 16s. 0d. for the previous year.

In addition, the Lecture room is being used on Sundays and the Council room on Wednesdays by the Christadelphian Ecclesia. For this they are paying £95 a year.

The improvement in nightly lettings appears to be due to the shortage of suitable rooms in Belfast.

The substantial iron railings in front of the Society's buildings, probably erected in 1831 when the building was opened as a Museum, have been removed for war purposes in common with other railings in the city. The removal of the railings and the old armour plate earlier to be used for the same purposes gives an open appearance to the frontage.

COUNCIL MEMBERS. In conformity with the Society's Constitution the following five members retire by regular rotation, namely, Dr. Allworthy, Messrs. A. A. Campbell, F. J. Cole, A. Deane and Dr. E. E. Evans. The meeting will be called upon to elect five Shareholders or Members on to the Council to make up a Council of fifteen members for the government and management of the Society during the year. The following four retiring members are eligible and offer themselves for re-election: Dr. Allworthy, Messrs. A. A. Campbell, F. J. Cole and A. Deane.

FINANCIAL STATEMENT. Your Hon. Treasurer (Mr. W. B. Burrowes) will now place before you the financial statement which will be submitted to the Local Government Board Auditor.

Mr. Burrowes, in presenting the financial statement, said:—

The Society commenced the year with a small credit balance of £5 10s. 9d. and when the financial year ended there was a favourable balance of £283 15s. 1d.

Special mention must be made of the bequest of £250 received from the Executors of the late Sir Joseph Larmor, which was paid to us during the year.

The subscriptions amounted to £31 16s. 0d. against £53 10s. 0d. for 1942, but a considerable amount has been received since the accounts were closed. Rents show a good increase—£196 13s. 6d. for 1943; £137 17s. 11d. for the previous year. Dividends amount to £9, but a further £9 will be recovered as Income Tax refund.

On the expenditure side Insurance cost £7 5s. 0d. this year and £15 8s. 2d. for 1942. Printing stands at £37 19s. 8d. (1943), £75 2s. 8d. (1942), the latter amount being for two years' printing of Proceedings. Lectures and Advertising show an increase but the other items remain fairly constant.

The statement shows the financial condition of the Society to be very satisfactory. The audited accounts will be found on page 109.

The Chairman in moving the adoption of the reports recalled that the Society had been in existence for 122 years and spoke of its achievements for general education from its initial stages. Continuing, the Chairman mentioned that the Director of Education, Dr. J. Stuart Hawnt, had recently said that "there was an awakening in Belfast to the cultural needs of the people." The small group of ingenious men who founded this society in the year 1821 had very similar ideals in mind and fostered the love of learning which Mr. Duff Cooper had stated becomes debased when it is made only second to the love of money.

During the recent air raids on the city, the Chairman continued, the building which was formerly the Working Men's Institute and Temperance Hall, was demolished. It was an old landmark at the corner of Castle Street and Queen Street and was in its day, amongst others, one of Belfast's very creditable awakenings and most cherished educational assets. In the year 1869 the site was acquired under a deed of trust* by a number of prominent and philanthropic citizens at a cost of £1,800 and the building which was erected upon it cost nearly £7,000. The institute was inaugurated by the Earl (afterwards the Marquis) of Dufferin and the Most Noble the Marquis of Donegal was its first President, the first name on the council being that of Lord Dufferin.

During the winter months a series of Saturday evening lectures, readings and popular concerts were arranged by the Committee. Educational classes in connection with the Government Department of Science and Art were conducted, which included such subjects as mathematics, mechanics, physics, chemistry, biology, botany, navigation, steam, and physical geography. At the first examination, the students acquitted themselves with signal distinction, securing the following:—Silver National Medal (only one gained by Ireland); two studentships in the Government School of Mines, London; thirty-four first-class certificates and Queen's prizes and fifty-two second-class certificates.

In almost all the subjects and especially those which were of the highest practical value to such a great and growing commercial centre as Belfast, the Institute stood above the average in successes, and below the average in failures of the whole of the United Kingdom.

However, with the advent of such Institutions as the Municipal College of Technology, which held its first classes in the old building, the Public Library, the Museum and Art Gallery, the work naturally drifted to other centres and came to an end.

It had a praiseworthy and highly creditable record.

*The ground on which the Institute was built was acquired under a deed of trust between Thomas Gaffikin, Esq., John Ross Neill, Jeweller, and Edward Allworthy, gentleman, all of Belfast, in the County of Antrim, (and hereinafter called the "Grantors") of the first part; Thomas Gaffikin, jun., of Belfast, aforesaid, merchant, of the second part; and Thomas McClure of Belmont in the County of Down, Esquire, Member of Parliament; John Grubb Richardson, of Moyallon in the County of Down, merchant; Marriott Robert Dalway, of Bellahill, in the County of Antrim, Esquire, Member of Parliament; Samuel Brown of Belfast, aforesaid, M.D., Surgeon to the Royal Navy; Bernard Hughes, of Belfast, aforesaid, merchant; the said Thomas Gaffikin, Robert Lawrence Hamilton, of Belfast, aforesaid, merchant; William Macargur Scott of Belfast, aforesaid, merchant; Alexander Johns, of Belfast, aforesaid, Esquire; Thomas Greer of Belfast, aforesaid, merchant; and Thomas Valentine of Belfast, aforesaid, merchant; (who are hereinafter called the "trustees" of the third part).

There were many other educational activities in the past activated by those whose vision and work should not be forgotten in the history of the people of Belfast. Amongst the old private schools was Mr. Sam Bullick's in 82 High Street. This house was just opposite St. George's Church and was recently demolished. His pupils excelled in beautiful writing and penmanship, which was a very desirable acquisition before the introduction of typewriters. The work of the old National school-teachers, who gave most faithful service for a very meagre remuneration, gained the affection and lasting gratitude of their pupils.

It is only necessary to mention the fame of Campbell College, the Belfast Royal Academy, the Royal Belfast Academical Institution, the Methodist College, the Victoria College and others along with the transition stages of the Queen's University of Ireland and the Royal University, which culminated in Belfast having the honour of possessing its own Queen's College and University.

The Chairman also referred to the satisfactory series of lectures given by the Society during the session and to how well they were attended. It was gratifying, he said, to know that so many new members had joined during the year and that the financial statement as submitted by Mr Burrowes was so sound. He mentioned the assistance he had received from the Hon. Treasurer and Hon. Secretary.

The adoption of the reports was seconded by Gilbert J. Chapman, J.P., and passed unanimously.

ELECTION TO COUNCIL. The Chairman called for nominations to fill the five vacancies on the Council.

It was proposed by Dr. R. H. Hunter and seconded by Mr. R. S. Lepper that the four retiring members be re-elected and that Professor T. A. Sinclair be elected as the fifth member.

The names are as follows:—Dr. S. W. Allworthy, A. A. Campbell, F. J. Cole, A. Deane and Professor Sinclair.

As there were no further nominations, the Chairman declared the five persons whose names were read duly elected to the Council for three years.

ANY OTHER BUSINESS. Professor Morton, in thanking the President (Dr. Allworthy) on behalf of those present for his services during his third year of office, referred to the admission of the President to membership of the Royal Irish Academy. Dr. Allworthy, Professor Morton said, was a man of wide culture and of the type which should be welcomed by such a body; his knowledge was acquired for the love of it, with no relation to his livelihood. Continuing, Professor Morton mentioned that the Academy was one of the few places where Irishmen of different colours—green, orange and blue—could meet with mutual appreciation in the cause of learning and scholarship. (Applause.)

Dr. Allworthy thanked Professor Morton and those present for their kindness and appreciation; and as there was no further business he declared the meeting closed.

Subsequently a meeting of the new Council was held to elect officers for the year when Dr. S. W. Allworthy was unanimously re-elected President.

ARCHAEOLOGICAL SECTION.

The Annual Meeting of the Archaeological Section was held in the Old Museum Buildings on Thursday, 18th November, 1943, at 3.30 p.m. Mr. A. Albert Campbell, F.R.S.A.I., Chairman of the Section, was in the Chair.

Apologies for non-attendance were received from Lord Londonderry and Mr. W. Bel Burrowes.

The Chairman having made a feeling reference to the loss which Ulster Archaeology had sustained by the death of Mr. Henry Cairnes Lawlor, M.A., M.R.I.A., the Hon. Secretary of the Section was instructed to convey the deep sympathy of the meeting to Mrs. Lawlor and her family on the motion of Mr. Lepper, seconded by Mr. J. T. Greeves.

The following report of the Committee in respect of the year ending 31st October, 1943, was read by the Hon. Secretary of the Section (Mr. F. J. Cole):—

During the year 1943 there have been no archaeological investigations under the auspices of the Section. In war time work of this character cannot be regarded as essential and must necessarily be restricted through difficulties created by lack of transport and labour.

For many years our field activities have been guided by Mr. Oliver Davies who is at present abroad on duties of national importance, and Dr. E. Estyn Evans whose professional work at Queen's University and elsewhere is much greater than in normal times. As archaeologists of eminence and repute these gentlemen have been largely instrumental in directing prehistoric research in Northern Ireland into scientific and accurate channels in respect of which a reliable continuity is hoped for when hostilities come to an end.

Meantime there is little that can be done except to record any accidental discoveries which may come to light consequent on military or agricultural operations.

The report was unanimously adopted on the motion of Dr. E. E. Evans, seconded by Mr. Deane.

The Hon. Secretary read a communication which had been received from Colonel R. G. Berry in support of a suggestion from the Rector of Annalong regarding the excavation of the site of the 6th century church called St. Mary's at Ballyneery close to the Bloody Bridge near Newcastle, Co. Down, as well as of the site of the pilgrims' camp on the plateau above the bridge. A brief discussion regarding the matter took place and although it was felt that the present time was unfavourable for such work, Dr. E. Estyn Evans undertook to visit these places at the first opportunity and report with a view to the consideration of excavation after the conclusion of hostilities.

Attention was drawn by Mr. Lepper to the fact that the Annual Meeting of 1943 was entitled to elect two more members of committee than had been elected and in consequence it was decided that this should be done; the committee could, if desired, co-opt two other members.

The following committee was elected on the motion of Mr. Lepper, seconded by Mr. Greêves:—Dr. E. Estyn Evans, Messrs. A. Albert Campbell, R. S. Lepper, Professor T. A. Sinclair, F. J. Cole, together with the following ex-officio members:—Dr. S. W. Allworthy, President; Messrs. W. B. Burrowes, Hon. Treasurer; A. Deane, Hon. Secretary, and Mr. Oliver Davies, Queen's University.

Mr. Campbell having expressed a definite desire to be relieved of the Chairmanship of the Section, Dr. E. Estyn Evans was unanimously elected as successor to Mr. Campbell on the motion of Mr. Lepper, seconded by Mr. Deane, and Mr. F. J. Cole was re-elected Hon. Secretary.

There being no further business the meeting concluded.

COMMITTEE MEETING: A committee meeting was subsequently held when Mr. Lepper expressed a hope that in the near future something could be done to prevent the desecration and destruction of the older church graveyards.

As Dr. Evans felt he might be able to undertake some minor investigations during the coming year, it was decided on the motion of Mr. Lepper, seconded by Mr. Deane, to permit him to draw expenses up to the amount of £5. This concluded the business.

OBITUARY.

HENRY CAIRNES LAWLOR.



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THE LATE H. C. LAWLOR.

Lisnacrogher crannog stimulated a youthful interest in archaeology which was further developed by seeing and handling Neolithic and Bronze Age artefacts which were being carried in large numbers to Ballymena and Cullybackey at the hands of W. J. Knowles and Dr. Buick. His connection with the spinning industry necessitated residence in Belfast to which he removed in 1892 and the following year he was happily married to Miss Beatrice Kathleen McDonald, youngest daughter of Mr. Alexander McDonald, J.P., of Glenarm. In Belfast his business acumen and application brought success, and in a few years he became director and subsequently chairman of the firm with which he spent the greater part of his business life.

Ever a diligent seeker after historical fact, he was a prolific contributor to the journals and proceedings of various learned societies as well as to the public press. One of his first incursions into the realm of historical literature was "The Family of Cairnes or Cairns." Through his mother he was intimately related to the Tyrone branch of that family and had accumulated much useful information; nevertheless, his book entailed considerable research, was carefully written, and handsomely produced in 1906. As a family record it will always

Genuine regret is felt amongst the growing circle of those who are interested in the antiquities and history of the Northern Province at the passing of Henry Cairnes Lawlor. Son of Mr. John Hilliard Lawlor, Manager of the Provincial Bank of Ireland, Ballymena, he was born at the Provincial Bank House in that town on April 16th, 1870, ten years after the birth of his distinguished brother, Hugh Jackson Lawlor, who became Professor of Ecclesiastical History in Dublin University and Dean of St. Patrick's Cathedral. Educated at Connor Diocesan School, Ballymena, and at Galway Grammar School, the influences of his adolescent days had a profound effect in shaping the interests of the years of his maturity. Early association with Rev. Robert King, A.B., of the Ballymena school, who was himself an erudite historian, and residence in the western "City of the Tribes" quickened his powers of observation, and stirred his boyish imagination, while rambles with Canon Grainger amongst the antiquities of Skerry and the Braid, as well as initiation into the mysteries of

be consulted by students of local history because of its references to Sir Hugh McCalmont Cairns, who became Lord Chancellor of England, and the first Earl Cairns.

In face of opposition he was a vigorous supporter of the verdict of Mrs. Armitage and Dr. Goddard Orpen regarding the relationship of Norman mote and bailey fortifications with various Irish earthworks, and happily lived to see the investigations, in which he collaborated at Downpatrick and elsewhere, determine the history of the Norman Castle in Ireland.

In 1917 the excavation of the Giant's Ring near Belfast was effected under his supervision and shortly afterwards through his influence the Archaeological Section of this Society was formed. For several years he continued to act as the energetic secretary of the Section, during which period numerous excavations and restorations were carried out. Probably the most important operations associated with his years of office were the examination as well as the preservation of the remains of the Monastery of Saint Mochaoi of Nendrum, and the Friary of Bun-na-Mairgie, activities in which he took a leading part, in addition to which he not only published accounts of the original foundations, their history and their investigation, but he also devoted considerable time to raising the funds required for carrying out the respective schemes. Following his broadcast talks to schools in 1927 he published his "Ulster: its Archaeology and Antiquities," a book which was well received and is quite the best work of the sort that has been produced in Northern Ireland. In 1916 the Royal Irish Academy, to whose proceedings he was a frequent contributor, placed its "hall mark" upon his activities by electing him to membership: while in 1924 Queen's University of Belfast conferred on him *honoris causa* the well-deserved degree of Master of Arts. In 1933 our Society elected him to the highest position in its power by placing him in the presidential chair, an office he occupied with ability and distinction. Amongst other positions he held was that of Member of the Ancient Monuments Advisory Council of Northern Ireland, in connection with which he acted as one of the advisors for the Survey of 1940. In addition he was Secretary for Northern Ireland of the Society of Antiquaries, London; Local Secretary for Belfast and Co. Antrim on behalf of the Royal Society of Antiquaries of Ireland; and one of the Editorial Board of the Ulster Journal of Archaeology. All of these involved duties which, it is needless to say, were carried out with characteristic thoroughness. In the last few months of his busy life there was no indication that his day was far spent or that night was at hand. Pursuing his usual avocations he was also engaged in genealogical and historical research regarding prominent North Ireland manufacturing families for the purpose of articles he was contributing to a journal connected with the linen trade. Suddenly he was stricken down and in spite of the efforts of the physicians and surgeons who attended him, after an illness of three weeks' duration, he passed into the Great Unknown on September 4th, 1943. A few days later his earthly remains were laid to rest in the peaceful burying-ground at Glenarm, a village whose archaeological and historic associations invariably aroused his interest and recalled to his mind the happy memories of earlier years.

F. J. C.

EXCHANGES.

*Publications received during year.

- ABO—Publications of the Abo Academy.
 ADDIS ABABA—Bollettini di Idrobiologia, Caccia e Pesca della Africa Orientale Italiana.
- *ALBANY—Bulletins of the New York State Museum.
- *ANN ARBOR—Publications of the University of Michigan.
- ATHENS—Publications of the Zoological Institute and Museum.
- *AUCKLAND—Reports of the Auckland Institute and Museum.
- BASEL—Verhandlungen der Naturforschenden Gesellschaft in Basel.
- BERGEN—Publications of the Bergen Museum.
- BERKELEY, CAL.—Publications of the University of California.
- BERLIN—Publications of the Zoological Museum of Berlin University.
- BIRMINGHAM—Publications of the Birmingham Natural History and Philosophical Society.
- BLOEMFONTEIN—Publications of the National Museum of South Africa.
- BOSTON—Publications of the Boston Society of Natural History.
- BOULDER—Publications of the University of Colorado.
- BRIGHTON—Report of the Brighton and Hove Natural History and Philosophical Society.
- BRISBANE—Memoirs of the Queensland Museum.
- BRUSSELS—Annals Societe Royale Zoologique de Belgique.
 „ Bulletin Societe Royale de Botanique de Belgique.
- BUENOS AIRES—Anales del Museo Argentino de Ciencias Naturales.
- BUFFALO—Bulletins of the Buffalo Society of Natural Sciences.
- *CALCUTTA—Publications of the Geological Survey of India.
- CAMBRIDGE, MASS.—Publications of the Museum of Comparative Zoology.
- CARDIFF—Transactions of the Cardiff Naturalists' Society.
- CHICAGO—Publications of the Chicago Academy of Sciences.
- *CINCINNATI—Publications of the Lloyd Library and Museum.
- *COIMBRA—Publications of the Zoological Museum of the University of Coimbra.
- COLORADO SPRINGS—Publications of the Colorado College.
- COLUMBIA—Proceedings of the Missouri Academy of Science.
- COLUMBUS—Ohio Journal of Science.
 „ Bulletin of the Ohio Biological Survey.
- COVENTRY—Proceedings of the Coventry Natural History and Scientific Society.
- DANZIG—Schriften Naturforschenden Gesellschaft.
- *DUBLIN—Proceedings of the Royal Dublin Society.
 * „ „ Irish Historical Studies.”
- EASTBOURNE—Transactions and Journal of the Eastbourne Natural History and Archaeological Society.
- EDINBURGH—Proceedings of the Royal Physical Society.
 „ Proceedings of the Royal Society of Edinburgh.
 „ Transactions and Proceedings of the Botanical Society of Edinburgh.
 „ Proceedings of the Society of Antiquaries of Scotland.
- EXETER—Proceedings of the Devon Archaeological Exploration Society.
- GLASGOW—Transactions of the Geological Society of Glasgow.
- GORLITZ—Publications of the Natural History Society of Gorlitz.
- GOTEBORGS—Handlungar Regia Societas Scientiarum et Literarum Gotoburgensis.

- *HALIFAX, N.S.—Proceedings of the Nova Scotian Institute of Science.
 HOVE—Annual Report of the Brighton and Hove Natural History and Philosophical Society.
 INDIANAPOLIS—Proceedings of the Indiana Academy of Science.
 ITHACA—Bulletins of the Cornell University Agricultural Experiment Station.
 LA PLATA—"Manuferos Fossiles de la Republica Argentina."
 LAUSANNE—Memoirs and Bulletins de la Societe Vaudoise des Sciences Naturelles.
 *LAWRENCE—Bulletins of the University of Kansas.
 LIMA—Memorias Sociedad de Ingenieros del Peru.
 LJUBLJANA, YUGOSLAVIA—Transactions of the Natural Science Society.
 LONDON—Publications of the British Museum (N.H.).
 * " " Quarterly Journal of the Royal Microscopical Society.
 " " Publications of the British Association.
 * " " Proceedings of the Royal Institute of Great Britain.
 * " " Quarterly Journal of the Geological Society.
 " " Publications of the Viking Society for Northern Research.
 " " Reports of the National Trust.
 LOS ANGELES—Publications of the University of California in Los Angeles.
 LUND—Proceedings of the Royal Physiographic Society at Lund.
 MADISON—Transactions of the Wisconsin Academy of Sciences, Arts and Letters.
 MADRAS—Publications of the Government Museum, Madras.
 " " Publications of the Madras Fisheries Department.
 *MALVERN—Annual Report of Malvern Field Club.
 MANCHESTER—Journal of the Manchester Geographical Society.
 MELBOURNE—Proceedings of the Royal Society of Victoria.
 *MONTEVIDEOA—Archivos Sociedad de Biologia de Montevidea.
 MOSCOW—Bulletin de la Societe des Naturalistes de Moscow.
 NEWCASTLE-UPON-TYNE—Proceedings of the University of Durham Philosophical Society.
 NEW HAVEN—Transactions of the Connecticut Academy of Arts and Sciences
 NEW YORK—Annals and Transactions of the New York Academy of Sciences.
 * " " Bulletins of the New York State Museum.
 OSLO—Publications of the University Library, Oslo.
 *OTTAWA—Publications of the Geological Survey of Canada, Department of Mines.
 " " Publications of the Canadian Department of Agriculture.
 OXFORD—Proceedings and Report of the Ashmolean Natural History Society.
 PADOVA—Atti dell Accademia Scientifica.
 PHILADELPHIA—Proceedings of the Academy of Natural Sciences of Philadelphia.
 * " " Proceedings of the American Philosophical Society.
 POLSKA—Annales Panstwowe Museum Zoologiczne.
 PULLMAN—Research Studies of the State College of Washington.
 RENNES—Bulletin Geologique et Mineralogique de Bretagne.
 RIGA—Publications of the Latvijas Universitates, Riga.
 " " Professor Strand, F.L.S.—Folia Zoologica et Hydrobiologica.
 RIO DE JANEIRO—Archivos do Instituto de Biologia Vegetal.
 " " Archivos Botanico do Rio de Janeiro.
 " " Publications of the National Museums of Brazil.
 " " Publications of the Oswaldo Cruz Institute.
 ROCHESTER, N.Y.—Proceedings of the Rochester Academy of Science.
 SAN DIEGO—Transactions of the San Diego Society of Natural History.
 SAN FRANCISCO—Proceedings of the California Academy of Sciences.
 STILLWATER—Bulletins of the Oklahoma Agricultural and Mechanical College.

- STIRLING—Transactions of the Stirling Natural History and Archaeological Society.
- *ST. LEONARDS-ON-SEA—Report of the Hastings and St. Leonards Natural History Society.
Hastings and East Essex Naturalist.
- ST. LOUIS—Annual Report of the St. Louis Public Library.
- STRATFORD—The Essex Naturalist.
- STRAVANGER—Publications of the Stravanger Museum.
- SYDNEY—Annual Report of the Technological Museum, Sydney.
- *TORONTO—Transactions and Proceedings of the Royal Canadian Institute.
- *TORQUAY—Transactions and Proceedings of the Torquay Natural History Society.
- UPSALA—Bulletin of the Geological Institution of the University of Upsala.
- VIENNA—Verhandlungen Zoologisch-Botanischen Gesellschaft.
- *WASHINGTON—Annual Report of the Smithsonian Institution.
- * .. Proceedings of the United States National Museum.
- * .. Smithsonian Institution, Miscellaneous Collections.
- * .. Publications of the United States Geological Survey.
- * .. Publications of the United States Department of Agriculture.
- * .. Bulletin of the Bureau of American Ethnology.
- .. Contributed Technical Papers of the National Geographical Society.
- WELSHPOOL—Publications of the Powys-land Club.
- YORK—Annual Report of the Yorkshire Philosophical Society.
- ZURICH—Publications of the Natural History Society of Zurich.

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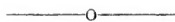
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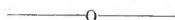
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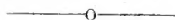
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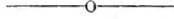
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FORM OF BEQUEST.



*I Bequeath out of such part of my personal Estate, as may by Law be bequeathed for such purposes to the Council of the Belfast Natural History and Philosophical Society, the sum of**

free from Legacy Duty, for the benefit of the Belfast Natural History and Philosophical Society, of the said City, to be expended in such way as it may deem expedient and I direct that the receipt of the Treasurer for the time being of the said Society shall be an effectual discharge of the said Legacy.

**Or Specimens of Art, Antiquities, or Natural History.*

NOTE.—Land or other Personal Estate may also be given by Deed or Will, to be applied for the purpose of the Belfast Natural History and Philosophical Society, provided that the Deed or Will, as the case may be, be executed not less than three calendar months before the death of the Donor, and that every Deed or Instrument, not being a Will, shall be duly registered in the Office for Registering Decds in the City of Belfast within three calendar months after the execution thereof.



PRESENTED
26 JUN 1946

