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INSTITIÚID ÁRD-LÉIGHINN BHAILE ÁTHA CLIATH
(Dublin Institute for Advanced Studies)

Annual Report of the work of the
Institute and its Constituent
Schools presented by the Council
to the Minister for Education in
respect of the Financial Year
1944-1945.

INSTITIÚID ÁRD-LÉIGHINN BHAILE ÁTHA CLIATH
(Dublin Institute for Advanced Studies)

Annual Report of the work of the Institute and its
Constituent Schools presented by the Council for the
Financial Year 1944-45.

In accordance with the provisions of Section 29 of the Institute for Advanced Studies Act, 1940 (No. 13 of 1940), the Council of the Institute has the honour to present to the Minister for Education for submission to the Government a report of the work and activities of the Institute and its Constituent Schools for the financial year ending 31st March, 1945.

The general purpose which it is hoped to accomplish is clearly stated in the Act establishing the Institute, namely, the Institute for Advanced Studies Act, 1940 (No. 13 of 1940) and in the Establishment Orders establishing the two Constituent Schools, namely, the Institute for Advanced Studies (School of Celtic Studies) Establishment Order, 1940, and the Institute for Advanced Studies (School of Theoretical Physics) Establishment Order, 1940, and need not be referred to here. It is deemed desirable, however, to include in the report for the purposes of record certain particulars about the Constitution of the Council of the Institute and of the membership of the Governing Boards of the two Constituent Schools on the 31st March, 1945.

The report is presented under the following principal heads:-

- 1°. Constitution of the Council of the Institute and of the Governing Boards of the two Constituent Schools on the 31st March, 1945.
- 2°. Report of the Governing Board of the School of Celtic Studies.
- 3°. Report of the Governing Board of the School of Theoretical Physics.

1°. (a) Constitution of the Council of the Institute.

CHAIRMAN:

The Reverend Patrick Browne, M.A., D.Sc.;

EX-OFFICIO MEMBERS:

Dr. Arthur W. Conway, M.A., D.Sc., Sc.D., LL.D., F.R.S.,
President, University College, Dublin;

Dr. Ernest H. Alton, M.A., Litt.D.,
Provost, Trinity College, Dublin;

Dr. Richard I. Best, D.Litt.,
President, Royal Irish Academy.

MEMBERS APPOINTED BY THE GOVERNING BOARDS OF THE CONSTITUENT SCHOOLS:

Right Reverend Monsignor Patrick Boylan, D.D., M.A., D.Litt.

Professor Thomas F. O'Rahilly, M.A., D.Celt.Litt.;

Professor Felix E. W. Hackett, M.A., M.Sc., Ph.D.;

Professor Albert J. McConnell, M.A., M.Sc., Sc.D., F.T.C.D.

(b) Constitution of the Governing Board of the School of Celtic Studies on the 31st March, 1945.

CHAIRMAN:

Right Rev. Mgr. Patrick Boylan, D.D., M.A., D.Litt.;

SENIOR PROFESSORS:

Thomas F. O'Rahilly, M.A., D.Celt.Litt.;

Richard I. Best, D.Litt.

APPOINTED MEMBERS:

Miss Eleanor Knott, M.A., D.Litt.;

Miss Áine de Paor, M.A., Ph.D.;

Reverend John Ryan, S.J., M.A., D.Litt.;

Reverend Francis Shaw, S.J., M.A.;

Liam Ó Buachalla, M.Comm., H.Dip. in Ed.;

Liam Ó Domhnaill;

Edward MacLysaght (Éamonn Mac Giolla Iasachta), M.A., M.R.I.A.;

Ernest Gordon Quin (Earnán Ó Cuinn), M.A., F.T.C.D.

(c) Constitution of the Governing Board of the School of Theoretical Physics on the 31st March, 1945.

CHAIRMAN:

Arthur W. Conway, M.A., D.Sc., Sc.D., LL.D., F.R.S.

SENIOR PROFESSOR:

Erwin Schroedinger, M.A., Ph.D., D.Sc.

APPOINTED MEMBERS:

Edmund T. Whittaker, Sc.D., LL.D., F.R.S.;

William H. McCrea, M.A., Ph.D.;

Felix E. W. Hackett, M.A., M.Sc., Ph.D.;

Albert J. McConnell, M.A., M.Sc., Sc.D., F.T.C.D.;

Alfred O'Rehilly, M.A., D.Sc., D.Phil., D.Litt.;

George R. Keating, M.Sc.;

Thomas Edwin Nevin, D.Sc.;

Ernest T. S. Walton, M.A., M.Sc., Ph.D., F.T.C.D.;

Thomas S. Wheeler, D.Sc., Ph.D., F.R.C.Sc.I.

/P.T.O.

2°. Report of the Governing Board of the School of Celtic Studies

(1) PROFESSORS, STAFF, SCHOLARS and RESEARCH WORKERS.

Professors:

Dr. Thomas F. O'Rahilly, Senior Professor and Director of
the School.

Dr. Richard I. Best, Senior Professor.

Dr. Michael A. O'Brien, Professor.

Assistant Professors:

Mr. Brian Ó Cuív;

Mr. Seán Mac Airt.

(Messrs. Brian Ó Cuív and Seán Mac Airt continued
as full-time Assistants (Grade I) until 1st July,
1944, when they were appointed Assistant Professors
in the School).

Assistants:

Mr. James P. Carney;

Miss Sheila Falconer.

(Miss Falconer continued as an Extern Research
Worker until 1st January, 1943, when she was
appointed a full-time Assistant (Grade II) in
the School).

Scholars:

Miss Máire Mhac an tSaoi.

Extern Research Workers commissioned to work for the School:

Reverend Father Canice Mooney, O.F.M.;

Mr. A. Martin Freeman;

Reverend Father Lambert McKenna, S.J.;

Dr. Séamus Ó Hinnse;

Dr. Tomás de Bhaldraithe;

Mr. Risteárd B. Breatnach;

Rev. Father Seán Ó Catháin, S.J.;

Reverend T. A. Jennings.

(2) THE WORK OF THE SCHOOL DURING THE YEAR.

(a) Investigation of Irish Dialects:

Brian Ó Cuív's work on "The Irish of West Muskerry" was published in April, 1944.

Tomás de Bhaldraithe's phonetic study, "The Irish of Cois Fhairrge, Co. Galway", was completed, and was published in February, 1945.

The printing of Risteárd B. Breatnach's work on "the Irish of Ring, Co Waterford", was begun.

(b) Editions of Irish Texts from MSS.

Richard I. Best's work on the "Book of Leinster" was continued.

Michael A. O'Brien continued his work on "Corpus Genealogiarum Hiberniae", the text of which was in print at the end of the period under review.

Brian Ó Cuív completed his preparation of an edition of "Cath Muighe Tuireadh". (The work has since been published).

Seán Mac Airt continued his work on the "Annals of Inisfallen". (Part of the text of this work has since been sent to the printers).

James Carney's edition of "Poems on the Butlers" was published in March, 1945, by which time he had already commenced work on a tract by D. Mac Fir Bhisigh entitled "De Scriptoribus Hibernicis".

Miss Sheila Falconer continued her preparation of an edition of the Irish translation of the "Quest of the Holy Grail".

Miss Máire Mhac an tSaoi's edition of two Arthurian Tales, "Eachtra Mhelóra" and "Céilidhe Iosgaide Léithe" was well advanced.

A. Martin Freeman's edition of the "Annals of Connacht" was completed. This work was published in June, 1944.

Rev. Lambert McKenna, S.J., completed his edition of "Bardic Syntactical Tracts", which was published in June, 1944.

Rev. Canice Mooney, O.F.M., completed his edition of "Smaointe Beatha Chríost" which was published in July, 1944. He then commenced work on two texts from MSS. in the Franciscan Library, Dublin, - "Manutiana" and "Topographical Fragments".

Séamus Ó Hinnse's work, "Miscellaneous Annals", was well advanced. The first proofs had been corrected by the end of the year under review.

(c) Early Irish History:

T. F. O'Rahilly continued his work on "Early Irish History and Mythology" in such spare time as he had at his disposal.

(d) Irish Place-Names:

Liam Price worked on the Place-Names of County Wicklow. (The first part of his work, dealing with the place-names of the Barony of Ballinacor North, has since been published).

(e) Welsh Literature:

Ifor William's Lectures on Early Welsh Poetry, delivered under the auspices of the School in March, 1943, were published in July, 1944.

(f) Dictionary of Classical Irish:

Some further work was done in excerpting words for the proposed Dictionary.

(g) "CELTICA":

Preparation was begun of the first number of "Celtica", a periodical publication (edited by T. F. O'Rahilly) in which it is proposed to bring together in one volume articles (texts, topographical notes, linguistic notes, etc.) not sufficiently long to be published separately in book-form.

(3) PUBLICATIONS FROM THE SCHOOL.

The following books were published from the School during the period covered by the Report:-

- | | Date of
Publication |
|---|------------------------|
| 14. <u>Annála Connacht</u> , edited by
A. Martin Freeman.
(pp. xxiv + 854) - price 42/- | 21/6/1944 |
| 15. <u>The Irish of West Muskerry, Co.
Cork</u> , a Phonetic Study by
Brian Ó Cuív, (pp. xii + 153)
— price 5/- | 24/4/1944 |
| 16. <u>Bardic Syntactical Tracts</u> , edited
by Lambert McKenna, S.J.
(pp. xviii + 304) - price 15/- | 29/6/1944 |

- | | Date of
Publication |
|--|------------------------|
| 17. <u>Lectures on Early Welsh Poetry</u> ,
by Ifor Williams. (pp. 76)
- price 2/- | 3/7/1944 |
| 18. <u>Smaointe Beatha Chríost</u> , Cainneach
Ó Maonaigh, O.F.M., a chuir i
n-eagar. (pp. xlvi + 401) -
price 10/6. | 13/7/1944 |
| 19. <u>The Irish of Cois Fhairrge, Co.</u>
<u>Galway</u> , a Phonetic Study by
Tomás de Bhaldraithe.
(pp. xii + 153) - price 5/-. | 20/2/1945 |
| 20. <u>Poems on the Butlers</u> , edited by
James Carney. (pp. xviii + 180)
- price 7/6. | 29/3/1945 |

3°. Report of the Governing Board of the School of Theoretical Physics.

(1) PROFESSORS AND SCHOLARS:

Professors.

Dr. Erwin Schroedinger, Senior Professor and Director of the School.

Dr. Walter Heitler, Professor.

Scholars.

Rev. Dr. James R. McConnell, Scholar.

Dr. Sheila Power, part-time Scholar.

Rev. Dr. Pius Walsh, O.F.M., Scholar.

Mr. Friederich I. Mautner, Scholar. (Entered 9th October, 1944).

Mr. Edward F. Fahy, part-time Scholar. (Entered 1st December, 1944).

(2) SEMINAR.

In the seminar the following subject-matters were reported on and discussed:-

In 1943 Einstein and Bargmann had put forward an entirely new possibility of "connection" in space-time, the "distant affine connection", with the hope that it might solve the difficulties encountered in framing a "unified field theory". Dr. Schroedinger reported on these ideas and on some work of himself and of F. I. Mautner, Scholar, intended to clarify Einstein's and Bargmann's original conception and to use it as a basis

for a wide-range generalisation of the General Theory of Relativity.

Dr. Heitler gave a course of lectures on Nuclear Physics. These were held in the same style as the lectures given in the previous year on Cosmic Rays and were intended to give an up-to-date survey of our knowledge of the atomic nucleus both from the experimental and theoretical point of view.

(3) STATUTORY PUBLIC LECTURES.

The statutory public lectures were delivered at Trinity College, Dublin, by Dr. T. E. Nevin on 12th March, 1945, and by Dr. Erwin Schroedinger on 19th March, 1945. The title of the lectures was "Light Signals from the Atom and How to Read Them".

(4) GENERAL LINES OF RESEARCH WORK.

The work (by Dr. Heitler and his pupils) on the theory of Cosmic ray mesons was resumed and improved in various ways. In particular Dr. Walsh was able to give a satisfactory account of the fact that mesons are always produced in groups consisting of several particles. At the request of the Editor of "Reviews of Modern Physics" this work was prepared for publication in a special number in commemoration of Niels Bohr's sixtieth birthday.

Dr. McConnell completed his investigation on negative protons with the result that these particles which are predicted theoretically must be expected to be exceedingly rare. The fact that they have not been observed so far is completely understandable.

Research work on distant affine connection is practically covered by Section 2 of this report.

(5) PUBLICATIONS FROM THE SCHOOL.

During the year covered by the Report, papers nos. 28 to 36 were published:-

- No.
28. E. SCHROEDINGER. The Statistical Law in Nature.
Nature. Vol. 153, p. 704.
15th May, 1944.
29. E. SCHROEDINGER. Rate of n-fold Accidental Coincidences.
Nature. Vol. 153, p. 592.
13th May, 1944.
30. E. SCHROEDINGER. The Affine Connexion in Physical Field Theories.
Nature. Vol. 153, p. 572.
13th May, 1944.
31. P. G. GORMLEY and W. HEITLER. On the Connection of Dirac's Quantum-electrodynamics and the Theory of Radiation Damping.
Proc. R.I.A., 50 A 4.
(Read 8th May, 1944.
Pub. 6th Sept., 1944).
32. S. C. POWER. Note on the Influence of Damping on the Compton Scattering.
Proc. R. I. A., 50 A 8.
(Read 13th Nov., 1944.
Pub. 22nd Jan., 1945).

- No.
33. E. SCHROEDINGER. On Distant Affine Connexion.
Proc. R. I. A., 50 A 9.
(Read 11th Dec., 1944.
Pub. 23rd Mar., 1945).
34. W. HEITLER. On the Production of Mesons by
Proton-Proton Collisions. II.
Proc. R. I. A., 50 A 10.
(Read 13th Nov., 1944.
Pub. 1st May, 1945).
35. P. WALSH. The Point Singularity in a
Non-linear Meson Theory.
Proc. R. I. A. 50 A 11.
(Read 11th Dec., 1944.
Pub. 24th May, 1945).
36. J. McCONNELL. Production and Annihilation of
Negative Protons.
Proc. R. I. A., 50 A 12.
(Read 11th Dec., 1944.
Pub. 6th July, 1945).

Moreover, in December, 1944, the Statutory Public Lectures delivered by Dr. Schroedinger in 1943 in Trinity College, Dublin, were published in book-form under the title "What is Life?" by the Cambridge University Press. The first English edition (5,000 copies) was sold out during the year covered by the report. An American edition is afloat. A second English edition is in preparation. So are translations into French, German, Italian and Spanish.

The second edition of the book "Quantum Theory of Radiation" by W. Heitler (Clarendon Press, Oxford) has appeared. At the request of the same publishers the book "Elementary Wave Mechanics" by W. Heitler (previously published in hectographed form at this Institute) was prepared for publication in proper book-form. For this purpose it was revised and considerably amplified.

D. MacGRIANNA

CLÁRATHÓIR

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CATHAOIRLEACH

26^o Márta, 1946