IVRLA¹ RESEARCH REPORT: RECONSTRUCTING IRISH SCIENCE; THE LIBRARY OF THE ROYAL COLLEGE OF SCIENCE (1867-1926)

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1. CONTEXT

Understanding the history of education is vital in establishing an appreciation of human development and the advances that have been made in discourse and pedagogy. Within the field of scientific education, the Victorian to Edwardian era constituted a golden age for science in Ireland and was marked by the foundation of the Royal College of Science for Ireland (RCScI)² in 1867. This research project considers the history of the RCScI,³ concentrating on how an examination of the book and journal collections that constituted the RCScI library can contribute to an understanding of scientific and technological education in Ireland.

Present day University College, Dublin (UCD) can trace its lineage back to several antecedent institutions, including the Royal College of Science for Ireland. UCD has only recently been fully centralised on the Belfield-Richview campus and is moving rapidly into the twenty-first century as a centralised, international and forward-looking institution. Hence,

The UCD Irish Virtual Research Library and Archive (IVRLA) is a major digitisation project which was undertaken by University College Dublin from 2005 to 2009. Material selected from UCD's extensive resources of archival and rare material was digitised and catalogued before being made available from a single virtual location (http://ivrla.ucd.ie). This digitised material covers a wide range of humanities and social science disciplines and is arranged in curated collections which can be browsed, searched, bookmarked, or downloaded. In addition to the digitisation of existing UCD collections, the IVRLA conducted a series of demonstrator projects. The remit of these projects was to develop additional digital research resources and to present these in the form of an exhibition collection. Some of these projects incorporated existing IVRLA material but many generated new content which was inspired by the potential of digital resources. Consequently, the IVRLA and its demonstrator projects show how digital repositories can provide access to diverse archival research materials as well as challenging the ways in which we consider digital content and generate research in a digital environment. The IVRLA is a component of the UCD Humanities Institute of Ireland and is funded under the Programme for Research in Third Level Institutions (PRTLI) Cycle 3, administered by the Higher Education Authority.

² The Royal College of Science for Ireland is referred to throughout this paper as RCScI to avoid confusion with the Royal College of Surgeons in Ireland, commonly referred to as RCSI, which was founded in 1784 and still exists today.

³ For assistance in relation to specific issues concerning the history of the RCScI and for her helpful comments on a final draft of this paper, the research team would like to thank Dr Clara Cullen.

⁴ UCD started its campus move in 1964 when the Faculty of Science moved to Belfield in Dublin 4. Over the following years, the university's other faculties were also relocated to the new campus. This was an extended process and some significant faculties did not make the move until much later; Engineering continued to be principally located in Merrion Square until 1989 with some sections of the faculty based in Earlsfort Terrace until 2003 while Medicine only finally relocated from Earlsfort Terrace in 2006.

it is particularly important at this juncture to develop an understanding of UCD's past as a decentralised university made up of many distinct and unique parts, one of which was the RCScI.

The foundation of the Royal College of Science for Ireland in 1867 was the result of intensive lobbying for a higher scientific institution in Ireland led chiefly by the chemist and educationalist, Sir Robert Kane. Evolving from Kane's educational and exhibitional institute - the Museum of Irish Industry - the RCScI aimed to provide instruction and teaching to Irish and British men and women across a broad range of science and engineering subjects. Kane served as Dean until 1873 and professorships were established in physics, chemistry, applied chemistry, geology, applied mathematics and mechanics, botany, zoology, agriculture, descriptive geometry and engineering, and mining and metallurgy. Although recognised as an innovative centre for training and research, the RCScI suffered throughout its history from low student enrolment – averaging about 100 at the turn of the century. The RCScI also faced a challenge in selling the message of higher scientific education among middle-class nationalists in Dublin. For those who did graduate from the RCScI, a variety of careers was available such as: positions as lecturers and teachers in science colleges, technical schools, and national schools; geologists on the Geological Surveys; civil and electrical engineers; civil servants throughout the British Empire; industrial chemists; mining and mineralogical workers; physicians; veterinarians; and county surveyors.⁵

The College was revitalised following the establishment of the Department of Agriculture and Technical Instruction in 1899 and moved to splendid new buildings designed by Sir Aston Webb on Merrion Street in 1911. During the Civil War in October 1922 the College was officially closed following a bomb scare and part of it was taken over by the Free State government for use as offices. Despite efforts to save the College, the University Education (Agriculture and Dairy Science) Act, passed in June 1926, amalgamated the RCScI with UCD, adding staff, students, and much-needed facilities to the Faculties of Agriculture, Engineering and Architecture, and Science. In October 1926 Minister for Finance Ernest

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⁵ There were three main educational routes open to students at the RCScI. The first, and most popular, were day courses offered by individual professors and lecturers in scientific subjects. These courses were a continuation of the Museum of Irish Industry policy of reaching out to Dublin's artisan, working, and middle classes. Many of these part-time (Non-Associate) students were generally students seeking the qualification to teach science in schools or institutes of education; some were students, who were enrolled in other colleges and attended the RCScI to complete their scientific education. The full-time students (Associates) attended the RCScI for three years, studying a mix of general mathematics and science courses as well as specialised laboratory work. On completion they were awarded a diploma (A.R.C.S.I). The numbers of students enrolled at the RCScI, along with their level of enrolment, can be consulted in the Excel File "Attendance Numbers." The possibility of taking a fourth year devoted to research and a thesis was realised late in the history of the RCScI and a Fellowship qualification (F.R.C.S.I) was instituted.

Blythe officially handed over the keys of the RCScI to the UCD President, Denis Coffey. The UCD School of Engineering continued to function at Merrion Street until 1989 when it was relocated to the Belfield Campus following renovations to Government Buildings.

Aside from some brief overviews (Barrett, 1907; *The College of Science*, 1923; Kelham, 1967; Whyte, 1999) the history and work of the RCScI have not received the attention they deserve, possibly due to a tendency to neglect the history of science in Irish universities. Yet recent decades have witnessed a renewed interest in Irish science and technology and several general as well as detailed studies have been published which showcase the extent to which the nineteenth century in particular was a golden age for Irish scientific education (Cullen, Mollan *It's Part of What We Are Vols. 1 & 2*). Researchers in this field have encountered significant collections of material with which to explore the history of Irish science and bodies such as the Royal Dublin Society and London's Royal Society have begun to digitise correspondence and other material relevant to the area.

Following the relocation of part of the Engineering Faculty to Earlsfort Terrace in 1982, a large amount of archival material relating to the RCScI and the Museum of Irish Industry was deposited in UCD Archives. This includes the council minutes of the RCScI (on microfilm), photographs and plates of laboratories and staff, and manuscript materials ranging from newspaper cuttings of items relevant to the RCScI to copies of staff correspondence. As part of the research agenda of this project, these archival materials have been examined.

An investigation into the place of the RCScI in modern day UCD has been overdue for some time. The details and significance of the 1926 amalgamation are generally not known among researchers at UCD and the role of the RCScI in the shaping of modern scientific education in Ireland has not received due scholarly attention. As the IVRLA is a long-term research tool and repository, approaching this topic through its framework opens up, we would argue, a space for the history of Irish science within the transformative agenda of the digital humanities and goes some way to redressing the previous neglect of the area in an innovative and accessible way.

Though no extensive survey has yet taken place, it is to be suspected that the majority of physical and natural science books in UCD's James Joyce Library published between 1867 and 1926 were once part of the RCScI library. There are also a substantial number of extremely rare scientific volumes currently in UCD Library Special Collections that bear the stamp of the RCScI and of the Museum of Irish Industry, together with some older books which were probably part of Kane's own private collection. With the future development of the disciplines of the history of the book and the history of science at UCD in mind, fostering

an understanding of the RCScI library holdings and curriculum assumes particular importance.

2. PROJECT OVERVIEW

UCD James Joyce Library and Special Collections contain thousands of books, maps, pamphlets, journals, and other printed materials which were once part of the RCScI library and that of its predecessor, the Museum of Irish Industry. The key objective of this project was to examine and research that part of the extant RCScI collection, mostly dating from the mid-nineteenth century onwards, which was held in storage in the Newstead building at UCD. A secondary objective was to make some preliminary observations about the extent of RCScI material which had over the years been transferred to the UCD library. The 1872 catalogue of the Royal College of Science Library, which lists the core of the RCScI library, was already held in UCD Library Special Collections and this was digitised as part of the project outputs. It provides a valuable reference tool both for this project and for future researchers. The outcome of this research is presented in resource lists which detail RCScI books and journals. Further objectives included published outputs, the hosting of a public exhibition on the project, and the scanning of representative material for the IVRLA research collection. The project was undertaken in the six months from July to December 2009.

With the cooperation of the staff of James Joyce Library work began at Newstead on 16 July, 2009. The books, volumes, and other printed materials in Newstead had been moved there from the basement of the Science building, following risk-assessment of that location, and included a significant amount of non-RCScI material. Everything had been packed into cardboard boxes and placed on the stacks, most in no particular order. The large number of non-scientific, general, and modern text-books was surprising and made the classification work slightly more manageable. After consultation between the project team and Special Collections, two priorities were agreed for this classification work: firstly, to place all RCScI-stamped books in their own area and, secondly, to collate the RCScI journal-runs which were scattered throughout the stacks.

As the journal holdings were significant, the first step was to place most of the long-run journals in their own area at the far end of the stacks. These included complete or near-complete runs of *Journal of the Iron and Steel Institute*, *Engineering*, and *Engineer*. In doing

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⁶ As there is not generally any indication on the UCD Library catalogue that a particular item originated from the RCScI library, the 1872 catalogue provides useful additional information.

this, books and textbooks were removed from that area. From an early stage the decision was taken to avoid spending time on cataloguing or otherwise investigating each single book. If a non-scientific book or general interest book was encountered it was placed on a row of shelves set apart and labelled "These Shelves Unclassified." In the case of non-RCScI science material (i.e. modern science books and text-books (post-1920) and nineteenth-century books with a UCD stamp, which were not of any particular rarity), volumes were placed on shelves at the entrance end of the warehouse according to subject. In the case of an RCScI book an evaluation was made of its condition, its provenance (older volumes were cross-referenced with a copy of the 1872 catalogue), and its subject area. In most of these a paper slip was put inside with a green sticker if of Irish interest, yellow sticker if containing plates or maps, and purple sticker if its provenance was Museum of Irish Industry. Where there were maps and plates of quality, the volume was set aside for transportation to Special Collections. All of the RCScI books and journals examined as part of this project (both in the Newstead building and those already in the James Joyce Library) have been listed in excel files and made available through the IVRLA research collection.

The other major elements in the project were publicity and intellectual engagement in the form of published outputs and the hosting of a public exhibition. Time was spent in researching the history of Irish science, visiting UCD Archives, compiling a bibliography, and generally contextualising the RCScI as part of Victorian Ireland. Deadlines were set regarding the submission of significant research papers regarding the history of the RCScI and its impact in Victorian Ireland. In terms of engaging with present-day UCD, the research team decided that a public exhibition, held in co-operation with the Humanities Institute of Ireland (HII), would showcase the history of the RCScI and create awareness of both the project and the IVRLA. This exhibition opened in the HII in December 2009 and subsequently moved to UCD Research. In addition to the print exhibition, representative material from the RCScI library holdings (including the 1872 RCScI library catalogue) was digitised and catalogued, forming an exhibition collection which is available online through the IVRLA.

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⁷ Some of these volumes may have come from the RCScI but as they were not science books, it was felt that time spent cataloguing these would not advance the aims of the research project.

⁸ Due to the project time restrictions, it was not possible to do this for all volumes.

3. DETAILED OUTPUT

At the conclusion of work at Newstead in December 2009 some 143 individual volumes bearing the RCScI stamp had been transferred to Special Collections. The details of these books make up the bulk of the first excel list in the research collection. The other items on this list include 17 books which were subsequently transferred to the UCD Library Store in autumn 2010 as well as 28 books that had previously been transferred to and catalogued by the James Joyce Library. 10 At the conclusion of the project, about 300 further volumes had been identified as RCScI science material and remained at the Newstead location. Of these volumes, 17 are included on the first excel list and the remainder are predominantly textbooks, mostly in English, but many in German and French. These books have been shelved according to subject and the breakdown is as follows: Geography/Geology, 36; Physics, 39; Mathematics, 93; Chemistry, 45; and Botany/Zoology, 59. One section on the shelves has been reserved for copies of the RCScI exam-papers, mostly dating from 1919 onwards. Also included in this section is a considerable amount of manuscript and typescript material, and 6 books, which once belonged to Walter Noel Hartley (Professor of Chemistry, 1879-1912) as well as about 20 volumes of books and research papers which once belonged to William Fletcher Barrett (Professor of Experimental Physics, 1873-1909).

The Newstead location had a significant amount of journals, with holdings of 27 journals covering runs of up to one hundred years. These journals are being moved to a new section of the Newstead building in autumn 2010. Not all of the journals originated from the RCScI library; one journal run commenced after 1926,¹¹ six more (which pre-dated 1926) had been acquired directly by UCD or other institutions, ¹² and many of the journal runs which commenced during the RCScI tenure continued under that of UCD. Over the years, much of the RCScI journal holdings (mainly those which continued to be published and acquired up to

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⁹ A subsequent research project, funded by the Wellcome Trust, commenced in April 2010 to ascertain the full extent of the RCScI collection and its cataloguing requirements.

¹⁰ These 28 items are just a small selection of the many (probably thousands) of books transferred to the UCD Library over the years. The list is not intended to be comprehensive or representative and was compiled on a somewhat ad hoc basis as books were examined during the research.

¹¹ This was the *Brennstoff-Chemie*, for which there were holdings from 1949 to 1959 in Newstead.

¹² These include the *Engineer* journal, which was presented to UCD by the Institution of Civil Engineers of Ireland; the *Journal of Industrial and Engineering Chemistry*, the *Philosophical Magazine*, and *Transactions of the Institution of Water Engineers*, all of which appear to have been acquired directly by UCD; the *Annual Register*, which was acquired by the Royal University of Ireland (1879-1908); and the *Mining Journal*, which was acquired by the Royal Dublin Society. All of these are included in the list as they were held in the Newstead location and are also relevant to the understanding of scientific and technical education in Ireland.

recent times) had been transferred to the UCD Library; many of these were initially identified by means of a physical review¹³ of the science journal section of the library, giving a further 26 journal titles. The second excel list catalogues all of these journals, which have predominantly RCScI- or Museum of Irish Industry library stamps, with details of the years they cover, missing volumes, the library stamp, their current physical location or status, and whether or not they are available in electronic resources at present.

As the RCScI library was significant (possibly extending to some 8-10,000 volumes, including journals), ¹⁴ it is to be inferred that the vast majority of RCScI books and journals, especially from the disciplines of astronomy, botany, zoology, mining and metallurgy, and geology, along with much rare material, were placed in the present James Joyce Library some time ago. The reconstruction of how, why, and when certain collections of books were transferred to different facilities and repositories in UCD is beyond the scope of this project.

Aside from the primary objective of investigating RCScI material in Newstead, a significant amount of non-RCScI science books (approximately 1,000) were ordered according to subject and placed on the shelves. These volumes have UCD stamps and the majority were dated post-1920. The subjects represented were in the following order: Mathematics, Chemistry, Physics, and Geology/Geography. A number of other non-scientific collections of note were also put in their own area. ¹⁵

In terms of other research outputs, an article entitled "Science and Psychical Research in an Irish Context: The Case of William Fletcher Barrett" was researched and submitted to a forthcoming collection of essays on nineteenth-century science and society (McCorristine, 2010). This article significantly developed previous research interests relating to psychical research while also engaging with the history of the RCScI and the place of science in Irish society in the years preceding Independence. In examining Barrett's teaching and research

¹³ This was not an exhaustive review but was performed in order to ascertain tentatively how much of the RCScI journals had been transferred to the UCD Library. There may well be other RCScI journals (either science or other disciplines) held in the library which are not yet identified; hence the excel list is entitled "Select List."

¹⁴ The 1872 Catalogue of the RCScI library lists some 1,000 volumes (excluding journals) while an 1876 estimate suggests around 6,000 volumes (including journals). See *Twenty-third Report of the Science and Art Department of the Committee of Council on Education, with appendix*, (1876), 483.

¹⁵ These include material from the James Kenney Bequest (relating to early Irish history and language); a large number of Irish language books from the mid-twentieth century, mostly translations of classic English-language novels; Russian-language science books from the mid-twentieth century; some volumes in Welsh or relating to Wales; German novels, plays, and other material which were part of the Kathleen Cunningham bequest; some correspondence, pamphlets, and novels which once belonged to the Oxford philologist W.A. Craigie (1867-1957). There are also two boxes of photographic plates, probably late-nineteenth century, which belonged to the philologist Whitley Stokes (1830-1909). These may be have been used for the creation of a facsimile of the Book of Oengus and it is likely that they formed part of the Kenney bequest.

career, the article highlights the importance for Barrett of being able to engage with disparate communities of knowledge in an era when the boundaries between science and psychical research were still in an undetermined state.

Another published peer-reviewed output was an article entitled "Science and Nation: The Promotion of Science Education in Post-famine Ireland," which was published in the *Dublin Review of Books* (McCorristine, 2009). This article critically re-evaluated the RCScI and its place in nineteenth-century Ireland, analysing how its progressive curriculum and staff were, due to prevailing social factors and the country's nationalist preoccupations, unable to realise their potential. Together with the public exhibition, these articles have considerably raised awareness concerning the history of the RCScI and its contribution towards scientific and technical education in UCD as well as in Ireland more generally.

For the online research collection, the project team (in co-operation with the staff of Special Collections and the IVRLA) selected for digitisation the 1872 catalogue of the RCScI library along with a sample of twenty-four items which represented the eleven subject areas taught at the RCScI. This selection was made with the intention of arousing interest in the RCScI, challenging preconceptions regarding Irish science, and engaging with the wider UCD community. These digitised items include material uncovered as part of this project. The collection also includes three excel resource lists: the books and journals lists referred to earlier and a list of enrolment numbers for most of the RCScI's existence. Furthermore, the online collection description page for the project gives a short summary of the history of the RCScI and details of each of the subject areas. Other information assembled during the course of the project has been included in Appendices 1 to 4 of this report and outlines the professors for each subject area (as far as could be established), details of RCScI involvement in World War 1, and details of library expenditure and some acquisitions in the early part of the twentieth century. Together, these offer a wealth of information about the RCScI library, staff, and students and help to build an understanding of the history of science in Ireland.

4. FUTURE RESEARCH DIRECTIONS

One undeniably important digitised item is that of the 1872 Catalogue of the RCScI which lists some 1000 volumes (excluding journals) and constitutes the heart of the Museum of Irish Industry library and the basis of the RCScI library. Much of the material listed in this catalogue can be traced to the James Joyce Library and its digitisation will provide future scholars with a platform on which to reconstruct the history of how science was taught and

disseminated in Victorian Ireland. Some of the appendixes included below also constitute further research tools in this ongoing enterprise.

The success of the public exhibition in celebrating the history of the RCScI and its place in UCD has aroused interest among a variety of researchers. As part of the wider policy of supporting engagements between the sciences and the humanities at UCD, the exhibition will move to the UCD Conway Institute of Biomolecular and Biomedical Research in late 2010, thus encouraging a more direct engagement between the project and researchers and policy makers in the contemporary sciences at UCD. This facilitates closer co-operation between these two cultures at UCD and demonstrates what can be achieved in terms of detailed critical and research outputs for cross-disciplinary projects of this kind.

The James Joyce Library at UCD always seeks to engage with researchers regarding the rare materials it holds. As the history of the book, the history of media, the history of medicine, cultural history, and the history of science develop at UCD, the RCScI material held in Special Collections will provide a unique range of sources for researchers from a variety of disciplines. The IVRLA research page gives some idea as to the rich visual content of some of this material while the resource files and published outputs offer valuable insight into the context and history of Irish science education before Independence. It is hoped that other researchers will continue to add to this work and the interest in it may result in the digitising and cataloguing of further RCScI material. This research has already raised the profile of the RCScI collection at UCD and a further research project, funded by the Wellcome Trust, commenced in April 2010 to ascertain the full extent of the collection and its cataloguing requirements.

APPENDIX 1

Chairs of The Royal College Of Science For Ireland

Mining and Metallurgy

J.P. O'Reilly (1829-1905): Professor of Mineralogy and Mining (1868-1898); chair then merged with Geology.

Physics

William Barker (1810-1873): Professor of Physics, Museum of Irish Industry (1856?-1867); Professor of Physics (1867-1873).

William F. Barrett (1844-1925): Professor of Experimental Physics (1873-1909).

William Brown: Professor of Physics (1909-1921).

Felix Hackett: Professor of Physics (1921-1926); Professor of Physics and Electrical Engineering, UCD (1926-1952).

Chemistry

William K. Sullivan (1822-1890): Assistant Chemist then Chemist, Museum of Irish Industry, (1846-1854); Professor of Practical Chemistry (1854-56); Professor of Theoretical Chemistry (1856-1873).

Robert Galloway (1822-1896): Teacher of Chemistry, Museum of Irish Industry (1856-1867); Professor of Applied Chemistry (1867-1873); Professor of Chemistry (1873-1879).

Walter Noel Hartley (1846-1913): Professor of Chemistry (1879-1911).

Gilbert T. Morgan (1870-1940): Professor of Chemistry (1912-1916).

W.E. Adeney (1857-1935): Acting Professor of Chemistry (1917-1921).

Zoology

Ramsay Traquair (1840-1912); Professor of Zoology (1867-1873).

Leith Adams (1827-1882); Professor of Zoology (1873-1878).

T.W. Bridge (1848-1909); Professor of Zoology (1879-1880).

A.C. Haddon (1855-1940); Professor of Zoology (1880-1901).

George H. Carpenter (1865-1939); Professor of Zoology (1901-1922).

Botany

Alexander Dickson (1836-1887); Professor of Botany (1867-1869).

Charles Wyville Thomson (1830-1882); Professor of Botany (1868-1870).

W. Turner Thiselton-Dyer (1843-1928); Professor of Botany (1870-1872).

William Ramsay McNab (1844-1889); Professor of Botany (1872-1889).

Thomas Johnson (1863-1954); Professor of Botany (1890-1926); Joint-Professor of Botany (with Joseph Doyle), UCD (1926-1928).

Geology

Joseph Beete Jukes (1811-1869); Professor of Geology, Museum of Irish Industry (1854-1867); Professor of Geology (1867-1869).

Edward Hull (1829-1917); Professor of Geology (1869-1890).

Grenville A.J. Cole (1859-1924); Professor of Geology and Mineralogy (1890-1924).

APPENDIX 1 (cont'd)

Chairs of The Royal College Of Science For Ireland

Applied Maths and Mechanics

Robert Stawell Ball (1840-1913); Professor of Applied Maths and Mechanics (1867-1873).

Henry Hennessy (1826-1901); Professor of Applied Maths and Mechanics (1873-1890).

W. McFadden Orr (1866-1934); Professor of Applied Maths (1891-1926); Professor of Pure and Applied Maths, UCD, (1926-1933).

Forestry

Augustine Henry (1857-1930); Professor of Forestry (1913-1926).

Descriptive Geometry and Engineering

T.P. Pigot; Professor of Engineering (1867-1892).

James Lyon; Professor of Engineering (1892-1910)

H.H. Jefcott; Professor of Mechanical Engineering (1910-1922).

Agriculture

Edmond William Davy (1826-1898); Professor of Agriculture (1867-1877).

James Wilson; Professor of Agriculture (1899-).

APPENDIX 2

The Royal College Of Science and World War 1¹⁶

A number of RCScI staff, students, and alumni served in World War 1. These have been listed below by session, including details of those killed in action or decorated.

1914-1915 Session:

Brophy, W., R.A.M. Corps, Private

Carroll, A., Royal Engineers, Corporal

Donohue, M., R.A.M. Corps, Corporal

Dower, V., R.A.M. Corps, Private

Evans, J., R.A.M. Corps, Sergeant

Manning, J., R.A.M. Corps, Private

Murphy, T., R.D. Fusiliers, 7th Battn., Garrisson Serg.-Major

Poulter, C., A.S. Corps, Private

Price, T., R.A.M. Corps, Private

Pullin, E., Royal Engineers, Corporal

Stallard, J., R.A.M. Corps, Private.

1915-1916 Session

Pullin was killed in action.

1916-1917 Session

Alumni:

Lieut. F.M.W. Harvey, D.S.O. was awarded V.C.

C.H. Alexander, Normam Currall, ¹⁷ Arnold Fletcher, H.M'D. Glasgow, Keith Loggie, W.H. O'Keefe, Louis R. Turner killed in action.

<u>1917-1918 Session</u>

Alumni:

Captain J.H. Cooke, R.G.A., awarded M.C.

Sub-Lieut. W.J. Johnston, R.N. killed in action.

1918-1919 Session

Captain J. O'Neill Hewitt, awarded M.C. and Croix de Guerre, returns to Dublin to continue his studies.

Ancillary War Effort Activities

The ancillary war efforts of the RCScI were of two kinds: the first related to the allowing their buildings and facilities to be used by other organisations for military instruction and manufacture; the second related to college contributions to the voluntary ambulance

¹⁶ Reconstructed from annual reports of the Department of Agriculture and Technical Instruction, 1914-19.

¹⁷ This is the spelling given in the source; it seems possible that this should have been Norman Currell.

service as well as to education of returning officers. From August 1914 National Defence classes were held at the RCScI, made up mostly of Department of Agriculture and Technical Instruction (DATI) staff and students. It is likely that the classes were run by the DATI. They comprised some 100 members who received rifle practice, drill instruction, and knowledge of certain sections of military engineering. A number of these men enlisted in His Majesty's Forces. From June 1915, the College Engineering Workshops were used for the manufacture of munitions of war. This work was carried out day and night until January 1919.

The College Men's and Women's Voluntary Aid Detachments of the St. John's Ambulance Brigade worked throughout the war, continuing their work until the early part of 1919. The Men's Detachment was on duty on the arrival of each hospital ship in Dublin, and members made the packing cases used for the dispatch of Sphagnum dressings from the War Hospital Supply Depot in the College. The Sphagnum organisation was demobilised in February, 1919.

At the request of the Appointments Department of the Ministry of Labour, courses of 3 months duration were organised in September, 1918, in special subjects for invalid officers awaiting demobilisation. At the request of the Army Education Authorities, courses of 3 months duration commenced in 1919 for officers and for men of special attainments who, owing to cessation of hostilities, could be relieved of military duties so far as to enable them to take up regular courses of study. 116 officers and men attend courses in agriculture; 191 attend courses in engineering.

APPENDIX 3

The Royal College of Science Booksellers Bills 1908-1917

Academic Year	$\underline{\mathfrak{t}}$	Sh	d
1908-09	307	14	5
1909-10	325	16	7
1910-11	316	6	1
1911-12	318	2	4
1912-13	340	11	3
1913-14	358	17	1
1914-15	322	17	11
1915-16	97	11	1
1916-17	121	15	1

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¹⁸ "Royal College of Science Platoon." *Irish Times*. May 20, 1915.

APPENDIX 4

Library Accounts for Literature Course, RCScI, c. 1914

Totals Paid to Publishers Poole Charing Cross London Grant Edinburgh Neale Dublin	£ 2 2	sh 4 4 0	
Shornton Bond Street anendine Edinburgh	1	8 1	4 9
Bryce Edinburgh	1	7	3
Hodges and Figgis Dublin	2	13	9
Books Acquired			
Shakespeare Oxford ed.		4	6
Dryden "		1	6
Keats "		1	6
Morris (W) "		1	6
Newman + Kingsley "		1	6
Byron		1	6
Goldsmith "		3	0
Shelley "		1	6
Moore "		1	6
Sheridan "		1	6
Arnold "		1	6
Pater Renaissance "		1	0
Newman Selections		2	0
Morely Cromwell		4	0
Johnson []		6	0
Rose Napoleon		6	0
Johnson Lives of the Poets		3	9
Brandes Shakespeare		10	
Oxford Book of English Verse		4	6
Gosse Questions at Issue		3	0
Ruskins Works 17 vols		14	6
Lambsbury (?) French Literature		4	0
Sigerson Bards of the Gael and		_	0
Gall		6	0
Dublin Book of Verse		7	6
Davis Essays		3	6
Grattan Speeches		2	0
Curran Speeches		2	0
Taylor Owen Roe O'Neill		2	0
Harrison Choice of Books		2	0
Milton Poetical Works		2	0
Scott Poetical Works		2	0
Mangan Poems		3	6
Mitchel Jail Journal		6	0
Knight Philosophy of the Beautiful		1	8

APPENDIX 4 (cont'd)

Library Accounts for Literature Course, RCScI, c. 1914

Books Acquired (cont'd)	£	sh	d
Pope Globe edition		1	8
Calvener (?) Verses		1	3
Holmes Breakfast Tables Series		1	8
Morley Gladstone		1	3
Raleigh The English Novel		2	0
Bunyan Pilgrims Progress		1	6
Stephens Hours in a Library		10	6
Gulliver's Travels		2	6
Hewitt and Beech Our Mother			
Tongue		2	0
Joyce English as we Speak it		1	6
Hadow Treasury of English Verse		1	9
Chambers English Literature		10	6
Lamb Essays		2	0
Macaulay Essays		3	0
Lang Letters to Dead Authors		1	6
Taine English Literature		8	6
Collins Author and Printer		1	0
Bradley Lectures on English Poetry		10	0
Bradley Shakespearian Tragedy		10	0
Saintsbury Nineteenth Century Literat	ure	7	6

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