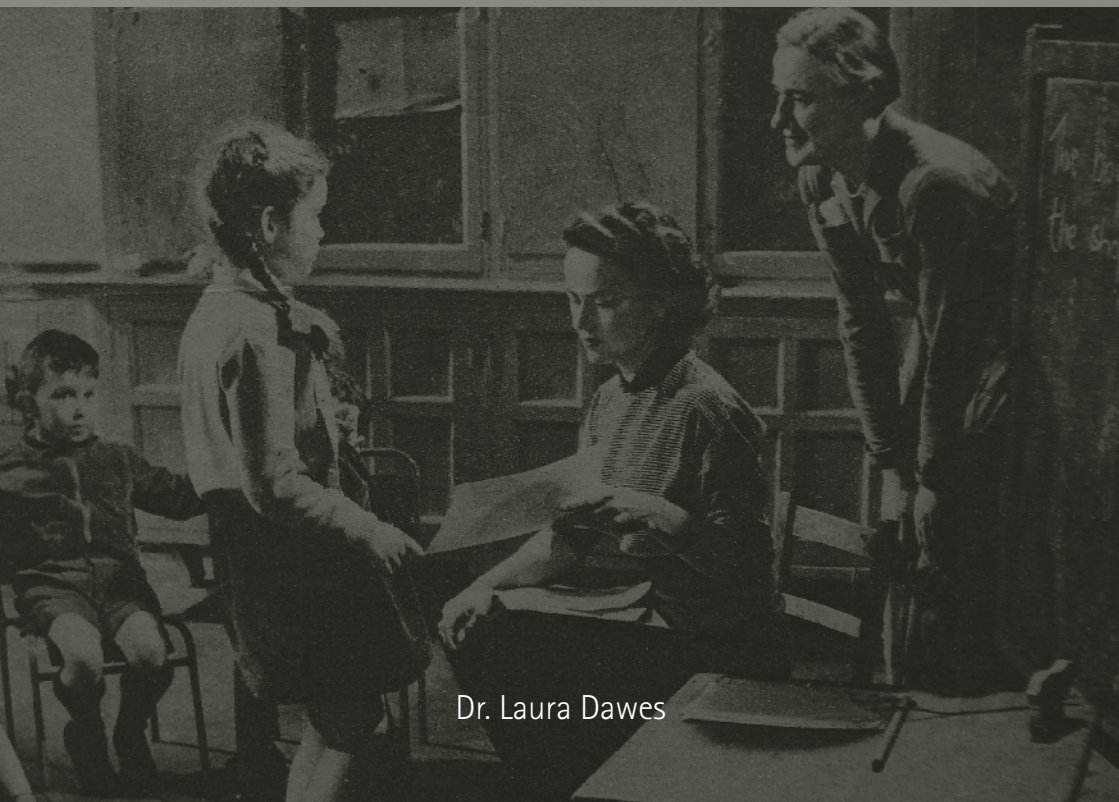


100 YEARS

of Deaf Education and Audiology

at the University of Manchester

1919 - 2019



Dr. Laura Dawes



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The history of Deaf Education and Audiology at the University of Manchester was undertaken during 2014 at the request of Kevin J Munro, Ewing Professor of Audiology.

The work was carried out by Dr Laura Dawes, a historian of medicine and historical consultant with a particular interest in public health (www.lauradawes.net).

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Foreword

by Richard C. Seewald, Ph.D

Many of us who live in the relatively 'new worlds' of North and South America, Australia, New Zealand, etc. are spending countless enjoyable hours digging deeply into public records in an attempt to discover our genealogical roots. The passion for this research activity is no doubt linked to our desire to better understand our own journeys and to gain insight into why we are who we are today. As a result of my own searching, I recently stood in a 500 year old chapel in an idyllic Swiss village where my great grandfather was both christened and later married before emigrating to North America. I had discovered and touched a massive root in my family tree, and the feeling that came from this experience was exhilarating. It is unlikely that this discovery in any way explains the pleasure I experience when eating Swiss chocolate. It did, however, help me to better understand the cultural influences that my grandmother and father brought to my childhood home environment and thus provided a partial explanation for who I am today.

Having worked in the field of paediatric audiology for more than 40 years I know of many friends and colleagues who have been similarly passionate about knowing more about their professional heritage. Why do we as a profession have the values we have? How long has this profession of paediatric audiology existed? Where did the array of procedures we use today come from? What were some of the groundbreaking events in our evolution and who were the individuals involved in creating change in how we deliver our audiological services to children and their families?

I am neither a former graduate nor former faculty member of any of the prestigious academic programmes in Audiology, Deaf Education and Speech and Language Therapy at the University of Manchester. Nevertheless, the far reaching influence of the Manchester programmes has significantly influenced my career in many ways over the years. My first mentor was Dr. Walter Carlin, who in 1966 convinced me to pursue a career in Audiology. Having just completed his doctoral studies under the mentorship of Sir Alexander Ewing, Dr. Carlin had taken the Chair of the newly named Department of Speech Pathology and Audiology at Ithaca College in Ithaca New York (previously the Department of Speech Correction). It was from Dr. Carlin that I learned about the importance of early identification and early intervention with children with hearing loss and about the key role that parents had to play in this process. I also learned about the use of distraction techniques the Ewings had developed for paediatric hearing testing, including how to strike a proper English tea cup with a spoon to produce the correct sound for testing the hearing of babies. It was through this relationship with Walter Carlin that I had the honour to dine with Sir Alexander and Lady Ethel Ewing at a quaint English pub in the bucolic countryside of North West England in June 1969. I recall being surprised (and quite honestly intimidated) by the degree of interest that Professor Ewing showed in my scholarly interests and my plans for future academic training. Only now do I fully understand why taking this level of interest is something that professional parents and grandparents naturally do.

Some 20 years later I received a telephone call from Dr. John Bamford who had recently been appointed as the prestigious Ellis Llwyd Jones Professor and Head of the renamed Centre for Audiology, Education of the Deaf and Speech Pathology at the University of Manchester. The

purpose of his call was to invite me to Manchester to provide a series of lectures on the new method I was developing for the prescriptive fitting of hearing aids for infants and young children. This had in part been inspired by some of the early work in hearing aid fitting by Professor Ewing and his colleague T.S. Littler. It was this initial visit to Manchester that has led to more than two decades of productive collaboration and friendship with John Bamford that continues to this day.

During his tenure as Head of Department at Manchester, John Bamford re-established the international leadership of the Manchester programme in Audiology through the development of new lines of research and by introducing the concept of Evidence-Based Practice (EBP) before it was in vogue to do so. In addition, along with his colleague Adrian Davis, they were perhaps the first international group to apply the principles of EBP, epidemiology and Health Services Research in carrying out a major overhaul of infant hearing screening, diagnostics and habilitative programming services provided in the United Kingdom. The scientifically based approach that John Bamford, Adrian Davis and colleagues took to the development of a comprehensive infant hearing programme most certainly influenced how we have developed our audiological services to infants and their families in Canada.

Finally, it was also during my first visit to Manchester that I met a young and inquisitive audiologist by the name of Kevin Munro. As a result of numerous follow-up discussions by letter, fax and later by email, Mr. Munro came for several months study in our Child Amplification Laboratory at the University of Western Ontario in the mid-1990s. It was toward the end of that productive visit that I strongly encouraged him to pursue doctoral studies. Fortunately, for our profession and, in the end, for the University of Manchester legacy, Mr. Munro eventually took my advice and subsequently completed his doctoral studies at the University of Southampton, established a productive academic career and has recently been appointed as the first Ewing Professor of Audiology at the University of Manchester. The legacy has been passed into very capable hands.

The scholarly document that you are about to read, so beautifully crafted by Laura Dawes, describes the rich history of Education of the Deaf and Audiology at the University of Manchester over the past 100 years. Within this document, Dr. Dawes provides us with well-researched answers to the questions I raised earlier in this Foreword and, in the process, has clearly identified and described an important major root of the ever-maturing family tree of paediatric audiology. No matter where you live and work, you are about to learn about an important part of your professional heritage and, no doubt, something important about who you are as a professional today.

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Foundations: Irene and Alexander Ewing (1919-1964)

The University of Manchester's interest in deaf education and audiology began a century ago with a young man's death. **Ellis Llwyd Jones** (1874-1918) had been deaf from birth; Ellis' father, **James Jones**, was a prominent businessman in the Manchester cotton industry. The family business JT Smith and JE Jones and Company (and it was family – the Smith of the company name was Jones' brother-in-law) operated out of premises in Portland Street, not far from the Victoria University of Manchester's campus. Combining *"shrewd judgement with boldness and initiative"* with *"a reputation for straight-dealing"* (as a local paper put it), James Jones's business and financial acumen had made him a wealthy man and leading alderman in his hometown of Rochdale, north of Manchester. James Jones therefore had the wherewithal to be able to send his eldest child to a small school in Bexley, Kent: the Private Oral School for the Deaf.

Young Ellis' Private Oral School was run by **Susanna Hull** who was Britain's high priestess of oralism. Oralism was an approach to deaf education which advocated that deaf children should be taught to speak and that sign language and finger spelling should be avoided. (Some oralists went so far as to actively suppress signing and punish children for communicating with gestures.) The opposing approach was that of manualism, which favoured communication by signing and, until recently, deaf education has been strongly marked by the often-vituperative stand-off between oralism versus manualism.

Susanna Hull's position (which would be objectionable to modern sensibilities) was that manual methods of communication were "primitive" and, following Darwinian reasoning, that speech was the more highly evolved method of communication, a more sophisticated prop to thinking. To teach a child sign language, was, she said, to *"push them back in the world's history to the infancy of our race."* Teachers should, in her opinion, deliver deaf children from silence and give them back their *"so long-withheld God-given voices."* Oralism's proponents also pointed to the fact that some of the graduates trained through their method had gone on to university – a highly unusual achievement for a deaf person before the 20th century and a fact that would have appealed to James Jones's hopes for his son. Along with her advocacy of oralism, Susanna Hull was also notable for having invited Alexander Graham Bell to teach his father's method of "visible speech" (a means of writing words phonetically to help with pronunciation) at her school in the 1860s. Bell's time at the school was one element in furthering his interest in speech reproduction, leading to him inventing the telephone and the essential technology of the first hearing aids.



Ellis Llwyd Jones (1874-1918)



James Edward Jones (1843-1922)

Susanna Hull's school had a glowing record of scholarship and Ellis, too, apparently did well there. After finishing his schooling, he spent a period of time in his father's Manchester cotton business, and then returned to study in 1912, at the comparatively late age of thirty-eight, at Marcon's Hall, a small private hall of residence at Oxford University which was favoured by students from wealthier families. (Its fees were rather high in comparison to other Oxford colleges and halls.) World War One put an end to Ellis' studies before he could take a degree. Ellis insisted on joining up but was barred from active duty because of his deafness and instead he worked in a canteen. In 1918 he caught a serious illness – possibly typhus—and was invalided back to Britain. He died in February of that year.

Ellis Jones left no will when he died. James Jones later explained, *"My son died intestate and so his estate came back to his father."* It was left to James to *"use it as I believed he would have wished."* Because of his son, James Jones had long been closely involved with deaf education and services. He had funded an Institute for the Deaf in the family's home town of Rochdale, he sat on the board of the Royal Schools for the Deaf in Old Trafford and helped with their finances, and he was a member of the Committee of the National Bureau for Promoting the General Welfare of the Deaf. Jones was knighted in 1914 for his already substantial services to deaf welfare and education. Ellis, too, had been involved with deaf education as a mentor at the Old Trafford Royal Schools and in the Rochdale and District Deaf and Dumb Society. James Jones thought that Ellis would have wanted his estate to be used to benefit deaf children in some way and extend the advantages that his educational opportunities had given him.

Together with the headmaster of the Royal Schools, William Nelson, Jones approached the Victoria University of Manchester with a plan to set up the first university-based training program for teachers of the deaf. Although teacher training colleges already existed, they were not attached to universities. There were, however, already discussions afoot within the National College of Teachers of the Deaf (the profession's umbrella organisation and the fore-runner of today's British Association of Teachers of the Deaf, BATOD), to amalgamate an existing teacher training college at Fitzroy Square with University College London and thereby establish the first university-based training program for teachers of the deaf in London. The National College's London plan was, however, struggling with finances and with school placement arrangements. With the money from Ellis' estate, and the school placement arrangements at the Royal Schools being offered by William Nelson, the National College's London plan was pipped at the post and the first university department for deaf education was secured for the North.

Jones offered the university part of Ellis' estate, totalling £14,425 held in railway stock as well as some parcels of land (around £4 million in today's money), to *"forthwith establish a Department of their Faculty of Education for the Advancement of the Teaching of the Deaf in connection with which the Ellis Llwyd Jones Professorship or Lectureship shall be held."* Additionally, the donation would be used for *"the purposes*



Ellis Llwyd Jones Hall



Common Room at Ellis Llywd Jones Hall

of founding a hostel for women students...to be called the Ellis Llywd Jones Hostel for Teachers of the Deaf". The hostel, later called the Ellis Llywd Jones Hall, was in Talbot Road, Old Trafford, convenient to the Royal Schools of the Deaf, but not convenient for the main university campus. It was a general women's residence - not just for the "deafers", as students studying deaf education were called. Students at the hall in its early years had fond memories of Amy and Enid Jones (Ellis Llywd Jones' younger sisters) coming to play tennis with them. The Hall moved to Victoria Park in 1981, and merged with Dalton Hall in 1987. It is now known as Dalton-Ellis Hall. The clear implication of Jones' plan was that it was to increase the professionalism of deaf teaching and, specifically, to train teachers of the deaf in oralist methods.

The indenture also required that an Advisory Council be set up, with representatives from the existing training colleges of teachers of the deaf, various regional educational committees, and deaf schools. The nature of the advice the Advisory Council was meant to give was left vague ("for the purposes of work of the Department"), and this would cause occasional tensions between the Council and the University in future decades, especially over the matter of faculty appointments. The indenture was formalised on 15 January 1919, creating the Victoria University of Manchester's Department of Education of the Deaf: the first university department in the world for deaf education.

The University cast around for candidates to fill the new position of the Ellis Llywd Jones lectureship. The person they selected was the thirty-six year old headmistress of the Henry Worrall School for deaf infants (part of the Royal Schools at Old Trafford), **Irene Rosetta Goldsack**. Goldsack came at the recommendation of William Nelson, who, as headmaster of the Royal Schools, had been her boss as well as a key figure in setting up the Manchester department. Goldsack had trained as a teacher at the Mosely Road School for Deaf Children in Birmingham, taught at a deaf school in Bristol and took further specialist training (in oral methods) at the College for Teachers of the Deaf and Dumb in 1907. She had been offered the position of headmistress at the Worrall School in 1912 and there she had begun to develop a novel and progressive style of oral teaching.

Like most oral teachers, Goldsack believed in the great importance of encouraging children to speak, to be "*hearing minded*", in her words, and to use their voices rather than their hands to communicate. But she considered that speech acquisition needed to be embedded in everyday activities - and specifically things children themselves were interested in - rather than practised by repeated pronunciation drills of isolated words and phrases. The school environment should aim to foster spontaneity and initiative on the part of the child in activities and in talking, Goldsack believed. "*Speech and language [should be] developed as part of their [the deaf child's] mental growth as a whole. The learning of words was never presented as an end in itself.*"

Goldsack's approach was highly child-centred and progressive even within wider educational circles, with intellectual linkages to Montessori educational philosophy in the way that the child's own interests were

meant to be the starting point for activities. While at the Worrall School, Goldsack was already developing the features of what was to become associated with her and, later, her husband and collaborator Alexander Ewing's, method: early intervention; the importance of parent guidance and the role of parents in early speech training; the importance of spontaneous; natural speech practice and embedding speech training in general educational activities of interest to the child. William Nelson described her as *"standing alone as the most successful teacher of young deaf children in the country."*

Goldsack's appointment by the University to the Ellis Llwyd Jones lectureship, was, however, bitterly resented by the National College of Teachers of the Deaf who passed a resolution at their 1919 meeting saying they viewed her appointment with "intense dissatisfaction." The National College's representatives on the nascent department's Advisory Council protested to the Vice Chancellor and University Council that they had not been consulted on the appointment and disagreed with the choice. When the Manchester department had overthrown the National College's plans for a Fitzroy Square/University of London-based university training program, the National College had hoped that a compromise measure could be reached if a Fitzroy Square college staff member, George Sibley Haycock, was appointed to take charge of the new department at Manchester. Therefore, Irene Goldsack's appointment extremely irritated the National College which wanted its own man Haycock in the role.

More than just the National College's own scuppered plans, it may also have been the unusual methods Goldsack was experimenting with at the Worrall School (specifically the child-centred nature of her teaching) that made them so opposed to her appointment: *"This was at a time when it was usual for teachers of the deaf who taught orally to drill their beginning pupils in speaking, with punctilious pronunciation, a limited vocabulary of words and phrases, that they, the teachers, prescribed."* Irene Goldsack was an oralist - the approach the National College supported - but she was a rather unusual one, and this may have troubled the National College. Through her Royal Schools connections, Goldsack had the support of both William Nelson and James Jones and this told in her favour. The University responded to the National College's complaint saying that it would not allow the Advisory Council to take over appointing faculty - a function vested in the Council and Senate - and maintained Irene Goldsack's appointment. Through its representatives on the Advisory Council, the National College pressed the University to review Irene Goldsack's appointment after three years; but this came and went with no further objection and Goldsack remained in the position as the first Ellis Llwyd Jones Lecturer in Education of the Deaf.

Irene Goldsack's office with the Department of Education was on the top floor of the John Owens Building - an elegant sandstone edifice to the rear of the Whitworth Building. (Today, The University of Manchester's Vice-Chancellor and executive administration have their offices in the building.) The new Department of Education of the Deaf offered two different degree programs: a four-year program comprising a BA



*Irene Rosetta Goldsack (Ewing)
(1883-1959)*

or BSc with a fourth year of specialist training in deaf education, or a one-year program for graduates, equivalent to the fourth year of the longer program. The year-long course leading to the Certificate included four courses from the general teachers' training program taught by the Education department (including a course on "blackboard drawing"), and four courses that were specific to the deaf education degree: development of language and speech in deaf children, methods of teaching the deaf, history of deaf education, and a special anatomy and physiology course which looked at causes and conditions of deafness.

In addition to lectures in their theory subjects held in Irene Goldsack's "dark and gloomy" Owens Building office, the students would also take practice classes at the Royal Schools for the Deaf at Old Trafford - part of the special relationship the Manchester department had with the Royal Schools which had been a particular wish of James Jones in setting up the Department. Students would graduate with a University Teacher's Diploma and University Certificate for the Teachers of the Deaf. These qualifications were recognised by the Board of Education. The first seven students enrolled in the program in that first year 1919-1920: four



John Owens Building

graduates in the one-year program and three undergraduates. The four students taking the one-year degree happily all graduated in 1920.

Irene also started offering evening classes for the public, teaching lip reading. She had been diagnosed in 1918 with otosclerosis (an abnormal bony growth in the middle ear) which leads to progressively worsening hearing loss. Her classes in lip-reading were based on techniques she herself used to communicate. This was the foundation for her first textbook (published in 1930). Irene would go on to publish five more textbooks on deaf education and audiology.

The department's second year saw six new students, hailing from Edinburgh, Glasgow, Manchester, Stockton-on-Tees and India enrol in the one-year diploma course. The student from Edinburgh, Alexander Ewing, would become one of the department's major figures.

Alexander William Ewing arrived at the Manchester department in 1920, aged 23, in the second intake of students into the one-year certificate course. He had previously studied at Edinburgh University and worked at the Royal Institute for the Deaf there, including running a scout group for boys who were deaf. The year after graduating from the Manchester program, he married his teacher, and together Irene and Alex Ewing - "the Ewings", as they were widely known, being seemingly professionally indivisible, although they did in fact have different areas of interest—began their formidable partnership in the history of Audiology and Deaf Education.

Settling permanently in Manchester, Alex Ewing set up a private clinic where he taught deaf children ranging from three to sixteen years old in speech and school subjects, using the teaching methods and hearing aid equipment that were being developed in the department. He studied for a PhD in the Faculty of Medicine at Manchester under the supervision of Professor Sir John Stopford (later Baron Stopford of Fallowfield and future Vice Chancellor of the University), writing his thesis on the "Aetiology of aphasia in young children" (1929). By the 1930s, Alex Ewing was loosely attached to the department, variously titled as "honorary special lecturer in education of the deaf" and also "assistant lecturer in speech training."

Shortly after its founding, the department was given money by Scottish-American industrialist Andrew Carnegie's Carnegie Foundation for the Advancement of Teaching to develop a library of books on deaf education. The library was given a considerable boost when, in 1922, the department purchased the Arnold Library from the National College of Teachers of the Deaf. The Arnold Library was a world-recognised collection of books, collected by Thomas Arnold (1816-1897), headmaster of the private Northampton School for Deaf Boys and leading practitioner of oralist education in the late 19th century. Arnold's star pupil, Abraham Farrar (1861-1944), the geologist, scholar of deaf education, and advocate for the oral approach, added to the library from his own extensive collection from 1928 onwards and gave a further donation of £1000 on his death to support the library's continued expansion. The "Library for Deaf Education," as it was called, was first housed in the Christie Library as



Alexander William Ewing (1897-1980)

a resource for students in the departmental program, as well as deaf educators in general. Today the collection, now known as the "Farrar Collection" is held in the John Rylands Library, and is one of the premier world collections on the history of education of the deaf, attitudes towards deafness and deaf people, the study of language acquisition and, especially, sign language and the medical treatment of deafness.

With the teacher-training program settled, from the late 1920s the Ewings turned to developing research in the department. (Although Alex Ewing was not formally part of the department until the 1930s, and even then only in an honorary capacity, it is clear that the Ewings worked together on their research from the start.) In 1928, the University Council granted the department money to buy an audiometer - a Western Electric Co. 2A audiometer made in the USA and specially imported into England. The audiometer could produce pure tones across the range of speech frequencies (64 to 8192 Hz) and had 22 adjustable settings for volume. Alexander Ewing liked to claim that this was the first instance of an electrical audiometer being used for experiments in England, but his claim was incorrect - there are reports to the Royal Society from the late 1870s of investigations using electrical audiometers in Britain.

Results from Alex Ewings' early investigations using the new audiometer showed that most deaf children had some degree of residual hearing - total deafness (the term "stone deafness" was still used occasionally at this time) was rather rare. (This built on and confirmed earlier research by Glasgow audiologist, James Love, in the late 19th century.) Moreover, Ewing found that children who had residual hearing at low frequencies were still likely to struggle with developing and understanding



Alexander Ewing's doctoral robes



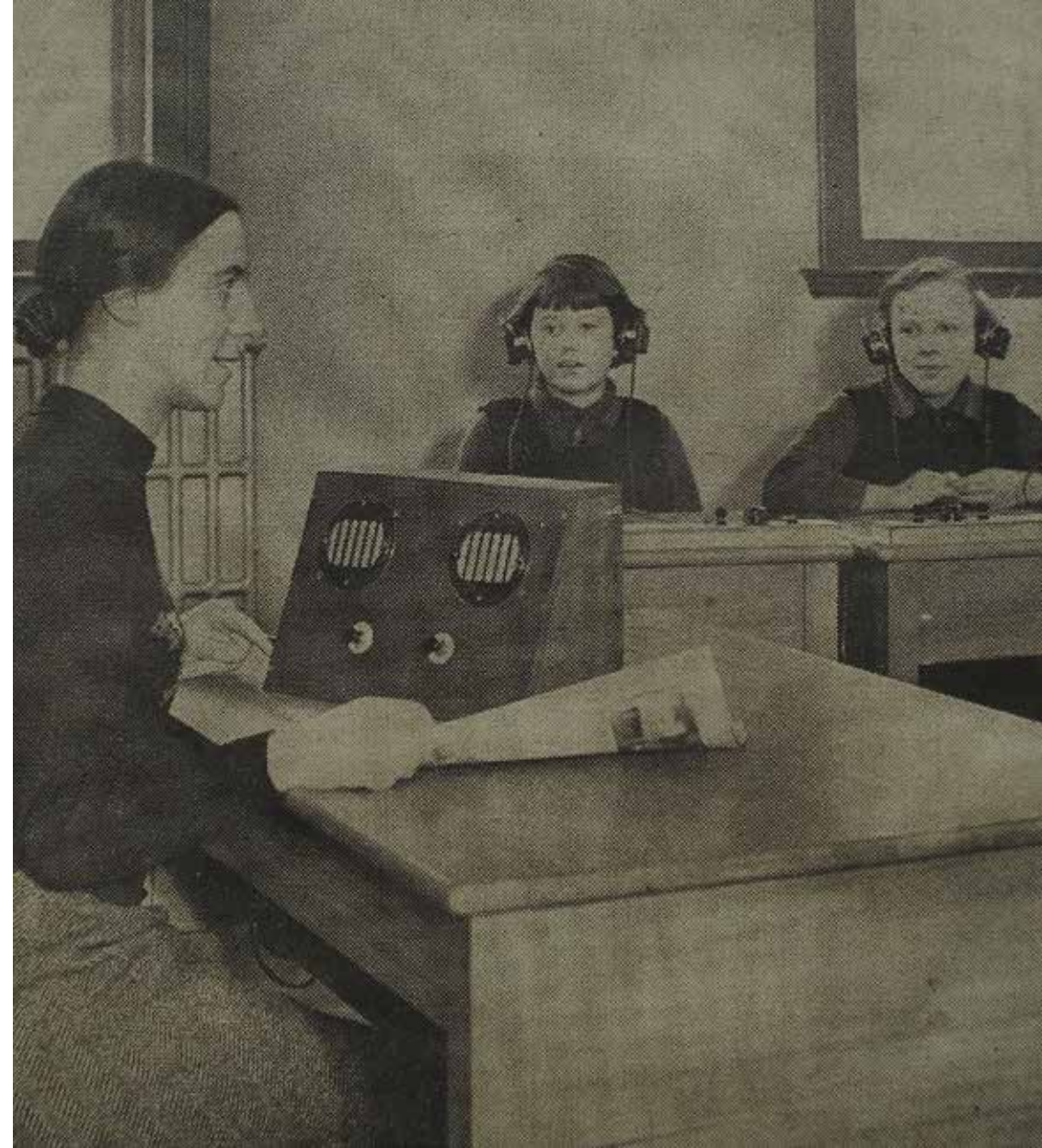
A Western Electric Co. 2A audiometer

speech because their loss of high tones prevented them from hearing characteristic components of speech much above 256 Hz.

These two findings added support to what would become one of the critical elements of the Ewings' approach to deaf education, developed and repeated in their later publications and textbooks: it was critical that if a child did have residual hearing, hearing equipment be used to exploit this capacity. At the time this was contrary to many deaf schools' philosophy which held that using electronic or mechanical means to boost partially hearing children's capacity to hear would be detrimental—it might affect the child's capacity to learn lip-reading. Irene Ewing, however, held that *"hearing is the strongest incentive toward speech and language...a vital experience (and) the basis for the natural development of speech."* Children whose residual hearing was available to be used in this way were more likely to learn to speak, would speak more spontaneously, fluently and with a pleasantly modulated tone, and would do better in general educational attainment.

One of the biggest aids to the department's developing interest in audiological technologies arrived in the department in 1933: Thomas ("Tom") Simm Littler. Known in print as T.S. Littler, Tom Littler was born in Wigan in 1901 and for a time as a young man worked in a coal mine. He studied physics at the University of Manchester and worked for a few years at the National Physical Laboratory before taking up a teaching position in 1929 in the physics department of the University of Cairo, Egypt. He returned to the UK in 1931 to pursue research, using his mechanical skills to nurse his old Fiat across Europe, and up Mount Vesuvius en route. (Many people's memories of Littler were to do with his car, which seems to have broken down often. Alex Ewing recalled Littler diagnosing a faulty distributor on the road side in central Manchester and repairing it with the lead from a pencil.)

Littler had taken up a position in the Human Physiology Department working on detecting electrical signals from heart murmurs when a chance meeting brought him into contact with the Ewings. The Ewings were looking for a specialist in electro-acoustics, and Littler was a perfect fit. He joined the department in the capacity of physicist, taking his PhD at the University in 1934, and later becoming senior lecturer in acoustics. Littler's presence in the Department and especially his electrical skills allowed the Ewings to build on Alex Ewing's audiological findings that most deaf children did have some degree of residual hearing. Tom Littler set to work on developing amplification equipment: his first attempt at a hearing aid for Irene Ewing to use weighed 28 pounds. More successfully, Littler invented and built binaural (meaning having two pick-up microphones and two headphone speakers) group hearing aids for use in classrooms. His first group hearing aid model (1933) used moving-iron loudspeakers in the headphones the children wore; his next version (1934) used moving-coil receivers and microphones which gave considerably improved speech transmission. A journalist visiting a classroom at the Royal Schools where Littler had installed the aids described them in use: *"The teacher speaks into a box, roughly the size and shape of a human head, which contains two microphones about six inches apart. The microphones*



Thomas Littler's group hearing aids



12-14 Lime Grove

represent a human being's two ears (which are complementary and often differ in hearing capacity), and are separately wired to the desk of each child, equipped with plug-in headphones. The children also have knobs at their desks whereby they can tune in the sounds to suit their partial hearing."

By the mid-1930s, Littler's group aids were being used in nine schools for deaf children. The University had agreed to an arrangement whereby schools could buy at cost price the apparatus that Littler and the department technician, Percy Moore, built in the University workshop. The Ewings investigated the use of the group aids, and found that they allowed children to understand the teacher's speech more clearly than did individual aids and that the system was particularly useful for group activities and discussions. Littler's work also led him to investigate acoustic conditions in classrooms for deaf pupils and advise schools on classroom construction to minimise sound reverberation. Like the Ewings', Tom Littler's work was also a family affair: his wife Margaret worked as an assistant in the department's clinics.

By its second decade, the department, still housed in the top floor of the Owens Building, was bursting at its seams. In 1934, it moved into new premises at 12 Lime Grove, taking up one half of a substantial building that stood in what is now the grassy open space in front of the Arts Building and University Library. The School for Architecture was engaged to renovate the building for the department, and Amy and Enid Jones - Ellis Llwyd Jones' younger sisters - donated money for renovating and equipping the new building. From its one-room beginnings, the department now had four main rooms: a big room for the clinics and lectures on the ground floor; a shared office for Tom Littler, Eleanor Carlill, a lecturer in deaf education, and R. Hood, a part-time research psychologist; a laboratory and tutorial rooms on the first floor and a

workshop where Littler and Percy Moore, the department's lab steward and chief technician, would build hearing aids. There was also a sound-proofed room for experimental work, shielded by three layers of brick, two air cavities, an inch of felt lining and four inches of cotton wool for experimental work. It was, wrote one visitor to the sound-proofed room, so quiet that one "*might have been on a lone Saharan waste or on a peak in Darien.*"

The new buildings were opened by Lord William Leverhulme (the second Lord Leverhulme) who had a long-standing interest in the department and supported its research. (He was President of the Northern Counties Association for the Deaf and his father, the first Lord Leverhulme, had become deaf in later life.) The new building was opened with considerable fanfare in the local press, being "*the only university department of its kind in Europe*" devoted to training teachers of the deaf and investigating hearing loss. The Ewings and Littler led the press through the new buildings, showing Littler's group hearing aids, and demonstrating hearing testing and lip reading. Although at first just in 12 Lime Grove, the department eventually expanded into the other side of the duplex at 14 Lime Grove as well.

The 1930s also saw a return for Irene Ewing to her interest in early childhood that she had started to develop at the Worrall School. From 1934 onwards, the department established a clinic for children under five referred to the department for hearing testing. The clinics, and Irene's work at the Worrall School formed a basis for the Ewings' conviction that early identification of deafness in a child was very important and, not only that, but early intervention was also possible. By 1938, Irene Ewing was running parental guidance classes for parents of the children referred to the department. She published her approach in small pamphlets titled Notes on the Training of Babies who are Deaf - for Parents and in a series of booklets for the National Deaf Children's Society titled If Your Child is Deaf (later Your Child's Hearing). The tone was positive, and reassuring: "*It is cheering to know that, although deaf, your baby has four other senses, sight, touch, taste and smell, through which he can be educated, and that deafness in infancy does not prohibit, though it usually delays, a child's all-round physical, mental and social development.*"

There was much, Irene argued, that parents could do long before the child even approached school age. There were three main points to what she encouraged parents to do. One was to be kind to their children and to treat them normally. "*It is important not to touch the child suddenly when trying to win his attention and not to tap or prod him when you want him to look at you. Sudden touches, prods and pokes, such as the writer has seen many loving mothers give to deaf babies to attract their attention, are dangerous, for they may rouse in the children the desire to retreat or to hit back.*" And when the child is part of a social group, parents were advised to "*treat him exactly as you would a child who can hear. Neither ignore him nor pay too much attention to him.*"

The second and third parts of the prescription were to do with beginning the child's training in speaking - firstly by encouraging the child to use his voice, to make sounds, to "*find enjoyment in the feeling of [his voice's]*

rhythm," and secondly by starting to develop in the child the habit of looking at peoples' faces to see their expressions and to see the words being formed on their parents' lips. *"If he wants a rattle it should be held near to your face as you say "the rattle" as you are about to give it to him,"* she advised.

Parents had to be wary of communicating with their deaf children by pointing or gesticulating (an oralist prohibition) and should instead speak to their children and use facial expressions: *"You must learn to make your eyes speak for you and to let your glance act as an indicative gesture."* This was partly because the child was beginning to learn to watch for lip-reading and also, said Ewing, *"encouraging, coming-on glances also help a child who is deaf at every turn to form happy social relationships."* Establishing communication between parents and child in this way would help *"build up in the child a confident attitude towards normal social contacts. By contrast,"* Irene wrote, *"if child and parent rely on gesture as a means of communication, the isolation of the child from normal society increases with advancing age."*

In addition to the published guides for parents, Irene Ewing also ran parental guidance clinics where staff members would demonstrate the techniques of interaction that the Ewings' approach was based on, and, for parents of older children, would also demonstrate and help them with using hearing aids and table-mounted amplifiers which the department had available for loan. Parents were expected to carry out the home training themselves and report on their progress at weekly meetings. Irene was strict about parents doing this. One student recalled Irene telling a lax mother that unless she was going to put in the effort then there was *"no point her being there"* at the clinics! A study carried out by Irene in 1944 showed that children whose parents had started with home training before the age of two held linguistic and developmental advantages over deaf children whose training had started later in life. Indeed, as the Ewings would write in the 1950s, children whose parents provided them with what they called a "talking home"—a home *"in which the parents of deaf children talk to them so that they can understand what is said to them in the ordinary course of daily life...parents who also encourage their deaf children's early imperfect attempt to talk"* - were more likely to *"realise most fully their potential educationally, socially and occupationally."*

By the end of that very active decade, the department was in a robust position. The University had funded new staff positions in the department - lecturers and assistants in the clinics. Relations with the various deaf schools had improved after the shaky start with the National College of Teachers of the Deaf and more schools were now accepting Manchester students for practical training and were employing graduates. There were still occasional tensions with the Advisory Committee regarding appointments, but the bad feeling over Irene Goldsack's appointment had cooled. The department was also running summer schools for teachers, showing deaf educators the group hearing aids and other equipment and how to use them. Irene Ewing had been promoted to being the Ellis Llywd Jones Reader in Deaf Education in 1931 and was awarded an honorary

Master of Science degree in 1933 by the University of Manchester.

Indeed, by the late 1930s, the department was a jewel in the University's crown and one that they made much of in the University's 1937 fund raising campaign. The University was seeking £300,000 to fund capital improvements and boost its operating income, of which £15,000 was to be allocated to the Department of Deaf Education. The Vice Chancellor, (and Alex Ewing's doctoral supervisor) John Stopford, announcing the appeal in March 1937, referred to the department as one of the University's great achievements: *"Manchester occupies a leading position amongst the younger universities and has done pioneer work. The first chair of organic chemistry in this country was instituted in this city, and... the Department of Education of the Deaf has done unique work and so deservedly won for itself an international reputation...The benefits which come to the community from original work in such departments...are so obvious that it is unnecessary to stress their immediate practical value."*

Also at this time, the Medical Research Council's Hearing Committee engaged the Ewings and Tom Littler to advise them on the *"utility of hearing aids to [sic] deaf people"* and to develop methods for *"determining what types of instrument [that is, hearing aids] are best suited to particular cases."* In their report to the MRC, published in 1936, the departmental team described their work with the audiometer and with group aids used at the Royal Deaf Schools, advocating strongly that hearing aids were of use, could be safely used, and had the potential to offer children, in particular, great benefit. The MRC was sufficiently pleased with the department's performance to provide funding in 1937 for the department to employ its first full-time research assistants. Further funding from the Leverhulme and Wernher foundations expanded the number of research fellows working in the department in subsequent decades.

Early in their work, the Ewings started to develop hearing tests suitable for using with children. One of the principles they employed was already present in Irene Goldsack's educational work at the Worrall School: that any activity - either testing or educational - must try to be interesting to the child. "Follow the child's interest" was the essential slogan of the Ewings' approach to deaf education and also the basis of their audiological work. Many of the tests the Ewings developed were therefore like games. Indeed, the phrase "play audiometry" was later applied to their approach. One early hearing test Alex Ewing developed was what he called the Tunnel Test. He and Littler built a mock-up of a train tunnel, painted on the outside with bricks and leafy greenery, with a small hole cut in the side and a model train hidden within. A visitor to the department described the Tunnel Test in practice: *"The deaf child, wearing earphones connected to an audiometer, sits beside the tunnel and watches an opening in the side. He is made to understand that when he thinks he hears the train he will, if he presses a button, see the train and its lights go past in the tunnel. The audiometer produces a sound that gradually alters in pitch till it reaches a tone to which the child's ear responds. He presses the button - and the train really does roar past the hole in the tunnel. The observer notes at exactly what pitch of vibrations the child's meagre hearing begins."*

The Tunnel Test therefore allowed the audiologist to build up an audiogram - a graph of frequency versus sensitivity on which the child's range of hearing or "auditory sensation area" (the region of frequencies and intensities lying above the threshold of audibility and below the upper threshold of feeling) could be plotted. Similar game-based tests involved having the child make a toy horse jump over a fence when she heard a tone (the "Toy Test") or fitting pegs into holes when a tone played. These game-based tests were precursors to what would become an influential part of the Ewing's work: the Distraction Test (sometimes referred to as the Ewing Test) and variations upon it that were widely used in Britain and around the world up until the 1980s.

The famous Distraction Test grew from research the Ewings carried out in 1944. The Ewings were studying normally hearing newborns though to three-year-olds using everyday noises to see which they would respond to and how they would respond to them. This investigation showed that children would respond to noises that they associated with some meaning - the sound of their mother's voice, the noise of their food being prepared - and that children older than six months were able to turn towards sounds that interested them.

The Ewings used these "meaningful sounds," as they called them, to develop a behaviourally based hearing test that they intended to be appropriate for use in testing the hearing of six-month-old babies: an incredibly young age to be considering testing hearing, at that point in time. The Distraction Test, as it became known, required two people to perform it, plus the baby being tested and his or her mother. The baby would sit facing out on his mother's lap while the first tester gained the baby's attention using a toy. The second tester would then make a noise behind and to the side of the baby using an object the Ewings had determined would make a "meaningful sound" for the baby. If the baby turned to see what had made the sound - that is, was distracted from the toy in front (hence the test's name) - this established that the baby had heard it. The first tester would then recapture the baby's attention to the front again, while the second tester would nip around the back, either to the other side to test the baby's other ear or use a differently pitched noise-maker. The Ewings used percussion toys (drums, cow bells, triangles), the clink of feeding bottles, the tapping of a finger-nail on the table, a rattle, the crackling of tissue paper, and their own carefully pitched voices to make the "meaningful sounds." One newspaper described the Ewings performing the test in the 1930s: *"The distinguished white-haired man (Alex Ewing) scraped an ordinary spoon in an ordinary teacup, the baby on the stage turned her head to the right. Then the gracious, soft-spoken woman (Irene Ewing) bent down at the baby's other side. 'Bababababababa', she murmured. The baby turned to the left."*

The Ewings had measured the frequency at which the various instruments made noises and had selected the range of noise-makers to not only be meaningful to young children but also to approximate the range of frequencies in human speech - the crackling of tissue paper, for example, was intended to compare with the letter "s". The Distraction Test could therefore be used similarly to audiometric tests to build up a picture of

the child's hearing capacity. (A Swedish variation of the test used for mass screening at eight months in child health centres in Sweden in the 1970s and 1980s, the BOEL test, required only one tester who slipped little silver bells on his or her fingers and could hide them inside their closed hands.)

The Distraction Test was widely used both diagnostically and in early childhood screening programs for seven-to-nine month-old children where it was known as the Health Visitor Distraction Test (HVDT) until it was superseded by the newborn hearing screening test from around 2006. (The test worked well when it was performed by experienced testers, but it was hard to achieve consistency in testers' skills across the country.) The idea that the Distraction Test could be used to map out the spectrum of a child's hearing capacity in the way an audiometric test could fell from favour, however. Instead, testers commonly just used a rattle (which was known as the "Manchester high pitch rattle" and, more recently, the "Manchester high frequency rattle") to see if the child would respond to the sound. In this form, the test was used as an initial screening test for hearing sensitivity rather than to diagnose a child's range of hearing capacity. (The rattle is still being manufactured.)

During the Second World War, in 1942, Tom Littler and Alex Ewing were invited by the Air Ministry medical service to work with Wing Commander (later Air Vice Marshall) Edward Dalziel to investigate hearing loss in aircraft pilots and ground staff. The Royal Air Force was particularly worried about hearing damage in bomber crews who would take off their helmets during long missions. From 1935, Littler and the Ewings had worked on "auditory fatigue" (the temporary or permanent loss of hearing in response to excessive exposure to loud sounds), and had experimented on themselves to measure the effects of both short and long duration bursts of sound. They had discovered that it was possible to give themselves short-term hearing loss even when the stimulating sound was not so loud as to cause pain, but when the sound continued for a long duration. They had also investigated whether hearing aids might actually damage a person's hearing further because of boosting the volume. Their findings suggested that, although single frequencies or "pure tones" played at loud volumes did cause auditory fatigue, amplified speech was less likely to do so because speech naturally varied in pitch and volume. Moreover, with the technology of the time, amplifying speech to such volumes as likely to cause fatigue made the speech less intelligible and so it was undesirable to do this anyhow.

Littler and Ewing's wartime work for the the Royal Air Force advising on suitable earplugs and on helmet design built upon these earlier investigations. This began a fruitful line of investigation especially for Littler who, after he finished the auditory fatigue work with Ewing, remained as Senior Scientific Officer with the RAF, developing aircraft detection systems. ("A quiet, unassuming personality," said his RAF colleague Dalziel Dickson. "A man of the highest scientific integrity who had a profound knowledge of acoustic methods of evaluating hearing and an authority on hearing aid and audiologic equipment.") Littler also continued his work on auditory fatigue and occupational hearing loss

after the war, including conducting population studies into noise-related hearing loss. His work helped form the basis of growing appreciation of occupational deafness, formally recognised as an industrial hazard in 1969 by the Industrial Injuries Advisory Council, and led to occupational deafness becoming a prescribed disease for the purposes of workplace compensation in 1975.

One of Thomas Littler's most notable contributions to British audiology was his work for the MRC in designing a hearing aid to be issued by the National Health Service. In 1943, the Ministry of Health approached the MRC for advice on what services it should offer to the public regarding deafness when the NHS would come into operation in five years' time. In response, the MRC appointed three specialised committees - one on medical and surgical problems of deafness, another on education of the deaf, and one on electro-acoustics to which Tom Littler was appointed secretary. The Electro-Acoustics Committee was asked to design an electrical hearing aid that would be small, light-weight, cheap to produce and maintain, and which would give good intelligibility of speech for a majority of deaf adults. The committee was also asked to report on the type of audiometers that NHS clinics should use to diagnose deafness.

To carry out its investigations, the committee had two specialised speech-reproduction machines built and installed - one machine at the Manchester department and the other at the MRC's hearing clinic in London. The committee had gramophone records made of standard word lists - 50 familiar English words being read by male and female speakers, one word every four seconds. At Manchester, adults attending Irene Ewing's lip-reading classes and those coming to Tom Littler's hearing aid clinics were used as the test subjects. Using the gramophone records, the committee investigated whether patients would need aids that varied in amplification at different frequencies according to the patient's loss of hearing or whether a standard amplification would be acceptable to give good speech intelligibility. The results showed that amplification needed to increase smoothly over low frequencies and then could either stay the same or slowly increase at higher frequencies.

The components that the hearing aids could be made out of were a problem for the committee. American laboratories were able to produce smaller and lighter miniature valves and microphones owing to developments there during WWII, but British expertise in miniaturisation lagged behind. One of the recommendations of the committee was therefore to boost British capacity in producing miniaturised electrical components, and also to develop in-ear inserts which American models favoured, rather than a telephone-style "earcap."

The committee developed two prototype hearing aids, which were built by the Post Office Laboratory at Dollis Hill outside London. (The Post Office Laboratory, which later became British Telecom, had also built the world's first programmable computer, used at the code-breaking centre at Bletchley Park during WWII.) The prototype aids had metal cases, but the first product produced for public release had a moulded plastic case. The MEDRESCO aid (standing for MEDical REsearch COuncil) was produced under contract to the NHS and issued free of charge. In its

first year of operation (1948), the NHS issued 3,000 MEDRESCO aids; an estimated 120,000 had been issued by 1951. The original model offered a choice between an inserted earpiece or a telephone-style attachment and could be produced for less than £10 each. There were two batteries, each about the size of a cotton reel, although rather heavy, attached to the microphone housed in a black plastic case. The earpiece was connected to the microphone case by another electrical lead. The assembly came with a leather carrying-pouch that could be strapped onto the body. Tom Littler also worked on new models of MEDRESCO aids, designed in the 1950s and 1960, which extended the range and power and reduced the bulk of the original aid (especially the heavy batteries). MEDRESCO aids, which offered reasonable but not particularly good hearing assistance, continued to be manufactured into the late 1970s by which time they had been superseded by commercial aids.

Tom Littler left the Manchester department after the war to take up the Directorship of the MRC's Wernher Research Unit at King's College, London, and to work as advisor to a number of hearing research groups and charities, as well as continuing with the RAF. He wrote a textbook in 1965, called *The Physics of the Ear* - a substantial work all about ears, their structure, their operation, with chapters also on audiometry, hearing defects and alleviation of deafness. Crossing from commercial production of hearing aids and audiometers (he was a board member of Alfred Peter and Sons, an audiological equipment manufacturers), he also served for a brief period as editor of *Sound*, now the *International Journal of Audiology*, but was taken ill with an inoperable brain tumour and died in 1969. The Wernher Unit closed after his death. "*An extremely modest man...with a friendliness that endeared him to all those who met him,*" as Ronald Hinchcliffe, an audiological colleague from the RAF and Wernher Unit recalled, Tom Littler "*perhaps more than anyone else, nurtured the development of [audiology] as a science in Britain.*" Since the 1970s, the British Society of Audiology has awarded the Thomas Simm Littler Lectureship and the Thomas Simm Littler Prize in recognition of "academic contribution(s) to the discipline of audiology." Alexander Ewing gave the inaugural lecture commemorating his colleague. Fellow Manchester department faculty Tom Watson (1979), Kevin Munro (2001), John Bamford (2004), and Colette MacKay (2009) have also been given the awards.

Along with Alex Ewing and Tom Littler's activities, the department participated in wartime work in other ways. Increasing numbers of adults attended the department's lip reading and hearing aid clinics as the war continued. Part way through the war, Irene Ewing received a letter from the British Red Cross. A POW held in a camp in Germany who, in civilian life, had been a headmaster, had asked them for help in teaching his fellow prisoners who had been deafened how to lip-read. The Red Cross wanted advice from Irene Ewing on what to send them. In response, Irene revised her earlier (1930) book on lip-reading, giving a course of twenty lessons as used in the department's own lip-reading classes, and instructions on how to follow the program. Also, for a time during the war, the Ellis Llwyd Jones Hall where students in the deaf education program lived, was taken over by the military but was released to the University again in June 1945.

In 1944, the department went through major changes. Irene Ewing stepped down as head of the department and became instead the Assistant Director. Her place as Ellis Llwyd Jones Reader in Education of the Deaf and as Director of the department was taken by Alex Ewing and he ended his private clinic to take up his new departmental role. In 1946, the Ewings embarked on a major tour of the United States and Canada, accepting an invitation from the American Association to Promote the Teaching of Speech to the Deaf to lecture on their work at Manchester. They visited Halifax, Montreal, New York, Washington, Tennessee, Chicago, Austin, Dallas, and Los Angeles giving a series of lectures at each stop and presenting to a Canadian government commission on deaf education. The presentations focussed on the Ewings' important early childhood work with lectures on "Ascertainment of deafness in children of pre-school age," "Home training for deaf under fives," "Development of lip reading and conservation of the natural voice of infancy," "Auricular training and its relation to the oral method of teaching the Deaf," and "The combination of lip reading with the use of hearing aids." They also held demonstrations of their Distraction Test.

To accompany the visit, the British Council engaged a film production company to make two films of the Ewings' work and that of the Manchester department (one longer and more technical, one short and aimed at the general public). The Ewings took the films with them and showed them on their trip. Some of the footage was recorded at the Lime Grove department, showing the use of audiometers, the lip reading classes, and the Ewings administering the distraction tests. The film also showed classes at the Royal School for Deaf children, with some classes using Littler's group hearing aids. The message was that science - audiology - was now teamed with education to improve the outlook for deaf children.

The Ewings were warmly received and feted throughout their tour with dinners, lunches and ceremonies. *"One could sense the impact of their years of rich experience in their particular field of education of the deaf, "...charming personalities, "devoted to their work"* wrote New York newspapers. The lectures were also well attended: an extant photograph of what the newspaper described as *"part of the large number of people attending"* showed more than 120 people had come to the talk. The year after the highly successful 1946 American and Canadian trip (they made further visits in the 1950s), Irene Ewing was awarded the OBE for her services and an honorary Doctorate of Civil Letters from the University of Durham.

Irene retired from a teaching role in the department in 1949 but continued to run the various clinics the department offered - parent guidance classes, hearing aid and lip-reading clinics - and to travel and lecture on her and Alex's work and method. That same year, Alex Ewing was promoted to a professorship, and took the title of the Ellis Llwyd Jones Professor. This position still exists in the department and, as at 2014, is held by Chris Plack. Significantly, in 1950, the department appointed its first position in "audiology" (Tom Littler's position had been in "acoustics") and the Ewings visited Australia, beginning a warm and

long-running relationship between the Manchester department and Australian deaf educators and audiologists, particularly in Victoria and at the University of Melbourne - a relationship that was continued by the Ewings' successors. (The first president of the Audiological Society of Australia, Brian Harold (1922-2013), who became an expert on pediatric hearing testing, met the Ewings during their "down under" tour and returned to Manchester to take his PhD with them. Harold was the first of a number of notable Australian audiologists to take some of their training at Manchester.)

The Ewings' Australian visit had been arranged by Nancy John, whose daughter Anne had been diagnosed as deaf at age three and whose husband John had visited the Ewings in Manchester in 1948 to get advice on Anne's education and whether she should use a hearing aid. Following the Ewing's Australian visit, Nancy John and a group of fellow parents who had met with the Ewings established a day school for deaf children in the rural town of Ballarat. The Ewing School, as it was called in their honour (with buildings designed following Littler's prescriptions for acoustic dampening) was opened two years after the Ewings' visit by the state premier, with ten children in its first year. (The Ewing School moved to shared premises with a mainstream primary school in 2003 and was renamed the Ballarat Deaf Facility.)

In 1951, the University of Manchester celebrated its centenary (that is, the hundred years since the founding of Owens College, subsequently the Victoria University of Manchester), and invited Queen Elizabeth (later, the Queen Mother) to attend the celebrations. "Radiant in powder blue," as the Manchester Guardian described, she was awarded an honorary Doctor of Laws, and toured the university campus. The Queen was especially interested in the University's famous department of deaf education and had specifically asked to see it. (She was patron of the National Deaf Children's Society and Irene Ewing had written parent guides for that charity.) The Ewings met her on the front steps of the Lime Grove building. (*"Were we nervous? Yes, we were, very, until the moment came and from then I did not have or feel even a quiver of nervousness,"* described Irene Ewing. *"No! Gertrude,"* she wrote to an assistant in the departmental clinic, *"her ankles and calves do not appear to be thick at all in the flesh!"*)

After the Ewings, the Queen was introduced to Molly Sifton, an assistant and demonstrator in the department, who showed her around. Molly was one of the Ewings' great accomplishments. Profoundly deaf from birth, Molly had attended the Worrall School when Irene Goldsack (as she was then) taught there. Molly's mother had also followed Irene Ewing's parental guidance methods. After school, Molly had not, as she wrote, followed *"the usual trade taken up by deaf girls leaving school, i.e. dressmaking"* but had studied domestic science at college. She spoke fluently and was a master lip-reader. She was employed as a demonstrator at the department, helping to teach lip-reading and to reassure worried parents. Molly also contributed a chapter to the Ewings' 1947 textbook *Opportunity and the Deaf Child* which she - not the Ewings - titled "Fulfilment" and was interviewed on the British Council films that the

Molly Sifton



Ewings took on their 1946 tour of America and Canada. Socially engaged, college-educated, and fluently communicating, Molly was therefore a perfect advertisement for what the Ewings' approach potentially offered. Molly and the Ewings showed the Queen various demonstrations of work at the department, including a nine month-old baby being tested by the Ewing Distraction test, a two-year-old boy in speech training, and lip-reading classes.

The year after the University's centenary, 1952, marked the start of another important relationship for the department. Construction behemoth Malcolm McAlpine was president of Sir Robert McAlpine construction company, the company responsible for the stadiums for both the 1948 and 2012 Olympics, along with Canary Wharf, and the Millennium Dome. His oldest son, Adrian, had been born deaf in 1944 due to Adrian's mother, Sheila, contracting rubella while she was pregnant. This was a shockingly common cause of deafness in children in the pre-vaccine era: one study has estimated that around 15% of all cases of sensori-neural deafness among children were due to rubella (between 100 and 250 children a year) before the rubella vaccine became available in 1971. The McAlpines had approached the Ewings for help and advice; Hamish McAlpine, Adrian's younger brother, recalls them visiting the

family home, lugging bulky audiological equipment, for their sessions. In 1952, wanting to extend the opportunities for other deaf children to develop spoken language, the McAlpines established the Ewing Foundation.

The Foundation pursued a number of activities. Its first appointment was George Dalziel. In the 1950s, Dalziel would travel around the country demonstrating group hearing aids and speech-training units to teachers and parents. Dalziel also had an office in the Manchester department (and to this day, Ewing Foundation consultants and technicians have rooms at the University). One of the pieces of equipment he would demonstrate was the "Warren" group hearing aid, which had been donated to the Ewing Foundation by Johnnie Ray, the American pop singer. Johnnie Ray - or "the Nabob of Sob" as he was known for his on-stage antics of tearing his hair and crying - wore a hearing aid after having gone deaf in one ear at the age of thirteen during a rough game of "blanket toss."

From Dalziel's early work, the Ewing Foundation established a "man in a van" service - an audiological technician who would visit schools to check and repair group aids and other assistance equipment and advise on its best use. In the 1950s and 1960s, the Foundation also funded research positions at the University, including that of long-serving Ewing Research Fellow (1967-1989) and now Ewing Foundation trustee Alan Huntington who, along with Christine Cheney (nicknamed the "atomic sparrow") and Faval Watton, worked on developing training videos for teachers. (Expert on deaf children's speech and language, Jean Howarth, also joined the department at this time as tutor to the certificate course in deaf education. Jean, who worked in the department for 38 years, was part of another departmental couple: she married Ewing Research Fellow Alan Huntington in 1980.) Relations between the department and the Ewing Foundation have always been warm: the Ewings themselves were founding board members, and subsequent Ellis Llwyd Jones Professors have kept up the happy connection. The Foundation recently celebrated its 60th anniversary and is now under the chairmanship of Hamish McAlpine and includes Antonia, Adrian's daughter, as a trustee.

Alexander Ewing was knighted in the 1958 New Year's Honours list for his services to audiology and deaf education, and that same year the department hosted the massive International Congress on the Educational Treatment of Deafness. Alex was the convener of the congress, with considerable assistance from Tom Watson, the younger specialist on deaf education in the department. Around 1000 attendees came from 41 countries around the world to present papers on subjects including testing in infancy, use of hearing technologies in the classroom, school placement, and hearing clinics - Tom Littler and Alex Ewing both gave papers. It was a landmark conference and confirmed the Manchester Department as an international leader in deaf education and audiology. That year the department also began offering a one-year Diploma in



Top right: Ethel Constance Goldsack (Ewing) (1900-1981)

Audiology in addition to its existing offerings in deaf education, a tacit recognition of the growth and professionalisation of this speciality. The Diploma was designed primarily for teachers of the deaf in order to develop their audiological knowledge and skills.

Irene, however, had taken ill with leukaemia. The following year she was awarded an Honorary Doctor of Civil Law ("a lady long and justly honoured within, and without the University's walls" read the citation). Irene Ewing died on 16 July 1959. On her death, the Advisory Committee honoured her dedication and single-minded commitment to her work and her patients, the high standards she set for herself and for others, and her charm, warmth and sympathy. *"In the end,"* the committee wrote, her devotion, integrity and relentlessness *"could not...do other than to bring the respect, the regard and the affection of people all over the world."*

After Irene's death, Alex Ewing continued as Director of the department. In 1961 he married Ethel Constance Goldsack, Irene's niece. Like Alex, Ethel had also taken the teacher training course with Irene and, like Irene, had become headmistress of the nursery-infant branch of the Royal Schools

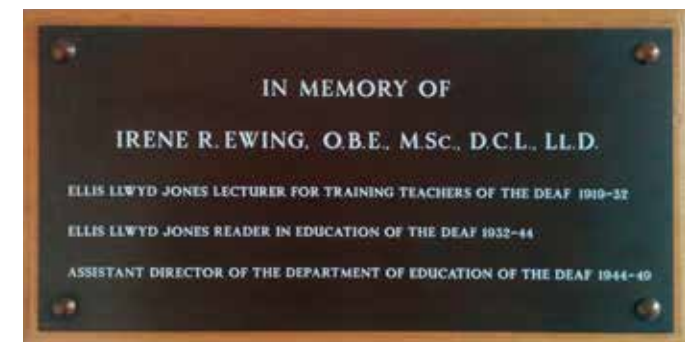
for the Deaf. As head teacher, Ethel had advised on technical aspects of a 1952 Ealing Studios film called "Mandy" which was also filmed at the school. A "weepie," Mandy was the adaptation of a Hilda Lewis 1946 novel *The Day Is Ours* about a young deaf girl. (Lewis' husband was deaf education specialist Professor M. Michael Lewis at the University of Nottingham, and chair of the eponymous Lewis Committee which reviewed the role of signing in deaf education in the 1960s. Manchester faculty Tom Littler and Ian Taylor both served on the committee.)

In the film, Mandy's father wanted to keep her at home, isolated and protected, but her mother arranged for her to be taught in the oral method at a school for the deaf. *"Gradually science and patience wring the first faltering word from the child's pathetic writhing lips... 'Mandy!': her name. I have never been so moved,"* wrote the Daily Mirror's film critic. *"Outstanding,"* declared Empire News. Ethel advised the actress playing the teacher and eight-year-old Mandy Miller, the (hearing) girl who played the lead role (better known for her recording of "Nellie the Elephant"). Subplots of marital intrigue, villainous school governors and conniving lawyers aside, the film functioned as an advertisement and educational tool for oralism and the methods used at the Royal Schools – methods the Ewings' work had helped shape.

After her marriage to Alex, Ethel joined the Manchester department, taking over the parental guidance activities. Sir Alex and Lady Ewing both retired from the department in 1964, but continued lecturing, travelling and consulting on audiology and deaf education, spreading the word on the Ewings' approach. Alex Ewing was named an Honorary Fellow of the Manchester Medical Society in 1964, and awarded Honorary degrees from both Ithaca College in New York and the University of Manchester. Ithaca College also named the Sir Alexander Ewing Speech and Hearing Clinic (shortened to the Ewing Clinic) after him. Alexander died in 1980 and Ethel in 1981 – Ethel due to a faulty heating system at their house in Alderley Edge which caused carbon monoxide poisoning.

The Ewings' legacy in audiology and deaf education is a complex one. They were honoured with monuments in the form of the Ewings Schools (in Australia, Nottingham (1960-1996), and Manchester (1968-2012), the Ewing Foundation, and Ithaca College in New York State's Sir Alexander

Commemorative plaque to Irene Ewing



Ewing Speech and Hearing Clinic. After Irene Ewing's death, Thomas Watson helped organise a memorial conference for her in London in 1962 and collected money for an Irene Ewing Memorial Fund. Several awards were made from the fund in the 1960s and 70s for conference travel and research purposes. Today, the fund endows the Irene Ewing Memorial Prize for the best graduate receiving the Diploma in Deaf Education each year. The department also used some of the donations to erect a plaque to the Ewings in the foyer of the Humanities II (Ellen Wilkinson Building): the plaque is on the wall to the left of the entrance.

The Ewings were personally very well-liked - "*lovely people*", as one colleague described them - and Irene Ewing's interest in and engagement with her students and her keen participation in life at the Ellis Llywd Jones Hall made her well-regarded and admired. Alex Ewing was renowned for his "exquisite" old-school manners: Rachel Calam, who as a little girl lived next door to the couple in Alderley Edge in the 1950s, (and who, all grown up, is now a Professor of Child Psychology and currently head of the School of Psychological Sciences at the University of Manchester) remembered how he would lift his always-present trilby hat to her and her mother when walking past, and was kind when her pet rabbit made one of its regular excursions into the Ewings' garden.

Professionally, the Ewings' work established the principle that early identification of deafness in a child was highly desirable; the Ewing Distraction Test pushed the age of diagnosis down from two-to-three years to a potential six or so months, and was used in screening tests by health visitors and child health clinics around the world. They, along with Tom Littler, also brought attention to the fact that deafness has different degrees, and that high-frequency deafness in particular is a major set-back to a child's ability to comprehend speech and to reproduce it, and they were forceful advocates of using hearing aids and other hearing equipment to leverage any residual hearing a child or adult might have. Tom Littler was also involved in developing technologies to make this possible. Many audiology programs around the world used the Ewing's textbooks, especially their 1938 *Handicap of Deafness*, as standard readings; audiology and deaf education in Australia was most especially shaped by the Ewings' work and later relations with the Manchester department.

With regard to deaf education, the Ewings were firmly within the oralist camp and their reasons for favouring lip-reading and speaking over signing were two-fold - first, that they believed that the acquisition of speech was critically important for a child's mental development and, second, they believed that children who could lip-read and speak were more likely to be able to make the most of their potential: to go to university as Ellis Jones had done, to chose a career different from the industrial or handicraft vocations traditionally open to deaf men and women, as Molly Sifton had done. Their positive outlook on the possibilities for young deaf people reassured parents: middle class aspirations did not have to be put aside because their child was deaf. Indeed, the special importance Irene Ewing put on extremely time-intensive at-home training by the parents, meant that their approach was one best suited to middle-to-upper class households.

However, the Ewing's advocacy of lip-reading and speech training and the

strong identification of the Manchester department with oralism has also meant that the Ewings and their work have been entangled in the long-standing, heated stand-off between oralism and manualism. Advocates of manualism argue that deaf children could learn sign language much more quickly than speaking and therefore the child's language and vocabulary development could develop at a pace closer to that of hearing children. Furthermore, while oralists might point to "success stories", like Ellis Llywd Jones, Molly Sifton, and Abraham Farrar as evidence that oral approaches best enabled a child to be an active member of society, not all deaf children could learn to lip-read with fluency nor speak so clearly. The lack of sign language classes for parents at this time served to isolate children trained only in signing from their families.

Although audiologists early on appreciated that the age by which a child had lost his or her hearing and the degree of a child's residual hearing influenced how well the child was likely to be able to learn to lip-read and speak, it was not (and still is not) clear which children would do well with oral approaches and which would do better learning to sign. From a philosophical point of view, those who advocated teaching children to sign also sometimes claimed (and claim) that sign language was the natural language of Deaf people ("Deaf" with a capital "D", signifying the cultural label of deafness) and to deny sign-language to deaf children is to deprive them of their essential culture. Oralism was the result of the hearing mainstream imposing its values upon the Deaf Community. Oralist teachers also sometimes actively sought to stop children from communicating in sign (or at least via gestures) in the belief that children who signed would not put the necessary effort into learning to speak. Preventing signing sometimes became cruel punishment.

In this heated clash between oralism and manualism, the Ewing's approach could arouse intense emotion (although criticism of their approach did not always portray it accurately): "*Ewingism*," wrote one Deaf advocate, "*was inhumane in that its philosophy insisted that within the aural/oral environment the system should fit the child, and denied the emergence of a system that benefited the signing deaf to whom the aural/oral only approach was of no benefit...and, [i]n short, Ewingism destroyed five generations of deaf children, their education and their future.*" The Ewings' legacy—or at least people's perception of it—has therefore, in the past been problematic for the deaf education program in the Manchester department in its relations with the Deaf Community.

With government inquiries of the Lewis Commission in 1968, and the Warnock Commission (1974-1978) into deaf education, a growing appreciation and application of disability rights, and improvements in hearing technologies, deaf children's social, educational, and technological environment has changed since the Ewings' period. For example, in the most recent survey of deaf education in Britain, 76% of children attend mainstream schools. Oralism versus manualism is not the key issue in modern deaf education - and indeed these terms are now outdated. Since the mid-1990s, the department's deaf education program has taken an approach based on informed choice: that parents are free to choose their child's style of education and the nature of their treatment or training,

based on receiving information about all possible options. The program still has a strong emphasis on audiology in the understanding that it is important to make the best use of hearing technology and requires all students to gain competence in sign language and to understand how sign language is learned and how it affects literacy and numeracy.

Development: Ian Taylor (1964-1988)

Approaching his retirement in 1964, Alex Ewing turned to the issue of his successor as the Ellis Llwyd Jones Professor. He considered two possibilities: one candidate was the department's senior lecturer in deaf education, Thomas (Tom) Watson who had trained as a teacher of the deaf in the Manchester program in 1936-37 and taught at a deaf school in Edinburgh before joining the department in 1947. Tom Watson was also a specialist in the history of deaf education, having written his doctorate on the subject at the University of Edinburgh. The other candidate for the professorship was the only medical member of the department, Ian Galbraith Taylor, who had taken his MD at the Manchester medical school in 1948 and joined the department in 1956 as an honorary special lecturer and Ewing Foundation Fellow, carrying out research into whether it was possible to use EEG to diagnose deafness in babies. In 1960, Taylor became a lecturer (later senior lecturer) in Clinical Audiology, and furthered his work into the neurological basis of hearing loss, including publishing a textbook titled *The Neurological Basis of Hearing and Speech in Children* in 1964.

Alex Ewing had originally considered Tom Watson as his likely successor, but had been impressed by Taylor's *"outstanding intellectual ability and amply demonstrated capacity for original research."* Ewing also felt that Taylor's medical rather than educational background made him better suited to lead the department's future work. Ewing considered that audiology would increasingly look at the physiology and neurology of hearing and speech. He also wanted someone who would continue with the training courses the department offered to Ministry of Health staff (medical officers of health and health visitors) which he felt was an important way in which audiological advances would become available to practitioners. Tom Watson was not keen on continuing these training programs. Moreover, as one researcher at the department at the time said, *"Alex revered doctors, he really did. The white coat really impressed him."*

Ian Taylor therefore was appointed the Ellis Llwyd Jones Professor in 1964,

with Tom Watson as Reader in Deaf Education. Taylor's appointment caused some tension within the department at first - other faculty considered him to be insufficiently expert in deaf education to lead effectively in these areas, and had lobbied the Chancellor against Taylor's appointment on these grounds. Taylor was also a forceful personality which contributed to tensions over his appointment.

By the start of Ian Taylor's tenure as the Ellis Llwyd Jones Professor and head of the department, the department had grown to 17 faculty members (although not all permanent members of staff), covering education of the deaf, parental guidance and audiology. The parent guidance program, which had been run by Irene and later Ethel Ewing, was headed by Gordon Campbell, who played a large role in the public clinics offered at the department and specialised in parent guidance, and Barry McCormick. (McCormick, a leading figure in pediatric audiology, author of noted textbooks in the field, and developer of the McCormick Toy Discrimination Test as well as developing refinements to the Distraction test, left the department in the late 1970s.) The department had also changed its name in 1961, adding "audiology" to become the Department of Audiology and Education of the Deaf, *"marking a change in policy and emphasis,"* Ian Taylor wrote, *"that the University was giving to the development of audiology as a discipline"*. The title of the professorship was also adjusted to Ellis Llwyd Jones Professor of Audiology and Education of the Deaf.

Tom Watson was the senior departmental member in deaf education, and the author of a number of textbooks on deaf education. His interests covered hearing assessment, and school placement, as well as educational practice and history. (Other long-serving members of the department at this period working in this area included G.W. Redgate, a specialist on reading and also interested in teacher training, and Jean Howarth (later Huntington), a graduate of the Manchester program in 1953, and working on speech intelligibility, and Andreas Markides, also a specialist on speech intelligibility and on the use of hearing aids, who joined the department in the late 1970s.) Watson's most influential book was the *Education of Hearing-handicapped Children* (1967), a textbook for parents and trainee teachers. He had also extended the Ewing's work and developed novel hearing tests for young children - tests investigating hearing discrimination or intelligibility. Watson's Manchester Junior (Word), Picture Vocabulary and Sentence Tests all had their intellectual origins in the word list tests that Tom Littler and his collaborators developed for trialling the MEDRESCO hearing aid as well as monosyllabic word list tests developed at Harvard, called the Harvard PB Test.

The Manchester Junior Word Test comprised four lists of 25 simple words which would be familiar to children and which were specially constructed to be "phonetically balanced" (that is, the frequency of occurrence of common vowel and consonant sounds in the word lists was the same as the frequency in which the sounds occurred in everyday English.) "Ship, bell, chair, man, duck, ear, bricks, clock, pipe, soap..." The test performed well for children who had mild linguistic retardation, but not for children with more severe handicaps or whose speech could not be understood,



Card from Thomas Watson's Manchester Picture Test

for which Waston developed an alternative test: the Manchester Picture Test. The Picture Test comprised cards with six simple line drawings of common objects on them. The tester would say, "Show me the...duck" and the child would have to point to the right picture out of the six on the card. The Manchester Sentence Lists aimed to assess a child's ability to discriminate speech in sentences. For these, the child had to repeat underlined words in a spoken sentence and would be scored on the number of correctly reproduced words. "Is a twopenny stamp blue or brown?" "Father comes home from work at six." "Many women use gas for cooking."

Tom Watson also travelled widely, lecturing on educational practice and hearing assessment. He continued the warm relationship the Ewings had established with Melbourne University, spending extended periods of time there in the 1970s to advise on their own teacher training course, modelled after the Manchester program, and lecturing there as well as in the US (mainly Minnesota), Europe and India. The Vice Chancellor of Melbourne University wrote to Professor Armitage, his counterpart at Manchester, to thank him for the loan of Tom Watson: his "courtesy, charm and patient professional competence was respected by all." A well-liked man, "of integrity and honour...of few words...kind and fair," he retired in 1979, although continued to be involved in the National College of Teachers of the Deaf (now BATOD) and community groups in Stockport which were involved in deafness. The department awards the Thomas Watson Memorial Lecture in his memory.

After Tom Littler left the department after WWII, audiology had been in something of a hiatus but was built up again under Joseph Elwyn John (known as Elwyn) and H.L. Owrid, whose research interests were in linguistic attainment, communication and deafness.

Elwyn John joined the department in 1951, becoming Reader in Audiology in 1977. He had trained as an electrical engineer, and his interest in audiology was primarily in hearing aid construction and other acoustic technologies. In this he was a direct successor to Thomas Littler, and indeed, like Littler, was the one person with a science background in the deaf education program at the time. His interests also extended to environmental factors affecting hearing aid performance and he advised the Department of Education and Science in this capacity, contributing to improved classroom acoustics. John and Owrid were involved in developing new degree programs in audiology: A Diploma in Audiology (started 1958), and in 1972 a Master in Education (Audiology) (also designed for teachers of the deaf) and a Master of Education in Deaf Education; and, later, a Master of Science in Clinical Audiology (1973) designed for science graduates interested in a career in audiology. The start of these degree programs in the department marked another development in the increasing professionalisation and specialisation of audiology as a distinct scientific discipline, and markedly distinguished from being simply a sub-area of acoustics.



The Humanities II (Ellen Wilkinson) Building

With the new professor, the department also moved to a new building which it still inhabits – called at the time the Humanities II building and now named the Ellen Wilkinson Building, after Manchester history graduate and first female Minister for Education, Ellen Wilkinson (1891–1947). The cramped old building in Lime Grove was demolished. However, the new building still didn't provide enough space: there were now 17 faculty members in the department, covering deaf education, parent guidance and audiology, and not enough rooms in the new Humanities II building to house them all as well as the clinic.

Under Ian Taylor's tenure as Ellis Llwyd Jones Professor, there were two very successful, connected developments within the department. One was the expansion of faculty positions and degree programs (of which the new audiology degrees were one instance), and the other was that the free public clinics the Ewings had first established assumed an even greater prominence in the life of the department. These two developments were connected: Ian Taylor was keen to develop the clinics, by bringing together specialists from a number of fields concerned with hearing and speech to offer a rounded diagnostic approach and treatment. This required expanding the range of disciplines in the department.

From soon after his appointment as head of the department, Taylor was interested in expanding the department into speech pathology and therapy, and had begun lobbying the vice-chancellor for funding. By 1973, these efforts had been successful and the first lecturer in speech pathology and therapy, Betty Byers Brown was appointed. Byers Brown had a strong clinical background, having graduated from the Central School of Speech and Drama, London (fellow alumni included Laurence Olivier and Peggy Ashcroft) in 1947 and worked in speech therapy practice in Edinburgh, London, and Wisconsin. A "dynamic" and "potent" personality, Byers Brown was instrumental in setting up the four-year BSc honours course in speech pathology and therapy that was offered from 1974.

The speech pathology/speech therapy program became extremely well-regarded, with an impressive calibre of students: in the 1970s and 80s, the program attracted around 500 applicants a year of which the program would accept around 20. Teaching was cross-disciplinary, with staff from arts, education, medicine and science faculties all participating in the course. Jennifer Warner, who took over heading the speech pathology program after Byers Brown's retirement in 1978, joined the department in 1976, specialising in feeding and speech therapy in severely handicapped children. The program (now titled "Speech and Language Therapy") was then run for a long period by Anne Hesketh – a long-standing member of the departmental family, having trained under Betty Byers Brown. It is now managed by Fiona Kevin. The department awards a yearly Byers Brown Memorial Lecture in recognition of Byers' work.

The new Speech Pathology and Therapy degree was joined by other new degrees—a Diploma in Advanced Education of the Deaf (c.1970), a Bachelor of Education in Audiology and Deaf Education (1967), a Master of Education in Audiology or in Deaf Education (1972), a Master of Science in Clinical Audiology (1973), and a Master of Science in

Ian Taylor administering the Distraction Test in the departmental clinic



Audiological Medicine (1975) for physicians.

Taylor's efforts in establishing the speech pathology stream were connected with his other aim to expand and develop the free departmental clinics that had been offered at the department, having been established by the Ewings in the 1920s. Taylor wanted the clinics to become multidisciplinary assessment clinics - offering what would now be called 360 degree diagnosis: medical, audiological, and speech pathological. The "A Clinic", as it was called (there was, in fact, no "B" or "C" clinic), took referrals of adults and children for audiological testing, aural rehabilitation, and advice in provision of speech training and hearing aid use. It was funded through a combination of university money and finance from the area health authority. The clinic was held in the ground floor of the new departmental building in what is now a meeting room. Its originally intended use is shown by the extant window from the small observation room next door.

The clinic provided a useful service to the community, and established the department as a specialist referral centre for children and adults with complex communication problems, as well as providing a useful teaching tool and clinical practice facility. By the 1980s, the clinic was receiving over 3,000 patients a year. All students in the audiology, deaf education and speech therapy programs spent training and observation periods in the department clinic, and staff members, such as Betty Byers Brown and Jennifer Warner in the speech pathology stream had strong clinical backgrounds. Arthur Boothroyd, a student and researcher in the department in 1960s (and one of the five founder members of the British Society of Audiology) before leaving to work at the Clarke School in Massachusetts, recalled Taylor's ability to establish a rapport with small children at the clinic. The degree programs emphasised clinical practice and were aimed at preparing graduates for clinical work. *"We got it right,"* said Ian Taylor, *"We got the clinic side right."* A visitor to the departmental clinics in the 1960s described Professor Taylor and Gordon Campbell, lecturer in parental guidance, working together to test a child's hearing using the Ewings' distraction methods. Campbell held the child's attention to the front with a toy: *"Meanwhile Professor Taylor crept round the back of the chair in which the mother sat, holding on hand a baby's rattle. At a moment when the little girl was wholly absorbed in Mr Campbell, the professor shook the rattle close to her ear. The child jerked her head round to the source of the noise: she had heard it. Mr Campbell produced a fresh toy and re-captured her attention. Now the professor tried the rattle at the other ear, and again obtained a reaction. While Mr Campbell continued to amuse the little girl, Professor Taylor stealthily dodged back and forth behind her with various instruments - a whistle, a chime-bar, a bell, a cup and spoon, and so forth - to test her reaction to sounds of different pitches and frequencies...In this way a fairly detailed and accurate picture of the child's hearing capacity was built up."*

The department also developed a strong line in medical approaches to deafness and communication disorders: Ian Taylor and physician staff members Valerie Newton and Vijay Das expanded the audiological medicine side of their work. Ian Taylor was also involved in approaching

the Royal College of Physicians to formally register audiological medicine as a medical speciality in 1975. In their own research, Taylor and Newton investigated the aetiology of deafness in children. Taylor's surveys of children at deaf schools demonstrated that the great majority of deaf children in the 1970s and early 1980s were deaf due to measles and rubella (with the advent of vaccination for these two diseases in 1968 and 1971, respectively, this cause eventually declined) with a large group of children whose deafness was classified as "unknown." Subsequent investigations of this "unknown" group revealed undiagnosed rubella and other peri-natal infections, as well as patterns of hereditary deafness and chromosomal conditions. Along with this increased prominence of the medical approach to hearing disorders, the department began offering a Master of Science in Audiological Medicine intended for medical practitioners interested in gaining expertise in this speciality. The development of the academic base of audiological medicine as a separate specialism was continued after Professor Taylor's retirement by Valerie Newton, who was later promoted to Professor of Audiological Medicine.

In 1979, the department hosted the 3rd conference of the British Society of Audiology. The conference addressed pediatric audiology, communication, vestibular function, noise-induced hearing loss and aural rehabilitation. Manchester staff contributed papers especially in the department's traditionally strong areas of pediatric audiology and hearing testing. Tom Watson, who had retired by this time, gave the Thomas Simm Littler lecture choosing as his topic the history of audiology in Britain, and Ian Taylor and Andreas Markides, senior lecturer in education of the deaf at the department the 1970s and 1980s, edited the three volumes of the conference proceedings. The department also hosted the International Congress on Deaf Education in 1985 with about 1500 attendees, having already done so in 1958 when Alex Ewing served as convenor. Manchester's department became the first and only organisation to have hosted this congress - the longest running conference on education - twice.

The Current Department

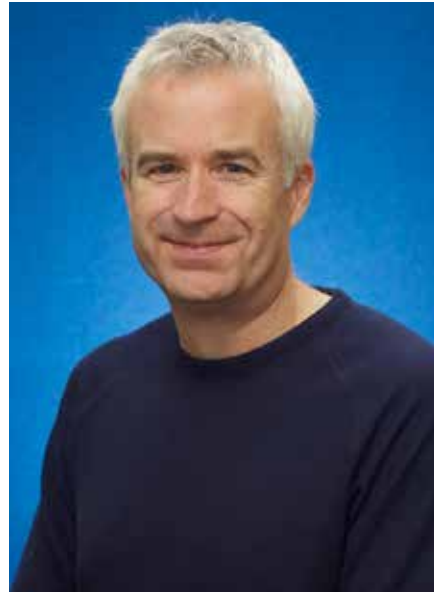
John Bamford (1989–2008), **Chris Plack** (2008–present),
Kevin Munro (2013–present), **Wendy McCracken** (2012–present).

Ian Taylor retired in 1988 and the University took the opportunity to review the nature and structure of the department. After Taylor's departure, Peter Mittler, professor of special needs education, took the headship of the department as an interim arrangement. Under Taylor's tenure, the department had taken a turn towards audiological medicine and the departmental clinic had assumed a central position in determining the staffing, teaching and research profile of the department to the extent that Ian Taylor was interested in the department moving from the Faculty of Education to the Medical School. But there is a sense in the University's archival records that the clinics were not well thought of by either the medical school or the local health authority. Both these bodies were not anxious to continue the department's clinical activities because these services were offered elsewhere under the NHS. The financial cost to the Faculty of Education of its part in supporting the clinic may also have lessened support for the clinic within the University. After Ian Taylor's retirement the clinical activity in the department was reduced, eventually ending in the mid-1990s.

In 1989, the University appointed John Bamford, previously in charge of audiological services at the Royal Berkshire Hospital, as the new Ellis Llwyd Jones Professor of Audiology and Deaf Education and head of the newly re-named "Centre for Audiology, Education of the Deaf and Speech Pathology," within the re-organised School of Education. Bamford's tenure as head of the Centre marked the development of the centre's current phase of existence. Bamford had entered audiology from a background in psychology and had research interests in the department's traditionally strong areas of paediatric audiology and hearing testing. When he arrived in the department, he felt that audiology teaching in the department had become too skewed by the dominating role of the departmental clinics and that students were being trained to concentrate on clinical techniques without sufficient attention being given (in the short duration of the degree course) to what Bamford referred to as the "knowledge base" of the subject area: *"The UK audiology courses have tended in the past to emphasise techniques, clinical competence, and practice at the expense of theory and knowledge base. In the case of Manchester, this has been a way of trying to help provide a good quality local service; but although possibly helpful in the short term and on a local level, such an emphasis does little to further good service provision nationwide; and furthermore can tend to 'de-skill' local services."*



John Bamford



Chris Plack, Ellis Llwyd Jones Professor of Audiology and Deaf Education (2008–current)



Kevin Munro, Ewing Professor of Audiology and Head of Audiology and Deafness Research Group (2013–current)



Wendy McCracken Professor of Deaf Education (2012–current)

Bamford felt that the continued professionalisation of audiology (moving away from regarding audiologists as technicians) needed university programs like Manchester's to develop a specialised knowledge base for the discipline. He set about reorganising the degree programs to shift the balance away from clinical skill acquisition (which he felt came with experience - experience which could not be gained in a one-year program), establishing a four-year bachelor's degree in audiology in 2002, building up the numbers of Masters and PhD students, streamlining the number of different degrees offered by the centre, and developing senior faculty positions. The early 1990s were a watershed period for the centre (renamed the Centre for Human Communication and Deafness in 1999) as it moved into an era of quality assurance, self-assessment, research assessment, teaching quality and subject area reviews.

After John Bamford's retirement in 2008, the centre faced a challenge in that regard under the new leadership of auditory psychophysicist, Chris Plack, who was responsible for leading the centre during the Department of Health's policy to streamline training programs for NHS professions into one basic science program. (At this time, the role of head of the centre as a whole was separated from that of head of the audiology and deafness research group. Chris Plack, the Ellis Llwyd Jones Professor, was head of the centre, with Professor Colette McKay, a specialist in cochlear implants, leading the research group, and Amy McLauchlan appointed as Director of Teaching.) The new Department of Health requirements meant that the centre's four-year Bachelor of Science degree in audiology would become a three-year degree with a wider range of subject areas to address. The degree would also be fee-paying, rather than fully funded. With smaller student numbers owing to the shorter degree length and the new commissioned placements, the centre faced a budgetary crisis in the first years of the new program's operation, which also coincided with a tightening nation-wide economic situation. It was an anxious period for the centre but due to both impassioned and carefully argued appeals to the Faculty from Audiology staff, the threat of closure of the Audiology teaching programmes (and potentially of the group as a whole) was lifted. The centre cut staff positions to address the shortfall in the operating budget.

The brightening outlook from 2012 onwards was further cheered by the promotion of Wendy McCracken, senior lecturer in deaf education and herself a graduate from the Manchester program, to full professor: the first professorial level expert in deaf education in the centre since Alex Ewing. In 2014, McCracken was awarded the Higher Education Academy National Teaching Fellowship in recognition of her contribution to teaching, especially her research and innovations in teaching approaches, including e-learning. With Chris Plack standing down from head of the centre in 2012 to take up a joint appointment with Manchester and Lancaster Universities, the Audiology and Deafness Research Group (the current evolution of the audiology and deaf education components of the original Department of the Education of the Deaf) is now headed by Kevin Munro, who joined the group in 2002 and was promoted to professor in 2011. His title of Ewing Professor of Audiology honours the contributions of the Ewings to audiology. Munro (who John Bamford

describes as "a fantastic asset for UK audiology...we really could do with cloning him") has worked in clinical audiology and has research interests in paediatric audiology, plasticity of the auditory system, epidemiology, cognition and "dead regions" within the cochlea. He is the current Chair of the British Society of Audiology. The Language Development and Disorders group—the successor to the speech therapy and speech pathology stream – is headed by Gina Conti-Ramsden, Professor of Child Language and Learning, who researches Specific Language Impairment (SLI), a language disorder of delayed speech developing in normally-hearing children. Both groups sit within the School of Psychological Sciences, although the two groups' historical affiliation can still be seen: they still share the Ellen Wilkinson building with the School of Education while the rest of the School of Psychological Sciences are housed in other buildings.

Since the 1990s, the centre has developed a number of significant, large-scale, collaborative research projects. During John Bamford's tenure as head of the centre, one of the most significant developments was the centre's involvement in developing screening programs for new-born babies. Until the mid-2000s, the earliest population-wide screening of children's hearing was the Ewings' Distraction Test, performed at eight months. Technological developments in the 1980s and 1990s utilising physiological responses to sound (transient evoked otoacoustic emissions (TEOAEs) and auditory brainstem response (ABR)) offered new possibilities to lower the age of first screening even more. Adrian Davis, a professor at the University from 2005-09 and director of the NHS Newborn Hearing programme, together with John Bamford, Kai Uus and other colleagues, developed and advised on a new screening program which was begun in 2001 and extended across the UK by 2005. Babies now have their hearing tested within ten days after birth. The motivation behind the newborn screening program - that the earliest possible diagnosis of deafness in a child was desirable and that early interventions were possible - had its roots in Irene Ewing's work in the 1930s and her and Ethel's parent guidance approach. That Manchester faculty should have worked on developing and evaluating the screening program that replaced the Ewing Test is a notable demonstration of the department's continued strength in pediatric audiology. In a similar parallel to Tom Littler's work on the MEDRESCO hearing aid, the Manchester department has also been involved in the Modernising Hearing Aid Services project in the UK, under which the NHS would provide digital hearing aids. Manchester faculty trained hearing services staff for all NHS pediatric hearing services in the England in providing the new aids.

The success of the newborn screening program and the subsequent prescription of hearing aids for babies at 2-3 months of age brought with it its own challenges of how to fit these aids best and verify that they are working properly. Under Kevin Munro, the group re-established research collaboration with the NHS and, in particular, with the Central Manchester University Hospitals NHS Foundation Trust (CMFT) to investigate these matters. Also as part of this partnership, researchers at Manchester have been inquiring into hearing loss with age: the growing and ageing population means that age-related hearing loss is an increasing public

health challenge, yet many people do not seek out treatment or use hearing aids, or, if they do, do not always find them helpful. The CMFT has helped buy equipment and fund research appointments for this work. Beyond this partnership, the audiology and deafness group works on other research spanning a range from basic through translational, to applied topics. Some of the larger projects involve using the UK Biobank (headed by Colette McKay), to investigate the epidemiology of hearing loss (headed by Kevin Munro), investigating pre-clinical or "hidden" hearing loss as a result of noise exposure (headed by Chris Plack), and the use of FM amplification in a real world setting (headed by Wendy McCracken). Kevin Munro describes the group's activities as "thriving", particularly benefitting from the strong support of the Dean of Human and Medical Sciences and the Manchester University Vice President, Ian Jacobs. Since 1988, the department has also hosted the Manchester Cochlear Implant Centre - the largest auditory implant centre in the UK, providing clinical services to adults and children. In 2008, the centre celebrated its 20th anniversary and 1000th implant; the centre also performed the first auditory brainstem implant (ABI) for a child. Students in the audiology training program in the department spend part of their clinical practice with the centre.

With twelve faculty members in the Audiology and Deafness Research Group, the group has grown considerably since its start in 1919 with Irene Ewing in a single room. The students graduating from the postgraduate diploma in deaf education each year are, unlike Irene Ewing's students, no longer likely to teach classes of deaf students. Since the 1960s, and accelerating since the 1978 Warnock report, the trend has been towards greater integration of deaf students in mainstream classes, with currently 76% of the approximately 38,000 deaf children in the United Kingdom attending mainstream schools. The majority (703 of a total of 1,117) of teachers of the deaf now work as peripatetic (visiting) teachers, advising schools and supporting students in mainstream classes. Although audiological scientists in the department no longer build hearing aids in the department's basement, as Tom Littler did, research by Faculty members continues to aim to provide benefit to people with hearing problems, developing procedures for clinical practice, training audiologists to assess and treat hearing difficulties, deepening understanding of hearing loss, and improving hearing assistance technologies. New research projects may help prevent hearing loss in the first place. From the early days of the Department of Education to the current Audiology and deafness Group, happy centenary and best wishes for the next hundred years.

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Timeline

1874 Ellis Llwyd Jones born

1883 Irene Rosetta Goldsack born in Liverpool

1897 Alexander William Gordon Ewing born in Folkestone, Kent

1901 Thomas Simm Littler born in Wigan

1907 Irene Goldsack completes teacher training as teacher for deaf and takes up position in Birmingham

1912 Irene Goldsack appointed headmistress of the Henry Worrall School for the Infant Deaf at the Royal Schools for the Deaf, Old Trafford

1918 Ellis Llwyd Jones dies

1918 Irene Goldsack diagnosed with otosclerosis

1919 Cotton baron Sir James E. Jones donates part of his son's, Ellis Llwyd Jones, estate to the Victoria University of Manchester to establish a program in deaf education and a hall of residence for women students, the Ellis Llwyd Jones Hall

1919 Irene Goldsack appointed the Ellis Llwyd Jones Lecturer in Teaching of the Deaf. Department housed in the John Owens Building

1919 First seven students enrol in the department (four in the one-year program, three in the four-year program)

c.1919 The Carnegie Trust donates money to establish a specialist library, the "Library of Deaf Education", held in the Christie library

1920 First four students graduate

1920 Alexander Ewing enrolls in the department in the one-year Diploma and Certificate course

c.1920 Irene Ewing offers lip-reading classes for members of the public

1921 Ethel Constance Goldsack enrolls in the one-year Diploma and Certificate course

1922 Irene Goldsack marries Alexander Ewing

1922 Alexander Ewing opens private clinic and tutoring service for deaf

children in Manchester

1922 The department purchases the Arnold Library of books on deafness and deaf education to expand the Library for Deaf Education

1926 Alexander Ewing first works for the University of Manchester as Assistant Lecturer in Speech Training

1927 Department commences a research program

1928 The University of Manchester provides funds for the department to buy its first electric audiometer from USA

1928 Abraham Farrar gives his first donation to the Library for Deaf Education

1929 Alexander Ewing graduates from the Medical School at the Manchester University with a PhD, writing his thesis on the Aetiology of Aphasia in Young Children

1930 Irene Ewing publishes her first textbook, Lipreading

1931 Department is formalised within the University structure as the Department of Deaf Education

1931 Alexander Ewing publishes the first results of research using the audiometer in his paper "High frequency deafness"

1931 Irene Ewing appointed Reader in Deaf Education

1933 Physicist Thomas Simm Littler joins the department

1933 Irene Ewing awarded honorary Master of Science degree by the University of Manchester

1933 Thomas Littler develops his first group hearing aid

1934 Thomas Littler receives his PhD

1934 Department starts clinic for under-fives

1934 Department moves into new premises at Lime Grove

1936 The Ewings and Thomas Littler publish their report on "The Use of Hearing Aids" for the Medical Research Council (MRC)

1937 MRC provides funding for first fulltime research assistants in the department

1937 The University of Manchester appeal fund seeks for 15,000 pounds for the department. Irene Ewing makes a BBC radio broadcast.

c.1938 Irene Ewing offers parental guidance clinics

1938 The Ewings publish their first co-authored textbook and the first textbook on audiology, The Handicap of Deafness

1942 Alexander Ewing and Thomas Littler start work with the RAF on hearing loss in aircraft personnel

1943 The Ewings share the Norman Gamble Prize, awarded by the Royal Society of Medicine, and the Royal Institute's Actonian Prize

1944 Alexander Ewing closes his private clinic and tutoring service to take over as the Ellis Llwyd Jones Reader in Deaf Education and as Director of the Department. Irene Ewing becomes the Assistant Director

1944 The Ewings' study of "meaningful sounds," "The Ascertainment of Deafness in Infancy and in Early Childhood," provides the foundation for the Ewing Distraction Test

1946 The Ewings become honorary members of the American Otological Society

1946 The Ewings visit Canada and the United States on a speaking tour

1946 Helen Keller visits the department

1947 Medical Research Committee's (MRC) Committee on Electro-Acoustics (Thomas Littler, secretary) report "Hearing Aids and Audiometers" provides the basis for the MEDRESCO hearing aid, later distributed by the NHS

1947 Irene Ewing awarded the OBE for her services to audiology and deaf education

1947 Irene Ewing awarded an honorary Doctorate of Civil Letters from the University of Durham

1948 First MEDRESCO hearing aids issued by the NHS

1948 Thomas ("Tom") John Watson joins the department as lecturer in deaf education

1949 MRC establishes Wernher Research Unit on Deafness with Thomas Littler as Director

1949 Irene Ewing retires from the department; Alexander Ewing is promoted to Ellis Llwyd Jones Professor of Audiology and Deaf Education

1950 Department appoints its first faculty position in "audiology" as opposed to "acoustics", assistant lecturer R.W. Bailey.

1950 The Ewings visit Australia

1951 Centenary of the University of Manchester marked with the visit of Queen Elizabeth (the Queen Mother). The Queen visits the department and is awarded an honorary Doctorate of Laws by the university

1951 Joseph Elwyn John (Elwyn) joins the department as Lecturer in Audiology.

1952 The Ewing Foundation is established by Mr Malcolm and Mrs Sheila McAlpine of the Sir Robert McAlpine construction company to help spread the benefits their son Adrian received when he was treated by the Ewings.

1952 Headmistress Ethel Goldsack advises on deaf education for Ealing Studios' film, Mandy, filmed on location at the Royal Schools, Old Trafford

1952 The Ewing School (Ballarat, Victoria, Australia) opens

1956 The Ewings visit the United States again

1956 Ian Galbraith Taylor joins the department as an honorary special lecturer and Ewing Foundation Fellow

1958 Alexander Ewing knighted for his services to audiology and deaf education in New Year's Honours

1958 Department hosts the International Congress on the Educational Treatment of Deafness, with Alexander Ewing as convenor

1958 Department offers one year Diploma in Audiology for teachers of the deaf

1959 Irene Ewing awarded Honorary Doctor of Civil Law by the

University of Manchester

- 1959** Irene Ewing dies, Manchester
- 1959** Department celebrates its 50th anniversary
- 1960** Fund raising for the Irene Ewing Memorial Fund begins
- 1960** Ewing School (Nottingham) established
- 1961** Alexander Ewing marries Ethel Constance Goldsack, Irene Ewing's niece, and headmistress of the Nursery-Infant branch of the Royal Schools of the Deaf, Old Trafford. Ethel Ewing is appointed honorary lecturer in the department, working on the parental guidance program
- 1962** Memorial conference marking the work of Irene Ewing held at the department
- 1964** Ian Taylor publishes *The Neurological Basis of Hearing and Speech in Children*
- 1964** Alexander and Ethel Ewing retire. Alex Ewing is appointed Professor Emeritus.
- 1964** Physician Ian Taylor appointed Ellis Llwyd Jones Professor of Audiology and Deaf Education and head of the department; Tom Watson is appointed Reader in Deaf Education
- 1964** Alexander Ewing appointed Honorary Fellow of Manchester Medical Society
- 1965** Department moves to the Humanities II/Ellen Wilkinson Building and the building on Lime Grove is demolished
- 1966** Alexander Ewing awarded Honorary Doctor of Letters by Ithaca College, NY
- 1966** Clinic at Ithaca College, New York, renamed the Alexander Ewing Speech and Hearing Clinic
- 1967** Alexander Ewing awarded Honorary Doctor of Laws by the University of Manchester
- 1967** Department offers a Bachelor of Education in Audiology and Deaf Education
- 1967** Tom Watson publishes *The Education of Hearing-Handicapped Children*
- 1968** Vaccination program for measles established
- 1968** Lewis Commission (with Ian Taylor on the committee) investigates the role of sign language and finger spelling in deaf education. Alexander Ewing gives evidence strongly in favour of oral methods
- 1968** Opening of the Ewing School (Manchester)
- 1969** Thomas Simm Littler dies
- 1970** British Society of Audiology establishes the Thomas Simm Littler Lectureship and Thomas Simm Littler Prize for academic contributions to audiology. Alexander Ewing gives inaugural lecture, titled "The Place and Functions of Audiology in the Community"
- 1971** Rubella vaccination program commences
- 1972** Department offers Master of Education in Audiology and Master of Education in Deaf Education

- 1973** Department offers Master of Science in Clinical Audiology
- 1973** First lecturer in speech therapy and speech pathology, Betty Byers Brown, appointed
- 1974** Department offers Bachelor of Science in Speech Pathology and Therapy
- 1975** Audiological medicine registered as a medical specialty by the Royal College of Physicians
- 1975** Department offers Master of Science in Audiological Medicine
- 1977** Elwyn John becomes Reader in Audiology
- 1978** Warnock Report into educational provision for handicapped children recommends mainstreaming
- 1979** Tom Watson gives the Thomas Simm Littler Memorial Lecture, titled "Breaking the Silence"
- 1979** Tom Watson retires
- 1979** Department hosts the British Society of Audiology conference; the conference proceedings, *Disorders of Auditory Function*, are edited by Ian Taylor and Andreas Markides
- 1980** Alexander Ewing dies (Cheshire)
- 1981** Ethel Ewing Goldsack dies (Cheshire)
- 1985** Department hosts the International Congress on Deaf Education for the second time
- 1988** Ian Taylor retires
- 1988** Manchester Cochlear Implant Centre joins the department
- 1989** John Bamford appointed Ellis Llwyd Jones Professor of Audiology and Deaf Education and head of the renamed Centre for Audiology, Education of the Deaf and Speech Pathology
- c. 1992** Department offers Master of Science in Audiology (Paediatric Habilitation), later changed to Master of Science in Educational Audiology
- 1993** Wendy McCracken joins the department
- c.1995** Department's clinical services ended; external clinical placement activity for students increased; Master of Science in Clinical Audiology changed to Master of Science in Audiology
- 1996** Ewing School (Nottingham) closes
- 1999** Department renamed the Centre for Human Communication and Deafness
- 2001** Kevin Munro awarded the Thomas Simm Litter Prize
- 2001** Department consolidates the three Masters programmes in audiology (Audiological Medicine, Audiology, and Educational Audiology) into one Master of Science in Audiology
- 2001-2005** National Newborn Screening program rolled out
- 2002** Kevin Munro joins the department
- 2002** Department offers a Bachelor of Science in Audiology
- 2003** Ewing School (Ballarat, Victoria) merges with mainstream primary school and renamed Ballarat Deaf Facility

2004 John Bamford awarded the Thomas Simm Little Prize

2008 John Bamford retires

2008 Chris Plack appointed the Ellis Llwyd Jones Professor and head of the Division of Human Communication and Deafness; Colette McKay appointed the head of Audiology and Deafness Research Group; Amy McLauchlan appointed the Director of Teaching

2008 Manchester Cochlear Implant programme celebrates its 20th anniversary and 1000th implant

2009 Colette McKay awarded the Thomas Simm Littler Prize

2011 Kevin Munro appointed Ewing Professor of Audiology

2011 Four-year bachelor's degree in audiology changes to a three-year degree

2012 Ewing School (Manchester) closes

2012 Wendy McCracken appointed Professor of Deaf Education

2012 Chris Plack stands down as Head of the Division of Human Communication and Deafness and is replaced by Professor Gina Conti Ramsden

2013 Ewing Foundation celebrates its 60th anniversary

2013 Professor Kevin J Munro commences as Head of the Audiology and Deafness Research Group

2014 Wendy McCracken awarded the Higher Education Academy National Teaching Fellowship

2019 Manchester Deaf Education and Audiology Department celebrates its centenary

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"Nellie the elephant packed her trunk/ And said good-bye to the circus/ Off she went with a trumpety-trump/..." Readers of a certain age will undoubtedly know the rest.

The chair of the department of hearing science at Ithaca College, Dr Walter Carlin, studied audiology at the University of Manchester with the Ewings from 1960. Dr Carlin helped arrange the naming of the Clinic after his former supervisor; the Ewings (Alex and Ethel) attended the opening in c. 1967. Personal Communication, Richard Seewold, 28 February 2013.

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SHOP



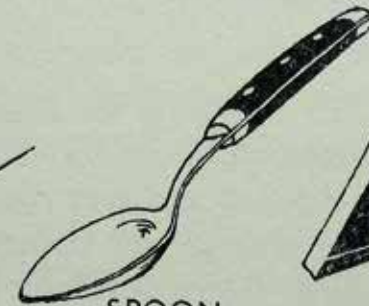
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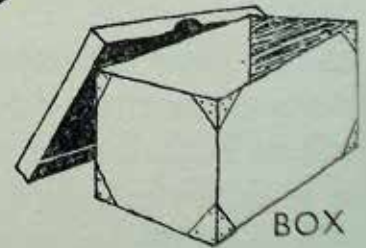
SOCK



HAND



SPOON



BOX

100 YEARS

of Deaf Education and Audiology
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