

MANCHESTER  
1824

The University of Manchester

The Manchester Centre  
for Audiology and Deafness



The University of Manchester  
(1919-2019)

Laura Dawes

The Manchester Centre  
for Audiology and Deafness



The University of Manchester  
(1919-2019)

Laura Dawes

# Contents

Foreward	2
Foundations: Irene and Alexander Ewing (1919-1964)	4
Development: Ian Taylor (1964-1988)	26
The Current Department	34
Acknowledgements	42
Timeline	43
Figures	49
Sources	49

# Foreword

to 2014 edition by Richard C. Seewald

**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 TS 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.

**Richard C. Seewald, PhD**  
Distinguished University Professor Emeritus  
The National Centre for Audiology University  
of Western Ontario London, Ontario, Canada

# 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's father, **James Jones**, was a prominent businessman in the Manchester cotton industry. The family business J.T. Smith and J.E. Jones and Company operated out of premises in Portland Street, not far from the Victoria University of Manchester's campus. (And it was family – the Smith of the company name was James Jones's brother-in-law.) 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's 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. 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 twentieth 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 that underpinned the first hearing aids.



▲  
Ellis Llwyd Jones  
(1874-1918)



▲  
James Edward Jones  
(1843-1922)



▲  
Ellis Llwyd Jones Hall

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. He attended 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's studies before he could take a degree. Ellis insisted on joining up but was barred from active duty because of his deafness. 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 programme 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. The combined colleges planned to then establish the first university-based training programme for teachers of the deaf, operating from the capital.

The National College's London plan was, however, struggling with finances and with school placement arrangements. With the money from Ellis's 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. The first university department for deaf education was secured for the North.





Common Room at Ellis Llwyd Jones Hall

Jones offered the university part of Ellis's 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 of founding a hostel for women students...to be called the Ellis Llwyd Jones Hostel for Teachers of the Deaf". (The hostel, later called the Ellis Llwyd 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 Ellis Llwyd Jones's younger sisters, Amy and Enid, 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's 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"). 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 Llwyd 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 had taken 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,"* she wrote.

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. Those features included 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 programme, 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 Manchester department. Therefore, Irene Goldsack's appointment extremely irritated the National College which wanted its own man Haycock in the role.

The obvious fact that Goldsack was a woman whereas Haycock was a man is actually unlikely to have been a factor in the College's annoyance. As a profession, teaching of the deaf was heavily dominated by women by the later nineteenth century and into the twentieth, and there were several senior women on professional bodies like the National Council.

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,"* Alex Ewing would later reflect, *"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. Goldsack remained in the position as the first Ellis Llwyd Jones Lecturer in Education of the Deaf.





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

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 programmes: a four-year programme comprising a BA or BSc with a fourth year of specialist training in deaf education, or a one-year graduate-entry programme, equivalent to the fourth year of the undergraduate programme. The year-long course leading to the Certificate included four courses from the general teachers' training programme taught by the Education Department (including a course on "black-board 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. This arrangement was 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 institution. 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 programme in that first year 1919-1920: four graduates in the one-year programme and three undergraduates. The four students taking the one-year degree happily all graduated in 1920.

Goldsack also started offering evening classes for the public, teaching lipreading. 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 lipreading were based on techniques she herself used to communicate. This was the foundation for her first textbook, *Lipreading*, published by Manchester University Press in 1930. Goldsack 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 twenty-three, 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 programme, he married his teacher, and together Irene and Alex Ewing began their formidable partnership in the history of audiology and deaf education. They became known as "The Ewings", being seemingly professionally indivisible, although they did in fact have different areas of interest.

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 in regular 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" and submitting it in 1929. (Alex's graduation gown is exhibited in the current department). By the 1930s, Alex Ewing was loosely attached to the department, variously titled as "honorary special lecturer in education of the deaf" and also as "assistant lecturer in speech training."



▲  
John Owen Building





▲  
Alexander William Ewing  
(1897-1980)

Shortly after its founding, the department was given money by Scottish-American industrialist Andrew Carnegie's Foundation for the Advancement of Teaching to develop a library of books on deaf education. The library was given a considerable boost in 1922 when 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 nineteenth 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 a resource for students in the departmental programme, 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 programme 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 twenty-two adjustable settings for volume. Alex 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.



▲  
Alexander Ewing's doctoral robes





A Western Electric Co. 2A audiometer

Alex Ewing's early investigations using the new audiometer showed that most deaf children had some degree of residual hearing – "stone deafness" (a term still in use at this time, meaning total deafness) was rather rare. This finding extended and confirmed earlier research by Glasgow audiologist, James Love, carried out in the late nineteenth century. Moreover, Ewing found that children who had residual hearing at low frequencies were still likely to struggle with developing and understanding 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 to exploit any residual hearing capacity, using hearing equipment to do this. At the time, this was contrary to many deaf schools' philosophy which held that it was a bad idea to use electronic or mechanical means to boost partially-hearing children's capacity to hear. The reasoning was that it might hinder the child when he or she was learning to lipread. Irene Ewing, however, believed 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 could 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. Recalling a trip together, Alex Ewing described how Littler diagnosed a faulty distributor on the road side in central Manchester and repaired it with a pencil lead.

Littler had taken up a position in the University's 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 twenty-eight pounds. More successfully, Littler invented and built binaural group hearing aids for use in classrooms. ("Binaural" meaning

having two pick-up microphones and two headphone speakers). His first group hearing aid model, finished in 1933, used moving iron loudspeakers in the headphones the children wore; his next version the following year 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 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."



Thomas Littler's group hearing aids



By the mid-1930s, Littler's group aids were being used in nine schools for deaf children, which suggests a very rapid uptake of the new technology. 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' partnership, 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 duplex 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 do the renovations for the department, and Amy and Enid Jones (Ellis Llwyd Jones's 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 soundproofed 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 them Littler's group hearing aids, and demonstrating hearing testing and lipreading. 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.



12-14 Lime Grove

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 reinforced Irene's 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 people's 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 lipread 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. For parents of older children, Irene would also demonstrate how to use the hearing aids and table-mounted amplifiers which the department had available for loan. Parents were expected to carry out 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 employing its 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 Llwyd 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 (who was also Alex Ewing's doctoral supervisor), John Stopford, announced the appeal in March 1937 and 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 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 use with children. One of the principles they employed was already present in Irene Goldsack's educational work at the Worrall School: that any activity must be interesting to the child. "*Follow the child's interest*" was the essential slogan of the Ewings' approach to deaf education as well as 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 seeing 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 Ewings' work: the "Distraction Test" (sometimes referred to as the "Ewing Test") and variations upon it that were widely used around the world up until the 1980s.

The famous Distraction Test grew from research the Ewings carried out in 1944. The Ewings were studying normal-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 behaviour-based hearing test that they intended to be appropriate for use in testing the hearing of six-month-old babies: for the time, that was an incredibly young age to be considering testing hearing. The Distraction Test 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, of mother and child 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 programmes for seven-to-nine month-old children where it was known as the Health Visitor Distraction Test (HVDt). After many decades of use, however, the test gradually fell from favour as a method of mapping out the spectrum of a child's hearing capacity in the way an audiometric test could. Instead, it was recast as an initial screening test of hearing sensitivity. Rather than the range of noise-makers the Ewings has used, testers commonly just used a rattle to see if the child would respond to the sound. (The rattle was known as the "Manchester high pitch rattle" and, more recently, the "Manchester high frequency rattle". It is still being manufactured.) Moreover, it became apparent that while the original Distraction Test worked well when it was performed by experienced testers, it was hard to achieve consistency in testers' skills across the country. From around 2006, the Distraction Test was superseded by the newborn hearing screening test.

In 1942, during the Second World War, 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 of sound entering the ear. 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 a volume loud enough 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 Royal Air Force upon these earlier investigations. Their task was to advise on suitable earplugs and helmet design. 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 contributed to a 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 Littler's most notable contributions to British audiology was his work for the Medical Research Council 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 also commissioned gramophone recordings of standard word lists – fifty familiar English words being read by male and female speakers, one word every four seconds. At Manchester, adults attending Irene Ewing's lipreading 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 had lagged behind. One of the recommendations of the electro-acoustics 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" was produced under contract to the NHS and issued free of charge. MEDRESCO stood for "MEDical REsearch COuncil". 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, and these 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 and were eventually superseded by commercially produced 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. He also continued working 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 further chapters on audiometry, hearing defects and alleviation of deafness. As a board member of Alfred Peter and Sons, an audiological equipment manufacturer, Littler was involved in the commercial production of hearing aids and audiometers and he also served for a brief period as editor of *Sound*, now the *International Journal of Audiology*. In his sixties, Littler 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, he continued, *"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 Andreas Markides (1972), Tom Watson (1979), Denzil Brooks (1997), Kevin Munro (2001), John Bamford (2004, 2007), Colette MacKay (2008), Richard Ramsden (2009), Piers Dawes (2013) and Dave Moore (1998, 2016), and Michael Stone (2015) have also received the T.S. Littler prize.

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 lipreading 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 the Red Cross for help in teaching his fellow prisoners who had been deafened how to lipread. The Red Cross wanted advice from Irene Ewing on what to send them. In response, Irene revised her earlier (1930) book on lipreading, giving a course of twenty lessons as used in the department's own lipreading classes, and instructions on how to follow the programme. Also, for a time during the war, the military took over the Ellis Llwyd Jones Hall where students in the deaf education programme lived. The hall of residence 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. Alex 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. 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 lipreading 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 lipreading with the use of hearing aids." They also gave 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 of the films was longer and more technical; the other, 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 Test. 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 education was now teamed with science 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 only *"part of the large number of people attending"* showed more than 120 people had come to the talk. The couple made further visits to North America in the 1950s. The year after that first highly successful trip, Irene Ewing was awarded the Order of the British Empire (OBE) for her services and an honorary Doctorate of Civil Letters from the University of Durham.

Irene retired from teaching in the department in 1949 but continued to run the various clinics the department offered – parental guidance classes, hearing aid and lipreading 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 Ellis Llwyd Jones Professor. This position, now called the Ellis Llwyd Jones Chair in Audiology, still exists in the department and in 2019, was 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. The couple's Australian trip marked the start of 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**, an expert on paediatric hearing testing, met the Ewings during their "down under" tour and returned to Manchester to undertake 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 an Australian woman named Nancy John. Her daughter Anne had been diagnosed as deaf at age three and Nancy's husband 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, was opened two years after the Ewings' visit by the state premier, with ten children in its first year. The buildings had been designed following Littler's prescriptions for acoustic dampening. (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). University authorities invited Queen Elizabeth, 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 – she was patron of the National Deaf Children's Society and Irene Ewing had written parent guides for that charity. The royal visitor specifically asked to see the department. 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, writing to an assistant in the department clinic who hadn't been on duty the day of the visit. *"No! Gertrude, 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 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 lipreader. She was employed as a demonstrator at the department, helping to teach lipreading 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 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 Distraction Test, a two-year-old boy in speech training, and lipreading classes.



Molly Sifton ►

The year after the University's centenary, 1952, marked the start of another important relationship for the department. **Malcolm McAlpine** was chairman of Sir Robert McAlpine Limited construction company, the company responsible for the stadiums for both the 1948 and 2012 Olympics, along with One Canada Square in Canary Wharf, and the Millennium Dome. McAlpine's oldest son, Adrian, had been born deaf in 1944 after Adrian's mother, Sheila, contracted rubella while she was pregnant with him. 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 (between 100 and 250 children a year) were due to rubella before the vaccine became available in 1971. The McAlpines had approached the Ewings for help and advice; Hamish McAlpine, Adrian's younger brother, recalls the couple 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's job was to travel around the country demonstrating group hearing aids and speech-training units to teachers and parents. When he wasn't out in his van, Dalziel also had an office in the Manchester department. To this day, Ewing Foundation consultants and technicians have offices 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 give advice on its use. The success of this roaming service and that of the clinics offered at the University contributed to the establishment of Local Education Authority

peripatetic services for pre-school deaf children and their families across the country. In the 1950s and 1960s, the Foundation also funded research positions at the University, including that of Ewing Research Fellow 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. Huntington served as Ewing Research Fellow from 1967 to 1989. **Jean Howarth**, an expert on deaf children's speech and language, also joined the department at this time as tutor on the certificate course in deaf education. Jean, who worked in the department for 38 years, was part of another departmental couple: she married 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, now under the chairmanship of Hamish McAlpine, celebrated its 65th anniversary in 2017. Antonia McAlpine, Adrian's daughter, is 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 convenor 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 presented 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 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.





▲  
Ethel Constance Goldsack (Ewing) - seated -  
with actresses Mandy Miller and Dorothy Alison

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 filmed at the school. A "weepie," *Mandy* was the adaptation of a 1946 Hilda Lewis novel called *The Day Is Ours* about a young deaf girl. Hilda Lewis's interest in progressive deaf education was via her husband, deaf education specialist Professor M. Michael Lewis at the University of Nottingham. Michael Lewis was 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 that influential 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, better known for her recording of "Nellie the Elephant", who played the lead role. 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; Alex and Ethel attended its opening. (The chair of the Department of Hearing Science at Ithaca College, Dr Walter Carlin, had studied audiology at Manchester in the 1960s.) 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 in Manchester (1968-2012)), the Ewing Foundation, and Ithaca College's Sir Alexander 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 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 Ellis Llwyd Jones Hall made her well-regarded and admired. Alex Ewing was renowned for his “exquisite” old-school manners: when she was a little girl, Rachel Calam lived next door to the couple in Alderley Edge in the 1950s, and she remembered how Alex 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. All grown up, Calam is a professor (now emeritus) of child psychology at The University of Manchester.

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. The modified Distraction Test using just the rattle is still used in countries today where the low technological requirements of the test are beneficial. The Ewings, along with Tom Littler, also brought attention to the fact that deafness has different degrees; 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 programmes around the world used the Ewings' textbooks as standard readings, especially their 1938 *Handicap of Deafness*; 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 lipreading and speaking over signing were two-fold: first they believed that the acquisition of speech was critically important for a child's mental development; second they believed that children who could lipread 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: intellectual or professional 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 Ewings' advocacy of lipreading and speech training and the strong identification of

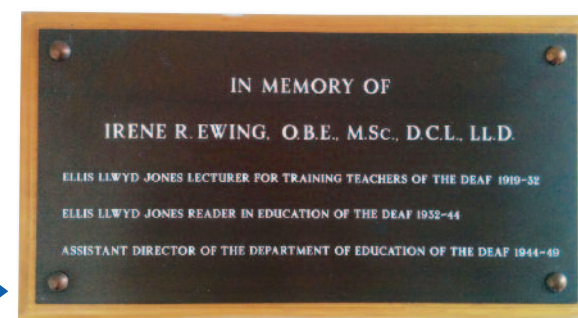
the Manchester department with oralism has also meant that the Ewings and their work have been entangled in the longstanding, heated stand-off between oralism and manualism. Advocates of manualism argue that deaf children could learn sign language much more quickly than speaking and therefore the child's 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 Llwyd Jones, Molly Sifton or 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 lipread with fluency nor speak so clearly. The lack of sign language classes for parents at this time also 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 lipread 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). To deny sign language to deaf children is to deprive them of their essential culture – an argument influenced by Deaf advocacy and disability rights movements more broadly. 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 Ewings' approach could arouse intense emotion, although criticism of their approach did not always portray it accurately: “*Ewingism*,” wrote Deaf advocate Raymond Lee of the British Deaf History Society, “*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 programme 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, nearly 85% of deaf 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 programme 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 programme still has a strong emphasis on audiology and 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.

Commemorative  
plaque to Irene Ewing



# 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: **Thomas (Tom) Watson**, the department's senior lecturer in deaf education, and **Ian Galbraith Taylor**, the only medical member of the department.

Tom Watson had trained as a teacher of the deaf in the Manchester programme in 1936-37 and taught at a deaf school in Edinburgh before joining the department in 1947. He was also a specialist in the history of deaf education, having written his doctorate on the subject at the University of Edinburgh.

Ian Galbraith Taylor 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. His research in that role studied 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. Taylor's duties were mostly to do with the clinical work of the department and lecturing, along with visits to the Local Authorities.

Alex Ewing had originally considered Tom Watson as his most likely successor, and Watson's range of teaching work and conference organising and administrative duties made him well placed to take over the role of head of department. But Ewing had been impressed by what he described to the Vice-Chancellor as Taylor's "*outstanding intellectual ability and amply demonstrated capacity for original research*." Ewing considered that audiology would increasingly look at the physiological and neurological basis of hearing and speech. He reasoned that Taylor's medical rather than educational background made him better

suited to lead the department's future work as it took this anticipated turn towards medical audiology. Alan Huntington, who was a researcher at the department at the time, also thought that Taylor's medical qualifications were persuasive in another way: "*Alex revered doctors, he really did*," said Huntington. "*The white coat really impressed him*." Moreover, Ewing 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 programmes.

Ian Taylor was therefore appointed the Ellis Llwyd Jones Professor in 1964, with Tom Watson as Reader in Deaf Education. Taylor's appointment caused some disquiet within the department at first – other faculty lobbied the Chancellor against Taylor's appointment, arguing that he was insufficiently expert in deaf education to lead effectively in these areas and the subject was in danger of becoming less of a focus within the department. 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, covering education of the deaf, parental guidance and audiology, though not all were permanent members of staff. The parent guidance programme, which had been run by Irene and later Ethel Ewing, was headed by **Gordon Campbell**, who specialised in this field and played a large role in the public clinics offered at the department, with **Barry McCormick** and junior faculty member **Terence Morris**. McCormick was a leading figure in paediatric audiology, having written a number of noted textbooks in the field, and developed the McCormick Toy Discrimination Test along with refinements to the classic Distraction Test. He left

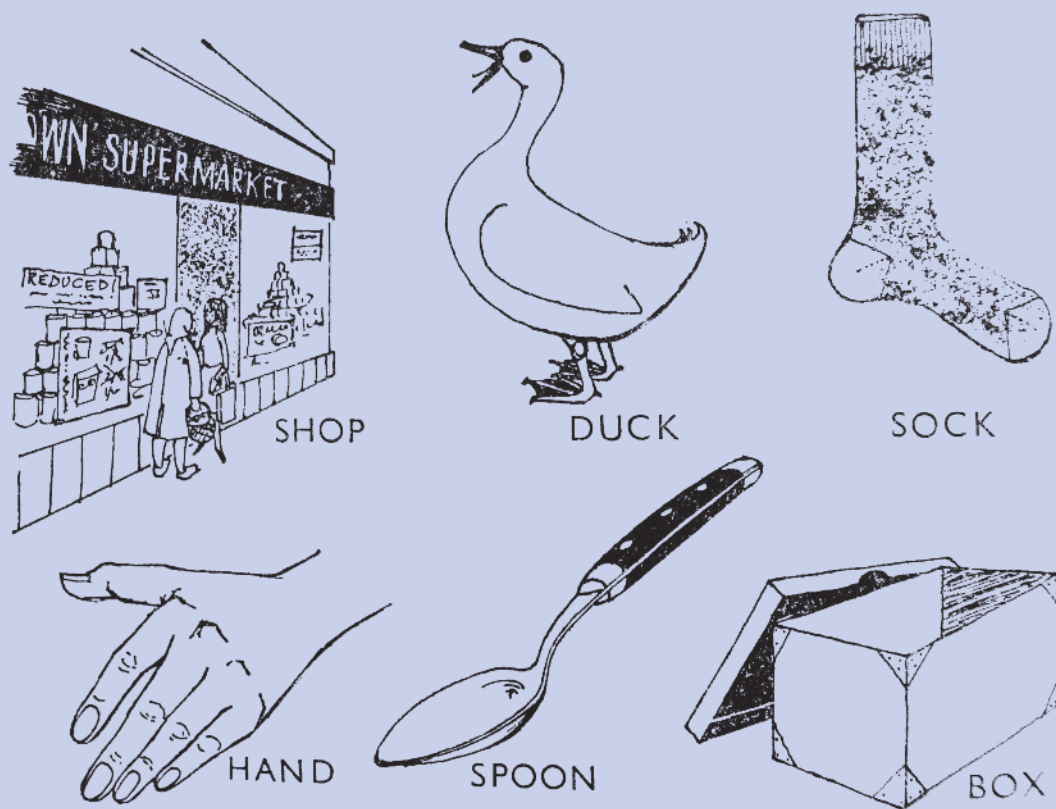
the department in the late 1970s. The department had also changed its name in 1961, adding "audiology" to become the Department of Audiology and Education of the Deaf. The name change, Ian Taylor wrote, "*mark[ed] a change in policy and emphasis that the University was giving to the development of audiology as a discipline*." The title of the professorship was also adjusted to Ellis Llwyd Jones Professor of Audiology and Education of the Deaf.

Although it was the perception of faculty members that deaf education had become a "second string" interest in the department without professorial-level leadership, it was still a major focus of the department in the Taylor years. A Bachelor of Education in Audiology and Deaf Education was added to the department's degree offerings in 1967, followed by a Diploma in Advanced Education of the Deaf (c.1970), and a Master of Education in Deaf Education (1972). Long-serving members of the department at this period working in this area included **G.W. Redgate**, a specialist on reading and who was also interested in teacher training, and **Jean Howarth** (later Huntington), a graduate of the Manchester programme in 1953, who working on speech intelligibility. **Andreas Markides** was a specialist on speech intelligibility and on the use of hearing aids, who joined the department in the late 1970s and was a senior lecturer in education of the deaf through to the 1980s. Tom Watson was the most senior departmental member in deaf education, and was the author of a number of textbooks on deaf education, the most influential of which was *The Education of Hearing-handicapped Children* (1967), a textbook for parents and trainee teachers. His interests covered hearing assessment, and school placement, as well as educational practice and history. Watson 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 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. For these children, 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 keywords. "*Is a twopenny stamp blue or brown?*" "*Father comes home from work at six.*" "*Many women use gas for cooking.*"





Card from Thomas Watson's Manchester Picture Test

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 programme, and lecturing there as well as in the U.S. (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) as well as deafness-related community groups in Stockport. 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. Entering the 1960s, the department's interest and activity in this field began to build up again, with faculty members **Joseph Elwyn John** (who went by his second name) and **Harold Leslie (Les) Owrid** working in the field. 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 Tom Littler, and indeed, like Littler, John was the one person with a science background in the deaf education programme 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. Les Owrid had completed his PhD within the department in 1958, with a project investigating the effect of early home training on linguistic development in deaf children. He had become a faculty member in the 1960s, becoming a senior lecturer in audiology in 1972. Although Owrid's interests trended more towards deaf education (particularly in developing various measures and tests for deaf children's educational performance), together John and Owrid were involved in developing new degree programmes in audiology. The department had started to offer a Diploma in Audiology in 1958, and later added a Master of Education in Audiology in 1972 designed for teachers of the deaf and, in 1973, a Master of Science in Clinical Audiology for science graduates interested in a career in audiology. The advent of these degree programmes in the department marked developments 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 Ian Taylor heading the department as its new professor, the department moved to a new, larger building which it still inhabits. At the time, it was called the Humanities II building and is 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, even the new building didn't provide enough space: there were still not enough rooms in the Humanities II building to house all the faculty as well as rooms for the clinic.

Under Ian Taylor's tenure as Ellis Llwyd Jones Professor, there were three notable developments within the department. One was the increase in the number of faculty positions and degree programmes (of which the new audiology degrees were one instance); the second was an expansion of interests within the department to include speech pathology and, later, audiological medicine. By the mid-1970s, the department boasted 21 faculty positions across deaf education, parental guidance, phonetics, audiology, speech pathology and therapy, and experimental psychology, along with research assistants, an experimental officer handling the technical equipment and various honorary appointments. The third major development was that the free public clinics the Ewings had first established assumed an even greater prominence in the life of the department. These 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 as well as the number of faculty members.

From soon after his appointment as head of the department, Taylor was interested in expanding the department into speech pathology and therapy, and started 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 in 1947 from the Central School of Speech and Drama, London. (Fellow alumni included Laurence Olivier and Peggy Ashcroft.) She had gone on to work in speech therapy practice in Edinburgh, London, and Wisconsin. Described by her colleagues and former students as 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 programme became extremely well-regarded, with an impressive calibre of students: in the 1970s and 80s, the programme attracted around 500 applicants a year, of which the programme 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 programme after Byers Brown's retirement in 1978, joined the department in 1976, specialising in feeding and speech therapy in severely handicapped children. The programme (now titled "Speech and Language Therapy") was then run for a long period by **Anne Hesketh** – a long-standing member of the departmental family who had herself trained under Betty Byers Brown.

**Fiona Kevan** is now the programme director. Following restructuring, the speech pathology teaching programme and the associated language development and disorders (LDD) research group (with professors **Gina Conti-Ramsden** and **Elena Lieven**) are now separate entities from the audiology/deaf education grouping, with currently around 150 students, several doctoral students, and 10 staff members. The department formerly held the Byers Brown Memorial Lecture in remembrance of Byers's work. The University recently amalgamated small endowments into a single central fund and so the lecture is no longer offered regularly.



▲  
Ian Taylor administering the  
Distraction Test in the departmental clinic



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. A close working relationship with the Department of Otolaryngology allowed for referral of patients requiring further medical or surgical treatment. The clinic was funded by the University and the area health authority. It was held in a room on the ground floor of the new departmental building; specialists and students could observe the clinic via a window from a small observation room next door. The main room is now a meeting room, but the observation window still remains.

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 programmes 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) who left to work at the Clarke School in Massachusetts, recalled being impressed by Taylor's ability to establish a rapport with small children at the clinic. The degree programmes 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”.*

In addition to adding speech therapy and pathology to the interests of the department, Ian Taylor also expanded his own specialisation in audiological medicine, both through research and by offering courses for medical officers. Taylor approached the Royal College of Physicians to formally register audiological medicine as a medical speciality in 1975. Medically-trained staff members **Valerie Newton** and **Vijay Das** joined the department in the 1980s and contributed to an increasingly strong research focus on medical approaches to deafness and communication disorders. In particular, the researchers investigated the aetiology of deafness in children. 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) or rhesus incompatibility. Still other children came from

families with a history of deafness in either the parents or grandparents and whose deafness could therefore be attributed to a dominant genetic inheritance, with a further large group of children whose deafness was classified as “unknown”. Taylor and his collaborators suggested that the “unknown” group's deafness might be due to recessive genetic conditions. Newton carried out further research on one such recessive condition, Usher Syndrome, as well as the rare, dominantly inherited Waardenburg syndrome (WS). Further appointments of **Ian Mackenzie** and **Suren Surenthiran** deepened the department's faculty taking a 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 and continued her research into the genetic basis of hearing loss.

In 1979, the department hosted the third conference of the British Society of Audiology. The conference addressed paediatric audiology, communication, vestibular function, noise-induced hearing loss and aural rehabilitation. Manchester staff contributed papers especially in the department's traditionally strong areas of paediatric 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 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 deaf education – twice.

## Current core ManCAD staff

### PROFESSORIAL:

**John Bamford (emeritus)**  
**Harvey Dillon**  
**Connie Mayer (honorary)**  
**Stefan Launer (honorary)**  
**Wendy McCracken (emeritus)**  
**David Moore**  
**Cynthia Morton**  
**Kevin Munro**  
**Chris Plack**

### READER:

**Richard Baker**  
**Kai Uus**

### SENIOR LECTURER:

**Helen Chilton**  
**Piers Dawes**  
**Sheila Fidler**  
**Bridget Goodier**  
**Antje Heinrich**  
**Karolina Kluk-de Kort**  
**Michael Stone**

### LECTURER:

**Siobhan Brennan**  
**Debbie Cane**  
**Sam Couth**  
**Alison Edwards**  
**Helen Glyde**  
**Lindsey Jones**  
**Rebecca Millman**  
**Garreth Prendergast**  
**Josef Schlittenlacher**  
**Tim Wilding**

### SUPPORT STAFF:

**Wendy Lamb**  
**Ciaran McCracken**  
**Dan Owens-Cooper**  
**Keith Wilbraham**  
**Cath Wright**

# The Current Department

Ian Taylor was awarded a CBE in 1987 and retired the following year. After Taylor's departure, **Peter Mittler**, professor of special needs education, took the headship of the department as an interim arrangement, while the University reviewed the nature and structure of the department. Under Taylor's tenure, along with its traditional areas of audiology and deaf education, the department had also added speech pathology and audiological medicine to its areas of interest. The clinic had assumed a central position in determining the staffing, teaching and research profile of the department. With this emphasis on the medical and clinical aspects of deafness, Ian Taylor had been interested in the department moving from the Faculty of Education to the Medical School and sounded out this possibility with the medical school and University authorities. But there is a sense in the University's archival records that the clinic was not greatly appreciated by either the medical school or the local health authority. Neither of these bodies were keen on the department's clinical activities because these services were offered elsewhere under the NHS. The financial cost to the Faculty of Education of supporting the clinic may also have lessened the appeal of the clinic within the University. After Ian Taylor's retirement, 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 renamed "Centre for Audiology, Education of the Deaf and Speech Pathology." The department (now "Centre") still sat within the School of Education, although the school itself had also been reorganised. Bamford's tenure as head of the centre marked the development of the centre's current form and focus.

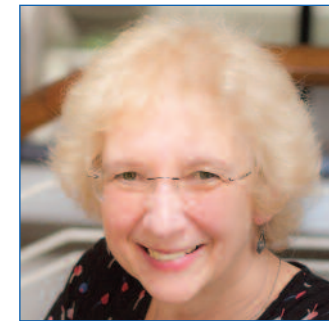
Bamford had entered audiology from a background in psychology and had research interests in the department's traditionally strong areas of paediatric audiology and hearing testing. When he arrived in the department, he felt that its audiology teaching had become too skewed by the dominating role of the departmental clinic. Students, he considered, 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."*

Bamford recognised that, over the course of the century, audiology had been developing as a field, with audiologists increasingly less likely to be regarded as technicians. This process of professionalisation, Bamford felt, would be helped along if university programmes like Manchester's developed a specialised knowledge base for the discipline. Bamford set about reorganising the degree programmes to shift the balance away from clinical skill acquisition, which he felt came with experience which could not be gained in a one-year programme. Instead, he established a four-year bachelor's degree in audiology in 2002, built up the number of Masters and PhD students, streamlined the number of different degrees offered by the centre, and developed more 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.

## Current professorial ManCAD staff



**John Bamford**  
(1989-2008 now emeritus)



**Wendy McCracken**  
(2012-2018 now emeritus)



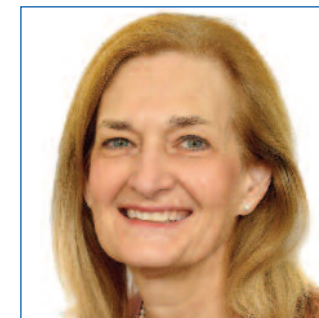
**Chris Plack**  
(2008-present)



**Kevin Munro**  
(2013-present)



**Dave Moore**  
(2014-present)



**Cynthia Morton**  
(2016-present)



**Harvey Dillon**  
(2017-present)



After John Bamford's retirement in 2008, the role of head of the centre as a whole was separated from that of head of the audiology and deafness research group. Acoustic psychophysicist **Chris Plack** took over leadership of the centre and the Ellis Llwyd Jones Professorship, with **Colette McKay**, a specialist in cochlear implants, leading the research group, and **Amy McLauchlan** appointed as Director of Teaching.

The centre faced a renewed challenge to the structure and content of its degrees: the Department of Health's policy to streamline training programmes for NHS professions into one basic science programme. 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 programme's operation, which also coincided with a tightening nation-wide economic situation. It was an anxious period for the centre, but due to impassioned and carefully argued appeals to the Faculty from audiology staff, the threat to the audiology teaching programmes (and potentially to the group as a whole) of closure was averted. The centre cut staff positions to address the shortfall in the operating budget.

After a difficult start to the century, the department adjusted to the changed environment and entered a new period of growth and development, with increasing staff and student numbers and a renewed, robust and challenging research programme. Faculty members forged fresh collaborations with colleagues at other organisations and institutions, both in the UK and overseas, and were successful in securing generous research funding. After a fallow period, the Manchester centre once again was receiving the Thomas Simm Littler prize and lectureship, indicating the resurgence of the department as a national leader in audiological research.

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 programme, 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 in 2012 to take up a joint appointment with Manchester and Lancaster Universities, **Gina Conti-Ramsden** became head of the centre and **Kevin Munro** the Head of the Audiology and Deafness Research Group. Munro had joined the group in 2002 and been promoted to professor in 2011. His title of Ewing Professor of Audiology honours the contributions of the Ewings to audiology. Munro 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. John Bamford describes him as *"a fantastic asset for UK audiology...we really could do with cloning him"*. Munro has played a number of professional roles within UK audiology, including secretary of the International Journal of Audiology, Chair of the British Society of Audiology and Chief Examiner for the British Association of Audiological Scientists.

Further expanding professorial level appointments, **Dave Moore**, Professor of Auditory Neuroscience, joined the department in 2014, with a joint appointment with the University of Cincinnati. Moore's research interests are in how changes in the way the ear and brain respond to sounds influence how people communicate. **Cynthia Morton**, Chair in Auditory Genetics, joined the centre in 2016 in an adjunct position, and holds a joint appointment with Harvard Medical School. Morton's work, in an echo of the interest of the medical members of the department particularly under Ian Taylor's tenure, concerns the genetics of hearing loss. Most recently, **Harvey Dillon**, the former director of the National Acoustic Laboratories in Sydney, Australia, joined the department in 2017 as part-time professor of auditory science. His research interests concern methods for assessing hearing needs and on how hearing rehabilitation can be improved.

After a year of planning, in August 2016, the Faculties of Life Science and Medical and Human Science at the University merged to bring basic science and health-related sciences together in one new Faculty of Biology, Medicine and Health. The audiology and deaf education programme, now titled the **Manchester Centre for Audiology and Deafness (ManCAD)** became part of the Division of Human Communication, Development and Hearing, headed by Gina Conti-Ramsden, sitting within the School of Health Sciences, headed by Kay Marshall. The speech pathology programme, now titled the Language Development and Disorders (LDD) group is also part of the same Division. The new structure and disciplinary associations, according to Kay Marshall, gave more prominence to the fields ManCAD works in. While the recent professorial appointments, and its position within the Faculty of Biology, Medicine and Health, suggests the increasing medicalisation of audiological practice at the University, there are still traces of the department's origins: both ManCAD and LDD still share the Ellen Wilkinson building with the School of Education.

ManCAD today offers several different degrees across undergraduate and graduate levels. The undergraduate degree is the three-year bachelor of science in healthcare science (audiology). Students in that programme train to be clinical audiologists and hearing aid dispensers and are eligible to register with the Registration Council for Clinical Physiologists (RCCP, which is a voluntary register, existing since 2001) and the Health Care Professions Council (HCPC) which, since 2001, has been the statutory registration body responsible for holding the register of practitioners able to use the designated or legally protected title of "hearing aid dispenser." In the historical trajectory of the field, the regulation of the field through registration and protected titling are more indicators of how audiology has professionalised over the past century. At postgraduate level, ManCAD offers taught degrees in audiology and deaf education (at masters, postgraduate diploma and certificate levels) as well as research-based masters and doctoral degrees, and shorter certificate courses in audiology topics designed for current practitioners wanting to develop or update their skills. The postgraduate diploma in deaf education is the country's leading programme in this field,

and the centre is also the sole academic provider of a higher specialist scientist training programme (a post-registration clinical science doctorate which trains clinicians to be consultant clinical scientists). There are currently around 70 undergraduate students, and 130 students across all the graduate programmes, including six doctoral students.

In research, since the 1990s the centre has developed a number of significant, large-scale, collaborative 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 programmes 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 and auditory brainstem responses) offered new possibilities to lower the age of first screening even further.

**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 programme which started in 2001 and was extended across the UK by 2005. Babies now have their hearing tested within ten days after birth. The motivation behind the new-born screening programme – 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 programme that replaced the Ewing Test is a notable demonstration of the department's continued strength in paediatric audiology.

In the department of the 21st century, Manchester faculty are conducting collaborative research projects that continue to both lower the age of hearing loss diagnosis and formal assessment and extend diagnostic capabilities to adults with special needs. Projects involve devising new testing strategies based on, for example, physiological responses to sound, such as cortical auditory evoked potentials, or simple behavioural responses such as eye tracking. The Ewing/Littler “Tunnel Test” of the 1940s required children to “push a button” when they heard the train approaching; the Manchester tests being developed today aim to avoid the person being tested having to be able to “push a button,” thereby making the tests workable for a wider range of patients.

The success of the newborn screening programme and the subsequent prescription of hearing aids for babies at two-to-three 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 collaborations with the NHS and, in particular, with the Central Manchester University Hospitals NHS foundation Trust (CMFT) to investigate these topics.

In a parallel with 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 paediatric hearing services in the England in providing the new aids. A project funded by the Industry Research Consortium being carried out by **Piers Dawes**, **Kathryn Hopkins** and Kevin Munro extends this tradition by looking at ways in which hearing aids could be made more comfortable for users by finding strategies for dealing annoying, unwanted sounds. A further collaborative study with the Eriksholm Research Centre in Denmark looks at how hearing aids users and would-be, but reluctant, users can benefit more from these devices.

A number of research projects underway in the ManCAD group in its centennial year consider how the brain processes sounds – that is, auditory neuroscience. Investigators ask how auditory processing changes with age, both in the first years of life and at the other end of the spectrum in old age. How do people’s brains adapt to hearing loss, or to using one of the hearing technologies available? How might that plasticity be used, perhaps by training or practice, to improve how well auditory technologies work for users? The hope is that by better understanding the brain’s processing of sound, how hearing condition are managed can be improved, even personalised, for better patient outcomes.

Noise exposure is one of the most common causes of preventable hearing loss worldwide – both due to loud noises, but also as Manchester researchers are showing, due to moderate noise damage. Kathryn Hopkins and Chris Plack respectively lead two research projects that look at the effects of noise in the workplace on hearing. The projects aim to better understand the level and type of noise that causes hearing loss, the nature and location of the damage caused to the ear, and to develop tests that can detect this damage earlier than currently is the case.

The growing and aging population means age-related hearing loss is an increasing public health challenge, yet many people do not seek out treatment or use hearing aids. For those that do, they do not always find them helpful. Various projects at the department aim to help address this situation, by investigating the changes in the brain needed to adapt to hearing loss and the use of hearing aids. In a collaborative study between scientists in the U.K. and the U.S., Manchester researchers are using the UK Biobank population data to identify risk factors for hearing disability which may help identify genetic factors for hearing loss. These studies are also looking at the connections between quality of life, social connectedness, mental health and hearing.

Beyond this work understanding the causes of hearing loss and leading to potential clinical interventions, the department maintains its strong historical focus and expertise in deaf education and the provision of services for deaf children, parents and educators. Wendy McCracken has coordinated research projects examining the use of FM (frequency modulation) amplification in everyday settings, the growth of sexual understanding in deaf children, and service provision for deaf children and their parents. Following McCracken’s retirement, **Helen Chilton** now leads the deaf education programme.

Kevin Munro describes the group’s activities as “thriving,” particularly benefitting from the strong support of **Ian Jacobs** during his tenure (2011-2015) as Vice-President of The University of Manchester. Since 1988, the department 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 programme in the department spend part of their clinical practice with the centre. In 2014 the Manchester Cochlear Implant Centre relocated to a brand new facility, the Peter Mount Building, within the Manchester Foundation Trust. Strong collaborative links remain between ManCAD and the NHS audiology department, also housed in the Peter Mount building, currently led by **Martin O’Driscoll**.

Significantly in 2016, The University of Manchester (jointly with Manchester area NHS Foundation trusts and health science institutions) was successful in receiving National Institute for Health Research (NIHR) funding for a biomedical research centre (BRC). Individual BRCs are part of a nationwide network of centres aiming to help translate research developments into patient care – making the pathway from basic research to applied treatment less tortuous and, hopefully, faster. The Manchester BRC specialises in cancer, rheumatology and muscular skeletal disease, dermatology and hearing health. ManCAD’s Kevin Munro leads the Hearing Health theme, and, Kay Marshall says ManCAD, “was instrumental in winning the £28 million pound award” which funds the Manchester BRC from 2017 through to 2022.

With twenty faculty members in ManCAD, the centre 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 whole 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 nearly 85% of the approximately 45,000 deaf children in the United Kingdom attending mainstream schools. About half (642 of a total of 1,239) of teachers of the deaf now work as peripatetic (visiting) teachers, advising schools and supporting students in mainstream classes; only around 200 teachers work in special schools for deaf children. Although audiological scientists in the centre 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 of the Deaf to the Manchester Centre for Audiology and Deafness, a happy centenary and best wishes for the next hundred years.



# Acknowledgements

## With thanks to:

John Bamford  
Arthur Boothroyd  
Rachel Calam  
Gina Conti-Ramsden  
Piers Dawes  
Anne Hesketh

James Hopkins and Manchester University History and Heritage

Alan Huntington  
Fiona Kevan  
Kay Marshall  
Michael Maslin  
Wendy McCracken  
Edward Moore  
Kevin Munro

The Museum of Technology

Daniel Owens

James Peters and the Manchester University Archives

Chris Plack

Stephanie Seville and the Museum of Medicine and Health

Richard C. Seewald  
Ian G. Taylor  
Kai Uus

## Special thanks to:

Pauline Hughes  
Hamish McAlpine

Ewing Foundation for their financial support for this project

## About the Author

Laura Dawes BSc(hons), MSc(Oxon), PhD(Harvard)

is an award-winning historian of medicine, writer and broadcaster

[www.lauradawes.org](http://www.lauradawes.org)

# 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's, estate  
to the Victoria University of Manchester to  
establish a programme 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  
programme, three in the four-year  
programme)

**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 lipreading 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

**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  
programme

**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

<b>1931</b>	Alexander Ewing publishes the first results of research using the audiometer in his paper "High frequency deafness"	<b>1944</b>	The Ewings' study of "meaningful sounds," "The Ascertainment of Deafness in Infancy and in Early Childhood," provides the foundation for the Ewing Distraction Test	<b>1951</b>	Joseph Elwyn John joins the department as Lecturer in Audiology	<b>1962</b>	Memorial conference marking the work of Irene Ewing held at the department
<b>1931</b>	Irene Ewing appointed Reader in Deaf Education	<b>1946</b>	The Ewings become honorary members of the American Otological Society	<b>1952</b>	The Ewing Foundation is established by Malcolm and 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	<b>1964</b>	Ian Taylor publishes <i>The Neurological Basis of Hearing and Speech in Children</i>
<b>1933</b>	Physicist Thomas Simm Littler joins the department	<b>1946</b>	The Ewings visit Canada and the United States on a speaking tour	<b>1952</b>	Headmistress Ethel Goldsack advises on deaf education for Ealing Studios' film, <i>Mandy</i> , filmed on location at the Royal Schools, Old Trafford	<b>1964</b>	Alexander and Ethel Ewing retire. Alex Ewing is appointed Professor Emeritus
<b>1933</b>	Irene Ewing awarded honorary Master of Science degree by The University of Manchester	<b>1946</b>	Helen Keller visits the department	<b>1952</b>	The Ewing School (Ballarat, Victoria, Australia) opens	<b>1964</b>	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
<b>1933</b>	Thomas Littler develops his first group hearing aid	<b>1947</b>	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	<b>1952</b>	The Ewings visit the United States again	<b>1964</b>	Alexander Ewing appointed Honorary Fellow of Manchester Medical Society
<b>1934</b>	Thomas Littler receives his PhD	<b>1947</b>	Irene Ewing awarded the OBE for her services to audiology and deaf education	<b>1956</b>	Ian Galbraith Taylor joins the department as an honorary special lecturer and Ewing Foundation Fellow	<b>1965</b>	Department moves to the Humanities II/ Ellen Wilkinson Building and the building on Lime Grove is demolished
<b>1934</b>	Department starts clinic for under-fives	<b>1947</b>	Irene Ewing awarded an honorary Doctorate of Civil Letters from the University of Durham	<b>1958</b>	Alexander Ewing knighted for his services to audiology and deaf education in New Year's Honours	<b>1966</b>	Alexander Ewing awarded Honorary Doctor of Letters by Ithaca College, New York
<b>1934</b>	Department moves into new premises at Lime Grove	<b>1948</b>	First MEDRESCO hearing aids issued by the NHS	<b>1958</b>	Department hosts the International Congress on the Educational Treatment of Deafness, with Alexander Ewing as convenor	<b>1966</b>	Clinic at Ithaca College, New York, renamed the Alexander Ewing Speech and Hearing Clinic
<b>1936</b>	The Ewings and Thomas Littler publish their report on "The Use of Hearing Aids" for the Medical Research Council (MRC)	<b>1948</b>	Thomas ("Tom") John Watson joins the department as lecturer in deaf education	<b>1958</b>	Department offers one year Diploma in Audiology	<b>1967</b>	Alexander Ewing awarded Honorary Doctor of Laws by The University of Manchester
<b>1937</b>	MRC provides funding for first fulltime research assistants in the department	<b>1949</b>	MRC establishes Wernher Research Unit on Deafness with Thomas Littler as Director	<b>1959</b>	Irene Ewing awarded Honorary Doctor of Civil Law by The University of Manchester	<b>1967</b>	Department offers a Bachelor of Education in Audiology and Deaf Education
<b>1937</b>	The University of Manchester appeal fund seeks for £15,000 for the department. Irene Ewing makes a BBC radio broadcast.	<b>1949</b>	Irene Ewing retires from the department; Alexander Ewing is promoted to Ellis Llwyd Jones Professor of Audiology and Deaf Education	<b>1959</b>	Irene Ewing dies, Manchester	<b>1967</b>	Tom Watson publishes <i>The Education of Hearing-Handicapped Children</i>
<b>c.1938</b>	Irene Ewing offers parental guidance clinics	<b>1950</b>	Department appoints its first faculty position in "audiology" as opposed to "acoustics," assistant lecturer RW Bailey.	<b>1959</b>	Department celebrates its 50th anniversary	<b>1968</b>	Vaccination programme for measles established
<b>1938</b>	The Ewings publish their first co-authored textbook and the first textbook on audiology, <i>The Handicap of Deafness</i>	<b>1950</b>	The Ewings visit Australia	<b>1960</b>	Fund raising for the Irene Ewing Memorial Fund begins	<b>1968</b>	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
<b>1942</b>	Alexander Ewing and Thomas Littler start work with the RAF on hearing loss in aircraft personnel	<b>1951</b>	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	<b>1960</b>	Ewing School (Nottingham) established	<b>1968</b>	Opening of the Ewing School (Manchester)
<b>1943</b>	The Ewings share the Norman Gamble Prize, awarded by the Royal Society of Medicine, and the Royal Institute's Actonian Prize			<b>1961</b>	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 programme	<b>1969</b>	Thomas Simm Littler dies
<b>1944</b>	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						



<b>1970</b>	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"	<b>1985</b>	Department hosts the International Congress on Deaf Education for the second time	<b>2002</b>	Department offers a Bachelor of Science in Audiology	<b>2016</b>	The University of Manchester receives National Institute for Health Research (NIHR) funding for a biomedical research centre (BRC). Kevin Munro leads the Hearing Health theme
<b>1971</b>	Rubella vaccination programme commences	<b>1987</b>	Ian Taylor awarded Commander of the British Empire (CBE)	<b>2003</b>	Ewing School (Ballarat, Victoria) merges with mainstream primary school and renamed Ballarat Deaf Facility	<b>2016</b>	Dave Moore delivers the Thomas Simm Littler Lecture
<b>1972</b>	Department offers Master of Education in Audiology and Master of Education in Deaf Education	<b>1988</b>	Ian Taylor retires	<b>2004</b>	John Bamford awarded the Thomas Simm Littler Prize	<b>2017</b>	NIHR Manchester Biomedical Research Centre opens
<b>1972</b>	Andreas Markides awarded the Thomas Simm Littler Prize	<b>1988</b>	Manchester Cochlear Implant Centre joins the department	<b>2008</b>	John Bamford retires	<b>2017</b>	Ewing Foundation celebrates its 65th anniversary
<b>1973</b>	Department offers Master of Science in Clinical Audiology	<b>1989</b>	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	<b>2008</b>	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	<b>2019</b>	Manchester Centre for Audiology and Deafness celebrates its centenary
<b>1973</b>	First lecturer in speech therapy and speech pathology, Betty Byers Brown, appointed	<b>c.1992</b>	Department offers Master of Science in Audiology (Paediatric Habilitation), later changed to Master of Science in Educational Audiology	<b>2008</b>	Manchester Cochlear Implant programme celebrates its 20th anniversary and 1000th implant		
<b>1974</b>	Department offers Bachelor of Science in Speech Pathology and Therapy	<b>1993</b>	Wendy McCracken joins the department	<b>2008</b>	Colette McKay awarded the Thomas Simm Littler Prize		
<b>1975</b>	Audiological medicine registered as a medical specialty by the Royal College of Physicians	<b>c.1995</b>	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	<b>2009</b>	Richard Ramsden delivers the Thomas Simm Littler Lecture		
<b>1975</b>	Department offers Master of Science in Audiological Medicine	<b>1996</b>	Ewing School (Nottingham) closes	<b>2011</b>	Kevin Munro appointed Ewing Professor of Audiology		
<b>1977</b>	Elwyn John becomes Reader in Audiology	<b>1997</b>	Denzil Brooks awarded the Thomas Simm Littler Prize	<b>2011</b>	Four-year bachelor's degree in audiology changes to a three-year degree		
<b>1978</b>	Warnock Report into educational provision for handicapped children recommends mainstreaming	<b>1998</b>	Dave Moore awarded the Thomas Simm Littler Prize	<b>2012</b>	Ewing School (Manchester) closes		
<b>1979</b>	Tom Watson gives the Thomas Simm Littler Memorial Lecture, titled "Breaking the Silence"	<b>1999</b>	Department renamed the Centre for Human Communication and Deafness	<b>2012</b>	Wendy McCracken appointed Professor of Deaf Education		
<b>1979</b>	Tom Watson retires	<b>2001</b>	Kevin Munro awarded the Thomas Simm Littler Prize	<b>2012</b>	Chris Plack stands down as Head of the Division of Human Communication and Deafness and is replaced by Professor Gina Conti-Ramsden		
<b>1979</b>	Department hosts the British Society of Audiology conference; the conference proceedings, <i>Disorders of Auditory Function</i> , are edited by Ian Taylor and Andreas Markides	<b>2001</b>	Department consolidates the three Masters programmes in audiology (Audiological Medicine, Audiology, and Educational Audiology) into one Master of Science in Audiology	<b>2013</b>	Kevin Munro commences as Head of the Audiology and Deafness Research Group		
<b>1980</b>	Alexander Ewing dies, Cheshire	<b>2001-2005</b>	National Newborn Screening programme rolled out	<b>2013</b>	Piers Dawes awarded the Thomas Simm Littler Prize		
<b>1981</b>	Ethel Ewing Goldsack dies, Cheshire	<b>2002</b>	Kevin Munro joins the department	<b>2014</b>	Wendy McCracken awarded the Higher Education Academy National Teaching Fellowship		
				<b>2015</b>	Michael Stone awarded the Thomas Simm Littler Prize		

# Figures

- p.4** Ellis Llwyd Jones (1874-1918). (Collection of Wendy McCracken)
- James Edward Jones (1843-1922). (Collection of Kevin Munro)
- p.5** Ellis Llwyd Jones Hall (c.1930). (HEJ1/1 Archive of Dalton-Ellis Hall GB 133 HDH, Manchester University Archive)
- p.6** Common room at Ellis Llwyd Jones Hall (c.1930). (HEJ4/2 Archive of Dalton-Ellis Hall GB 133 HDH, Manchester University Archive)
- p.8** Irene Rosetta Goldsack (Ewing) (1883-1959). (Collection of Kevin Munro)
- p.9** John Owens Building, Victoria University of Manchester, 1908. (Manchester University Archives and Heritage)
- p.10** Alexander William Ewing (1897-1980). (Collection of Kevin Munro)
- p.11** Alexander Ewing's doctoral robes (1929) (Display courtesy of the Ewing Foundation)
- p.12** A Western Electric Co. 2A audiometer (c.1920), the same model as the department's first audiometer. (A1485 Courtesy of the Museum of Technology [www.museumoftechnology.org.uk](http://www.museumoftechnology.org.uk))
- p.13** Thomas Littler's group hearing aid in use in a classroom at the Royal Schools for the Deaf, Old Trafford. (Papers of Sir Alexander and Irene Ewing, EA/7/3 Clippings scrapbook, Teaching deaf children from Manchester Guardian Thurs Nov 29 1934, Manchester University Archive)
- p.14** 12-14 Lime Grove (c.1960). (Manchester University Archives and Heritage)
- p.22** Molly Sifton (1946). (Still from "Triumph over deafness", British Council film, 1946, Dir. Jack Ellitt, Data Productions)
- p.24** Ethel Constance Goldsack (Ewing) (1900-1981) (seated) advising actresses Dorothy Alison and Mandy Moore for the 1952 Ealing Studios film Mandy. (Papers of Sir Alexander and Irene Ewing, EA/7/2 Mandy Clippings scrapbook 1952, Manchester University Archive)
- p.27** Commemorative plaque to Irene Ewing. (Collection of Kevin Munro)
- p.30** Card from Thomas Watson's Manchester Picture Test. (Watson, Thomas J. The Education of Hearing-Handicapped Children. London: University of London Press, 1967, 62.)
- p.31** The Humanities II (Ellen Wilkinson Building). (Manchester University Archives and Heritage)
- p.33** Ian Taylor administering the Distraction Test in the departmental clinic (c.1970). (Collection of Kevin Munro)
- p.37** John Bamford, Ellis Llwyd Jones Professor of Audiology and Deaf Education (1989-2008 now emeritus). (Image courtesy of ManCAD)
- Wendy McCracken, Professor of Deaf Education (2012-2018 now emeritus). (Image courtesy of ManCAD)
- Chris Plack, Ellis Llwyd Jones Professor of Audiology and Deaf Education (2008-present). (Image courtesy of ManCAD)
- Kevin J Munro, Ewing Professor of Audiology and head of Audiology and Deafness Group (2012-present). (Image courtesy of ManCAD)
- Dave Moore, Professor of Auditory Neuroscience (2014-present). (Image courtesy of ManCAD)
- Cynthia Morton, Chair in Auditory Genetics, (2016-present). (Image courtesy of ManCAD)
- Harvey Dillon, Professor of Auditory Science (2017-present). (Image courtesy of National Acoustic Laboratories)

# Sources

## Interviews and Personal Communications

### Interviews and Personal Communications

Bamford, J., interviewed by Laura Dawes, 26 February 2014.

Boothroyd, A., email, 27 February 2014.

Calam, R., interviewed by Laura Dawes, 9 April 2014.

Conti-Ramsden, G., email, 26 March 2019.

Huntington, A., email, 9 April 2014.

Kevan, F., email, 13 March 2019.

Marshall, K., email 9 March 2019.

McCracken, W., interviewed by Laura Dawes, 8 April 2014

Munro, K.J., interviewed by Laura Dawes, 18 June 2014, email, 10 April 2014, 20 February 2019.

Newton, V., interviewed by Laura Dawes, 20 March 2014, email, 18 February 2015.

Plack, C., interviewed by Laura Dawes, 25 March 2014,

Seewold, R., email, 28 February 2014.

Taylor, I., interviewed by Laura Dawes, 20 March 2014, email, 18 February 2015.

Uus, K., email, 9 March 2019.

## Archival Sources

Alexander and Irene Ewing Papers, University of Manchester Library, GB 133 EWI

Archive of Dalton-Ellis Hall, GB 133 HDH, The University of Manchester Library

Archive of The University of Manchester Faculty and Department of Education and related bodies, Minutes of the Faculty of Education Board, GB 133 FED/1, The University of Manchester Library

Ellis Llwyd Jones Hall Archive, GB133 HEJ, The University of Manchester Library

The University of Manchester, Vice Chancellor's Archive, Vice-Chancellor's Files, VCA7, The University of Manchester Library

The University of Manchester, Vice Chancellor's Archive, Ceremonials Files, VCA8, University of Manchester Library The University of Manchester Prospectuses Collection, Prospectuses - Department of Education of the Deaf/Audiology, GB 133 PRO, The University of Manchester Library

The University of Manchester Official Publications Collection, Calendars - departmental staff lists, UOP/1, The University of Manchester Library

The University of Manchester Official Publications Collection, Reports of Council - annual departmental reports, UOP/2, The University of Manchester Library

## Selected Primary Sources

"Triumph over deafness", British Council film, 1946, Dir. Jack Ellitt, Data Productions.  
Bamford, John. "Audiology in Health Services and Education: Theory, Practice and Professionalism." In One Hundred Not Out: Education in the 1990s and beyond, edited by John D. Turner, Gajendra K. Verma, and Tina Baker, 169-80. Manchester: The University of Manchester, 1990.

Bamford, John, Kai Uus, and Adrian Davis. "Screening for Hearing Loss in Childhood: Issues, Evidence and Current Approaches in the UK." Journal of Medical Screening 12 (2005): 119-24.

Committee on Electro-Acoustics (MRC). "Hearing Aids and Audiometers." Medical Research Council Special Report Series 261 (1947).

Dalziel Dickson, E.D., and A.W.G. Ewing. "The Protection of Hearing." Journal of Laryngology and Otology 56, no. 7 (1941): 225-42.

"Death of Sir James Jones." Rochdale Observer. 1922.



Edwards, Margaret. "Obituary - Betty Byers Brown." *British Journal of Disorders of Communication* 26, no. 3 (1991): ii-iv.

Ewing, A.W.G. "Education of the Deaf." *Educational Research* 2, no. 3 (1960): 163-83.

"Audiometric Tests and the Capacity to Hear Speech." *Proceedings of the Royal Society of Medicine* 33 (1940): 237-44.

"High Frequency Deafness." *Proceedings Physical Society* June (1931).

"Research on the Educational Treatment of Deafness." *Educational Research* 4, no. 2 (1962): 100-113.

"The Child with Defective Hearing: Problems of Diagnosis and Treatment." *The Practitioner* 148 (1942): 350-58.

"The Education of the Deaf: History of the Department of Education of the Deaf, The University of Manchester, 1919-1955." *British Journal of Educational Studies* 4, no. 2 (1956): 103-28.

"The Place and Functions of Audiology in the Community." *The Thomas Simm Littler Memorial Lecture*, c 1972.

Ewing, A.W.G., I.R. Ewing, and T.S. Littler. "The Use of Hearing Aids." *Medical Research Council Special Report Series* 219 (1936).

Ewing, I.R. "Deafness in Infancy and Early Childhood." *Journal of Laryngology and Otology* 58, no. 4 (1943): 137-142.

Lip Reading and Hearing Aids. Manchester: Manchester University Press, 1944.

Lipreading. Manchester: Manchester University Press, 1930.

Ewing, I.R., and A.W.G. Ewing. *If Your Child Is Deaf*. London: National Deaf Children's Society, 1954.

Speech and the Deaf Child. Manchester: Manchester University Press, 1954.

Opportunity and the Deaf Child. London: University of London Press, 1947.

"The Ascertainment of Deafness in Infancy and in Early Childhood." *Journal of Laryngology and Otology* 59, no. 9 (1944): 309-33.

The Handicap of Deafness. London: Longmans Green, 1938.

"The Use of Hearing Aids in the Treatment of Defects of Hearing in Children." *Journal of Laryngology and Otology* 51, no. 4 (1936): 213-29.

Goldsack, Irene R. "The Development of Speech and Its Retention during School Life and after," *National College of Teachers of the Deaf Conference*, 1920.

Hull, Susanna. "Do Persons Born Deaf Differ Mentally from Others Who Have the Power of Hearing?" *American Annals of the Deaf* 22, no. 4 (1877): 234-40.

Lewis Committee. "The Education of Deaf Children: The Possible Place of Finger Spelling and Signing," 1964.

Littler, T.S. "Choosing a Hearing Aid." *Wireless World* June (1940): 283-86.

"Effect of Noises of Warfare on the Ear." *Nature* 3694 (1940): 217-19.

The Physics of the Ear. New York: Pergamon Press, 1965.

Markides, Andreas. "Obituary - Thomas John Watson." *British Journal of Audiology* 19 (1985): 169-70.

Newton, Valerie. "Aetiology of Bilateral Sensori-Neural Hearing Loss in Young Children." *Journal of Laryngology and Otology* 10 (1985): 1-57.

"Waardenburg Syndrome." *Journal of Medical Genetics* 34 (1997): 656-65.

Owrid, H.L. "Obituary - Sir Alexander Ewing." *British Journal of Disorders of Communication* 15, no. 2 (1980): ii.

Taylor, I.G. *Disorders of Auditory Function III*. *Proceedings of the British Society of Audiology*. Manchester: Academic Press, 1980.

The Education of the Deaf: Current Perspectives. London: Croom Helm, 1988.

The Neurological Mechanisms of Hearing and Speech in Children. Manchester: Manchester University Press, 1964.

"The Prevention of Sensori-Neural Deafness." *Journal of Laryngology and Otology* 94, no. 12 (1980): 1327-43.

Taylor, I.G., W.D. Hine, V.J. Brasier, K. Chiveralls, and T. Morris. "A Study of the Causes of Hearing Loss in a Population of Deaf Children with Special Reference to Genetic Factors." *Journal of Laryngology and Otology* 89, no. 9 (1970): 899-914.

"A Study of the Causes of Hearing Loss in a Population of Deaf Children with Special Reference to Genetic Factors." *Journal of Laryngology and Otology* 89, no. 9 (1975): 899-914.

The University of Manchester. "Prospectus of the Scheme for the Training of Teachers of the Deaf." Faculty of Education, Faculty of: Manchester University Archives, 1921.

Watson, Thomas J. *The Education of Hearing-Handicapped Children*. London: University of London Press, 1967.

The Use of Residual Hearing in the Education of Deaf Children. Washington, D.C.: The Volta Bureau: Alexander Graham Bell Association for the Deaf, 1961.

## Selected Secondary sources

Branson, Jan, and Don Miller. "Abraham Farrar (1861-1944); Donor of the Farrar Collection of Books on the Education of the Deaf and Cognate Subjects in the John Rylands University Library of Manchester, Deansgate." *Bulletin John Rylands Library* 80, no. 1 (1998): 173-96.

Damned for Their Difference: The Cultural Construction of Deaf People As "Disabled." Washington, D.C.: Gallaudet University Press, 2002.

Butterfield, P.H. "The First Training Colleges for Teachers of the Deaf." *British Journal of Educational Studies* 19, no. 1 (1971): 51-69.

"CRIDE Report on 2017/18 Survey on Educational Provision for Deaf Children in England." London: Consortium for Research in Deaf Education (CRIDE), 2018.

Kershaw, J.D. "The Audiology Revolution." *Public Health* 87 (1973): 99-105.

Lee, Raymond. *A Beginner's Introduction to Deaf History*. London: British Deaf History Society, 2004.

Martin, M.C. "From a 'Sound' start: 30 Years of the British Journal of Audiology." *British Journal of Audiology* 31 (1997): 133-39.

Mills, Mara. "Hearing Aids and the History of Electronics Miniaturization." *Annals of the History of Computing* April-June (2011): 24-44.

Peckham, Catherine. "Congenital Rubella in the United Kingdom before 1970: The Prevaccine Era." *Reviews of Infectious Diseases* 7, no. 1 (1985): S11-S16.

Robertson, A.B. *A Century of Change: The Study of Education in The University of Manchester*. Manchester: School of Education, Manchester University, 1990.

Shiple, A.D.C. "Individual Hearing Aids: Availability and Prescription in the NHS." *Journal of the Royal Society of Medicine* 71 (1978): 126-29.

Stephens, S.D.G. "The British Medical Profession and the First Audiometers." *Journal of Laryngology and Otology* 95 (1981): 1223-35.

NIHR Manchester Biomedical Research Centre  
Division of Human Communication, Development & Hearing  
A3.10 Ellen Wilkinson Building  
The University of Manchester  
Oxford Road  
Manchester M13 9PL

tel:  
email:  
web: