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**A Study of Some of the Factors
Which Determine the Degree of
Bilingualism of a Welsh Child
Between 10 and 13 years of age**

by

Emrys Price-Jones

This dissertation was submitted for the Degree of Ph.D.
of the University of Wales in August 1982.

OUTLINE OF DISSERTATION

This thesis is an attempt at discovering the use made of the mass media in both the English and Welsh languages by bilingual children in a Welsh-speaking area of Wales. Two investigations were conducted, the first in November 1978 when the children were 10 years old, and the second three years later, involving the same children. Each investigation consisted of a questionnaire, together with attitude and attainment tests in both languages.

The questionnaire investigated the children's linguistic background, and their use of the various mass media. The tests administered were tests of attainment, of spelling, of word recognition, and of attitude. In addition, the children were asked to keep a diary of their television viewing for a week during both investigations.

It was suspected that the children's use of the mass media in the two languages would depend on their differing linguistic backgrounds; consequently their answers to the language background questions of the first questionnaire were used to divide them into groups having broadly similar linguistic backgrounds using a technique known as Cluster Analysis.

Following the second investigation, the whole sample was examined for changes in the use made of the mass media, and for changes of attainment in and attitude towards both languages, over the three year period. It was found that the children made much more use of the mass media in English than in Welsh both at 10 and 13 years old, and that their attitude towards the two languages changed considerably during the three years. Their attitude towards English became more favourable as they grew older, while their attitude towards Welsh became less favourable.

When we examined the groups for differences, it was found that the stronger the English linguistic background of a group, the less likely were the members to make much use of the Welsh language mass media.

The implications of the results are discussed in terms of the role of the mass media in creating a bilingual society and in complementing a bilingual educational policy.

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Emrys Price-Jones.

August 1982.

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INTRODUCTION

Whenever bilingualism is discussed in any depth in Wales, the conclusion of that discussion invariably attaches the responsibility for maintaining bilingualism to the educational system. And in those area of Wales where bilingualism exists, the Education Authorities, to their credit, have accepted the challenge by introducing clearly defined educational policies aimed at encouraging bilingualism.

Maintaining bilingualism, to all intents and purposes, really means maintaining the Welsh language. Successive census figures show that the number of Welsh-speakers in Wales is falling, and therefore the Welsh language, and consequently bilingualism, is in a state of decline. There seems to be little doubt that this decline has been partly caused by the way in which the Welsh language has, until very recently, been ignored in Welsh education. However, it may be quite incorrect to apportion all the blame on education, for as E.G.Lewis points out in "Bilingualism and Bilingual Education" (1981), other factors, such as emigration, have been contributory causes for the decline of the Welsh language. And it may be just as incorrect to assume that the present education system in Wales can, alone, infuse new life into the language, and create a healthy, bilingual society. For there are factors other than education which need to be considered when discussing bilingualism; factors which may well be as important, if not more important, than education in determining the state of bilingualism which exists in a society. And in Wales, these factors do not appear to be given enough consideration; those people who wish to see the Welsh language, and true bilingualism, prosper appear to

be placing all their eggs in the one proverbial basket - that of education.

It is the intention in the present study to examine some of the factors, other than education, which may determine the state of bilingualism amongst Welsh children. The factors to be examined are some of the mass media available to Welsh children, namely reading material in the form of newspapers, comics, magazines and books, television, radio, the cinema, records and cassettes. It is believed that all these media are important to children; it is also believed that they are important in a bilingual society, for it may be reasonably assumed that the mass media will have some influence on the state of that society's bilingualism.

It has to be stated that no study has previously been carried out into the use of mass media by bilingual children in Wales. Mention will be made of one study which touched on bilingual children's use of a Public Library in Chapter 2, but otherwise the ground is completely uncharted. There are, therefore, important questions to be asked and, hopefully, answered.

In the present research, we shall initially trace the struggle of the Welsh language to survive since the Middle Ages, paying particular attention to the link that has existed between the Welsh language and education. We shall then examine the use made of the English and Welsh languages in the mass media already mentioned; will we find both languages used to similar degrees in the mass media available in Wales, or will we find one or other of the languages more dominant than the other?

We are particularly anxious to find the use made of the mass media by bilingual children. Will we find that they read similar amounts in both languages in the form of newspapers, magazines, comics and books? Do bilingual children watch television

programmes in the two languages to the same extent? Is their use of radio, the cinema, records and cassettes divided equally between material in both languages? It is also the intention to examine some factors which may be associated with children's use of the mass media; we will be interested in discovering whether or not bilingual children tend to belong to monolingual formal groups, and also in discovering whether or not they display allegiance to Welsh persons in the world of sport.

The present research also endeavours to examine longitudinally over a three year span (1978 to 1981) the kinds of changes that occur in bilingual children's use of mass media. It consists of two investigations involving the same bilingual children; the first investigation was conducted when the children were 10 years old, and the second investigation three years later. It also endeavours to examine the kinds of changes that occur in attitude towards the Welsh and English languages, and in attainment in word reading, spelling and comprehension tests in both languages. Recent research in Wales (Sharp et al 1973)² found that as age increases, favourability of attitude to the Welsh language decreases, while favourability to English increases. It seems likely that the ontology of such attitude change lies at least partly in the influence of socio-cultural factors such as the mass media.

The author of the present research is involved in education, being headmaster of a secondary school in a Welsh-speaking area of Gwynedd, and as such being responsible for implementing Gwynedd Education Authority's Bilingual Education Policy in that area. The research was prompted by the author's deep-seated conviction that education in Wales is being asked to shoulder far too much of the responsibility for maintaining bilingualism, and that other factors,

such as the mass media, should be playing just as important a role as education in fostering a healthy state of bilingualism in Welsh society.

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CHAPTER 1

HISTORICAL BACKGROUND TO WELSH/ENGLISH

BILINGUALISM

Any study of the nature and state of bilingualism in Wales today may best be set in context by an account of the Welsh language's struggle for survival during the past four hundred years. It may be a source of interest to historians that the language has survived at all, and the mere fact that it has survived is indeed a tribute to the efforts of some enlightened and dedicated individuals.

Today, the Welsh language is sometimes regarded as being in a period of serious crisis. Successive censuses show that the number of Welsh speakers has constantly fallen, and the trend in the first 70 years of this century suggests that the language could become extinct. According to the 1981 census¹, 18.9% of the population of Wales were Welsh speaking; in 1879, according to E.Glyn Lewis², the proportion of Welsh-speakers was around 80%. Lewis states :-

"Ravenstein, in his pioneering investigation of the distribution of the Celtic languages, calculated in 1879 that Welsh was spoken by 934,500 persons - 81 percent of the population 3 years and over. Wide variation in the estimates - with the exception of Ravenstein's - arises from the partial coverage of any investigation and partly because the estimates were intuitive. Nevertheless it is unlikely that the proportion of the Welsh-speaking population was less than 80 percent in the middle of the nineteenth century, and in some areas it was even higher than that."

The sharp decline in the number of Welsh-speakers in Wales

has, somewhat belatedly it would seem, begun to cause genuine concern in many quarters. The educational system in Wales is seen by many as the only hope of salvation for the Welsh language, and over the last quarter century, positive strides have been made to increase the use of the language in Welsh education. Chris Butler writes in "Cymraeg : Iaith Ein Plant?" (1981)³ :-

"To show how

recent official blessing to the Welsh language in education has been, the first Welsh medium local authority primary school opened in 1947 in Llanelli, and as late as 1956 the first Welsh medium comprehensive school was opened in St Asaph. Since then expansion to meet demand has been rapid : in 1977 there were 347 Welsh medium primary schools, and 55 secondary schools offering at least one subject through the medium of Welsh."

The Welsh county which has the greatest proportion of its population able to speak Welsh is Gwynedd. In the 1981 census, it was found that 61.2%⁴ of the inhabitants of Gwynedd were Welsh-speaking. In order to meet this bilingual situation the Gwynedd Education Committee, on the 27th of June, 1975, adopted a bilingual policy for its schools. The declared language policy for the schools of Gwynedd was as follows :-

"The

Gwynedd Education Authority is adopting a bilingual policy to be put into operation in all schools in Gwynedd, with the aim of making every child in the county thoroughly bilingual. The Welsh language should be an evident feature of the administration and activities of the county's schools."

The policy statement goes on to elaborate on the use of the English language and of the Welsh language within the schools.

Of the primary schools, it says

"In the traditionally Welsh areas and the 'designated Welsh Schools', Welsh will be the main medium of instruction at Primary level. In those areas, non Welsh-speaking children who enter the schools should be given an intensive course in Welsh so that they can take their place naturally in the school and in the community as soon as possible. At the same time, every effort should be made to promote the learning of English, so that a balanced progress is achieved in the children's ability in both languages".⁶

In the secondary schools, states the policy

"All pupils should study Welsh and English up to the end of their fifth year and all those capable should be entered for external examinations in both subjects. As an extension of the bilingual education in the primary schools, teaching through the medium of Welsh should be continued in a number of subjects in the secondary schools, and pupils should be enabled to sit the external examinations in these subjects through the medium of Welsh".⁷

Unquestionably, the Gwynedd language policy was a bold effort to give the Welsh language parity with the English language in the county's education system. It must also be stated that efforts have been made by both teachers and education officers to operate the policy, and that a good degree of success has been achieved to date. However, praiseworthy as the motives inherent in the language policy may be, one has to ask the vitally important question "Does the future prosperity or decline of the Welsh language depend singularly on the status

afforded it in Welsh education?" The main thesis of this dissertation is that it does not; indeed it is hoped to show that there are other powerful and important factors which determine the degree of bilingualism of a young person, and which can further erode the position of the Welsh language in spite of admirable efforts in the field of education. Before examining these factors in detail, however, we must start by tracing the struggle between the Welsh language and the English language in Wales from the Middle Ages.

Professor Jac L. Williams, in his essay on 'The Welsh language in Education',⁸ states that

"It may be that the Welsh language was more widely used for educational purposes in the Middle Ages than any of the other living languages of modern Europe. Already well established as a medium of administration and law as well as for the writing of poetry and prose of high literary merit, it is likely that the sons of princes, professional poets and story tellers were receiving through it what would now be regarded as a broadly-based education. If Welsh had had the good fortune that befell several other European languages towards the end of the Middle Ages it would have enjoyed a considerable advantage over them".

But, the first fierce blow to the Welsh language came with the establishment of the Tudor monarchy.

David Williams (1959)⁹ claims that

"the accession to the throne of England of Henry Tudor in 1485 is, after all, an event of the utmost significance in the history of Wales".

Williams proceeds to describe Henry Tudor thus :-

"He had

a Welshman's love of music, as his numerous gratuities to harpists, horn players, violinists, organists, trumpeters, amply show. He encouraged poets and ballad makers, bought rare books and encouraged printing."¹⁰

To fully understand Henry Tudor's significance in the history of Wales, it has to be remembered that the year 1485 not only saw his accession to the throne as Henry VII but also the appearance in print of Malory's *Morte d'Arthur*, printed by Caxton. His accession coincided with a revival of the Arthurian legend, whereby the Welsh expected the re-appearance of Arthur as their King and leader, and his significance has to be seen against this background. He took pains to stress his connection with Wales, and named his eldest son Arthur, so that, had he lived, we would have had a second King Arthur in Britain. He rewarded Welshmen for their services, and Welsh names appeared for the first time in the lists of sheriffs in North Wales. He appointed four Welshmen to the bishoprics in Wales during his reign. Welshmen thronged to his court. Hitherto it had been a disadvantage to be a Welshman, mainly because of the revolt of Owain Glyndwr, but now it was the other way about. Although Henry's absorption in affairs of state gave him little time to attend to Wales, he opened wide the doors of opportunity to Welshmen. Henceforth, the destinies of Wales were inextricably intertwined with those of England. And, for the first time, the Welsh language became threatened by the English language in Wales.

The door was further opened for the English language in 1536.

"The great landmark in the history of the Welsh language is the Act of Union of 1536, enacted in an attempt to bring about uniformity in Wales with England, politically,

culturally, and linguistically. It is a sweeping simplification, yet broadly true, to say that at a time when presumably everyone in Wales was Welsh-speaking and few spoke any English at all, this Act had the effect of making English the official and only language of all courts and of all officials throughout the country."

In the introduction to the 1536 Act, it is stated that

"the people of the same dominion (i.e. Wales) do daily use a speche nothing like ne consonaunt to the naturall mother tonge used within this Realme".¹²

The introduction goes on to state that the intention of the Government is

"utterly to extirpe alle and singulare the sinister usages and customes differinge frome the same".

It is argued that the 'sinister usages and customes' include the use of the Welsh language. The Act itself defines clearly the positions of the Welsh language and of the English language in Wales in the future;

"all Justices ... shall proclayme and kepe ...all ... courtes in the Englisshe tonge and also from hensforth no personne or personnes that use the Welshe speche or language shall have or enjoy any manner office or fees within the Realme of Englande, Wales or other the Kinges dominions ... onles he or they use and exercise the speche or language of Englisshe".

The message was perfectly clear to the Welsh people; if they were to get on in the world, they would have to abandon their mother tongue, and concentrate on the English language. And this,

indeed, is what happened. Members of the middle and upper classes turned their backs on the Welsh language, and many of them moved from Wales to the more fashionable English cities, particularly to London. The situation was further aggravated, from the Welsh language standpoint, by the establishment in Wales of a number of Grammar Schools, while at the same time the old Welsh schools, the schools of the bards and the schools of the monasteries disappeared. In the new Grammar Schools, there was no place in the curriculum for the Welsh language, nor indeed for Welsh culture; even the English language was used only as a medium of instruction, the emphasis being on the Classical tradition, and on teaching Latin and Greek.

Left to their own resources, there is little doubt that the common people of Wales would have succumbed to the pressures brought to bear on their language were it not for the labours of a remarkable succession of churchmen whose zeal for the Protestant Reformation was interfused with a commitment to the Welsh language. It was the distinguished humanist and Christian, William Salesbury, who pleaded passionately with his fellow countrymen to secure a translation of the Bible :

"Unless you wish to be worse than animals
.... insist on getting learning in your language and
unless you wish to abandon utterly the faith of Christ
insist on getting the Holy Scripture in your language."¹³

Salesbury was instrumental in obtaining the support of the Welsh Bishops and, through them, of Crown and Parliament, for a Welsh translation of the Bible. By an Act passed in 1563, the four Welsh Bishops, together with the Bishop of Hereford, were ordered to prepare an accurate translation of the Bible and the Book of Common Prayer into Welsh and to ensure that each and every parish

church was in possession of a copy of each by March 1st 1567. The Welsh Prayer Book appeared in 1567, and was virtually the work of Salesbury. The Welsh New Testament appeared on 7th October, 1567 and, like the Prayer Book, its printing had been financed by Humfrey Toy, a wealthy London Welshman with Carmarthen connections. The Testament was the product of the joint labours of Salesbury and Richard Davies, Bishop of St. David's, with Salesbury carrying by far the heaviest part of the burden.

In 1588, there appeared the first translation into Welsh of the Bible, by Dr. William Morgan, Bishop of St. Asaph. It is commonly acknowledged that it was the appearance of this Bible that not only saved the Welsh language, but also laid the foundation for modern Welsh literature. Although Bishop Richard Parry's revised version, which appeared in 1620, is the Bible still in use today, it is in essence William Morgan's translation.

Both the 1588 and the 1620 Bibles were large folio volumes suitable only for use in the parish churches. It was not until 1630 that a small Bible was printed, in a size more convenient for private reading. This Bible was produced by a group of dedicated Welshmen, amongst whom were Robert Holland, Robert Llwyd of Chirk, Dr. John Davies of Mallwyd, Oliver Thomas, Rowland Fychan of Caer-gai Dr. David Powell, Dr. Michael Roberts, Thomas Middleton and Rowland Heylin.

Another Christian who was deeply interested in the moral and educational welfare of the people of Wales was Thomas Gouge, vicar of the parish of St. Sepulchre in London. Gouge decided to do his utmost to give an education to the children of the poorer inhabitants of Wales, and to distribute books amongst them. In 1674 he founded, with the support of some of his contemporaries, a society known as the 'Welsh Trust', for the purpose of publishing

Welsh religious books, and providing charity schools for Welsh children. Two other persons who were prominent in this movement were Charles Edwards, Llansilin, and Stephen Hughes of Carmarthen. Through their efforts, a large number of religious books were translated into Welsh, and a new edition of the Welsh Bible was published. In one year from Christmas 1674 to Christmas 1675, over 80 Charity Schools were established, and free education given to more than 2,000 children in the main towns and parishes of Wales. English was the main language of these schools, and its importance was stressed in them. However, Stephen Hughes was of the firm opinion that children should be taught through the medium of their own language. He made his plea for using the Welsh language in schools not from a standpoint of wishing to see the language flourish, but rather from an educational and religious standpoint. It was useless, he argued, to attempt teaching monoglot Welsh children through the medium of English. Indeed, it was far too risky, for if the Welsh children did not understand what was being taught them, what would happen to their moral standards? It was this argument which was put forward by most of the people who followed Stephen Hughes in the fight to promote the use of the Welsh language, and it prevailed to the end of the nineteenth century.

With the death of Thomas Gouge in 1684, the activities of the Welsh Trust came to an end. However, Stephen Hughes and some other prominent Welshmen continued to publish books in Welsh, the most famous of these being 'Llyfr y Tri Aderyn' by Morgan Llwyd, and a Welsh translation of Pilgrim's Progress by Stephen Hughes and three others.

The Welsh language was further aided by the Society for the Propagation of Christian Knowledge. The S.P.C.K, unlike the Welsh Trust which was supported by men of various religious beliefs, was

a Church movement, founded on March 8th 1699 by Lord Guiford, Sir Humphrey Mackworth, Judge Hook, Dr. Thomas Bray, and Colonel Colchester. Its aim, from the start, was to establish charity schools, and to distribute religious books, thus continuing the commendable work done by the Welsh Trust. One of the society's first members was Sir John Phillips, of Picton Castle, Pembrokeshire, a man who gave generously of his time and money to further the society's cause, particularly in Wales. One of the society's first correspondents was Griffith Jones, Vicar of Llanddowror.

Under the S.P.C.K.'s auspices, a good number of Welsh books were published, and central libraries were established in each of the four Welsh bishoprics, together with smaller libraries in the various parishes. A number of schools were also established, to improve moral standards and Christian knowledge among the poor. English was the language normally used in these schools, but the society also realised the practical use of the Welsh language for church education. For example, in a report on the activities of the society in 1755, the following comment is found.

"In many

of the Welch schools, the Adult People, Men and Women, (being ignorant of the English Tongue), are taught to Read the Scripture in the British Language; and most of the Masters instruct, for three or four Hours in the Evening, after School-time, twice as many as they had in the Schools by Day, who could not attend at other times." ¹⁴

It is certain that most of the society's schools in North Wales taught their pupils to read Welsh, and as a result there was a considerable demand for Welsh books. The society continued to publish Welsh books, both original works and translations, and in

1717 it published a new edition of the Bible in Welsh.

As has already been mentioned, one of the S.P.C.K.'s first correspondents in Wales was Griffith Jones, Vicar of Llanddowror. Griffith Jones was greatly influenced by Sir John Philips' work for the S.P.C.K., and the two men became close friends. During the Summer of 1718, Griffith Jones accompanied Sir John on a journey through England, Wales and Scotland to witness the work being done by the society. The vicar was not a popular figure with his fellow churchmen, for he was often guilty of ignoring certain conventions and traditions of the church. He was a much sought-after preacher, and would stray into parishes other than his own to preach. He was reprimanded on more than one occasion by the bishop for antagonising other vicars, and indeed in 1713 he had become so disheartened by the accusations made against him that he applied to the S.P.C.K. for the post of Schoolmaster and missionary under the East India Mission. He was successful in his application for this post, but later turned it down. It is no exaggeration to suggest that had Griffith Jones taken up this missionary post in 1713, the Welsh language may not have survived to the present day.

On the 27th of September 1731, Griffith Jones wrote to the S.P.C.K. requesting some Welsh Bibles, and indicating at the same time that it was his intention to start a charity Welsh school in Llanddowror for educating people of all ages. It is not certain when this school was actually established, but it was the first of many schools which sprang up all over Wales under the influence of Griffith Jones. These were circulating schools, set up in the towns and villages, and they would remain open for a period of about three months at a time, the teacher then moving on to the next town or village to start another new school. From the year 1740 Griffith Jones published an annual report of his circulating

schools under the title 'Welch Piety, or a Collection of the several Accounts of the Circulating Welch Charity Schools'. From 1734, he acquired the assistance and support of Madam Bevan, the wife of Carmarthen's Member of Parliament, Arthur Bevan. Together, they strove to establish as many schools as possible with a simple, straightforward aim for each one.

"It is but a cheap education
we desire for them, only the moral and religious branch of
it. Shall we be more concerned for the propagation of the
English language, than the ¹⁵salvation of our people?"

By 1761,

the year of Griffith Jones' death, over three thousand schools had been established, and 158,000 pupils had attended. It must be borne in mind that the population of Wales at this time was a little over 400,000. Jones had great affection for the Welsh language, and was proud of his mother tongue. In a letter to a friend in 1739, he writes

"... although now greatly reduced in estate, having been the language of much larger territories, and at present contracted to a narrow compass, she has not lost her charms, nor chasteness, remains unalterably the same, is now perhaps the same she was four thousand year ago; still retains the beauty of her youth, grown old in years, but not decayed. I pray, that due regard may be had to her great age, her intrinsic usefulness; and that her long-standing reputation may not be stained by wrong imputations. Let it suffice, that so great a part of her dominions have been usurped from her; but let no violence be offered to her life. Let her stay the appointed time, to expire a peaceful and natural death, which we trust will not be till the consummation of

all things, when all the languages of the world will be reduced into one again".¹⁶

In spite of his love of the Welsh language, Griffith Jones was not against the English language. He established English medium schools in the anglicised areas of Pembrokeshire, and bilingual schools in other areas. But in the Welsh-speaking areas, he was adamant that Welsh should be the medium of instruction, and that his pupils should be taught to read the Welsh Bible. He faced severe opposition over this policy from several Englishmen who donated freely to the S.P.C.K. They argued that it would be far better to teach all Welsh people to speak and read English, and that the Welsh language should be left to die. They saw Griffith Jones' policy of using Welsh as the medium of instruction in his schools simply as a means of preserving the language. He denied this allegation most vehemently;

"The

objection raised against this method in England, where our best friends are, amounts to this; 'That these Welsh charity schools are means to continue the use of the Welsh tongue, and to keep the natives in ignorance of the English'. This being the objection in its full strength, before I speak about it, I shall beg leave to premise, that I am not at present concerned what becomes of the language, abstractedly considered, nor design to say anything merely to aggrandise or advance its reputation. The thing to be cleared up is, whether the chief and greatest end of all, viz the glory of God, the interest of religion, and salvation of the poor Welsh people, is most likely to be promoted by continuing or abolishing it."¹⁷

On Griffith Jones' death in 1761, all his money was left to Madam Bevan, to enable her to continue the work of the Charity

Schools. It appears that the schools were very prosperous and successful in the period between 1761 and 1779. In 1779 Madam Bevan died. She left a sum of £10,000 for continuation of the work, but a dispute arose concerning her will and the money was transferred to the Chancery Court, where it remained for a period of thirty years. Without financial aid, and also without a leader, the Charity School movement came to an end.

The next Welshman to take up the challenge of providing education to the Welsh people was Thomas Charles, of Bala. Charles, who was an admirer of the work done by Griffith Jones, had become aware of the very successful Sunday School movement that existed in England, but was not unduly impressed. In a letter which he wrote in July 1785, he states

"As to your Sunday Schools in England, I have heard of them; but it would be impossible to set them up here in this wild country, where the inhabitants of every Parish live so distant from each other. Besides, the clergy will not join with us in any such thing ... but I have prevailed lately in setting on foot a different plan, viz. Itinerant Welch Charity Schools, supported by subscriptions".¹⁸

The aim which Thomas Charles had for his schools was identical to the aim of Griffith Jones before him.

"To teach ye children to read their native language correctly and to instruct them in ye principles of Christianity, and nothing more, as the Salvation of their Souls is ye only point we have in view."¹⁹

Thomas Charles was born in Longmoor, Carmarthenshire, in 1755.²⁰ He was sent to Griffith Jones' school in Llanddowror, to the Carmarthen Academy, and eventually studied at Jesus College, Oxford, where he graduated in 1778. On leaving Oxford, he spent some consi-

derable time in Bala with his friend Simon Lloyd, and during this visit he became acquainted with Sally Jones, the daughter of a Bala shopkeeper. He was the curate of various parishes in Somerset until 1783, the year in which he married Sally Jones. He fully intended pursuing a career in the Church, and while at Bala, he preached at several willage churches in the vicinity. His preaching, however, did not go down well with the established church, and he found the doors of more and more churches closed to him. He was keen to stay in the Bala area, because of his wife's reluctance to move from her familiar surroundings, and yet he was unable to practice his profession as a clergyman. His wife and her family were leading Methodists in the area, and Charles was eventually persuaded to turn his back on the Church, and to join the Methodist ranks in 1784.

Charles' efforts to emulate the charity schools of Griffith Jones is understandable in view of the fact that he himself had been a pupil at the school in Llanddowror. In March 1787, he received a letter from an admiring fellow Welshman, the Reverend William Williams, vicar of St. Gennys, Cornwall, congratulating him on his work in establishing the charity schools. However, in his letter, Williams goes on to say

"Could you not Sir set up also Sunday Schools in North Wales, similar to those established in England? If few were set up, other places might be induced to follow the laudible example. You will oblige a Lover of your Country and of immortal Souls if you attempt to put the Sunday School Plan in Execution in North Wales ...".²¹

Charles

was not keen on the idea of Sunday Schools, but he eventually agreed to experiment by establishing a few. He regarded the Sunday

Schools, however, as appendages to the weekday schools he had established. It soon became obvious to him and to others that the Sunday Schools were extremely successful; in 1798, the Sunday School Movement founded in England in 1785 took Wales under its wing, and appointed Thomas Charles as Welsh Correspondent. Charles planned the Sunday School Movement in Wales with meticulous care, and it became an extraordinary educational institution. Professor Jac L. Williams says of it

"... the Sunday School Movement was so well planned and so efficiently organised by Thomas Charles and his associates that it can be justly regarded as the most comprehensive educational system ever devised in the British countries. It catered for all age groups and for all levels of intellectual ability. It provided motivation by awarding certificates and book prizes for good attendance as well as for attainment".²²

In the Sunday School Movement, the ideals of Griffith Jones and Stephen Hughes were prominent, and it was again realised that Welsh should be the medium of instructing the people. The Welsh language was thus given a new lease of life, and indeed at the beginning of the nineteenth century it was in a healthy state. However, after the turn of the century, the Sunday School Movement did not gather further momentum, but in fact declined.

There was a strong and growing element in Wales in the first half of the nineteenth century which advocated more and more use of English in those schools that existed. In 1846, the Government appointed three officials

"to look into the state of education in the Principality of Wales, with a particular

view of the opportunities afforded the workers to learn the English language".²³

A Report by the three officials appeared the following year - the Report known in Wales today as 'Brad y Llyfrau Gleision' (Treachery of the Blue Books). Among the findings of this report were that school buildings were often inadequate and of a poor standard, teachers were often unqualified, and the standard of education was extremely low. Typical of the comments is the following about the Church School at Capel Curig.

"While

some of the scholars were examined, the rest were either playing or staring at me. On my asking the master why he did not teach the scholars in classes, he said he could not for want of proper books. The building is very damp; the earth behind the house resting on the back wall as high as six feet above the level of the floor. Sometimes the place is overflowed with water from the hills. The room is too dark, there being only three small windows, and in these I counted twelve panes of glass broken. Between holes in the windows and crevices in the door, the place was well ventilated. The floor is of stone, and for furniture and apparatus there are only two rickety desks, barely sufficient for six children to write at, a torn and dirty map of the Holy Land pasted on the wall, and a few ragged books, copies and slates. The room was dirty and I observed a heap of wood for fuel in one corner." ²⁴

The reason offered for the low standard of education was that the pupils had a very limited knowledge of the English language, and the Report recommended that this situation should be remedied as quickly as possible. Butler (1981)²⁵ says of the

Report

"Some of the blame for making Welsh a language almost foreign in its own Country must lie with the young and insensitive Commissioners (however well-intentioned they might have been and however efficient and detailed their researches) who produced the three infamous "Blue Books" of 1847. 'The Treachery of the Blue Books' was to blame the Welsh language for the economic backwardness and supposed moral inferiority of the Welsh people : 'Because of their language, the mass of the Welsh people are inferior to the English in every branch of practical knowledge and skill ... The Welsh language is a vast drawback to Wales and a manifold barrier to the moral progress and commercial prosperity of the people. It is not easy to over-estimate its evil effects'. The Blue Books tended to confirm a growing prejudice in the Welsh people's hearts : that English was a passport to greater success. In the headlong dash for English, Welsh was sadly neglected".

There was strong reaction to the Report from some quarters; one of its staunchest critics was Evan Jones (Ieuan Gwynedd). He made his protestations by means of articles, notes, and letters in newspapers and magazines, both in English and in Welsh. Some of his articles were published as pamphlets, such as 'A Vindication of the Educational and Moral Condition of Wales, in Reply to William Williams, Esq, Late M.P. for Coventry', and also 'Facts, Figures and Statements in Illustration of the Dissent and Morality of Wales : an Appeal to the English People by Evan Jones'. Evan Jones realised that it was only possible to produce good Christians and citizens by means of a truly Welsh education :

"... if it be the design of education to make people good

citizens and good Christians, what we want is an Education that will teach the Welsh those duties becoming their different stations and callings. That education, I confidently assert, must be dispensed in the language of the people, and in no other language. To suppose that Welsh is an obstacle to the spread of knowledge is most preposterous nonsense ...".²⁶

Evan Jones was also of the opinion that the Government should not interfere with education in Wales. Education, he maintained, should be both voluntary and religious; he was therefore totally opposed to any efforts to establish a State Educational System. He called on the Non-Conformists in Wales to oppose Government intervention, and to oppose an education system paid for by the Government.

In spite of Evan Jones' strong and loud protests, it must be admitted that the recommendations of the Report were heeded and acted upon. When the Education Act of 1870 was passed, making elementary education compulsory in Wales, the leaders of Welsh religious life stood silently by while a system of education was erected in Wales which allowed no place whatsoever for the Welsh language. And for the next twenty years, Welsh children were provided with an educational curriculum which by implication ignored Welsh culture. The 1889 Education Act established intermediate or secondary education; again, this was to be an English medium education, and the possibility of using the mother tongue as a medium of educating the Welsh-speaking population was again ignored. In some areas there was no provision at all for the teaching of Welsh as a subject, and over the greater part of the country, even in areas that were predominantly Welsh-speaking, Welsh was offered only as an alternative to some other valuable subject such as Latin or French.

Probably as a reaction to such Anglicization, some dedicated Welshmen felt that the new system of education was inadequate to the needs of Wales. In 1884 The Honourable Society of Cymmrodorion prepared two questionnaires in an attempt at discovering the feelings of the people of Wales on the issue of Welsh, both as a subject and as a medium of instruction, in education. The first questionnaire was sent to thirty people who held responsible positions in Wales; the main objective being to determine whether the methods used to teach English in the Welsh areas were satisfactory, and whether or not English should be taught through the medium of Welsh. It also inquired as to whether or not Welsh should be taught as a subject in the elementary schools of Wales. A report on the findings of this questionnaire was submitted to a meeting of the Cymmrodorion at the National Eisteddfod of Wales in Liverpool in 1884, and it appears that there was almost unanimous agreement that Welsh should be taught as a subject, although there was general opposition to using Welsh as a medium for teaching English. The second questionnaire was sent to the headmasters and headmistresses of all elementary schools in Wales, and the only question asked was "Do you consider that advantage would result from the introduction of the Welsh language as a 'specific subject' into the course of Elementary Education in Wales?". A report on the answers received to this questionnaire was submitted to a meeting of the Cymmrodorion at the Aberdar National Eisteddfod of 1885. The result was that 339 were in favour of teaching Welsh as a subject, 257 were against, and 32 were neither for nor against the idea. At this meeting, it was unanimously decided to form a society which would strive to secure the use of the Welsh language in the educational system of Wales. The first general meeting of the society was held in Cardiff in

October 1885, where its chosen title became "The Society for Utilizing the Welsh Language". In its first publication, the Society stressed that one of its main functions was to utilize the Welsh language to teach English more effectively, and to set up an efficient, bilingual educational system.

"It is not, it will be

understood, any part of the purpose of this society to hinder the spread of the English tongue, or to conduce to the isolation of the Welsh people. On the contrary, it is one of its express objects to promote the more intelligent acquirement of the English tongue by school children in all parts of Wales. The society simply desires to see established in Wales a sound system of bilingual instruction such as that which exists in Switzerland, in the Flemish parts of Belgium, and in several parts of the Austrian Empire. It was considered by the founders of the society that such a system of education is conducive to the intelligent training of children, is calculated to promote the thorough acquisition of the second language, and could be established in those parts of Wales in which the Welsh language is habitually spoken, with a very slight addition, if any, to the work at present required to instruct the children in English on the present system."²⁷

One of the Society's leading members was Dan Isaac Davies, an Inspector of Schools, who fought hard and long for the use of the Welsh language in the education system in Wales. In 1885, he published a pamphlet where he outlined his ideas on the use of both the Welsh language and the English language in the schools of Wales. The title of this pamphlet was "1785, 1885, 1985. Or, Three Million Bilingual Welsh People within 100 years". Without a doubt, Dan Isaac Davies was convinced that this ideal could be realised,

but that a great deal of hard work and persuasion was necessary. In 1886, a Royal Commission was appointed to look into the efficiency of Elementary Education, and the Commission's Report was published in August 1888. The Report made the following recommendations for elementary schools in Wales, and these recommendations were accepted at Government level.²⁸

1. Schools would be allowed to use bilingual books in all classes, and in every subject; bilingual books could also be used to teach writing.
2. A grant of two shillings per head was offered for the successful teaching of English by translation from the Welsh language; this method could be used in every class, instead of the usual method of teaching English Grammar as laid down by the Education Department.
3. Teaching Geography of Wales was supported up to the fourth class, and Welsh History to every class. A grant of two shillings per head was offered for the successful teaching of these subjects through the use of bilingual textbooks.
4. A grant of four shillings was offered for every pupil from classes five, six and seven who were successful in an examination on Welsh Grammar.
5. Translation from Welsh into English would be accepted instead of English Composition.

The above concessions were not easily obtained; they had to be fought for by members of the Society for the Utilization of the Welsh Language. Some people were dubious of the Society's motives, and some of its most prominent members turned their backs when their support was most needed. However, it is true to say that, due to the Royal Commission's recommendations the Welsh Nation had a golden opportunity to give the Welsh language an

honourable place in the system of Elementary Education. Professor Jac L. Williams maintains that

"It is therefore possible to argue that since the early eighteen nineties, the Welsh Nation has not been prevented by any central government regulations from giving its language recognition, status, time for study and usage in schools and colleges and that from this time the people of Wales cannot blame anyone but themselves for the continued humiliation of the Welsh language in the nation's educational institutions".²⁹

One major reason for the failure of the Welsh language to obtain its rightful place in Welsh education was the attitude of teachers. Many were openly hostile to the whole concept of Welsh within the curriculum. Marchant Williams, a prominent member of the Society for the Utilization of the Welsh Language, wrote in a letter to Dan Isaac Davies

"The 'Welsh question' will be well argued at C'von I hope. It needs to be, for I discovered among the teachers of Glamorganshire at Llanwrtyd and Llandrindod this year, a very decided feeling of hostility towards the S.U.W.L. They are in a state of alarm about it; they fear you are about to saddle them with an addition to their already unduly heavy burdens".³⁰

The opportunity for the Welsh language was lost, not only in elementary education, but also in secondary and higher education. The secondary schools established after the 1889 Education Act were modelled on the Grammar Schools, with English given the pride of place, and very little attention, if any, given to Welsh either as a subject or as a medium of instruction in the

curriculum. The Welsh Universities appear equally guilty of ignoring and neglecting the Welsh language and Welsh culture, and were in fact centres of English culture and of English middle-class mores with the Welsh language and its attendant culture being given a minor place.

One writer who expressed strong views on the missed opportunity in Welsh education, and whose views are worth elaborating upon, was G. Perrie Williams. In his book entitled 'Welsh Education in Sunlight and Shadow',³¹ Perrie Williams (1916) writes

"In 1889, the Welsh Intermediate and Technical Education Act was passed. It marks the first great landmark in the educational movement as a national question; the definite acceptance of Wales' right to a distinct educational system, the acknowledging of her claim to mould her own education on national lines. The Act represented to all thinking Welshmen of the time the rosy dawn of a new era. To those who had laboured for the achievement of this Act, the vision of its possibilities were dazzling. To Tom Ellis and Ellis J Griffith it heralded a Renaissance : 'One force alone can make it a living Act. That force is the enthusiasm and sacrifice of the Welsh people. It is now in their power to give education a momentous lift forward, such as was given in Great Britain at the Reformation.' The Charter of 1893, uniting the three university colleges into the University of Wales, stands out as the second great landmark in the development of education. Secondary and Higher Education were now in the hands of the nation. The possibilities were limitless. It heralded a new age, a new Wales - a Wales of musicians, of scholars, of orators; a new spirit, a new pride in the nation and in its stirring tradition; the birth of a succession of "flame-bearers", worthy of the proud and haughty nation which bore

them; the realisation of Owain Glyndwr's ideal. Did ever a nation work under such favourable circumstances? Has the promise been fulfilled? Does the pulse of national consciousness beat more strongly after more than twenty years of educational freedom? Have the ideals of the pioneers for a Welsh National System been realised? It is for the Welsh people to judge."

The Act of 1889 arranged for the making of further provision for the Intermediate and Technical Education of Wales. It enacted that a Joint Education Committee of the County Council should be established in each county, consisting of three persons nominated by the County Council, and two persons, well acquainted with the conditions of Wales and the needs of the people, nominated by the Lord President of the Privy Council. The duty of the Joint Education Committees was to prepare and submit schemes for the Intermediate and Technical Education of their respective counties, either separately or in conjunction with adjoining counties. The Act was immediately adopted by every county, and the Joint Education Committees set to work at once. General conferences of the Joint Education Committees of all the counties were held, to discuss the functions of the governing bodies and the establishment of one Central Board of Intermediate Education. This Board would be answerable to the Treasury for the efficiency of the schools and the fulfillment of the conditions imposed by the Treasury. In other words, the Board would relieve the Treasury of the work of inspection and examination and at the same time keep in the nation's hands its newly acquired educational autonomy. The scheme drawn out by the combined Education Committees for the constitution of this Central Welsh Board was approved in May 1896.

According to the scheme, two bodies were established; a Board of 80 members, and an Executive of fifteen members of the Board. The members of the Board were to consist of three ex-officio members, the three principals of the Welsh University Colleges; 71 representatives elected by the County Councils, the governing bodies, the head masters and head mistresses of county schools and public elementary schools and University bodies; and six co-optative members. The Board was, in theory, in direct contact with all classes of the nation. Its functions were to be inspection and examination.

In spite of a unique opportunity, Wales soon found herself with a system of education which had in it nothing distinctly national, nor original. It was an imitation of the English school system. This system did not appear to fulfil the aspirations of the earlier Welsh educationalists, and may be regarded as an obstacle to Welsh patriotism or nationalism, lacking as it did those vital elements necessary to the existence of a national spirit. The blame could not be apportioned totally to the Central Welsh Board, since each school had the right to present alternative schemes in every subject and to decide on the subjects which should be included in the school curriculum.

The Welsh language was given little prestige or prominence in the curriculum, being regarded entirely as a foreign language and treated as such. Below is a list of the subjects in which the Central Welsh Board examined (1908)³², showing the status afforded Welsh as a subject.

Section A

- (1) Scripture Knowledge
- (2) English Language and Literature
- (3) History

Section B

- (1) Arithmetic (2) Mathematics

Section C

- (1) Latin (2) Greek (3) Welsh (4) French (5) Spanish
(6) German

Section D

- (1) Elementary Science (2) Mechanics (3) Physics
(4) Chemistry (5) Botany (6) Elementary Biology
(7) Geography (8) Geology (9) Agriculture
(10) Applied Mechanics (11) Metallurgy

Section E

- (1) Book-keeping (2) Shorthand (3) Music (Theoretical)
(4) Drawing (5) Woodwork (6) Music (Practical)
(7) Hygiene and Domestic Economy (8) Metalwork (9) Cookery
(10) Needlework and Cutting Out (11) Laundrywork (12) Dairywork

Possibly typical of the attitude towards the Welsh language around the turn of the century was a remark made by the Registrar of the University of Wales, Cardiff, in a speech made before the Pan-Celtic Association at Edinburgh on the 26th September, 1907 :-

"The Central Welsh Board, together with its schools, have recently made great progress in their support of the Welsh language, and it is gratifying to read in the syllabus for Session 1907-08 that the language will receive that consideration which is its due. In all the secondary schools henceforth it will be recognised as of equal importance with Latin, Greek, French and German."³³

There was certainly little effort made to foster bilingualism among Welsh children in the new education. Perrie Williams (1916) writes :-

"One would logically expect that the pivot of Welsh

education would be this bilingualism and a fostering of the spirit of national life. Under the present system, everything that is distinctly Welsh has been ignored. Our school children know less of Wales than did the generations who had no secondary schools. They may know more scraps of French and Latin, but every year they become anglicized and more contemptuous of their own language." ³⁴

Perrie Williams was also critical of the way in which the education system in Wales had been modelled on that of England.

"We have not only for 20 years persistently ignored the ideas of other nations and imitated an inferior system (the English system), but, strange to relate, we have omitted to make use of the two great institutions characteristic of the Welsh nation, the two most living factors in the moulding of the Welshman's intellect and temper - the Sunday Schools and the Eisteddfod." ³⁵

Writing as he was during the dark years of the first World War, Perrie Williams felt that when the war ended, Wales would have yet another opportunity of starting afresh in the field of education.

"We cannot continue in the future as we were when we were suddenly plunged into war. A system that was not sound before will be impossible when peace once more comes to the world. When the period of reconstruction begins, we shall once again have a golden opportunity to evolve a better, broader, more human system of education; to realise the dreams of our great Pioneers. We must not throw away this opportunity. There are infinite possibilities in Wales

if only we develop them; if only we are courageous enough to admit the weakness and inadequacy of our present Education, and to build anew on sounder and juster lines. Then we shall have a freer, more enlightened Wales :- we shall have not shadow but sunlight." ³⁶

The war did come to an end, but once again the opportunity to rebuild a new education system in Wales was not seized. Because of victory in the war, there was great pride in being British, and in having played a part in achieving that victory. It was not felt desirable to differ in any way from the English nation - certainly not in education. And so the neglect of the Welsh language and of Welsh culture continued, and successive generations of Welsh school-children became more and more anglicised, and more and more divorced from their linguistic and cultural roots.

When the Welsh Department of the Board of Education was established in 1907. O.M.Edwards was appointed His Majesty's first Chief Inspector of Schools in Wales. A new code of Regulations was issued, stating that 'any of the subjects of the curriculum may be taught in Welsh' and that 'provision should be made for the teaching in every school of Welsh history and the Geography of Wales and Welsh literature'. The regulations included a directive to the effect that 'where Welsh is the mother-tongue of the infants, that language shall be the medium of instruction in the classes'. But local education authorities and their teachers tended to be very slow to respond to this lead, and during the first quarter of the present century the advance of the Welsh language in education was limited to its use in infants' classes, and the teaching of a little Welsh as a subject in junior and secondary schools.

In 1927, a Departmental Committee was established by the

President of the Board of Education to inquire into the position of the Welsh language and to give advice on methods of fostering it in the Welsh system of education. The Committee's Report, entitled 'Y Gymraeg Mewn Addysg a Bywyd'³⁷ (Welsh in Education and Life) made many important recommendations with a view to raising the status of the Welsh language in education at all levels. Due to the influence of several Inspectors of Schools who were ardent supporters of the language, the use of Welsh as a medium of instruction spread upwards from the infants' schools to the seven to eleven years age group. Primary schools in Welsh-speaking areas came to use Welsh as a medium of instruction in some subjects, in addition to teaching Welsh as a subject. In the non Welsh-speaking areas, however, by and large the Welsh language continued to be ignored, and even in linguistically mixed areas, English was the dominant language, with Welsh continuing to lose ground. Not only was the Welsh language losing ground within the schools, but also within the community. English was often the language of the playground; playing in English was succeeded by courting in English and in due course to passing on the English language, rather than the Welsh language, to the next generation.

One important development during this barren period from the Welsh language's standpoint was the advance made in the teaching of Welsh as a second language. It was realised that learners of Welsh as a new language could not be taught the language effectively in the same classes as pupils from Welsh-speaking homes. Books for teaching Welsh by the Direct Method of language teaching were written, and a graded system of examinations to cater for the needs of separate groups of pupils from different linguistic home backgrounds was developed.

In 1939, a major step forward was achieved in the campaign

to further the use of the Welsh language in education when the first Ysgol Gymraeg (Welsh-language school) was opened in Aberystwyth. This primary school was an independent school, sponsored by Urdd Gobaith Cymru, the Welsh League of Youth. Welsh was the official language of the school, and the main medium of instruction irrespective of the pupils' mother tongue. The educational aims of this school are described in the following translation of its policy :-

"It is a school based, naturally, on the life of Wales. A child's imaginative powers are awakened by basing his education on his immediate environment. He is led to realise that he has certain privileges by being a member of a nation, and also responsibilities towards other members of that nation, and towards the people of other nations. He is inspired by being made aware of the literature, Art, History and the life of the community of which he is part, and thus in the language of that community, Welsh. A Welsh school concentrates initially on teaching its pupils about Wales, and on giving them a firm grounding in the Welsh language. A Welsh school, therefore, accepts two important principles agreed upon generally by educationalists; firstly basing a child's knowledge on his common experiences and on elements with which he can identify himself. Having done this, the child's intellectual horizon is then gradually enhanced, and a second language, English, is gradually introduced to him. In this way, a Welsh child is encouraged to love his own country, while at the same time he is also encouraged to understand other peoples, and other nations. His use and command of the Welsh language is emphasized, and he is given a sound basis in the English language."

The curriculum of this first Welsh school at Aberystwyth can be described under the following headings :-

1. Religion (Non-denominational).
2. The Language and Literature of Wales.
3. History and Geography - initially of Wales, and later enhanced.
4. Art, Music, and Physical Education.
5. English when the child is aged about $6\frac{1}{2}$ years.
6. Arithmetic. ³⁹

It may be noted that the Welsh school did not come into being as a result of a decision-making process and consequent planning. A few parents in Aberystwyth were anxious about the war-time conditions in the Welsh Infants' Class at Alexandra Road School. Because of the influx of evacuees from England into the town, the school operated a double shift system - a long session in the morning for local children, and a long session in the afternoon for evacuees. Consequently, the parents felt that these long sessions had a detrimental effect on the health and well-being of the children, and one of them, Ifan ab Owen Edwards, founder of Urdd Gobaith Cymru, offered rooms in the Urdd centre as classrooms. This offer was accepted by the Director of Education for Cardiganshire, and the Infants' class moved from Alexandra Road to the Urdd Centre. This arrangement, however, lasted for only two weeks, as the teachers were not satisfied with the conditions at the Urdd Centre, and the class was moved back to Alexandra Road. It was at this stage that five parents decided to set up a Welsh school at the Urdd Centre, and it was opened on the 25th of September 1939, with a total number of seven pupils. By September 1940, there were seventeen pupils on the register, and as the number grew further, it became necessary to find new premises. Ifan ab Owen Edwards bought an old mansion, Lluest, and offered it

to the school. The school moved to its new premises in 1946, and continued to prosper. Final recognition of its status in Welsh education came in February 1948 when it was inspected by His Majesty's Inspectors. The Inspectors were very impressed with the school, as can be seen from the final two paragraphs of their report :-

"To sum up, the School successfully reflects in the classroom and in its general activities the ideals set out by the founders. That ideal is the belief in the value of a rich, spiritual and cultural education based on Welsh life and the Welsh language as the best means of releasing the Welsh child to full capacity. With this ideal in mind the teachers help the children to live the Welsh life joyously through lively and varied activities with plenty of exercise for imagination and for creative work in language, in movement and in Art. The children's growth is marked; they are stimulated to a desire for knowledge; their whetted appetites are satisfied and their memories are stored with treasures of Welsh lore, song and legend.

The atmosphere is one of a lively Welsh community living together in freedom, joy and activity, learning to grow richly from their own native soil and later branching out to embrace a knowledge of English language, literature, song and story, and to some understanding of the ways of peoples of other lands." 40

By 1951, the financial burden of maintaining the school at Llest had become too much for the Urdd; it was decided to invite the Cardigan Education Committee to take it over as a state school, and this they did in September 1951.

The success of this first Welsh school soon became well

known both in Wales and further afield. Its influence was responsible for the establishment of the first state Welsh school at Llanelli on St. David's Day, 1947. This was soon followed by a major development in Flintshire which established a Welsh School within travelling distance of every home in the county. Glamorgan established twelve such schools, and eventually, after many appeals from parents, one was established in Cardiff. It was doubtful whether there would be enough Welsh-speaking pupils in Cardiff to sustain such a school, but by the time it celebrated its 21st birthday in 1971, it had become the largest Welsh school in Wales, with more than 300 pupils.

In 1953, the Central Advisory Council published a Report on 'The Place of Welsh and English in the Schools of Wales'.⁴¹ This report specified clearly that both English and Welsh should be taught to all school children in Wales. It stated

"At the same time,

a vital function of the schools of Wales is to make every child aware of the two cultures that exist side by side in our country, however we may regard the relationship between the two cultures. Therefore, without forgetting the difference in abilities and attitudes among children, together with their differing linguistic backgrounds, both Welsh and English should be taught to children in all parts of Wales, including Monmouthshire, in accordance with their ability to profit from such instruction. By this recommendation, the desirability of teaching the mother tongue to children with physical or mental disabilities should be considered, together with those children whose abilities are so low, and whose language background is so weak, that instruction in a second language, be it Welsh or English, would place too heavy a burden on them. With these exceptions, it should be possible, and indeed

advantageous, to teach a second language, Welsh or English to all the children of Wales, including Monmouthshire."

Although Welsh medium education began to flourish in the primary sector, the tradition of providing secondary education through the medium of English only was so strong that progress in providing Welsh medium secondary education was very slow, especially in the Welsh-speaking areas. Flintshire Education Authority took the first major step forward in 1956, when it established Ysgol Glan Clwyd as a secondary school teaching all subjects other than science subjects through the medium of Welsh. This school received its pupils from the primary Welsh schools established by the Authority, thus enabling the pupils to continue their education mostly through the medium of Welsh. In 1961, Flintshire established a second bilingual secondary school, Ysgol Maes Garmon, at Mold, and in 1963 Denbighshire Education Authority established the third bilingual secondary school, to serve North East Wales, Ysgol Morgan Llwyd, at Wrexham. In South Wales, Glamorgan established Ysgol Rhydfelen near Pontypridd in 1962; it opened with 80 pupils and ten years later the number of pupils, only a third of whom came from homes in which both parents could speak Welsh, had increased tenfold. Gwynedd Education Authority have ventured into the field of Bilingual schools recently. In 1976, a Bilingual school was established in Bodedern, Anglesey, and in 1978 a second Bilingual school was established at Bangor, Ysgol Tryfan. In 1981, Gwynedd and Clwyd jointly established a Bilingual school at Penrhyn Bay, Ysgol Creuddyn.

Within Gwynedd, the use of the Welsh language as a medium of instruction is most certainly not confined to the two Bilingual schools at Bodedern and Bangor, or to Ysgol Creuddyn. Since the adoption of the Gwynedd Education Authority's bilingual policy in

1975, there has been a dramatic increase in the number of subjects taught through the medium of Welsh in almost all of the Authority's secondary schools. The following Table shows the number of subjects taught through the medium of Welsh in all the secondary schools of Gwynedd in 1974, and in 1981.⁴²

	1974	1981
Aberconwy	3	4
John Bright's	0	0
Lorretto	0	0
Dyffryn Conwy	8	11
Friars	3	3
Dyffryn Ogwen	4	7
Syr Hugh Owen	1	9
Brynrefail	0	8
Dyffryn Nantlle	6	10
Botwnnog	3	9
Eifionydd	3	8
Glanymor	1	7
Y Berwyn	6	10
Y Moelwyn	1	7
Y Gader	2	9
Ardudwy	1	5
Tywyn	2	7
Amlwch	3	4
Caergybi	3	3
Llangefni	3	5
Porthaethwy	2	9
Bodedern	2	9
Tryfan	2	9

There are, then, some very encouraging signs for the Welsh language in education, at least in some parts of Wales. However, the question must be asked again 'Is it realistic to expect the education system alone to safeguard the future of the Welsh language?' Professor Jac L. Williams held the view in 1973 that

"The fate of the language is firmly in the hands of the teachers of Wales but they cannot succeed, even if every teacher in Wales were a firm believer in its intrinsic value and also an enthusiastic teacher and user of it, without the backing of the nation to which that language has been a unique medium of expression for so long." ⁴³

To what extent does the Welsh nation back the efforts to infuse new life into the language? The education system does not exist within a vacuum, and however ideally bilingual an education system might be, the society within which that education system operates must also make an effort to be truly bilingual. Is this the case in Wales at present? Unfortunately, it is suspected that it is not. In this work it is intended to examine in detail the use made in Wales of both the English language and of the Welsh language in the mass media, and in particular to examine the degree to which young people use the two languages outside education.

The whole issue of the future of the Welsh language, basically, may not be about saving the language. Sentiment should certainly play no part in any discussion about its future; on the contrary, the vital question to be answered is whether the language can be revitalized. Does the Welsh nation wish to identify itself with the Welsh language and with Welsh culture, or is it content to be drawn into a wider British super-nation, with all the cultural

implications of the English language? This question, of course, is by no means new, since, as we have seen, it has hovered unanswered over the Welsh nation for centuries. It is argued in some quarters that the question was answered emphatically on March 1st, 1979 in the result of the Referendum on Devolution. Others will argue that some of the staunchest supporters of the Welsh language were against devolution, and that it is therefore wrong to draw any firm conclusions regarding the language from the referendum result.

This present study is by a practicing teacher who believes that the Welsh language can be revitalized, and that it has an important part to play in the Wales of tomorrow. It is an attempt to understand the quality of bilingualism of children from a Welsh-speaking area, and to examine the relationship between bilingualism, mass media and education.

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CHAPTER 2

BILINGUALISM AND READING

Introduction.

The oldest of the mass media, and the one we propose to consider first in this enquiry into bilingualism amongst children between 10 and 13 years old, is the medium of printed matter. If we are to enquire into the effects of the mass media on children and young people, then this medium must be looked at in detail, for it may be assumed that the bilingual children under investigation in this survey come into regular contact with printed matter both in English and in Welsh. Whether or not they are exposed to reading material in the two languages to an equal degree is questionable, as we shall investigate in this chapter.

We propose to begin by examining the research work that has been carried out into children's reading habits, with particular reference to studies involving Welsh children. We shall then review the reading material available to bilingual children in Wales, both in the English and Welsh languages. We shall be particularly interested in discovering whether or not there are equal amounts of material available in the two languages, for unless that is the case, we are unlikely to find the bilingual children using the two languages equally in their reading.

Very little research work has been done in Wales on the use of the mass media in the two languages by bilingual children. No doubt it was this deficiency that prompted Glanmor Williams (1970)¹ to point out how little we have investigated why and how it is that a community becomes changed from a Welsh-speaking one into a bilingual one and finally into an almost monoglot English-speaking group. Williams suggests that we all have our hunches,

guesses and prejudices, but states that to his knowledge there has not been a serious examination of this historico-sociological phenomenon.

In spite of Williams' claim, there have been attempts at discovering whether or not there were changes in bilingual children's reading standards, notably those by W.R.Jones (1951), by the National Foundation for Educational Research (1971), and by Eurwen Price (1978). We now propose to examine these three researches, since we are interested in changing reading standards both in English and in Welsh in our present research.

Previous Welsh Researches.

In W.R.Jones' (1951) enquiry, reported in a booklet entitled "Bilingualism and Reading Ability in English",² the problem examined was the effect of bilingualism upon educational attainment particularly in relation to intelligence and linguistic background. The material upon which it was based was derived from a series of tests which, in November 1951, the Bangor Collegiate Faculty gave to the whole of the 10 years 0 months to 11 years 11 months age group in Caernarfonshire. Altogether, some three thousand children were tested, and on the basis of a language questionnaire and teachers' estimates, were assigned to four main linguistic groups. Two criticisms may be levelled against this research immediately; firstly, it was confined to Caernarfonshire, which may not be representative of the whole of Wales in the degree of bilingualism of its children; secondly, as we shall explain in greater detail later in this work, it is very difficult to categorise bilingual children into four linguistic groups with any degree of accuracy. However, since the present research is also concerned with bilingual children from a part of Caernarfonshire, it may be well worth while examining Jones' (1951) main conclusions.

The enquiry was the strictly limited one of comparing under clearly defined conditions the English reading ability of Welsh-speaking and English-speaking children, having regard to their intelligence and linguistic background. For this purpose, it was decided that two complete age-groups should be studied, namely all children in primary and secondary schools in Caernarfonshire between the ages of 10 years and 11 years 11 months on 21st November 1951. The number of pupils tested is shown in Figure 1.

Fig.1 - The number of pupils tested in the Caernarfonshire Enquiry of 1951.

Age Groups	10.0 - 10.11	11.0 - 11.11	Combined age groups
Boys	642	675	1317
Girls	611	637	1248
Total	1253	1312	2565

The following instruments were used in the enquiry :-

1. Schonell's Silent Reading Test B - a test lasting for 15 minutes.
2. Jenkins' Scale of Non-verbal Mental Ability, to estimate intelligence without calling for any reading ability.
3. A Language Questionnaire was designed by Jones (1951) to classify pupils into three broad linguistic groups as follows :
 (a) definitely Welsh, (b) definitely English, (c) linguistically mixed. In addition, each child tested in the survey was classified by his teacher as either English or Welsh. By combining the results of the Language Questionnaire and the Teachers' Estimates, the children were divided into four linguistic groups for comparison in reading ability. Particulars of this division are given in Figure 2.

Fig.2 - Number of pupils in each linguistic group in the Caernarfonshire Enquiry of 1951.

Linguistic Groups

Age Range	Welsh		Mixed Welsh		Mixed English		English	
	10.00 to 10.11	11.0 to 11.11	10.0 to 10.11	11.0 to 11.11	10.0 to 10.11	11.0 to 11.11	10.0 to 10.11	11.0 to 11.11
Boys	366	376	62	71	51	57	163	171
Girls	354	378	53	42	42	46	162	171
Total	720	754	115	113	93	103	325	342

The results of the Schonell Silent Reading Test showed clearly that for both age-groups there was a tendency for the average reading age to decline as the composition of the linguistic groups became increasingly Welsh. In the first age-group, there was a difference of 1 year 3 months between the average reading age of the Welsh group and the English group, the corresponding difference for the second age group being 1 year 5 months. These differences between the groups in average reading age were examined for statistical significance by the application of the t - test, and it was found that Welsh groups were statistically significantly inferior to English, Mixed English, and Mixed Welsh groups at both ten and eleven years of age.

Jones (1951) points out that the highly statistically significant differences observed between groups in reading comprehension may arise from differences in innate intellectual ability. It was, therefore, necessary to evaluate differences in reading comprehension with non-verbal intelligence being held constant. This was done by the method of analysis of covariance, and the results showed that reading differences remained highly significant even after non-verbal I.Q. had been partialled out.

Jones comments

"One of the important features in this enquiry is the fact that Welsh groups at both ten and eleven years of age remain significantly inferior to other linguistic groups in English Reading Comprehension, even after full allowance has been made for initial differences between them in the non-verbal intelligence test. The results indicate that the average reading age of the 10 year old Welsh group is 9.47 months below that of the corresponding English group, when both groups have been equated for intelligence; in the case of the eleven year old groups the comparative figure is 10.80 months."³

The second report on reading standards in Wales examined is the 1970-71 survey carried out by the National Foundation for Educational Research at the request of the Department of Education and Science.⁴ The reading survey of Wales was administered concurrently with the reading survey of England 1970-71. There were two age groups sampled within two separate testing periods. A sample of those pupils in the last years of compulsory secondary education was tested in March 1971 and a sample of those pupils in the last year of primary education was tested in June 1971. The declared aims of the 1971 Survey were as follows :-

1. To estimate the level and range of attainment in English and Welsh reading comprehension among Welsh school children aged around 11 and 15.
2. To estimate the changes in English reading comprehension standards using the Watts-Vernon Test and the National Survey Test Six.
3. To make comparisons with estimates of reading comprehension

standards in the reading survey of England.

4. To provide a basis of comparison for future studies of reading comprehension in Welsh and English.

The Watts-Vernon Test is a sentence completion test which was devised by Dr.A.F.Watts and Professor P.E.Vernon in 1948. It contains thirty five items, the sentences being intended to embody rapid progressive increases in difficulty. The test has the practical advantage of having a time limit of only ten minutes. The National Survey Test Six has sixty items, and has a twenty minute time limit. Unlike the Watts-Vernon test, a 'guessing correction' is employed in the marking of the National Survey Test Six. Should a pupil fail to underline the correct word on seven successive items, the score up to that point is given as the final score on the test. For this purpose, items omitted by the pupil are not considered as attempts. The National Survey Test Six is generally considered to be more suitable than the Watts-Vernon test for older pupils, since there are doubts about the ability of the Watts-Vernon test to contain a sufficient gradient of difficulty to discriminate amongst older pupils. Another danger of the Watts-Vernon test is its outdatedness. Between 1948 and 1970 there may have been a change in the use of language affecting the validity of the test.

The following table gives a comparison between the mean scores on both tests for children aged 11 years in England and Wales.

Fig.3 - Comparison of mean scores on the Watts-Vernon Test and the National Survey Test Six in England and Wales (1970-71). Average age of pupils - 11 years.

Test	Watts-Vernon	National Survey Test Six
England 1970	14.19	29.38
Wales 1971	13.86	27.25

No differences in the above table are significant, yet in a Ministry of Education Survey in 1956, the English Watts-Vernon mean (13.0) was significantly higher than the Welsh Watts-Vernon mean (12.01). The authors of the 1971 survey comment

"There

can be little doubt that the small but significant difference between English and Welsh juniors recorded in 1956 had effectively dissappeared 15 years later at the most, and probably somewhat earlier during that period. The English 11 year olds increased measured attainment by an estimated 0.89 points of Watts-Vernon score, while Welsh 11 year olds gained an estimated 1.85 on the same test since 1956."⁵

A further comparison of the relative performance of English and Welsh juniors in the 1970-71 surveys is given in the following table of percentile scores. A percentile score is that score not exceeded by a given percentage of pupils.

Fig.4 - Percentile scores for English and Welsh juniors on Watts-Vernon Tests and the National Survey Test Six (1970-71).

Percentile	Watts-Vernon		National Survey Test Six	
	Wales	England	Wales	England
90	22.6	22.3	43.4	44.1
80	19.7	19.8	38.9	39.4
70	17.4	17.4	35.0	35.8
60	15.3	15.4	30.8	32.9
50	13.8	13.7	27.6	31.1
40	11.4	12.2	23.7	27.1
30	9.9	10.5	20.1	22.0
20	8.2	8.9	16.1	17.4
10	6.3	6.9	10.7	11.7

The more detailed figures in the above table again show us that there was no significant differences between the English reading comprehension scores of Welsh juniors and English juniors in 1971.

The third survey examined was the survey carried out by Dr. Eurwen Price into Welsh reading among 11 year old children in 1978.⁶ Price was the leader of a team of researchers who carried out the survey for the National Foundation for Educational Research. Unlike the first two studies examined, this survey concentrated on Welsh reading, and consisted of the construction of instruments for the assessment of 11 year old children's reading standards in Welsh.

For the Pilot Study, carried out in February 1978, the researchers decided to use schools which represented the following five categories from which to draw the sub-sample of children :-

- A Designated Welsh Schools.
- B Traditional Welsh Schools.
- C Schools which used the Schools Council Scheme of Bilingual Education.
- D Schools which used "Llafar a Llun", a project for teaching Welsh as a second language.
- E Schools which used other methods for teaching Welsh as a second language.

The Pilot Study made it clear to the researchers that the test to be used could be in three parts; it also became apparent that the five categories of schools listed above could be reduced to the following three categories :-

1. A + B i.e. Designated Welsh Schools, and natural Welsh schools.

2. C i.e. Schools which used the Schools Council scheme of Bilingual Education.
3. D + E i.e. Schools which used "Llafar a Llun" and schools which used other projects for teaching Welsh as a second language.

The main survey was conducted in June 1978, and involved 1646 eleven year old children from 104 primary schools throughout Wales. For every child in the sample, the headmasters were asked to indicate one of the following linguistic categories :-

1. The child spoke Welsh before starting school, and was competent in the language.
2. Although the child did not speak Welsh before starting school, he was now almost as competent in Welsh as a child from category 1.
3. The child knew some Welsh, but at a lower level than children from categories 1 and 2.
4. The child had a limited knowledge of Welsh.

When the main survey was conducted, the children from categories 1 and 2 were asked to answer parts 2 and 3 of the test, and the children from categories 3 and 4 were asked to answer parts 1 and 2. The headmasters were also asked to indicate how each child learnt Welsh, and to place it in one of the following categories:-

- | | | |
|-------------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------------------|
| A | } | The child is taught regularly through the medium of Welsh as part of the educational course. e.g. in |
| B | } | designated Welsh schools or natural Welsh schools. |
| C The child is taught Welsh by means of the Bilingual Education Project of the Schools Council. | | |
| D The child is taught Welsh as a second language using methods other than the above. | | |

Having conducted their survey, the researchers were interested in the inter-relationship between the following six variables :-

1. Type of school (Junior, Junior + Infant).
2. Size of age-group.
3. Category of school (According to Welsh Office Statistics).
4. Sex of pupil.
5. Competence of child in Welsh.
6. Method employed by the school to teach Welsh.

The results of Price's investigation are complex and numerous. However, of particular relevance to the present study is the relationship that Price found between category of school and competence in Welsh reading in the 1978 study. This is because all the pupils under consideration in the present study attended naturally Welsh schools, and therefore would have belonged to the first category of schools in Price's study. Figure 5 shows the average scores obtained on the Welsh reading test in 1978 by pupils from the three categories of schools.

Fig.5 - Showing the average score obtained on the 3 Welsh reading tests by pupils from schools in one of three categories in the 1978 survey by Price.

Linguistic Category of school	Test 1 (Mean score 40)		Test 2 (Mean score 50)		Test 3 (Mean score 60)	
	Av Score	No. of pupils	Av Score	No. of pupils	Av Score	No. of pupils
CATEGORY 1	31.9	103	31.1	464	38.3	363
CATEGORY 2	24.2	316	14.4	339	25.8	31
CATEGORY 3	19.3	761	9.9	774	38.4	13

For the above table, Price points out that the 13 pupils from category 3 who answered Test 3 were in fact fluent Welsh speakers who attended predominantly English schools. From Figure 5,

we see clearly that the Welsh reading scores of children who attended either designated Welsh schools or natural Welsh schools were superior to the scores of children attending other schools. We therefore conclude that the children investigated in our study may be expected to be proficient readers of Welsh.

Several important points have therefore emerged from the three studies that we have hitherto examined. In the first study in 1951, W.R.Jones discovered that Welsh-speaking children at both ten and eleven years of age were significantly inferior to English and mixed-English children in English reading comprehension. A similar finding, incidentally, was made by J.McNamara in Ireland.⁷ He found that bilingual Irish children were inferior to monoglot children in their English reading. However, by 1971, a survey carried out by T.R.Horton for the National Foundation of Educational Research showed that this discrepancy had disappeared in Wales, and that Welsh-speaking children no longer lagged behind English children in their English reading comprehension. And among the findings of the third survey, by Price in 1978, was that children attending designated Welsh schools or naturally Welsh schools had higher scores on Welsh reading comprehension tests than other Welsh children.

We now move on to consider what children actually read. A study of the reading habits of children may fall into three broad categories; the reading of newspapers, the reading of magazines and comics, and the reading of books. In our survey, we were interested in discovering the amounts of reading done by the bilingual children of the three categories, and we therefore desired to know of the reading material available both in English and in Welsh.

The Press.

The press, as the oldest of the media, may be more firmly established in our society than any other. It has had time to build up traditions and organisational patterns, in ownership, in journalism and editing. Whole generations have been brought up on the pages of papers such as the Daily Express or the Daily Mirror, their outlook partly formed by these papers. Each day, for every two people in Great Britain, one newspaper is sold, and on Sunday the number is higher. There are about 140 daily and Sunday newspapers, and over 1200 weeklies published. Their circulation vary from 5 million copies daily of the Daily Mirror to 432,000 copies of The Times. The Sunday papers are equally varied, ranging from the News of the World at more than 6 $\frac{1}{4}$ million and the People at approaching 5 $\frac{1}{2}$ millions, to the Sunday Times at nearly 1 $\frac{1}{2}$ million and the Observer at 873,000.⁸

A major development during this century has been the organisation of groups or chains of newspapers and magazines. The typical form of ownership of the nineteenth century was a printer, a printing family, or a small company. It was rare for more than one paper to be owned by the same person or company. But a new kind of owner, such as Northcliffe, Pearson and Newnes built up groups of magazines and then went on to start or acquire newspapers. This process has continued all through the present century, and newspapers and magazines have nearly all passed from their previous status as independent private enterprises to new kinds of capitalist combine.⁹

In contrast with the English Press, the press in Wales still consists of local newspapers having small circulations, together with a very few Welsh language national newspapers. There has never been a Welsh language daily newspaper, nor has there been

a Welsh language Sunday newspaper.

The first weekly papers to appear in Wales were English language papers : The Cambrian (Aberystwyth 1804), the North Wales Chronicle (Bangor 1807), the Carmarthen Journal (Carmarthen 1810), and the Caernarfon and Denbigh Herald (Caernarfon 1832). Their appeal was chiefly local and their circulation was small because they could be read only by the tiny fraction of English readers who, in those days, nearly all lived in the Welsh towns and country mansions. On January 1st, 1814, however, there appeared Seren Gomer, the first Welsh language weekly newspaper ever. It was published in Swansea, and its life was a brief 20 months, just long enough to give a report in Welsh of the battle of Waterloo.

It was not until the second half of the nineteenth century that newspapers really began to proliferate in Wales. In the eighteen fifties, there appeared Yr Herald Gymraeg, Y Tyst Cymraeg, Baner Cymru, Baner ac Amserau Cymru, Y Gweithiwr Cymraeg, The Western Telegraph, The West Wales and Tenby Observer, The Abergele Visitor, and other more fugitive publications. From 1860 until 1900, there were further additions; Y Dydd (1868), Y Goleuad (1869), Y Dywysogaeth (1870), Y Llan (1881), Y Gwyllyddydd (1877), Y Genedl Gymreig (1877), Tarian y Gweithiwr (1875), Y Rhedegydd (1879), Y Seren (1885), Y Clorianydd (1892), Udgorn Rhyddid (1888), Y Celt (1878), Y Werin (1885), Yr Eco Cymraeg (1889), Yr Amseroedd (1882), Gwalia (1881), Seren y De (1891).¹⁰

Writing in 1973, D.Tecwyn Lloyd commented about the state of the Welsh Press,

"At present, we have the following weekly papers in Wales in the Welsh language. The national ones are Y Faner and Y Cymro, the one starting in 1856, the other in 1932. There are also other nation-wide weeklies of a political and denominational character : Y Ddraig Goch (Plaid Cymru),

Y Tyst (Welsh Congregationalist), Y Llan (Church in Wales), Y Goleuad (Welsh Presbyterian), Seren Gomer (Welsh Baptist Union). The Welsh local or regional papers are Yr Herald Gymraeg, Herald Mon and Y Dydd. A generous estimate of the total sales of all these papers would be around 50,000; their readership might amount to thrice this number and might be put at 150,000. According to the 1961 Census, some 656,000 declared that they could speak and, presumably read Welsh. It appears, then, that rather less than a quarter of this number read any Welsh newspaper of any description."

The situation has changed quite dramatically since 1973. Although it is still true to say that there is no Welsh language daily newspaper, and no Welsh language Sunday newspaper, a considerable number of local Welsh language newspapers known as Papurau Bro (Community Newspapers) have developed. These newspapers appear monthly, each serving its local area, and with a circulation ranging from 600 to 3,000 copies. The first Papur Bro, Y Dinesydd, appeared in Cardiff in 1973, and was quickly followed by others in the Welsh-speaking areas of Wales. By 1982, there were well over 40 papurau bro, covering practically the whole of Wales. In view of this powerful and important development in the Welsh press, it may be reasonable to assume that Lloyd's (1973) estimate of the number of Welsh readers may well have increased substantially.

The catchment area of the secondary school under consideration in this investigation is covered by two of the community newspapers, Llanw Llŷn and Y Ffynnon. Llanw Llŷn covers the area of the Llŷn Peninsula to the West of Pwllheli, and Y Ffynnon covers the area East of Pwllheli. Llanw Llŷn has a circulation of 1700 and Y Ffynnon a circulation of 1900.

It is extremely difficult to ascertain how much newspaper reading there is by children. The fact that a certain newspaper enters the home may be sufficient for a child to claim that he reads that newspaper. A typical piece of research in this field was conducted on the outskirts of London by Connie Alderson in 1968¹². This investigation, although primarily concerned with the magazine reading habits of school children, made an attempt at discovering the children's tastes in newspaper reading. A questionnaire was administered to every child in a secondary modern school, and to every child in a comprehensive school. When the questionnaires were returned, it was found that a number of children had apparently been absent from school at the time, and also that the number of children over 17 years of age answering the questionnaire in the comprehensive school was small. There were, of course, no seventeen year olds in the secondary modern schools. In order to complete the sample, the questionnaire was answered by girls over 17 years old in a girls' grammar school, and by boys over 17 years old in a boys' grammar school. The breakdown of age and sex in the sample are shown in Figure 6.

Fig.6 - Showing the breakdown of age and sex of the sample in Alderson's 1968 enquiry.

	Sex	Number in Sample.
Group 1	Boys 11 - 13	198
	Girls 11 - 13	205
Group 2	Boys 13 - 15	249
	Girls 13 - 15	203
Group 3	Boys 15 - 17	109
	Girls 15 - 17	117
Group 4	Boys 17+	76
	Girls 17+	66
Total Number in Sample		- 1223

The newspapers named by the members of the sample, according to age, are shown in Figure 7.

Fig.7 - Showing the %age of pupils from the different age groups who named the various newspapers in Alderson's 1968 enquiry.

	Group 1 11 - 13		Group 2 13 - 15		Group 3 15 - 17		Group 4 17+	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Daily Mirror	48.0	57.6	56.6	60.1	52.3	53.0	19.7	7.6
Daily Express	14.1	7.3	11.6	11.8	20.2	12.8	31.6	16.7
Daily Telegraph	1.0	2.9	4.0	3.0	8.3	8.5	32.9	39.4
Daily Mail	2.5	4.4	8.0	5.4	5.5	11.1	19.7	27.3
Daily Sketch	4.0	3.9	5.2	5.9	11.9	11.1	1.3	1.5
Sunday Times } The Times }	0	0	5.2	1.5	9.2	3.4	23.7	16.7
The Sun	4.0	3.4	3.8	4.4	11.0	6.8	5.3	1.5
The Observer	0.5	1.5	2.4	1.5	5.5	2.6	9.2	25.8
Local Press Gp.	4.0	4.9	2.0	3.9	7.3	4.3	0	3.0
Evening News	5.1	2.9	2.0	1.0	2.8	3.4	13.2	1.5
News of the World	2.5	1.0	4.0	3.0	8.3	6.0	0	0
The People	1.5	1.0	2.8	3.0	1.8	5.1	1.3	13.6
Sunday Mirror	5.6	2.4	2.4	1.5	0.9	2.6	2.6	0
The Guardian	0	0.5	1.6	0.5	0	1.7	6.5	15.2
Sunday Telegraph	0	0	1.2	1.5	2.7	0.9	1.3	12.1
Sunday Express	1.0	0	1.2	0.5	0	0	1.3	15.2
Evening Star	0.5	1.5	1.6	0.5	1.8	0.9	2.6	4.5
Financial Times	0	0	0.8	0	0	0	1.3	1.5
Sunday Post	1.0	0	0.4	0	0	0	0	0
Morning Star	0	0	0.4	0	0	0	1.3	1.5
Sunday Citizen	0	0.5	0	0.5	0	0	0	0
No. of newspapers per pupil	.954	.956	1.172	1.093	1.495	1.273	1.273	2.045

The above table shows clearly that children read more newspapers as they grow older. Caution is required in interpreting the figures, however, on two accounts. In the first place, naming more newspapers does not necessarily mean that the children read more. At best, what we can say is that as they grow older, children say they come into more frequent contact with newspapers. In the second place, it must be remembered that the figures in the table for the 17+ age group are for grammar school boys and girls, and are therefore not representative of the whole population of that age. For the purpose of our own survey, we can glean some information from the columns of Group 1 and Group 2 of the above table. The figures show that there is a significant difference between the numbers of newspapers named as read by pupils from the 11 - 13 years and from the 13 - 15 years age groups ($\chi^2 = 5.27$ with 1 degree of freedom).

In the present survey, not only are we interested in discovering whether this overall trend in newspaper reading is similar, but we are also interested in discovering how the separate trends for English reading and for Welsh reading of newspapers develop with age. Will we discover, as is hypothesised, that as they grow older bilingual children read more English newspapers and fewer Welsh newspapers? Or could it be that we will discover an increase in newspaper reading in both languages?

Not only is it important to discover how much children read of newspapers, but it is also equally important to make an effort at discovering which sections of newspapers appeal to them. It may be unreasonable to presume that a child of 10 years old, or even a child of 13 years old, reads a newspaper completely. On the contrary, a child will probably choose certain sections of a newspaper to read, and it may prove enlightening to discover which

sections are the most popular amongst bilingual children.

Comics and Magazines.

We now move to the second category for consideration of children's reading, that which concerns the reading of comics and magazines. At the outset, it must be emphasised that there is no comparison whatsoever between the amounts of available material in this category in the two languages. The amount of English language comics and magazines available to the bilingual child is great, whereas that is certainly not the case for Welsh language comics and magazines. Unlike daily and Sunday newspapers, there is Welsh language material available. The following table lists the Welsh language comics and magazines that have been available during the past fifteen years.

Fig.8 - Showing the Welsh language magazines and comics that have been available in Wales during the last 15 years. ¹³

Antur	- A religious magazine for children. 1966 - ongoing.
Asbri	- A Welsh 'pop' magazine. No.1(1969) - No.33(1977).
Bore Da	- A magazine for children in primary schools studying Welsh as a second language. 1966 - ongoing.
Deryn	- A magazine for children up to 9 years old. 1963 - ongoing.
Ffwlbart	- A Welsh comic published by Y Dinesydd, the Cardiff Community Newspaper. Nos.1 - 3, 1975 - 76.
Gwreichion	- A magazine for teenagers. 1979 - ongoing.
Yr Hebog	- A Welsh comic for boys. Nos.1 - 60, 1968 - 1973.
Hwyl	- A Welsh comic. 1949 - ongoing.
I'r Dim	- A Welsh magazine for teenagers. Nos 1 - 4, 1973-74.
Llinos	- A Welsh comic for girls. Nos 1 - 11, 1972 - 73.
Mynd	- A magazine for children in secondary schools studying Welsh as a second language. 1966 - ongoing

O'r Newydd	- A magazine reporting the activities of the Urdd (The Welsh League of Youth) 1970 - ongoing.
Sboncyn	- A Welsh comic. 1980 - ongoing.
Sgrech	- A Welsh 'pop' magazine. 1978 - ongoing.
Sgwarnog	- Children's Book News. 1978 - ongoing.
Sw'n	- A Welsh 'pop' magazine. Nos.1 - 6, 1972-73.

The above list is limited, but it does testify to the efforts that have been made during the last fifteen years to cater for the Welsh - speaking child and teenager. Sadly, it also shows how difficult it is for a Welsh language publication to prosper, for six of those mentioned have failed. One reason for the failure of these Welsh magazines and comics appears to be that they tried to cater for too wide an age range in an attempt at securing the biggest portion possible of a limited market. The Welsh comic for boys, 'Yr Hebog', was an example of a comic which tried to cater for the tastes of boys both in primary and secondary schools. The reading tastes of a child of 14 may be quite different to the reading tastes of a child of 8; a magazine or comic which attempts to cater for both these tastes simultaneously runs the very real risk of satisfying neither. This appears to be a major reason why some Welsh language publications have failed.

As mentioned previously, there are many English language comics and magazines available to children and young people. Over the years, several investigations have been carried out into the comic and magazine reading habits of children, one of the most recent being that of Whitehead, Capey, Maddren and Wellings for the Schools Council (1977)¹⁴. This was a large scale research project on children's reading habits between the ages of 10 and 15 years, conducted by the University of Sheffield Institute of Education.

It consisted of a national questionnaire survey which was conducted with some 8,000 children of 10, 12 and 14 years old in 193 primary and 188 secondary schools. To supplement the written questionnaires follow-up interviews were conducted with 576 children in 34 different schools throughout the country. The members of the research team make the following claim about their work :-

"This

is the first survey of children's voluntary reading using a stratified random sample so selected that its findings can justifiably be generalised to the total relevant populations of children in England and Wales."¹⁵

It is most

doubtful, however, if this claim can be justified in the bilingual areas of Wales, or indeed in the areas of those English cities which have a significant proportion of immigrant children. In fact, throughout the report on the findings of this research project, no mention whatever is made of bilingualism, or of its associated problems. It is presumably assumed that the whole population of England and Wales between the ages of 10 and 15 years are monoglot English speakers. It is doubtful whether bilingual children's reading habits differ a great deal from those of monoglot English children, and it is therefore proposed to examine some of Whitehead et al's (1977) findings.

In an attempt at analysing the different types of periodicals read by children, the research team decided to classify all periodicals mentioned into the following six categories :-

1. Comics which consist wholly or mainly of stories told by means of picture-strips : juvenile and pre-adolescent comics such as Dandy, Beano, Wizard, Victor, and Judy, and also teenage pop and romance comics such as Jackie, Mirabelle and Valentine.

2. Fiction magazines in which the stories are told in continuous prose; teenage magazines such as Loving, and adult women's magazines such as Woman and Woman's Own.
3. Non-fiction magazines of general interest such as Look and Learn and the Sunday paper colour supplements.
4. Non-fiction magazines dealing with specific interests, such as animals, motor cars, hobbies etc.
5. Non-fiction magazines dealing with Sport.
6. Miscellaneous and otherwise unclassifiable magazines.

The following Figure shows the percentage of periodicals of each category read regularly by the boys and girls in each age group.

Fig.9 - Types of periodical as percentage of total number of periodicals read, in Whitehead et al's 1977 research.

Type of Periodical	10+		12+		14+	
	Boys	Girls	Boys	Girls	Boys	Girls
Comics	76.4	86.2	63.2	78.1	38.5	55.5
Prose Fiction Mags.	2.8	5.8	3.2	12.0	5.0	32.0
Non-Fiction mags - general	3.4	1.9	6.0	2.7	8.6	3.7
Non-Fiction - Specific	1.7	0.8	7.1	1.7	21.1	2.4
Non-Fiction - Sport	10.3	0.4	15.3	1.0	18.2	1.3
Others	5.3	4.8	5.2	4.5	8.6	5.2
	4389	4728	3959	4081	3504	3741

Several interesting features emerge from the above table. In the first place we notice the very high proportion of girls' periodical reading at 10+ and 12+ which is devoted to comics; this changes at 14+, where stories told in picture strips are replaced to some extent by stories told in continuous prose, a shift which

begins to show itself slightly at 12+. The boys also devote a high proportion of their periodical reading to comics at 10+ and at 12+, although even here the percentages are markedly lower than in the case of girls. At 14+ there is a dramatic slump in their comic reading (to a mere 38.5%), but in their case it is non-fiction magazines which tend to replace comics. Indeed at 14+ the boys' reading of non-fiction magazines (47.9%) amounts to a higher proportion of their periodical reading than does their reading of comics and prose fiction magazines combined (43.5%). This change appears to be due very largely to the marked increase in their reading of non-fiction magazines dealing with specific interests, such as photography, angling or sailing, supplemented by a more modest increase in their reading of non-fiction magazines dealing with sport. Very noticeable is the difference between the sexes in regard to interest in sport as expressed in terms of periodical reading; periodicals concerned with sport play a negligible part in the girls' periodical reading at all ages, whereas for boys the non-fiction sport magazines account for about one-tenth of their periodical reading at age 10+ and this proportion increases steadily at the later ages. A very important finding of the investigation was that, for boys and for girls, there was a steady decline from 10+ through 12+ to 14+ in the average number of periodicals read. Figure 10 shows the average number of periodicals read regularly by boys and girls in each age group.

Fig.10 - Showing the average number of periodicals read regularly (by sex and age) from Whitehead et al's 1977 research.

Age Group	Boys	Girls	Both Sexes
10+	3.13	3.52	3.29
12+	2.93	3.25	3.07

14+	2.68	3.18	2.91
All age groups	2.92	3.33	3.10

Moving on to the most popular magazines read by girls and by boys in each age group, the findings of the investigation are shown in Figure 11. Percentages are shown for the 10 most popular periodicals in each age group.

Fig.11 - Percentage of children in various age-groups reading named periodicals in Whitehead et al's 1977 research.

(a) 10+ age group.

Boys (n = 1403)

Girls (n = 1344)

<u>Periodical</u>	<u>%</u>	<u>Periodical</u>	<u>%</u>
Dandy	38.4	Dandy	32.7
Beano	38.0	Beano	30.0
Beezer	16.8	Bunty	27.2
Topper	16.2	Mandy	23.4
Victor	14.7	Judy	21.9
Shoot	13.3	Diana	17.3
Cor	12.6	Tammy	16.7
Sparky	10.5	Sally	13.8
Tiger	10.0	Princess Tina	13.2
Look In	9.8	Beezer	13.1

(b) 12+ age group.

Boys (n = 1350)

Girls (n = 1255)

<u>Periodical</u>	<u>%</u>	<u>Periodical</u>	<u>%</u>
Beano	27.0	Bunty	28.9
Dandy	24.4	Jackie	25.7
Shoot	17.3	Mandy	21.0
Victor	15.3	Judy	18.5

Goal	13.0	Beano	17.2
Tiger	12.3	Dandy	15.1
Beezer	11.3	Diana	12.2
Scorcher	10.6	June	10.1
Topper	10.4	Tammy	9.6
Lion and Thunder	8.7	Romeo	9.2

(c) 14+ age group.

Boys (n = 1307)

Girls (n = 1175)

<u>Periodical.</u>	<u>%</u>	<u>Periodical.</u>	<u>%</u>
Shoot	16.7	Jackie	58.0
Goal	14.5	Loving	19.4
Beano	12.5	Mirabelle	18.8
Victor	12.5	Valentine	18.4
Dandy	11.0	Romeo	13.8
Football Monthly	6.9	Woman's Own	13.6
Scorcher	6.3	Woman	12.3
Lion and Thunder	5.8	Bunty	11.2
Hotspur	5.6	Lover	10.5
Tiger	5.4	Fab 208	10.4

Mention has already been made of the research conducted by Connie Alderson, on the outskirts of London in 1968, into the periodical reading habits of school children. Alderson found, just as the Sheffield investigation found, that young children are heavy readers of comics and magazines. She is highly critical of the people behind the children's magazines and comics when she writes:-

"Today, the big business man behind the teenage magazines have responded to the restricted lives of millions of young people. While educationists write in halycon terms

of the new methods of teaching English, of creativity and spontaneity - in fact an entirely new approach to the use of language, and teachers of liberal studies in further education battle to give something of the cultural side of life to young workers, the men who give the teenagers what they appear to really want to read are those who produce the magazines."¹⁶

Alderson may have been prompted to express her strong feelings in response to the following suggestion made by the Crowther Committee (1967).

"There is also in our view a duty on those who are charged with the responsibility of education to see that teenagers who are at the most insecure and suggestible stage of their lives are not suddenly exposed to the full force of the 'mass media' without some counterbalancing assistance."¹⁷

Alderson goes on to describe the contents of teenage magazines :

"The teenage magazines are nothing like the Peg's Paper type of magazine of pre-war days. For one thing the readership begins at a much lower age, and for another the dominant interest is in pop stars and the pop scene. This is something completely new and is not confined to teenage magazines. Magazines intended for younger girls are dominated by the pop scene in the same way. It is necessary to emphasise what a significant part pop music plays in teenage magazines. It also plays a big part in magazines designed for younger girls. The intention of the magazines is to answer a teenage demand. Their use of language is

the main method of achieving this and its own particular intention is to establish common ground with readers and to exploit both the readers' want to conform and the teenage connotations of words. It is a single, constant, esoteric type of language basically colloquial. It is concise, slangy, telegraphic, with abbreviations, pseudoneologism, puns, transposed jargon, short words, inverted verbless and simple sentences and short paragraphs. The esoteric language helps the teenager to believe that he belongs to an intimate club where adults and any symbol of authority are left outside."¹⁸

The ten most popular periodicals for both boys and girls in the first age range considered, 11 - 13 years, in Alderson's research are shown in Figure 12. It may be noted that there are strong similarities between these lists and the lists of favourite periodicals quoted in the Sheffield research.

Fig.12 - Top 10 comics read by boys and girls in the age range 11 - 13 in Alderson's 1968 enquiry.

Boys (n = 198)			Girls (n = 205)		
Comic	No. of times mentioned.	%	Comic	No. of times mentioned.	%
Beano	70	35.4	Jackie	107	52.2
Victor	62	31.3	Bunty	87	42.4
Dandy	55	27.8	Judy	83	40.5
Valiant	38	19.2	Valentine	77	37.6
Topper	35	17.7	Diana	77	37.6
T.V.21	35	17.7	Trend	74	36.1
Hornet	34	17.2	Lady Penelope	61	29.8
Hurricane	32	16.2	June	60	29.3
Tiger	32	16.2	Schoolfriend	60	29.3
Boy's Own	29	14.6	Beano	46	22.4

It would appear, then, that many children of the age range we are studying are avid readers of comics and magazines. It remains to be seen whether the bilingual pupils of the present survey share the same tastes as the monoglot children of the researches mentioned, and it will certainly be interesting to discover what part, if any, Welsh language periodicals play in these children's lives. We have already seen evidence that children's comic and magazine reading decreases as they grow older; will we discover this to be true in our investigation, and will it be equally true of English and Welsh comics and magazines?

Before leaving the field of comics and magazines, mention must be made of one feature of the modern periodical which appears to be of concern. It would appear to be true to say that over the years there has been a decline in the verbal content of the most widely read current periodicals. J.J.Taylor (1972)¹⁹ reports a remarkable decline in the verbal content of comics, such that the comics he studied in 1967 contained only between one-quarter and one-twelfth of the number of words in their counterparts in 1940. In 1940, Taylor found the comic Wizard containing six prose adventure stories comprising a total of some 40,000 words. In 1967, he found that the comic Hornet, which he found to be very popular among 14+ grammar school boys, had thirty two pages, four of which were taken up with a story in print, two with advertisements and twenty-six with stories in strip picture form with words in balloons, the total word content being around 10,000 words. Whitehead et al (1977) suggest that

"The crowding out of words by pictures in pulp reading matter was a revolution accomplished in the 1950's, when television began to stride rapidly towards its present domination of the

sitting room. The relation between heavy television viewing and heavy comic reading in our sample can hardly be accidental".²⁰

The evidence would appear to support this theory, for the format of the periodicals for young people changed dramatically with the advent of widespread television. This change, however, may well have been beneficial to bilingual children. Assuming that these children read mostly English language periodicals, the fact that the verbal content of such magazines has decreased may mean that bilingual children are less exposed to written English than was the previous generation. However, balancing this effect, one suspects, is the exposure to television of the present generation of bilingual children. That is, the exposure may have moved slightly from written to oral forms of language.

Book-reading.

We now move on to the third category of children's reading, that of book-reading. In the present survey, we will be interested in discovering whether or not bilingual children's book-reading is done to equal extents in both languages. Will we discover book-reading to increase as the children grow older, or will we discover, as is hypothesised, that there is a reduction in Welsh book-reading as they grow older? Much more research work has been carried out into children's book-reading habits than into their newspaper, comic and magazine reading, and we now examine some relevant researches.

Three large scale surveys were reported in the United States of America in the 1920's - namely those by Jordan (1921, reviewed and augmented in 1926),²¹ Terman and Lima (1925),²² and Washburn and Vogel (1926).²³ In each of these studies the main enquiry was pursued by using the children themselves as informants and by asking quite a large number of them to provide information

about their reading and about how much they had enjoyed it. In 1917-18, Jordan gave 3,598 pupils a questionnaire asking for the names, in order of preference, of the five books and five magazines that they had liked best of all the books and magazines they had ever read. The same procedure was repeated in 1925 with 1,559 pupils in two different cities. Jordan supplemented his questionnaire survey by extended visits to eight public libraries during which he completed 'popularity scores' for individual books based partly on observation of withdrawals and partly on the librarians' assessments of popularity. From this section of his data he concluded that the reading interests of boys and girls are very dissimilar, particularly between the ages of $10\frac{1}{2}$ and $13\frac{1}{2}$, and that at these ages boys are inclined principally towards fiction concerned with war, scouting, school, sport, and strenuous adventure, while girls are attracted above all to fiction which portrays home or school life, or a combination of both.

Terman and Lima's book 'Children's Reading' reports findings from several disparate studies, including one which was linked with Terman's extended programme of research into the abilities of gifted children. As a preliminary to this more specialized study, however, the authors report on reading records that were kept for two months by a control group of 808 unselected children aged between 6 and 16 years in three small Californian cities. The tables compiled from these records show that at ages 10 - 11 these children were reading an average of 2.0 books per month, at ages 12 - 13 an average of 3.0 books per month, and at ages 14 - 15 an average of 2.5 books per month.

Washburne and Vogel's study first appeared in 1926 as 'The Winnetka Graded Book List', but was later re-published under the title 'What Children Like to Read'. Their survey had involved

the co-operation of some 800 teachers in various parts of the United States and, in choosing schools, the research team tried to get as wide as possible a variety of types, in cities of various kinds and sizes, well distributed among different sections of the country. In the event, 36,750 children in 34 schools (20 public schools, 9 private schools, and 5 university and normal training schools) filled out what was described as a 'ballot' on every book they read during the school year 1924-25; in effect, this meant that in reporting on a book each child ticked one of the following statements :-

- one of the best books I ever read.
- a good book, I like it.
- not so very interesting.
- I don't like it.

The aim of this survey was not to discover how much children read, but rather which books were the most popular with children. Using the information obtained from over 100,000 'ballot papers', in respect of some 9,300 separate books, the investigators took the 800 books on which twenty five or more children's judgements had been received, and submitted this list to thirteen children's librarians with the request that they mark them as either : (i) of unquestionable literary merit, (ii) of sufficient value to include in the list though not of high literary merit, (iii) not recommended because of low literary merit, or (iv) not recommended because of subject matter unsuitable for children. 110 books were excluded because three-quarters or more of the children's librarians considered them unsuitable in subject matter, and this left 686 titles which were included in the book list. Within the resulting list, there was a marked orientation towards nineteenth century classics, and it seems likely that, in a number of cases, the book

had been read because it was prescribed as classroom reading rather than because it was voluntarily chosen. In the present survey, therefore, it is intended to ask the children to indicate how much book-reading they do at home, or outside school.

The first survey of any considerable size to be carried out in Great Britain was Jenkinson's 'What do Boys and Girls Read?'²⁴. This was published in 1940, but the questionnaires had been administered in 1938 to 1,570 boys and 1,330 girls between the ages of 12 and 15 years in Hull, North Lincolnshire, and the East Riding of Yorkshire. Confidence in Jenkinson's findings is weakened by one major defect in his methodology. The sampling was such as to introduce an unmistakeable over-representation of the more able children. Because of the choice of schools in the sample, selected pupils had more chance than unselected pupils of being included in the survey. It seems possible that these characteristics of the sample may go some way towards explaining the unusually high figures Jenkinson obtained for 'number of books read out of school'. In the secondary schools, these ranged between 5.0 books per month and 6.0 books per month for the boys, and between 5.9 books per month and 6.5 books per month for the girls. However, probably the most important of Jenkinson's findings was that the private reading of children between the ages of 12 and 15 years was largely chosen from inferior books, magazines, and newspapers.

In 1942, Jenkinson's questionnaire was used in New Zealand by W.J.Scott with only slight modifications and a few additions. Scott's book, 'Reading, Film and Radio Tastes of High School Boys and Girls',²⁵ published in 1947, records the survey carried out with a sample of 3,972 pupils between the ages of 13 and 18 years. In many respects, the results of Scott's survey were comparable with those of Jenkinson.

The next British survey to be examined is the one by Himmelweit, Oppenheim and Vince, entitled 'Television and the Child' (1958)²⁶. We shall be taking a detailed look at this survey in Chapter 3, since it is primarily concerned with the television viewing habits of the young, but reading enters into it although only as one of those aspects of children's lives where television may be expected to exert an influence. The main survey was carried out among 10 - 11 year olds and 13 - 14 year olds in London, where about two-thirds of the children had television at home, and also in Bristol, Portsmouth and Sunderland, these areas having been chosen as ones in which about one-third of the children had television at home. The design of the sample made it possible to assemble two groups of children, viewers on the one hand, non-viewers (or controls) on the other hand, which made up a total of 1854 children in all and which had been carefully matched on age, sex, intelligence and social background. In the course of a comparison between the reading of these two groups the authors argued that under the influence of television children initially read less, with books suffering more than comics, but that after a few years of viewing, book-reading returns to its original level, whereas the diminution of comic reading remains. Among the 10 - 11 year olds, viewers were found to have read an average of 2.5 books per month, while non-viewers had read 2.7 books per month. Among 13 - 14 year olds, viewers had read 2.2 books per month while non-viewers had read 2.5 books per month. It is clear that these figures are markedly less than the ones reported by Jenkinson in 1940.

A survey of particular relevance to the present study, since it was conducted amongst bilingual children in a Welsh town, is the one conducted by I.J.Leng in 1968²⁷. Leng studied the behaviour of school children with regards to their use of the

Public Library in the town for a whole year. The investigation was confined to those children who were resident within a radius of one mile of the Library and who also attended one of the five primary and two secondary schools in the same area. It was confined also to children who were more than six and less than thirteen years of age, a total of 1,055 children.

Over a period of one year, from September 1st to August 31st, a careful record was kept at the Public Library of every book borrowed by each of these children, each title being entered in the member's record as it was issued. Every effort was made to ensure that the record included only those books which had in fact been read by the child. On returning a book to the library, the borrower was asked if it had been read and how much it was enjoyed. As the possibility remained of a member's ticket being used by another child, once in each term each member was asked to check the list of books issued in his or her name in the previous weeks, and to indicate those which he or she had not read. Of the 1,055 children within the scope of the enquiry, 555 made use of the library in the course of the year, and between them they borrowed in the year about eleven thousand books.

Leng (1968) maintains that there are two phases in the propagation of the reading habit among children.

"The first

extends from infancy until about the age of ten, a period in which the majority of children at some time or other give reading a trial, and many of them use the library to do so. There follows a period in which some turn increasingly to other activities which they find more satisfying, while others develop a growing appetite for books. The child's final attitude to reading is

largely shaped in the years immediately following his tenth; the eleventh and twelfth years are momentous ones in the life of every child. New and difficult adjustments are called for to unfamiliar schools, to fresh privileges and responsibilities, to unsuspected needs and impulses within themselves."²⁸

Leng gives the following table for the membership of the Library among 11 and 12 year olds.

Fig.13 - Showing the membership of a Town's Public Library by the sample of 11 and 12 year old children in Leng's (1968) research.

	Boys		Girls		Both	
	No.	%	No.	%	No.	%
Members	89	24	132	36	221	60
Non-members	96	26	52	14	148	40

Leng goes on to say

"This is roughly consonant with what we have seen to happen in every age-group other than at 9, and accords, moreover, with what almost every observer of children's reading has noted, that girls are more given to reading than are boys".²⁹

Although Leng's research was carried out in a town in Wales, bilingualism is not the major focus of the research. He makes the point that of the eleven thousand and more library books issued in the year, Welsh language books accounted for a mere score, and each of the readers who borrowed a Welsh book also borrowed English books. He does add, however, that

"The Library, it must be borne in mind, caters essentially for English-speaking readers; although in fact it has a small

collection of Welsh books for children, in absolute numbers this is very small and the range of choice available to each Welsh reader is therefore very narrowly restricted".³⁰

From the evidence concerning Welsh-speaking children, Leng makes the following statement :-

"It would appear, much as one would expect, that before the age of ten Welsh-speaking children show less interest in the library than do monoglots; few of them join, and those who do borrow very little. Since they tend not to join the library, it seems reasonable to conclude that, before the age of ten, when reading for pleasure, Welsh-speaking children read mainly books in Welsh. From the age of ten, on the other hand, so our slender evidence suggests, Welsh-speaking girls tend increasingly to read English books. In the last two years of their primary school lives, they join the library almost as readily as English-speaking children, and borrow proportionately at least as many books, despite the fact that almost all the books they borrow are in English. The same seems to be true of boys from about the age of nine. Further research might reveal whether this rather sudden access of interest in English books means a reduction in the number of Welsh books these children read. There is reason to fear that this may be so, if only because of the acute shortage of Welsh books suitable for children."³¹

Leng suggests that more emphasis should be placed on discovering the reading habits of bilingual children in Wales. He makes the following important points :-

"The evidence of the present survey seems to point to the need to make an effort to cater for the ten year olds (in terms of Welsh books), since it is at this point that Welsh books appear to lose ground to English books, but of course more research is needed to establish whether the trends apparent among bilingual children in the area under review appear in other parts of Wales. It is not our purpose here to discuss the desirability or otherwise of Welsh-language schools, but to show that research into the leisure reading of bilingual children might have far-reaching implications for educational policy in Wales. Indeed, it might not be too much to say that the extent to which children maintain their interests in Welsh books is a fair measure of the effectiveness of the bilingual policies to which education authorities in Wales are now committed."

32

Leng's remarks above are to be applauded, for they show a refreshing alertness to the bilingual situation that exists in Wales. We shall return to discuss the relationship between bilingual educational policies and the mass media, including children's reading, in Chapter 9.

Commenting generally on reading, Leng comes to the following conclusion in his work :

"The healthy reader, then, is one whose reading is progressive, whose reading tastes change constantly to match his growing capacity to grasp ideas, his growing interest in other people, his growing urge to understand himself, his own ambitions, powers and responsibilities. Because he finds the books that are responsive to his needs, his reading is of value and he becomes a

constant reader. Others, however, fail to accomodate their reading to the pace of their intellectual, emotional and imaginative development, and in consequence their reading makes no contribution to the shaping of their lives. Some recognise it then as trivial, and look elsewhere for what they need; others accept it as a pastime, to be abandoned when a more diverting pastime offers; still others read themselves into a rut, the endlessly repetitive, unprogressive, unproductive reading of the addict." ³³

The research project conducted by the University of Sheffield Institute of Education has already been mentioned when discussing children's reading of periodicals. In the research it was decided to sample children in three year-groups - those aged 10 at the beginning of the school year, those aged 12, and those aged 14. The following table shows the average number of books read during one month by the boys and girls of each year-group.

Fig.14 - Average number of books read during one month - from Whitehead et al's research (1971). ³⁴

Age Group	Boys	Girls	Both Sexes
10+	2.68	3.28	2.95
12+	1.99	2.48	2.21
14+	1.78	2.15	1.95
All age groups	2.16	2.66	2.39

Commenting on the figures in this table, the authors state :-

"If one accepted Jenkinson's figures (which fell within the range of 3.9 to 6.5 books a month), one could truth-

fully say that children in 1971 did not read half as much as children did in 1940. However, the above figures are in line with those of Himmelweit et al in Television and the Child."³⁵

It was also found in this research that there was a consistent tendency for children to read fewer books as they grew older. Not only was there a reduction at 12+ and 14+ in the average number of books read, but there was also, at these ages, a steep increase in the percentage of non book-readers. Both these facts are shown clearly in the following table of type of book-reader as a percentage of each age group.

Fig.15 - Type of book-reader as percentage of each age group - from Whitehead et al's 1971 research.

Type of book-reader	10+		12+		14+	
	Boys	Girls	Boys	Girls	Boys	Girls
Non-reader	15.8	9.4	33.2	23.3	40.0	32.4
Light (1 - 2 per month)	39.9	35.9	33.9	33.4	29.4	32.9
Moderate (3-4 per month)	28.0	30.6	21.5	29.1	21.1	21.1
Heavy (5+ per month)	16.3	24.1	11.4	14.3	9.5	13.6
Total n	1402	1343	1353	1259	1307	1173

A survey carried out by J.J.Taylor, and reported in two articles in 'The Use of English', Vol 24 No.1 (1972) and Vol 25, No.1 (1973) and also in an article in 'Reading', Vol 7 No.3 (1974) deserves mention. Taylor conducted an enquiry into the reading habits of the pupils of four secondary schools in the North Midlands. The schools concerned were two grammar schools and two secondary modern schools, each with a mixed four-form entry, and the questionnaires were completed in respect of a four-week period in February 1967 by all the pupils in the first four years, a total of 1,926

children. Taylor showed that among secondary modern pupils the number of books read fell significantly, as between the first and second years on the one hand, and the third and fourth years on the other hand, but that over the same age range the amount of reading of grammar school pupils did not change significantly. In computing the average number of books read during the month, Taylor omitted those children who had read no books, so that his averages are not really comparable with those of other investigators. Even though they have been artificially inflated by this omission, Taylor's figures remain quite low. Thus, for secondary modern boys the number of books per month ranges between 1.6 and 2.2, while for secondary modern girls it ranges between 2.3 and 2.7 . For grammar school boys, the figure remains steady throughout the age range at 2.6, whereas for grammar school girls it ranges only between 2.6 and 2.9 . Taylor claimed that, even allowing for the bias in Jenkinson's sampling, his own figures suggested a marked decline in book-reading as compared with 1940.

As has been stated previously, there has been only one enquiry into the reading habits of bilingual Welsh children, that conducted by Leng in 1968. In fact, there has only been this one enquiry into the effect of the mass media generally on bilingual children in Wales. And yet, it would seem reasonable to expect that such a study into the use of the mass media by bilingual children would be a priority before the introduction of bilingual educational policies. As will be discussed later, it may be a mistake to consider education in isolation, and it may also be true to say that before a bilingual policy of education can survive, it must be supported by the bilingualism displayed by other agencies, such as the mass media. Often, there are complaints from those who wish to see the Welsh language prosper at the lack of reading material

available in the Welsh language, but there is little or no concrete evidence to substantiate their claims that the lack of material in Welsh is causing young people to turn their backs on the language. We have seen that there is no comparison between the amounts of material available to the bilingual child and young person in the two languages as far as newspapers and periodicals are concerned. In the case of books, however, there exists a much more healthy state of affairs in Wales. While there is an almost endless list of English books available, the number of titles published each year in the Welsh language has grown significantly, although still being a fraction of English language material. This is particularly true in the case of books for children, as the following table of the number of Welsh books published each year from 1971 to 1981 shows.

Fig.16 - Showing the number of book titles published in Welsh for the period 1971 - 1981. 36

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Language/ Dictionaries	-	-	-	-	-	6	3	4	1	1	7
Welsh Learners	13	10	14	9	11	7	2	10	3	4	3
Literary Studies and Texts	5	6	3	6	5	8	14	11	9	13	13
Poetry	11	22	14	22	24	27	21	23	26	23	27
Novels and Short Stories	24	19	35	31	30	30	24	27	34	15	18
Essays and Letters	8	8	11	9	8	9	5	9	12	8	6
Plays	2	2	3	6	4	12	4	1	7	3	20
Eisteddfod Programmes and Compositions	4	4	2	2	4	2	7	10	9	10	10

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Autobiography/Reminiscences	-	-	-	-	-	6	8	13	10	13	16
Biography	13	13	17	9	16	13	8	11	14	16	18
Music	5	5	7	6	9	6	6	8	11	9	8
Religion	12	13	15	12	8	16	20	20	17	17	15
History, Welsh Life and Customs	6	9	5	15	10	15	14	18	17	8	7
Philosophy, Politics, Sociology	-	-	-	-	-	-	3	3	4	3	5
Travel	4	3	2	5	4	1	2	4	1	3	4
Sport and Hobbies	-	-	-	-	-	-	-	5	2	3	3
Nature Study	-	-	2	1	2	-	-	3	1	-	4
Science, Mathematics	-	-	-	-	-	-	-	2	-	-	-
Children	45	53	72	70	111	73	40	65	81	71	84
Children - Non-Fiction and Textbooks	-	-	-	-	-	-	27	13	19	20	58
Lectures	6	5	4	3	4	9	-	-	-	-	-
Textbooks and Handbooks	13	20	19	6	22	27	-	-	-	-	-
Miscellaneous	5	7	14	12	6	4	6	6	10	18	11
Total of new books	177	199	239	224	278	271	214	266	288	258	337

There are several important points to be drawn from the figures of the above table. Firstly, it may be pleasing to see the number of Welsh books for children which are published each year; this figure had reached a peak of 142 by 1981. Secondly, it is encouraging to see that, with the exception of 1980, there has been

a steady increase in the number of Welsh language books published each year since 1971. And thirdly, a very encouraging sign is the number of books which were published for those learning Welsh as a second language in the period since 1971 - a total of 88 titles.

Other Bilingual Societies.

When considering the reading material available in Welsh, it is perhaps natural that we should ask what material is available in other comperable bilingual societies, particularly other Celtic societies. We give a brief resume here, mostly drawn from Meic Stephens' (1976) 'Linguistic Minorities in Western Europe'.³⁷

According to the 1971 Census, there were 88,892 persons living in Scotland who were able to speak the Gaelic language, that is 1.9% of the population. Most of these persons reside in the Highlands, or in the Western Isles, although there are pockets of Gaelic speakers in the Lowlands. In the press, the use of Gaelic is patchy. The bilingual newspaper 'An Comunn Gaidhealech, Struth' was discontinued after four years in 1969, and was merged as a supplement in the weekly Stornaway Gazette which is now, with the West Highland Free Press on Skye, the only newspaper carrying news in Gaelic on a regular basis. There are no Gaelic weeklies, but some Church magazines have monthly supplements in the language. The publishing imprint 'Gairm', founded in 1952 and having its office in Glasgow, publishes a fairly wide range of books in Gaelic including dictionaries, manuals, prose and verse, history and music, as well as the principal literary quarterly 'Gavin'. The Gaelic Books Council, set up in 1969, has stimulated an increase in Gaelic publishing from two or three titles a year from 1960 to 1969, to about forty titles annually since 1970. The Highland Book Club, an independent organisation, began publishing in 1970, and now produces about seven new titles every year in both Gaelic and

English.

Very little use is made of Gaelic in the mass media in Northern Ireland. The main Catholic daily newspaper, The Irish News (Belfast) carries a short column in Gaelic from time to time, and some of the provincial weekly newspapers do the same. The situation is somewhat different in the south, however. The 1971 Census showed that 789,429 people spoke the Irish language, or 28.3% of the population of Eire. The lack of a standardised form of written Irish has hampered efforts to popularize the language during the present century. The pioneers of publishing in Irish were Seán ÓhEigeartaigh and his wife who founded the firm 'Sáirséal agus Dill'. They started a Book Club in 1948, and were soon able to sell around 3,000 copies of their books. In 1952, the Government agreed to offer subsidy to publishers without the censorship that had previously existed, thus enabling them to compete on more equal terms with 'An Gúm', the Government's publishing section.

Like Welsh, which it most closely resembles of the Celtic languages, Breton belongs to the Brythonic group of languages. In the Census of 1975, Brittany had about 7% of the total population of France, with 44%, or 685,000 people, capable of speaking Breton. There is a lively press in the language, with twenty periodicals published in Breton, and about another ten publishing some Breton in every issue. Several of the newspapers published by political groups also carry articles and features in the language. One magazine, 'Evid ar Brezhoneg', launched in 1973, sells over 6,000 copies a week. However, there are problems in the publishing of Breton books. In the face of rising production costs over the last few years, it is necessary to sell at least 800 copies of a book before even the printer's bill can be paid, and this is difficult. Consequently, few books are published in Breton.

It would appear, therefore, that there is more reading material available in the Welsh language than in any of the other minority Celtic languages. Our aim in the present survey is to ascertain the amount of reading done by the bilingual children under investigation in both the Welsh and English languages. We will also attempt to discover changes in the children's reading habits between the ages of 10 and 13 years.

Conclusion.

In conclusion, then, it is possibly fair to say that very little is known about the reading habits of bilingual children and young people in Wales. Very little attention appears to have been paid to this undoubtedly important question; research work into reading amongst bilingual children seems to have been much more concerned with the English-reading standards of bilingual children than with the actual material read. It may also be fair to say that there has been some apathy with respect to the reading material available to Welsh children and adolescents. Further, there may also have been a general lack of concern in making known to young Welsh readers the available material. A good example of this is given in I.J.Leng's (1968) research, where he describes the children's section of a Public Library in a small Welsh town. While the library was exceptionally well stocked with English books, the selection of Welsh books available was very small. Is this the case in most Public Libraries in Wales?

There may also be a shortage of book-shops which cater for, and attract the young Welsh reader. Probably because of an assumed lack of demand, there are very few book-shops which cater exclusively for Welsh readers, and as in the case of Public Libraries, Welsh language reading material may be confined to a shelf or two in the least favourable positions in these shops. Usually, it is left to

the schools to promote the sale of Welsh reading material, particularly Welsh language periodicals. Consequently, some prospective readers may be discouraged from buying them because they associate them with the school. The area under investigation in the present survey, however, is served by a well-stocked book shop.

A study of the reading habits of bilingual children in Wales seems therefore urgently required. The present survey deals with only a small area, the Llŷn Peninsula, but a survey appears to be required of the whole of Wales. It is hoped that the findings of the present survey might give a glimpse of what picture would emerge for the whole of Wales if a national survey were to be undertaken. Certainly, if total bilingualism is to be achieved ultimately, much more serious attention needs to be given to the influence of the mass media on young people. We have considered the medium of printed matter in this chapter; we must now proceed to consider probably the most powerful of the mass media, television.

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CHAPTER 3

TELEVISION AND BILINGUALISM

Introduction

Of all the mass media, probably the most popular with children and young people in terms of use is the medium of television. In our study of some of the factors which determine the degree of a child's bilingualism, therefore, it is of importance that we consider this medium in some detail.

Ever since the advent of television, many people have been concerned with the alleged detrimental effects of television on children. Much research work has been conducted in this field during the past quarter century, and although the results of this research may be somewhat conflicting, our first task in this chapter will be to review key researches. We shall be particularly interested in trying to ascertain whether or not television viewing exerts an influence on children's attitudes, as well as on their patterns of behaviour. This is clearly very important since we are carrying out an investigation into bilingualism amongst children, with particular reference to the children's uses of both the English and Welsh languages.

In the present research to be reported in later chapters, we will be endeavouring to discover the time spent by children watching television. We therefore need to know, for the purpose of comparison, the findings of other researches on this point. Also, we wish to discover the times spent by the children of our sample watching English language programmes, and the time spent watching Welsh language programmes. Will it be found that the bilingual children spend approximately similar amounts of time watching programmes in the two languages, or will we find, as is suspected,

that they spend more time watching English programmes than Welsh programmes? It will also be enlightening to discover which television programmes the children consider to be their favourite programmes. Will they name equal numbers of Welsh programmes and English programmes, or will they, as is again suspected, depend heavily on English programmes for their favourites?

To gain a meaningful insight into bilingual children's television viewing habits, we must be aware of the amounts of English language programmes and of Welsh language programmes transmitted on Welsh television. We therefore propose to take a detailed look at the programmes available during two weeks, the first in November 1978, and the second in November 1981.

And finally in this chapter, we will consider the latest developments in Welsh television. As we shall see, these developments are important, and could have far-reaching consequences on the future state of bilingualism amongst Welsh children.

The Influence of Television.

It is possible that television is the most widely used of the mass media both by adults and by children. Consequently, it may not be surprising that so much interest has been expressed by sociologists and psychologists about the effects of television on viewers, particularly young viewers. However, it must be stressed at this point that no research work has been carried out on the specific problem of the effects of television on bilingualism, and consequently the following is a review of the research carried out on the general problem of the influences of television.

What kind of influence, if any, does television have on children and young people? P.A.Witty (1967)' has described the medium as an electronic Pied Piper

"leading our children into a

sea of undesirable and harmful influences. Certainly, in view of the effects of televised violence on children's aggressive behaviour and their approval of violence, the analogy does not appear terribly far-fetched."

Goodhardt,

Ehrenberg and Collins (1975)² make much the same observation in their joint work 'The Television Audience : Patterns of Viewing'.

"The average family in the United Kingdom currently watches television for more than five hours a day. Individuals on average watch almost three hours or so a day. In the great majority of homes the television set is therefore switched on for most of the evening. A similar pattern occurs in the United States and much of Western Europe. With television occupying such a significant part of the leisure time of many people, it is not surprising that the medium has become a subject of major social and political concern and even controversy. Much of the discussion has centred on the likely effects of television. How does a heavy diet of violent programmes affect children? Does the heavy viewing among working class households add to their cultural deprivation? Could television be an effective educational vehicle? More operational questions concern the number of different T.V. channels, how they should be run, and so on. Various studies on both sides of the Atlantic and elsewhere have tried to deal with these and similar problems."

Liebert,

Neale and Davidson³ make a similar comment on the amount of television watched and its possible effects.

"It has been estimated

that a child born today will, by the age of 18, have spent more time watching television than in any other single activity but sleep. What are, and will be, the effects of this continuous exposure?"

Probably the most famous research in the field of television, and certainly one of the earliest, was that carried out by Himmelweit, Oppenheim and Vince (1958)⁴ in the United Kingdom, and reported in the book entitled 'Television and the Child'. This research was carried out at a time when television had not become available to every home in the country, and also when there was only one channel available to those who had television receivers. Nevertheless, it is well worth while noting some of the findings, for the results may give a general indication of the effects of television today.

The main research consisted of comparing two groups, only one of which had been exposed to television. The first group were the 'viewers', who had television at home, and the second group were the 'controls', who had no television at home, and were also not regular guest viewers. Both the viewers and the controls were selected from four English cities, London, Portsmouth, Sunderland and Bristol. A total of 4,500 children were tested, and viewers and controls were matched for sex, intelligence and social background. After the guest viewers, that is children who watched television in homes other than their own, and unmatchable cases had been discarded, the investigators were left with 1,854 matched viewers and controls.

The second phase of the research consisted of a 'before and after' study. The opening of a new transmitter in Norwich provided an opportunity for a natural study of this kind. The main survey questionnaires were administered to all 10 - 11 year olds

and 13 - 14 year olds in nearly every Norwich school, at a time when hardly any families had a television set. After a year, a group of children who had since acquired a television set was compared with a group who had not, by matching them, individually in pairs, as in the main survey. By relating the results to those obtained in the main survey, it was possible to see whether the differences emerging in the main survey represented after-effects of viewing, or had existed prior to the arrival of the television set. Out of the original 2,200 children tested on the first visit to Norwich, 370 cases were subsequently obtained, consisting of all children who had television and of their controls.

The first important finding of Himmelweit et al's research was that at the time of the survey, viewers in both age groups watched television for an average of 11 to 13 hours a week, or just under two hours a day; they spent more time watching television than on any other single activity. The single, most important factor that was associated with reduced interest in, and time spent on viewing was measured intelligence; the higher the child's measured intelligence, the less his viewing. In both age groups, boys and girls spent roughly the same amount of time in front of the set. The investigators commented

"It would appear that the amount a child views depends in the first instance on his intelligence, secondly on his personality and on how full and active a life he had led before television came on the scene, and thirdly on parental example".⁵

From the age of 10 onwards, it was found that at least half the children watched adult programmes in the first part of the evening, until 9 p.m. Even after 10 p.m. one-third of the 13 - 14 year olds were still watching. On evenings

not followed by school days, the children viewed until a later hour. These findings prompted the investigators to warn :

"An

assessment of the effects of television on children which did not take evening programmes into account would, therefore, be seriously misleading." ⁶

The kinds of programmes that children liked best, it was discovered, were crime thrillers and, to a lesser extent, variety programmes and family serials. Westerns were much favoured by the young children. Other types of programme, such as puppets, nature and animal programmes, were not especially popular.

To the question 'What constitutes television's appeal to children?', the investigators suggested the following answer :-

"The interviews with the children suggest that part of television's appeal lies in its easy availability and its consequent value as a time-filler. Television offers the satisfaction of being in the know, of going behind the scenes and of learning about the world and about people. On the emotional side, television appeals in different ways to different children. It offers security and reassurance through the familiar format and themes of many of its programmes, notably the family serials and the Westerns. It offers constant change, excitement and suspense. It provides escape from everyday demands with lightheartedness, glamour, and romance, and permits the child to identify himself with different romantic heroes. Television also offers the appeal of personalities, presented more intimately and in more everyday terms than the stars of the cinema. The personalities of television seemed to be liked by the children in

particular for their warmth and friendliness."⁷

An important question asked in Himmelweit et al's research, as it should undoubtedly be asked today, is whether or not parents control their children's viewing. Himmelweit et al found that

"Many parents are greatly in favour of television, even to the point of being defensive about it. To some extent television helps them to keep an eye on the children. Also, if they themselves enjoy television and view a lot, they have a vested interest in defending it. Perhaps for these reasons, many parents do not admit to a need to control the amount and content of children's viewing. Also, of course, when parents view unselectively themselves, such control becomes difficult to enforce. Two-thirds of the children we questioned said that the television set was left on all the evening in their homes. There were also signs - though many parents and children tended to deny it - that television is used as an instrument of discipline, for punishment and reward."⁸

A crucial area of the research was that concerned with the effect of watching television on children. The investigators were of the opinion that television does influence the viewer's outlook and values :-

"Gradually, almost imperceptibly, television entertainment brings about changes in children's outlook and values, even though the programmes that achieve this do not deliberately set out to influence. It is rather that the similarity of views and values conveyed in television programmes, particularly in plays, make their cumulative impact."⁹

The investigators suggested that this cumulative impact is at its greatest under the following conditions :-

1. If the values or views recur from programme to programme;
2. If the values are presented in dramatic form so that they evoke primarily emotional reactions;
3. If they link with the child's immediate needs and interests;
4. If the viewer tends to be uncritical of and attached to the medium;
5. If through his friends, parents, or immediate environment the viewer is not already supplied with a set of values which would provide a standard against which to assess the views offered on television.

These principles applied equally whether the views and values were worth-while or worthless. The process was likely to be a slow and gradual one, reflecting not so much the impact of individual programmes as the cumulative effect of them all. Over and above this slow effect (composed of the accumulation of minute influences from many programmes) individual programmes also made their impact, either because of their dramatic excellence or because they touched on something of specific importance to the child. For most children, both types of effects were likely to operate.

Conscious of the fact that at the time television was very much a growing medium, Himmelweit et al (1958) made the following observations about this growth.

"At the time of our survey, television had been operating for less than a decade, and few of the children in our sample had been viewing for as long as five years; even so, considerable differences were found between the recent and the veteran viewers (of three or more years' standing). A new generation is now growing up

who will never have known a home without television; it is possible that they will take television more in their stride and may be less affected by it than children who first met it as something new and coveted. On the other hand, such children will grow up in a society in which television and the conveying of information through television will have become thoroughly accepted and respectable; and to that degree possibly more influential. Differences of this kind are likely to be largely matters of degree, yet none the less important." ¹⁰

Shortly after Himmelweit et al's (1958) research in Britain, Schramm, Lyle and Parker (1961) conducted a survey in the United States of America on the effects of television on children. When discussing their findings, the authors make the important point that

"It seems clear that in order to understand television's impact and effect on children we have first to get away from the unrealistic concept of what television 'does to children' and substitute the concept of what children do with television". ¹¹

They then outline the following three main uses of television by the child :-

1. The passive pleasure of being entertained, living a fantasy and escaping real-life boredom. Their evidence for this was that children were committed to favourite programmes, and sat with absorbed faces.
2. Information : for example, how to dress, behave, play sport.
3. Social utility : watching in mixed company, the investigators argued, gave both an excuse for young men and women to sit close together, and a topic for conversation.

The functions served for children by the mass media, and particularly television, was the subject of research work conducted in Sweden in 1972 by Cecilia von Feilitzen. Among the findings of this work were the following :-

"Half of the pre-school children (three to six years of age) watch television every day, and few view less often than three days a week. They devote, on average, around one and a half hours a day to viewing. The scale of viewing then successively increases, reaching a peak at the age of twelve. As this peak is built up and then levels out, we can say that ten to fourteen year olds constitute the heaviest T.V. consumers. This intense viewing period involves, in Sweden, some fourteen hours' viewing per week. Thereafter viewing falls off fairly sharply, and it is not until adulthood that any major interest in television returns. But on no subsequent occasion is television viewing as extensive as around the age of twelve years."

Von Feilitzen suggests the following as the functions served for children by the mass media :-

1. Entertaining or Emotional Functions.
2. Informative or Cognitive Functions.
3. Social Functions - 'You get to be a sort of friend with some of the people on the screen' and 'You talk about the programmes with other people'.
4. Non-social or Escapist Functions. Not as prominent as the first three. 'You dream yourself away' and 'You can be in peace then'.
5. Mode of Consumption or Medium Level Functions. The majority of children say they choose T.V. rather than other mass media because :- 'T.V.'s got both picture and sound' and 'you can watch T.V. at home'.

An extended consideration of the functions of television was put forward by Blumler, Brown and McQuail in 1970¹³, when they suggested that television fulfilled the following needs and gratifications for children :-

1. Diversion.

- (a) Escape from the constraints of routine.
- (b) Escape from the burdens of problems.
- (c) Emotional release.

2. Personal Relationships.

- (a) Companionship.
- (b) Social Utility.

3. Personal Identity.

- (a) Personal reference.
- (b) Reality exploration.
- (c) Value reinforcement.

4. Surveillance.

Himelweit, Oppenheim and Vince's (1958) conclusion that watching television does have an effect on children has also been echoed subsequently. Eleanor Maccoby (1963), a psychologist writes

".... there is reason to believe that children's attitudes and beliefs can be shaped by what they see on television, and that emotions and impulses are aroused in the child viewer to match those portrayed by screen characters; it is a reasonable conjecture that the child responds in kind to the emotional states depicted on the screen whether these emotions be anger, sexual feelings, joy, or self-sacrificing altruism. All this is not too surprising. We have long assumed that dramatic art had other functions than simple entertainment - the great plays have a lasting meaning because, among other things, they serve to interpret reality, to give us new

ways of seeing and understanding life experiences. Children appear to be using television in just this way - as one of the sources from which they draw material for organising and interpreting their experiences. They also use it to prepare themselves for their future lives - television is part of total environment."¹⁴

Dr. Brian Wilson, a sociologist, writing in the Criminal Law Review of June 1961, accepted the fact that the really significant effects of mass communication were not as yet capable of being accurately measured and assessed, simply because they were of a subtle and gradual nature. He went on to suggest that the influence of the media, and particularly television, had played a considerable part in altering our attitude to crime, in providing our society with a new structure of values, in disseminating information and in providing models for our social deviance. The mass media, he believed, presented a set of values which stood in stark contrast to the values entrenched in our existing social institutions - the family, the work place, the school, the law courts, the church - and in our social relationships. Wilson feels that when we take all the various factors into account we shall find it difficult

"to absolve mass media from the charge of promoting the erosion of traditional social values, and of creating confusion, particularly among young people, about the standards of behaviour".¹⁵

Again, J.D. Halloran (1970) supports the view that television can, and does have harmful effects particularly on young viewers. He writes

"Attitudes and values can also be learned from television, and incorrect notions

and stereotypes about life and other people and groups can be picked up. Children are particularly susceptible to stereotyped presentation of groups, situations, occupations etc when they have little or no related knowledge or experience".¹⁶

Halloran (1970) goes on to say "Shifts in the traditional patterns of control and authority - and changes in the functions of such agencies of socialization as family, church and school - may possibly be producing a situation in which there are many vital areas in which attitudes and values have not been well formed. In other words, a situation may now exist in which there is a considerable scope for television to play a part in the formation of attitudes".¹⁷

Describing her recent research work in Israel into the credibility of television, Raphael Schneller (1982) says

"The positive contribution of television lies in broadening the horizons of its watchers and in democratizing knowledge and information, as had not been known in the past. But this benefit is liable to lead to an equal loss when T.V. becomes the dominant source of social information, and in many cases even the sole one".¹⁸

Schneller presented questionnaires to 424 ninth grade pupils in 1979; she found that almost 87% of those pupils believed that the information conveyed by the television news broadcasts presented reality as it was, and more than 95% believed that the information programmes in general were objective. An additional survey of 328 viewers in grades 4 - 12 provided a further indication of the dominant position

of television among different sources of information; 65% of them stated that they would believe television in the case of divergent information from various sources, such as parents, newspapers and radio, and in grade 10 their number even came to 89%.

Time spent watching television.

We have already touched upon the time spent by children and young people watching television when reporting the findings of researches into the effects of television viewing. However, we now propose to examine some specific researches on this topic.

J.D.Halloran, writing in 1970, had the following to say about television viewing habits :-

"There are several surveys which provide us with simple information about the viewing habits of the British public (adults and children). Briefly we can say this : nearly 90% of the population have television, and of those who can view both B.B.C. and I.T.V. the average person devotes more time to I.T.V. Children devote even more time to the commercial channel. The average person spends over two hours per day watching television. The average teenager watches television in Winter approximately seventeen hours a week, but there is a minority of 10% who watch for at least thirty hours per week. There is clear evidence that children tend to watch the same programmes as their parents, and that they stay up after their normal bed-times to watch certain programmes which are particularly attractive but not necessarily suitable for them. Parental control and guidance often seem to be lacking; substantial numbers of quite young children are viewing till 9 p.m. and after".¹⁹

In an intensive study in America, P.Witty (1966)²⁰ found that children in primary schools watched between 15 and 25 hours a week, older children about 25 hours, and high school students about 12 to 14 hours.

Again in America, Lyle and Hoffman (1972)²¹ examined the viewing habits of children in a small town in Southern California. These investigators obtained interviews and one-day viewing records for 274 first-graders, and five-day television diaries from about 800 sixth-graders and 500 tenth-graders. The principal finding was clear; television was a major activity for children; most watched every day for at least two hours. Viewing was at its peak at the sixth grade and then dropped for the tenth-graders. These differences were due almost entirely to Sunday viewing; the first-graders watched almost two and a half hours, sixth graders watched six and a half hours, and the tenth-graders five and a half hours.

In Great Britain, a particularly interesting study was conducted by Greenberg in 1971.²² For the first ten months of 1971, Greenberg and his associates interviewed 2,500 young people between the ages of 5 and 19 years every day, about the times spent watching television. The interviewers, who numbered around 200, used an aided-recall system for audience assessment. The sample itself was constructed by a quota method; in different geographic regions, the interviewers were assigned quotas of people to interview, with specific sex, age and social-class categories. Interviews with children between five and fourteen years old were done with parental permission. The study showed that the children and young people watched television for the following times each day :-

5 - 7 year olds	2h 12m Winter	2h 8m Summer
8 - 12 year olds	3h 14m Winter	2h 59m Summer
12 - 14 year olds	3h 35m Winter	3h 12m Summer
15 - 19 year olds	2h 15m Winter	2h 0m Summer

Across all the youngsters and the various seasons, television was watched on average for 2 hours and 25 minutes each day. Greenberg found that boys watched for 9 minutes more than girls, and he therefore concluded that sex was a minor correlate of T.V. viewing for children aged 5 to 19 years.

J.P. Robinson (1972)²³ investigated the impact of television by comparing the daily activities of set owners and non-owners in 15 locations in 11 countries (Belgium, Bulgaria, Czechoslovakia, East Germany, France, Hungary, Peru, Poland, United States of America, West Germany and Yugoslavia). Noting that previous research had not adequately considered all the activities which might have been affected by television, he employed the technique of time budgets; he asked people to fill out diaries concerning all of their activities throughout a full 24 hour day. He found consistency across all 15 sites in the amount of time spent viewing (the range was from 70 minutes to 107 minutes per day) and the percentage of owners who viewed on any one day (61% - 77%). Decreases in radio listening, book-reading, and cinema going were also found, but magazine and newspaper reading were relatively unaffected. Other activities which decreased were sleep, social gatherings away from home, other leisure activities (correspondence and knitting), conversation, and household care.

Having examined research work carried out on the effects of television on children, and on the time spent watching television, we now turn to look at the structure of television in the United Kingdom, and more particularly in Wales.

Structure of television in Wales.

Until 1955, the United Kingdom had only one television channel. This monopoly was held by the British Broadcasting Corporation, a corporation financed from resources derived by issuing annual licences for sets to the public. In 1954, the Government established another public corporation, the Independent Television Authority, now called the Independent Broadcasting Authority or I.B.A. This Authority appoints fifteen regional independent television (I.T.V.) programme companies in fourteen areas to provide broadcasts on a second channel. I.T.V. is financed entirely by advertising revenue.

In 1964, Parliament awarded another channel to the B.B.C. The intention was that B.B.C.1 should aim at majority interest groups and B.B.C.2 at various special interests. Since January 1968, colour transmissions have been developed and used on all three channels.

At present, the television viewer in Wales has a choice of three channels, B.B.C.Wales which shows a large proportion of B.B.C.1 programmes, together with more local programmes both in the English language and in the Welsh language, B.B.C.2, and the commercial channel Harlech Television. This latter channel covers Wales and a part of the South West of England, and at various times each day transmits two programmes simultaneously, one for Welsh viewers, and another for viewers in the South West of England. In addition, viewers in the North-East of Wales are able to receive Granada Television, a commercial television company which transmits from Manchester.

As will be explained in Chapter 5, part of the present survey consisted of the children keeping a diary of the television

programmes they watched during a week in November 1978, and also during a week in November 1981. It will undoubtedly help us to appreciate the problem of imbalance between the English language and the Welsh language in Welsh television if we take a detailed look at the times allocated to the two languages in the programmes offered on the three channels available during the two sample weeks.

Let us consider, initially, the first sample week, which was Sunday November 19th to Saturday November 25th 1978. Figure 1 shows the total transmission times each day during that week on B.B.C.Wales, together with the times of Welsh language transmissions for each day.

Fig.1 - Showing the total transmission times and the times of Welsh language programmes transmitted each day for the week November 19th - 25th 1978 on B.B.C.Wales.

Total Transmissions (Hours and mins.)	Day and date	Welsh Language Transmissions (Hours and mins)	Welsh Lang. Transmissions as % of tot.
14.47	Sunday 19-11-78	0.40	4.5%
13.17	Monday 20-11-78	1.05	8.2%
13.07	Tuesday 21-11-78	1.20	10.2%
13.45	Wednesday 22-11-78	2.10	15.7%
12.54	Thursday 23-11-78	1.10	9.1%
12.40	Friday 24-11-78	1.27	11.4%
15.25	Saturday 25-11-78	0.20	2.2%
95.55	TOTAL	8.12	8.55%

For the sample week, then, 95 hours and 55 minutes were spent transmitting on B.B.C.Wales, and of this total transmission time, 8 hours and 12 minutes was devoted to Welsh language programmes. That is, 8.55% of the total transmission time was devoted to Welsh language programmes for the week.

Figure 2 gives similar information about the programmes on Harlech Television for the same week.

Fig.2 - Showing the total transmission times and the times of Welsh language programmes transmitted each day for the week November 19th - 25th 1978 on Harlech Television.

Total Transmissions (Hours and mins)	Day and date	Welsh Language Transmissions (Hours and mins)	Welsh Lang. Transmissions as % of tot
15.20	Sunday 19-11-78	6.30	3.3%
15.15	Monday 20-11-78	1.36	10.5%
14.30	Tuesday 21-11-78	1.40	11.5%
14.55	Wednesday 22-11-78	0.40	4.5%
15.05	Thursday 23-11-78	0.40	4.4%
15.00	Friday 24-11-78	1.03	7.0%
15.30	Saturday 25-11-78	0.30	3.2%
105.35	TOTAL	6.39	6.29%

On H.T.V. for the first sample week, then, there was a total of 105 hours and 35 minutes of transmissions, with 6 hours and 39 minutes devoted to Welsh language programmes. In other words, 6.29% of H.T.V. programmes for that week were Welsh language programmes.

To complete the information on the first sample week, Figure 3 gives similar timings for B.B.C.2.

Fig.3 - Showing the total transmission times and the times of Welsh language programmes transmitted each day for the week November 19th - 25th 1978 on B.B.C.2.

Total Transmissions (Hours and mins)	Day and date	Welsh Language Transmissions (Hours and mins)	Welsh Lang. Transmissions as % of tot.
12.05	Sunday 19-11-78	0.00	0%
10.05	Monday 20-11-78	0.00	0%

8.45	Tuesday	21-11-78	0.00	0%
7.35	Wednesday	22-11-78	0.00	0%
6.55	Thursday	23-11-78	0.00	0%
6.45	Friday	24-11-78	0.00	0%
10.45	Saturday	25-11-78	0.00	0%
62.55	TOTAL		0.00	0%

The statistics shown in Figure 3 may seem superfluous since no Welsh language programmes were transmitted on B.B.C.2 during the sample week. However, they are shown for two reasons; firstly, to give an overall picture of the linguistic content of television programmes offered on Welsh television for the sample week, and secondly because use is occasionally made of B.B.C.2 for programmes confined to Wales. For example, Welsh viewers can frequently view cricket from Cardiff or Swansea on Sundays during the Summer months while the remainder of the United Kingdom have their own English cricket match. During the National Eisteddfod week, which is the first week in August, Welsh language transmissions are regularly made from the Eisteddfod field on B.B.C.2. It would appear, therefore, that it is perfectly possible for Welsh language programmes to be transmitted on B.B.C.2 in Wales. Consequently, it must be noted that during the first sample week, considering B.B.C.Wales and B.B.C.2, only 4.91% of the transmission time of B.B.C. television in Wales was devoted to Welsh language programmes. Further, out of a total of 264 hours and 25 minutes of television transmission on the three channels during the sample week, a total of 14 hours and 51 minutes was devoted to Welsh language programmes; that is, 5.46%.

In our investigations into the children's television viewing habits, we were also interested in discovering their

favourite programmes. We therefore take a detailed look at the way in which the time devoted to Welsh language programmes was distributed during the first sample week. Figure 4 gives the breakdown of the Welsh language programmes on B.B.C.Wales for the week.

Fig.4 - Showing the Welsh language programmes transmitted on B.B.C.Wales during the week November 19th - 25th 1978.

Sunday (19-11-78)

10.15p.m. - 10.55p.m.	Bod (A documentary on Religious Education in Wales).	40 minutes
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Monday (20-11-78)

1.45p.m. - 2.00p.m.	Pili Pala (A programme for pre-school children).	15 minutes
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4.40p.m. - 5.00p.m.	Duwiau ac Arwyr (Programme for children).	20 minutes
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6.50p.m. - 7.20p.m.	Heddiw (A topical news magazine)	30 minutes
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Tuesday (21-11-78)

10.00a.m. - 10.30a.m.	Hyn o Fyd (Programme for schools on Geology)	30 minutes
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6.50p.m. - 7.10p.m.	Heddiw (A topical news magazine)	20 minutes
------------------------	----------------------------------	------------

7.10p.m. - 7.40p.m.	Pobl y Cwm (A serial about village life).	30 minutes
------------------------	-------------------------------------------	------------

Wednesday (22-11-78)

10.00a.m. - 10.23a.m.	Hwnt ac Yma (Programme for schools)	23 minutes
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2.18p.m. - 2.30p.m.	Ffenestri (Music programme for schools)	12 minutes
------------------------	-----------------------------------------	------------

5.10p.m. - 5.40p.m.	Bilidowear (Magazine programme for children).	30 minutes
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6.45p.m. -		
7.10p.m.	Heddiw (A topical news magazine)	35 minutes

7.10p.m. -		
7.40p.m.	Fo a Fe (Situation Comedy)	30 minutes

Thursday (23-11-78)

11.30a.m. -		
11.55a.m.	Hyn o Fyd (Repeat of Tuesday's programme)	25 minutes

2.14p.m. -		
2.34p.m.	Hwnt ac Yma (Repeat of Wednesday's programme).	20 minutes

6.55p.m. -		
7.20p.m.	Heddiw (A topical news magazine).	25 minutes

Friday (24-11-78)

10.23a.m. -		
10.35a.m.	Ffenestri (Repeat of Wednesday's programme).	12 minutes

1.45p.m. -		
2.00p.m.	Nant y Pant (Programme for pre-school children).	15 minutes

7.00p.m. -		
7.25p.m.	Heddiw (A topical news magazine).	25 minutes

7.25p.m. -		
8.00p.m.	Cawl a Chan (Welsh variety programme)	35 minutes

Saturday (25-11-78)

9.10a.m. -		
9.30a.m.	Wir i Chi (Programme for children)	20 minutes

Figure 5 gives a similar breakdown of the programmes shown on H.T.V. Wales for the same week.

Fig.5 - Showing the Welsh language programmes transmitted on H.T.V.Wales during the week November 19th - 25th 1978.

Sunday (19-11-78)

5.15p.m. -		
5.45p.m.	Sylfeini (A Religious programme)	30 minutes

Monday (20-11-78)

10.10a.m. -		
10.29a.m.	Am Gymru (Travelogue for schools)	19 minutes
2.00p.m. -		
2.25p.m.	Hamdden (Programme for women)	25 minutes
6.00p.m. -		
6.22p.m.	Y Dydd (A topical news magazine)	22 minutes
9.30p.m. -		
10.00p.m.	Yr Wythnos (A studio discussion about current affairs in Wales).	30 minutes

Tuesday (21-11-78)

4.20p.m. -		
4.45p.m.	Goglis (A programme for children)	25 minutes
6.00p.m. -		
6.15p.m.	Y Dydd (A topical news magazine).	15 minutes
10.30p.m. -		
11.30p.m.	Bywyd (A programme about the Welsh poet, Hedd Wyn).	60 minutes

Wednesday (22-11-78)

4.20p.m. -		
4.45p.m.	'Rydw i am fod (A programme for children about careers).	25 minutes
6.00p.m. -		
6.15p.m.	Y Dydd (A topical news magazine).	15 minutes

Thursday (23-11-78)

4.20p.m. -		
4.45p.m.	Seren Wib (Programme for children)	25 minutes
6.00p.m. -		
6.15p.m.	Y Dydd (A topical news magazine)	15 minutes

Friday (24-11-78)

9.47a.m. -		
10.06a.m.	Am Gymru (Repeat of travelogue shown on Monday).	18 minutes
4.15p.m. -		
4.45p.m.	Plant y Byd (Programme showing how children from other countries live)	30 minutes
6.00p.m. -		
6.15p.m.	Y Dydd (A topical news magazine).	15 minutes

Saturday (25-11-78)

5.30p.m. - Y Bobl a'u Can (Musical Programme). 30 minutes
6.00p.m.

An examination of Figures 4 and 5 will show the very limited number of Welsh programmes shown, and also the narrow scope covered by those programmes. For example, in the week under review, the B.B.C. transmitted only three programmes for schools in Welsh, and H.T.V. transmitted only one. Admittedly, all four programmes were shown twice, but this is common practice with all programmes for schools. Also significant may be the fact that both channels devoted such a large proportion of the transmission time in Welsh to news magazine programmes; B.B.C.Wales' Heddiw took up 2 hours and 5 minutes, with H.T.V.'s Y Dydd using 1 hour and 22 minutes of the total time. Neither channel had any news in the Welsh language on Saturday or Sunday of the sample week. In fact, it is worth noting that Saturday and Sunday were very bleak days for the Welsh language on Welsh television. Both B.B.C.Wales and H.T.V. transmitted a total of 1 hour in Welsh during these two days; in other words, there were 2 hours of Welsh language television during this particular weekend.

Let us now take a detailed look at the second sample week, in November 1981. Figure 6 shows the total transmission times and the times of Welsh language programmes transmitted each day on B.B.C.Wales for this week.

Fig.6 - Showing the total transmission times and the times of Welsh language programmes transmitted each day for the week November 15th - 21st 1981 on B.B.C.Wales.

Total Transmissions (Hours and mins.)	Day and date	Welsh Language Transmissions (Hours and mins.)	Welsh Lang. Transm'ns as % of Tot
15.45	Sunday 15-11-81	1.45	11.1%

14.29	Monday	16-11-81	1.30	10.3%
13.45	Tuesday	17-11-81	1.20	9.7%
14.55	Wednesday	18-11-81	1.10	7.8%
13.40	Thursday	19-11-81	1.12	8.8%
15.05	Friday	20-11-81	2.27	16.2%
15.20	Saturday	21-11-81	0.00	0%
102.59	TOTAL		9.24	8.36%

During the second sample week, then, there was a total of 9 hours and 24 minutes of Welsh language broadcasts on B.B.C. Wales. Welsh language programmes constituted 8.36% of the total transmission time for the week, and English language programmes 91.64%.

Figure 7 gives similar information for the programmes transmitted by H.T.V. during the same week.

Fig.7 - Showing the total transmission times and the times of Welsh language programmes transmitted each day for the week November 15th - 21st 1981 on H.T.V.Wales.

Total Transmissions (Hours and mins.)	Day and Date		Welsh Language Transmissions (Hours and mins)	Welsh Lang. Transm'ns as % of total.
15.30	Sunday	15-11-81	0.30	3.2%
14.50	Monday	16-11-81	1.35	10.6%
14.40	Tuesday	17-11-81	2.16	15.4%
14.55	Wednesday	18-11-81	0.55	6.1%
15.00	Thursday	19-11-81	1.12	8.0%
15.05	Friday	20-11-81	1.12	7.9%
15.00	Saturday	21-11-81	0.30	3.3%
105.00	TOTAL		8.00	7.08%

On H.T.V. for the second sample week, there was a total of 8 hours of Welsh language programmes; of the total transmissions, Welsh programmes accounted for 7.08%, and English programmes for 92.92%.

Figure 8 shows the corresponding transmission times on B.B.C.2 for the second sample week.

Fig.8 - Showing the total transmission times and the times of Welsh programmes transmitted each day for the week November 15th - 21st 1981 on B.B.C.2.

Total Transmissions (Hours and mins)	Day and date	Welsh Language Transmissions (Hours and mins)	Welsh Lang. Transm'ns as % of total.
13.50	Sunday 15-11-81	1.00	7.4%
11.35	Monday 16-11-81	0.00	0%
8.10	Tuesday 17-11-81	0.00	0%
8.30	Wednesday 18-11-81	0.00	0%
9.50	Thursday 19-11-81	0.00	0%
11.00	Friday 20-11-81	0.00	0%
12.10	Saturday 21-11-81	0.00	0%
75.05	TOTAL	1.00	1.33%

For the second sample week, therefore, B.B.C.2 transmitted just one hour in the Welsh language, and 74 hours and 5 minutes in the English language. That is, 1.31% of its programmes were Welsh, and 98.69% were English. Furthermore, the B.B.C.'s total transmission time in Wales for the week was 178 hours and 4 minutes, of which 10 hours and 24 minutes were in Welsh. Translated into percentages, this means that 5.84% of the B.B.C.'s television transmissions in Wales for the week November 15th - 21st 1981 was in the Welsh language, with 94.16% in English. These figures compare with 4.91% and 95.09% for the first sample week in November

1978. It must also be pointed out that the total Welsh language transmissions - B.B.C.Wales, B.B.C.2 and H.T.V. - amounted to 18 hours and 24 minutes in the second sample week, being 6.50% of the total transmissions, as compared with 5.46% in 1978.

Just as we did for the first sample week, we will now take a detailed look at the way in which the time given to Welsh language programmes was used in the second sample week. Figure 9 shows the breakdown of Welsh language programmes on B.B.C.Wales for the week, and Figure 10 gives a similar breakdown of Welsh language programmes on H.T.V.

Fig.9 - Showing the breakdown of Welsh language television programmes on B.B.C.Wales for the week November 15th - 21st 1981.

Sunday (15-11-81)

4.20p.m. - 5.25p.m.	Rhaglen Hywel Gwynfryn (A live chat show with Hywel Gwynfryn)	65 minutes
10.40p.m. - 11.20p.m.	Troi'r Dail (A programme about books).	40 minutes

Monday (16-11-81)

1.45p.m. - 2.00p.m.	Pili Pala (Programme for pre-school children).	15 minutes
6.55p.m. - 7.20p.m.	Heddiw (A topical news magazine).	25 minutes
9.25p.m. - 10.15p.m.	Gwen Tomos (Adaptation of a Welsh novel in eight parts).	50 minutes

Tuesday (17-11-81)

9.10a.m. - 9.35a.m.	Daearyddiaeth (A programme on Geography for schools).	25 minutes
5.05p.m. - 5.35p.m.	Fyny Fama (A programme for the young on mountaineering)	30 minutes
6.50p.m. - 7.15p.m.	Heddiw (A topical news magazine)	25 minutes

Wednesday (18-11-81)

11.17a.m. - 11.40a.m.	Ffenestri (Programme for schools)	23 minutes
11.40a.m. - 12.05p.m.	Daearyddiaeth (Repeat of Tuesday's programme for schools).	25 minutes
2.18p.m. - 2.40p.m.	Hyn o Fyd (Programme for schools)	22 minutes
7.05p.m. - 7.30p.m.	Heddiw (A topical news magazine)	25 minutes

Thursday (19-11-81)

10.10a.m. - 10.32 a.m.	Hwnt ac Yma (Programme for schools)	22 minutes
2.15p.m. - 2.40p.m.	Ffenestri (Repeat of Wednesday's programme for schools)	25 minutes
6.55p.m. - 7.20p.m.	Heddiw (A topical news magazine)	25 minutes

Friday (20-11-81)

11.00a.m. - 11.22a.m.	Hyn o Fyd (Repeat of Wednesday's programme for schools)	22 minutes
1.45p.m. - 2.00p.m.	Y Cowboi Bach (Programme for pre- school children)	15 minutes
2.35p.m. - 3.00p.m.	Hwnt ac Yma (Repeat of Thursday's programme for schools).	25 minutes
5.15p.m. - 5.40p.m.	Culhwch ac Olwen (A Welsh legend told in pictures)	25 minutes
7.00p.m. - 7.30p.m.	Heddiw (A topical news magazine)	30 minutes
7.30p.m. - 8.00p.m.	Fo a Fe (A situation comedy)	30 minutes

Saturday (21-11-81)

No Welsh Programmes.

Fig.10 - Showing the breakdown of Welsh language television programmes on H.T.V. for the week November 15th - 21st 1981.

Sunday (15-11-81)

3.30p.m. -	Cymorth (A programme attempting to	30 minutes
4.00p.m.	solve individual problems)	

Monday (16-11-81)

12.00 -	Ffalabalam (A programme for pre-	10 minutes
12.10p.m.	school children)	
4.45p.m. -	Ser (A programme for children)	30 minutes
5.15p.m.		
6.00p.m. -	Y Dydd (A topical news magazine)	25 minutes
6.25p.m.		
8.30p.m. -	Yr Wythnos (Studio discussion on	30 minutes
9.00p.m.	current affairs in Wales)	

Tuesday (17-11-81)

9.35a.m. -	Am Gymru (Programme for schools)	18 minutes
9.53a.m.		
10.15a.m. -	Byd a'i Bethau (Programme for	18 minutes
10.33a.m.	schools)	
12.00 -	Y Llysiau Llon (Programme for pre-	10 minutes
12.10p.m.	school children)	
4.15p.m. -	Camigam (Quiz for children)	30 minutes
4.45p.m.		
6.00p.m. -	Y Dydd (A topical news magazine)	15 minutes
6.15p.m.		
10.30p.m. -	Gorau Gwerin (Programme of light	45 minutes
11.15p.m.	entertainment)	

Wednesday (18-11-81)

12.00 -	Ffalabalam (Programme for pre-	10 minutes
12.10p.m.	school children)	
4.45p.m. -	Goglis (Programme for children)	30 minutes
5.15p.m.		
6.00p.m. -	Y Dydd (A topical news magazine)	15 minutes
6.15p.m.		

Thursday (19-11-81)

11.22a.m. -	Am Gymru (Repeat of Tuesday's programme for schools)	17 minutes
11.39a.m.		
12.00 -	Cei Cocos (Programme for pre-school children)	10 minutes
12.10		
4.45p.m. -	Ser (A programme for children)	30 minutes
5.15p.m.		
6.00p.m. -	Y Dydd (A topical news magazine)	15 minutes
6.15p.m.		

Friday (20-11-81)

10.48a.m. -	Y Byd a'i Bethau (Repeat of Tuesday's programme for schools)	17 minutes
11.05a.m.		
12.00 -	Ffalabalam (Programme for pre-school children)	10 minutes
12.10p.m.		
4.15p.m. -	Plant yr Ynys (Programme for children)	30 minutes
4.45p.m.		
6.00p.m. -	Y Dydd (A topical news magazine)	15 minutes
6.15p.m.		

Saturday (21-11-81)

5.05p.m. -	Ras Sgwar (A quiz for adults)	30 minutes
5.35p.m.		

On B.B.C.2 in Wales for the second sample week, there was one programme in Welsh - Yr Awr Fawr, a programme for children, transmitted from 8.45 a.m. to 9.45 a.m. on Sunday.

Looking at Figures 9 and 10, we see that there was little change in the types of programmes offered by the B.B.C. and H.T.V. to Welsh viewers between 1978 and 1981. There were still very few Welsh language programmes for schools, and the two nightly news magazine programmes, 'Heddiw' and 'Y Dydd', again took up a sizeable proportion of the total Welsh language transmitting time, as they did in 1978.

There has been a growing awareness in Wales during the past decade that television may be one of the prime causes for the

decline in the number of people who speak Welsh. The following may be typical of the sentiments expressed during this time by people who seem genuinely concerned about the future of Wales as a nation, and about the future of the Welsh language.

"King Henry

VIII's Act of Union failed to 'utterly extirp' the 'divers sinister usages' which characterise Welsh national identity. Unchecked, television will pull it off in a generation. It is now the major factor in shaping the nation's cultural character. And in Welsh-speaking homes nightly, a loquacious and insistent guest speaks English."²⁴

"At present, if the aim of the exercise was to rend Wales with divisions and to make it difficult for the Welsh language to survive, a more suitable structure could hardly have been devised. Enough Welsh is broadcast to ensure that an intolerant minority who expect to find English on all channels all the time remain infuriated, while the Welsh itself is inconspicuous enough to make it inevitable that the predominant cultural influence in every home has over the past ten years been English."²⁵

"English is rapidly replacing Welsh as the children's first language in some districts, and the standard of spoken Welsh is becoming poorer. The influence of the 'television set in the corner' is mentioned in almost every report. As the leader of one group put it 'It is the television, and not the family, that speaks today'."²⁶

"What we are saying is that television and radio are now succeeding in doing what four centuries of English oppression failed to do, that is,

to kill the Welsh language and culture. A few hours of Welsh programmes are quite powerless in the midst of the English flood. This is no arbitrary opinion, but a fact to which all Welsh parents will bear witness." ²⁷

A writer who held extremely strong views on the whole issue of broadcasting in Wales was the late Alwyn D. Rees. In a particularly illuminating and frank essay on the subject in Meic Stephens' "The Welsh Language Today", Rees (1973) invites the reader to imagine that he was

"the dictator of a sizeable country which he was determined to weld into a more unified and centralised state, with all its regional differences ironed out and all its inhabitants participating as never before in one uniform culture. Secondly, imagine that a much smaller country has long been incorporated within that state but never completely absorbed, and that its stubborn sense of identity is grounded in a distinct language which after centuries of acculturation, is still spoken by a quarter or a fifth of the inhabitants. Thirdly, imagine that radio and television are developed as media of mass communication while you are in power. How would you use these new inventions to further your policy of unity and uniformity?" ²⁸

Rees then goes on to catalogue the steps he would take if faced with this 'imaginary' situation. To begin with, he would ordain that broadcasting should be the monopoly of a central authority, responsible to the government. Most of the programmes would be produced in his capital city and broadcast uniformly throughout the country. But to create the illusion of decentralisation he would have the whole country divided into broadcasting regions, and enable each of them to broadcast local news and to

produce an occasional documentary or play with a regional flavour. In planning these regions, he would entirely ignore the existence of the little country; he would make it part of a much wider region embracing a large and populous province of the larger country, an artificial 'region' within which the native language of the little country would be spoken by such a tiny minority that it could not, in all fairness, be inflicted upon all and sundry. He would not, however, exclude it as a matter of principle, and as proof of goodwill he would permit it to be used for occasional programmes at inconvenient times. If the speakers of the native language complained about this treatment, it would be foolish to argue with them about their 'national rights'. On the contrary, it would be conceded that they deserved a much better deal, but that this was unfortunately impossible for the time being owing to 'insuperable technical difficulties'. During these years the central broadcasting authority would bombard the inhabitants of the little country with daily programmes in the official language until they were thoroughly conditioned to accept the process as a part of the natural order. Some nationalist agitation would doubtless continue, and there would eventually be no harm in placating it by making the little country a nominal broadcasting region with its own 'national' advisory broadcasting council. The same procedure would be adopted for the introduction of television. By tying the little country in with a portion of the big one, it would again make the use of its indigenous language well nigh impossible during the formative years. That would be the time when the producers and the performers of the central authority would be perfecting their craft, and it would be essential to give them a good start. When a high degree of sophistication had been reached in the official language, the formation of a separate

service for the little country would constitute no real danger. Its local efforts would appear amateurish in comparison with those of the experienced professionals and, starved of adequate financial resources, it would never catch up. Should the little country demand commercial television, any ambitions that it may have of establishing an independent company of its own would be thwarted. The thing to do would be to divide the little country into two and link its more viable half with the adjoining portion of the main country as before. License to operate in this disparate area would then be given to a company drawing its capital from the main country, but it would be seen to that one or two prominent citizens from the little country were included among the directors.

Rees concludes his account of the steps he would take to absorb the little country into the big one thus :-

"Anyone with

the slightest acquaintance with Wales will recognise in this fable the skeleton of our broadcasting history, from the incorporation of Wales in the 'West Region' of the B.B.C. in the nineteen twenties to the establishment of Harlech Television to cover Wales and much of South-West England in the nineteen sixties. But I shall doubtless be accused of distorting history by making it the product of an intelligent, premeditated will. In the days of absolute monarchs it may have been fair to portray history as a chronicle of deeds. Nowadays, history tends to be presented as a sequence not of deeds, but events, for which no one is personally responsible." ²⁹

Since the early nineteen seventies, there has been growing speculation amongst those who fear the effects of television on the Welsh language over the use that will be made of the

fourth television channel in Wales when it is established. The Crawford Report on the future of broadcasting in Wales, in 1974, recommended that the fourth channel should be used for all Welsh language transmissions, and that the other three channels should then be used exclusively for English language transmissions. There was general agreement amongst Welsh speakers that this would be greatly beneficial for the future of the language, although it must be said that there were some Welshmen who opposed the plan. They argued that placing all the Welsh language programmes on one channel would probably result in fewer people watching them; a Welsh language channel would simply prove more convenient for those people who wanted nothing to do with Welsh programmes, and many homes who watched a few Welsh programmes on B.B.C.Wales or H.T.V. would then be spared the necessity. However, it was confidently expected in Wales that the fourth channel would be set aside for Welsh language programmes. The General Election of May 1979 provided a twist to the development of Welsh television, for after being elected, the Conservative Government, in contradiction to its election manifesto, announced early in 1980 that it would not, after all, be giving the fourth channel to Welsh language programmes in Wales. It would, instead, ensure that more transmission time was given to Welsh programmes, but on the existing B.B.C. Wales and H.T.V. channels. This announcement, in view of the expectations and strong feelings about Welsh language television, appeared to anger those Welsh people who genuinely believed that television was largely responsible for the decline in the number of Welsh speakers. Indeed, the future of the fourth channel became a major issue in Wales, particularly when the President of Plaid Cymru, Dr.Gwynfor Evans, announced that he would begin fasting on October 6th 1980 unless the Government kept its promise, and

allocated the fourth channel to Welsh programmes. The strength of feeling that existed within Wales over the Government's change of heart is illustrated by the following open letter sent to the Home Secretary, the Right Honourable William Whitelaw, in June 1980, signed by 78 prominent Welsh men and women, including the Archbishop of Wales and 13 Members of Parliament.

"Dear Sir,

All persons who have signed this letter hold responsible positions in the religious, educational, and public life of Wales. We are deeply concerned about the Government's policy with respect to the future pattern of television in Wales, and we wish to make the Government aware of our concern.

One of the most important developments in Welsh public life since 1973 was the reaching of a consensus of opinion amongst us in favour of placing all Welsh language programmes on the fourth channel. Rarely has the Welsh nation been so united in a decision. This wish was expressed at the influential conference held by the Lord Mayor of Cardiff, and has been endorsed by a series of official reports. Indeed, this policy was adopted by the Conservative Party in its Election Manifesto last year, and, more important, in the Queen's Speech in June 1979. And the policy was not confined to one political party. The last Labour Government was in favour of it, as were other parties. In fact, it was a policy which bridged many of the main divisions in Wales. It appeared possible to settle a matter which had been causing substantial aggravation. It was a great disappointment to us that the Government chose to refuse the policy. Serious promises were broken in a pitiful manner, and that

obviously was a means of fostering bitterness.

We are concerned about the future of Welsh culture. We support the policy that all Welsh programmes should be transmitted on the fourth channel, since we feel that our culture could best be served in that way. Welsh speakers should be able to watch Welsh language programmes at peak viewing times, and not be forced to accept the inevitability of Welsh programmes being relegated to unsociable times. This means that using a single channel is the only means of forming a uniform pattern, full of Welsh language programmes. And not only that. The Government should ensure enough finance to support such a service. Television is an extremely strong communication medium, and care must be taken to ensure that it is used to strengthen and to enrich the Welsh culture. And all this is a matter of great urgency. The Government should be anxious to ensure that the wishes of the majority of the people of Wales are not ignored. Otherwise, Welsh speakers will be treated as second class citizens, whose principles are of no consequence, even though they are strongly supported by their fellow Welshmen who do not speak Welsh.

We sincerely hope, even at this the eleventh hour, that you will revise your policy on television in Wales, and will return to your original policy as submitted to the electorate before the last General Election.

We are,

Yours sincerely. 30
..... "

Throughout the Summer months of 1980, the Welsh language press tended to be dominated by the issue of the fourth channel.

However, on September 17th 1980, the Conservative Government did reverse its decision on the future of the fourth channel in Wales. The Secretary of State for Wales, the Right Honourable Nicholas Edwards, announced in Cardiff that the Government would, after all, allocate the fourth television channel to Welsh language programmes in Wales. The new channel, however, would not be in operation until October 1982, and it was envisaged that a total of about 22 hours of Welsh language programmes would be initially transmitted.

The Government's change of heart appeared to be acclaimed in Wales, and indeed in the rest of Britain, as a personal triumph for Dr. Gwynfor Evans. Lady Olga Maitland, in her Sunday Express 'Diary' for Sunday, October 5th 1980 wrote :-

"Home Secretary

William Whitelaw is in for a surprise when he returns to the Commons after the long Summer recess. Following his Television concessions to Welsh Nationalists, a graffiti artist has scrawled in green paint on the embankment opposite the House, and in letters about 3 feet high, which can be clearly seen from the Commons' bar : - Gwynfor 1 - Whitelaw 0."

Before concluding this chapter, we must look briefly at the linguistic situation of the television service offered to the bilinguals of other Celtic communities.

Situation in other Celtic Communities.

We have seen that the use of the Welsh language in Welsh television is very limited in terms of the time allocated to Welsh

language programmes. In other Celtic communities, however, the linguistic situation is much worse, with the native language being given very little transmission time on television.

In Scotland, out of the total of 200 hours weekly broadcast by the three television networks, an occasional short programme of music, current affairs or drama is transmitted in the Gaelic language. There is also an occasional quasi-Gaelic musical show 'S e ur Beatha' and a monthly discussion programme, 'Bonn Comhraidh', for viewers in the Highlands only.

In Eire, Telefis Eireann, whose two channels begin transmitting at 5.30 p.m. and finish around midnight, devotes 2.2% of its time to Irish language programmes. In Northern Ireland, Irish is never used as a spoken language on programmes of the B.B.C.(Northern Ireland) or Ulster Television. And in Brittany, the Breton language is very poorly served on television, being heard for only thirteen minutes weekly.^{3/}

Conclusion.

Whatever effect the new fourth television channel may have in the future on the television viewing habits of bilingual children and young people, the fact remains that during the three year period of the present investigation there was very little linguistic balance between the English and Welsh languages on Welsh television. It is, of course, extremely difficult to actually prove that television has an effect, detrimental or otherwise, on either the Welsh language or the English language, for as we have seen in the present chapter, the effect which television has may be accumulative over a period of time. However, it is suspected that the mass media may be responsible, along with other factors, for shifting the linguistic balance from Welsh to English for

bilingual children aged 10 to 13 years. In this work, we will attempt to discover whether or not the children's attainment in English increases at a faster rate than does their attainment in Welsh, and also whether or not there is a change in the children's attitude towards both languages between the ages of 10 and 13 years. It is generally agreed that television is the most powerful of the mass media, and therefore if it is found that there is a shifting of the children's linguistic balance, it will be very difficult indeed to absolve television of some contribution towards the shift.

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CHAPTER 4

BILINGUALISM AND RADIO, FILMS, RECORDS AND CASSETTES.

Introduction.

Most research work conducted into the effects of the mass media on children during the past quarter century has been almost exclusively centred on the effects of television. Ever since Himmelweit et al's (1958) research reported in 'Television and the Child', the influences of other media have seemingly been largely neglected by researchers, with the possible exception of printed matter. Before the advent of television, the press and radio were considered to be the mass media with the strongest influences, but by today, radio seems to be almost totally disregarded as an influential force. Similarly, the influence of the press is regarded as relatively less influential because of the possibly false assumption that people spend so much time watching television that they do not bother to read. In the present study into the effects of the mass media on bilingualism, however, it is of vital importance that all the mass media are considered, for it is believed that each mass medium could affect bilingualism to some degree, and that the total effect of the mass media on bilingualism is the accumulation of all the effects of the individual media.

Film.

The first medium we shall look at in this chapter is that of film. During the past twenty five years Britain, and indeed the Western World, has seen a dramatic decrease in the number of operating cinemas and in the number of circulating films. The area under consideration in this survey is no different, for while the

only sizeable town, Pwllheli, at one time boasted two cinemas, one of those has been closed for several years so that the whole area now has but one cinema. The present cinema offers two different programmes each week, and there are cinemas at Caernarfon and Porthmadog, which are 20 miles and 12 miles respectively from Pwllheli. These two cinemas also offer two separate programmes each week, and it is therefore possible for a child from our sample to visit a cinema, to see a different film, six times each week. All three cinemas, it must be added, screen only English language films, there being two main reasons for this. In the first place, there are very few Welsh language films available, and secondly those that are made are not used on the cinema circuits since these are controlled from English cities such as Manchester or Liverpool. In short, the Welsh language has never gained a foothold in the film world, and even in the heyday of the film industry, no effort was made at producing Welsh language films on a commercial basis. The heroes and the villains of the silver screen have always been English-speaking, and it may have been unconsciously accepted by Welsh audiences that film stars simply did not speak Welsh. In fact, it might be true to say that when a rare attempt is made at producing a Welsh film, it is such a novel experience for audiences to watch the film that they may tend to be the more critical of it, and sometimes openly biased against it. They may even regard a Welsh language film as being ridiculous, and this attitude, unfortunately, may be also evident in Welsh television, for while the Welsh are generally willing to accept English and American programmes, Welsh language programmes can be viewed with suspicion and criticism. To swear, for example, in a Welsh television programme, may be a cardinal sin; Alf Garnet or Benny Hill, on the other hand, may swear as much as they like, for that may be

classified as entertainment.

It is not expected that we shall find the children in our sample to be heavy cinema goers, either at ten years or at thirteen years old. It does not follow, however, that we may dismiss the cinema as being a medium of no influence on bilingualism. During the past ten years there has been a ploy by the film-makers to combat the decline in the industry - that of sensationalism. Instead of producing a large number of run-of-the-mill movies on comparatively low budgets the film studios appear to have adopted the ploy of producing fewer films, costing large amounts of money, and spending more money on promoting those films. The result is that people, including children, may feel pressed to see these films, for fear of missing out. Most children of the age considered in this survey might feel compelled to see the 'Star Wars' films and the film 'Jaws' for example, while their parents probably feel similarly about such films as 'The Exorcist', 'Emmanuel' and 'Chariots of Fire'. In other words, there may have been a subtle, but important change of direction in the cinema during the past decade, and one which most certainly must be considered in the study of bilingualism. Roy Pickard writes in the Introduction of 'The Companion to the Movies' (1972),²

"Today,

producers are fumbling to put their fingers on just what it is a young 'under 30' film-going public wants to see. Apart from Westerns (the studios' one enduring safeguard against their investments) and the occasional musical or horror film, most present-day movies refuse to be categorised, mainly because a more sophisticated and intelligent audience demands something different and original each time it goes to the movies".

There is no degree of bilingualism whatsoever, then, in the cinemas at the disposal of the young people under consideration in our survey. To whatever degree the cinema plays a part in each individual's life, it is a totally English or English/American cultural influence, and one which, it is suspected, may grow in strength as the child grows older. It will certainly be revealing to discover whether there is a trend for the children to visit a cinema more often at 13 years old than at 10 years old.

Radio.

Turning our attention now to another medium, that of radio, it is suggested that there may be a tendency to underestimate its strength and influence. Nowadays, radio is often regarded as a substitute for television, a medium which is convenient whenever television is not. However, it is suspected that children between 10 and 13 years old may be listening to the radio in a more casual way than they would watch television; at breakfast time, during other meals, and possibly while doing their homework. In the light of our present enquiry into bilingualism amongst young people, it is hypothesised that radio may be considered as an influential medium, and again it is suspected that its influence grows as the child grows older.

Historically, the British Broadcasting Corporation has paid little attention to bilingualism in Welsh radio. Ever since the incorporation of Wales in the 'West Region' of the B.B.C. in the 1920's, progress in increasing the amount of Welsh language broadcasting appears to have been pedestrian - although there has been a substantial increase in the past three years, with the advent of Radio Cymru. The present situation in Wales is that listeners have a choice of six B.B.C. stations - Radio 1, 2, 3 and 4, Radio Wales and Radio Cymru. Radio Wales carries English

language programmes for Welsh listeners, and differs very little in style or content from Radio 1,2,3 or 4, or from any other B.B.C. Regional Station. Indeed, anyone listening to Radio Wales might suspect that they were tuned in to an English Regional frequency, such is the approach generated from Cardiff. Some announcers have great difficulty in pronouncing Welsh words correctly, and give no hint of a Welsh accent. The channel offers a large volume of Anglo-American music, compared with a scarcity of Welsh music. Little effort seems to be made to bridge the culture gap between Welsh-speakers and non Welsh-speakers; producers of Radio Wales programmes appear to ignore the existence of the Welsh language.

The young bilingual radio listeners, therefore, are confronted with a choice of six B.B.C. channels - always providing that they are equipped with a V.H.F. radio receiver, for all Welsh language broadcasts are V.H.F. broadcasts. Should they be listening to the radio while travelling by car, they are very unlikely to be able to receive Radio Cymru, since few car radios receive V.H.F. broadcasts; they are therefore totally confined to English language programmes when in the car. The imbalance between the English language and the Welsh language becomes even more pronounced when it is remembered that in addition to the B.B.C. channels, Radio Luxembourg, Manx Radio and Radio Eirean are also freely available to Welsh listeners.

As will be explained in Chapter 5, the pupils involved in the present investigation were asked, in questionnaires administered both in 1978 and in 1981, to indicate the use they made of radio. They were also asked to name their favourite radio programmes. To gain full meaning from their answers to both questions, we shall look at the radio programmes available during the same two

weeks as were considered for television viewing, that is November 19th - 25th 1978, and November 15th - 21st 1981.

Figure 1 shows the breakdown of the radio programmes offered by the B.B.C. to Welsh listeners during the week November 19th to the 25th 1978.

Fig.1 - Breakdown of B.B.C. radio programmes available to Welsh listeners during the week November 19th - 25th 1978.

Sunday, November 19th.

Radio 1	Radio 2	Radio 3	Radio Wales	Radio Cymru
6 a.m. to 2.2 a.m.	6 a.m. to 2.2 a.m.	7.55 a.m. to 11.55 p.m.	7.15 a.m. to 12.20 a.m.	English 8h 58m Welsh 8h 10m
20h 2m	20h 2m	16h	17h 5m	

Total English language broadcasts - 82 hours 7 minutes

Total Welsh language broadcasts - 8 hours 10 minutes

Monday, November 20th.

Radio 1	Radio 2	Radio 3	Radio Wales	Radio Cymru
5 a.m. to 2.2 a.m.	5 a.m. to 2.2 a.m.	6.55 a.m. to 11.55 p.m.	6 a.m. to 12.20 a.m.	English 11h 5m Welsh 7h 15m
21h 2m	21h 2m	17h	18h 20m	

Total English language broadcasts - 88 hours 29 minutes

Total Welsh language broadcasts - 7 hours 15 minutes

Tuesday, November 21st.

Radio 1	Radio 2	Radio 3	Radio Wales	Radio Cymru
5 a.m. to 2.2 a.m.	5 a.m. to 2.2 a.m.	6.55 a.m. to 11.55 p.m.	6 a.m. to 12.20 a.m.	English 11h 30m Welsh 6h 50m
21h 2m	21h 2m	17h	18h 20m	

Total English language broadcasts - 88 hours 54 minutes

Total Welsh language broadcasts - 6 hours 50 minutes

Wednesday, November 22nd.

Radio 1	Radio 2	Radio 3	Radio Wales	Radio Cymru
5 a.m. to 12 a.m.	5 a.m. to 5 a.m.	6.55 a.m. to 11.55 p.m.	6 a.m. to 12.15 a.m.	English 12h 50m Welsh 5h 25m
19h	24h	17h	18h 15m	

Total English language broadcasts - 91 hours 5 minutes

Total Welsh language broadcasts - 5 hours 25 minutes

Thursday, November 23rd.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
5 a.m. to 5 a.m.	5 a.m. to 5 a.m.	6.55 a.m. to 11.55 p.m.	6 a.m. to 12.15 a.m.	6.30 a.m. to 5 a.m.	Eng. 16h 25m Wel. 6h 5m
24h	24h	17h	18h 15m	22h 30m	

Total English language broadcasts - 122 hours 10 mins.

Total Welsh language broadcasts - 6 hours 5 mins.

Friday, November 24th.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
5 a.m. to 5 a.m.	5 a.m. to 5 a.m.	6.55 a.m. to 11.55 p.m.	6 a.m. to 12.15 a.m.	5 a.m. to 5 a.m.	Eng. 18h 5m Wel. 5h 55m
24h	24h	17h	18h 15m	24h	

Total English language broadcasts - 125 hours 20 mins.

Total Welsh language broadcasts - 5 hours 55 mins.

Saturday, November 25th.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
5 a.m. to 5 a.m.	5 a.m. to 5 a.m.	6.55 a.m. to 11.55 p.m.	6 a.m. to 12.15 a.m.	5 a.m. to 5 a.m.	Eng. 19h 10m Wel. 4h 50m
24h	24 h	17 h	18h 15m	24h	

Total English language broadcasts - 126 hours 25 mins.

Total Welsh language broadcasts - 4 hours 50 mins.

TOTALS FOR THE WEEK

Total English language broadcasts - 724 hours 30 mins.

Total Welsh language broadcasts - 44 hours 30 mins.

Ratio English broadcasts : Welsh broadcasts = 16.28 : 1

The week under review was somewhat special, because on Thursday, November 23rd, the B.B.C. altered the frequencies of its stations. As a result, there were two major changes. Firstly, Radio 4 U.K. was introduced, and could be received in all parts of the British Isles. And secondly, Radio 1, Radio 2, Radio Wales and Radio Cymru began broadcasting for 24 hours each day. What these two changes actually meant was that the number of hours of English language broadcasts by the B.B.C. each day increased dramatically over night from around 88 hours to 125 hours - an increase of 42%.

It should also be pointed out that Radio Cymru is not used exclusively for Welsh language broadcasts. In fact, as can be seen from Figure 1, there were more English language broadcasts than Welsh language broadcasts on Radio Cymru each day.

During the first sample week, then, the B.B.C. offered Welsh listeners a total of 724 hours and 30 minutes of English language broadcasts, and a total of 44 hours and 30 minutes of Welsh language broadcasts. In other words, of the B.B.C.'s total broadcasting time in Wales for the first sample week, 94.21% were English language programmes, and 5.79% were Welsh language programmes. In the weeks following our first sample week, the figures were worse from the Welsh language's viewpoint, for the full effect of the extra English language programmes was being felt. The corresponding figures for the week immediately following our sample week were 95.11% and 4.89%.

Let us now look at the second sample week, three years

later. The breakdown of the radio programmes offered to Welsh listeners for the week November 15th to the 21st 1981 is shown in Figure 2.

Fig.2 - Showing the total transmission times of the various B.B.C. radio channels during the week November 15th - 21st 1982.

Sunday, November 15th.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
8 a.m. to 5 a.m.	5 a.m. to 5 a.m.	7.55 a.m. to 11.15 p.m.	6.30 a.m. to 12.05 a.m.	5 a.m. to 5 a.m.	Eng. 7h 43m Wel. 10h 15m
21h	24h	15h 20m	17h 35m	24h (Eng 20h 15m Wel 3h 45m)	

Total English language broadcasts - 105 hours 53 minutes

Total Welsh language broadcasts - 14 hours

Monday, November 16th.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
5 a.m. to 5 a.m.	5 a.m. to 5 a.m.	6.55 a.m. to 11.15 p.m.	6 a.m. to 12.15 a.m.	5 a.m. to 5 a.m.	Eng 10h 18m Wel 8h 5m
24h	24h	16h 20m	18h 15m	24h	

Total English language broadcasts - 116 hours 53 minutes

Total Welsh language broadcasts - 8 hours 5 minutes

Tuesday, November 17th.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
5 a.m. to 5 a.m.	5 a.m. to 5 a.m.	6.55 a.m. to 11.15 p.m.	6 a.m. to 12.15 a.m.	5 a.m. to 5 a.m.	Eng 9h 28m Wel 8h 45m
24h	24h	16h 20m	18h 15m	24h	

Total English language broadcasts - 116 hours 3 minutes

Total Welsh language broadcasts - 8 hours 45 minutes

Wednesday, November 18th.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
5 a.m.	5 a.m.	6.55 a.m.	6 a.m.	5 a.m.	Eng 8h 33m
to	to	to	to	to	
5 a.m.	5 a.m.	11.15 p.m.	12.15 a.m.	5 a.m.	Wel 9h 30m
24h	24h	16h 20m	18h 15m	24h	
Total English language broadcasts				-	115 hours 8 minutes
Total Welsh language broadcasts				-	9 hours 30 minutes

Thursday, November 19th.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
5 a.m.	5 a.m.	6.55 a.m.	6 a.m.	5 a.m.	Eng 7h 38m
to	to	to	to	to	
5 a.m.	5 a.m.	11.15 p.m.	12.15 a.m.	5 a.m.	Wel 10h 20m
24h	24h	16h 20m	18h 15m	24h	
				(Eng 22h	
				Wel 2h)	
Total English language broadcasts				-	112 hours 13 minutes
Total Welsh language broadcasts				-	12 hours 20 minutes

Friday, November 20th.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
5 a.m.	5 a.m.	6.55a.m.	6 a.m.	5 a.m.	Eng 9h 43m
to	to	to	to	to	
5 a.m.	5 a.m.	11.15 p.m.	12.15 a.m.	5 a.m.	Wel 8h 15m
24h	24h	16h 20m	18h 15m	24h	
Total English language broadcasts				-	116 hours 18 minutes
Total Welsh language broadcasts				-	8 hours 15 minutes

Saturday, November 21st.

Radio 1	Radio 2	Radio 3	Radio 4 U.K.	Radio Wales	Radio Cymru
5 a.m.	5 a.m.	7.55 a.m.	6.30 a.m.	5 a.m.	Eng 8h 23m
to	to	to	to	to	
5 a.m.	5 a.m.	11.15 p.m.	12.15 a.m.	5 a.m.	Wel 9h 30m
24h	24h	15h 20m	17h 45m	24h	
Total English language broadcasts				-	113 hours 28 minutes
Total Welsh language broadcasts				-	9 hours 30 minutes

TOTALS FOR THE WEEK

Total English language broadcasts	-	795 hours 56 minutes
Total Welsh language broadcasts	-	70 hours 25 minutes
Ratio English broadcasts : Welsh broadcasts = 11.30 : 1		

During the second sample week, then, in November 1981, the B.B.C. offered Welsh listeners a diet of 795 hours and 56 minutes of English language programmes, and 70 hours 25 minutes of Welsh language programmes. In percentage terms, 91.87% were English language programmes, and 8.13% were Welsh language programmes. It has to be pointed out, however, that while the total time of English language programmes had increased over 70 hours between the two sample weeks, the total time of Welsh language programmes had also increased by 26 hours.

In spite of the increase in Welsh language broadcasting time, it seems obvious, from Figures 1 and 2, that the Welsh language is overwhelmed by the English language on Welsh radio.

Alwyn D.Rees complained of this state of affairs, writing in 1973³:-

"According to the 1961 Census, there was one Welsh-speaker in Wales for every three non Welsh-speakers. By now the proportion may have dropped to one in four or slightly less. But on radio there was only one hour of Welsh for every thirty-one in English and on television, one for every fifteen.

In short, the proportion of Welsh broadcasting in Wales bears no relation whatsoever to the proportion of Welsh speakers in the population. The Welsh language is simply drowned in a sea of English."

Of all the mass media, radio may well be the most casually used, particularly by children and young people. Nevertheless, radio is an essential part of society, and is an important medium of communication. In a bilingual society, it would surely be reasonable to expect some sort of linguistic balance in radio; unfortunately, that is obviously not so in Wales, for as we have seen a most unhealthy state of affairs exists.

Records and Cassettes.

We now move on to a medium which in many ways is closely related to radio, that of records and cassettes. This medium, of all the mass media, tends to be the one most definitely directed at children and young people. It is also a very commercialised medium, for the companies producing records and cassettes are totally dependent on the public buying their products. It may be very much the vogue for young people to be knowledgeable about the world of recording; they generally wish to keep abreast of the 'charts'. This medium is often important to young people, for not only may it provide them with a great deal of enjoyment, it might also provide them with an area they regard as being their own. It is a medium they can perhaps enjoy with little interference from parents and teachers; it may be a sphere in which they themselves are the experts, and consequently they do not have to accept advice from their elders.

The bilingual situation in this medium is somewhat similar to that which exists in the case of books. While the volume of English language records available overwhelms the volume of Welsh

records available, there has been most definitely an increase in the production of Welsh records for young people in recent years. Until the middle 1960's, the majority of Welsh productions were records of Male Voice Choirs, traditional soloists, and hymn singing festivals. In other words, there were few records directed specifically at young Welsh speakers. But in 1969 a new record company was established at Penygroes, near Caernarfon, and it is mainly due to the efforts of this company, 'Sain', that more and more Welsh records have become available to suit the tastes of young Welsh-speaking people. Coupled with the growth of Sain, we have seen in Wales over the past decade the emergence of numerous pop and vocal groups. Hogiau Llandegai, Hogiau'r Wyddfa, Edward H, Tebot Piws, Crysbas, are names known to most teenagers, and it is certainly true to say that the Welsh language has become an accepted medium by young bilinguals in the pop world. To illustrate the growth of the Welsh record industry, Figure 3 shows the number of records sold by Sain each year since the company was formed.

Fig.3 - Showing the sales of records and cassettes by the Sain Record Company each year.⁴

Year	Singles & E.P's	L.P's	Cassettes	Private
1969-70	15,497	-	-	-
1971	24,704	-	-	-
1972	19,307	2,263	-	-
1973	19,290	4,957	714	-
1974	25,744	18,312	3,895	-
1975	14,350	25,429	3,591	-
1976	5,862	44,470	8,884	628
1977	5,245	54,339	13,349	394
1978	4,729	46,562	17,956	17,156
1979	6,287	57,195	30,485	-
Figures not available for 1980 and 1981.				

In spite of the steady increase in the sales of records and cassettes by the Sain Company, the picture is not quite as rosy as it might seem, especially for young people. The Managing Director of Sain estimates that the total sales of records and cassettes by his company is divided as follows :- 12 $\frac{1}{2}$ % Male Voice Choirs; 12 $\frac{1}{2}$ % aimed specifically at Tourists to Wales; 50% aimed at the middle aged Welsh population, and 25% aimed at young Welsh people.⁵

Sain's success in the production of Welsh records has also had the effect of prompting other companies to produce more Welsh records. Companies like Delsey, Cambria Records, and Dryw, which also produce English records, have increased their Welsh language record output, and in 1981 another new company for the production of Welsh records was established in Cardiff, 'Cwmni 1,2,3'.

Another interesting development by Sain in 1980 was their introduction of a record selling campaign in the schools of Wales. This is a competition between schools for the highest number of Welsh records sold by pupils, with the winning school receiving a substantial cash prize from the company, in addition to a cash discount on the records sold. This campaign, in fact, is a replica of the Welsh Books Council's highly successful annual Welsh Book Selling Campaign amongst schools and other organisations.

The Welsh record industry, therefore, is most certainly growing, and is making a comendable effort to satisfy the needs of bilingual children and young people. Whether or not the stage will be reached when there exists a linguistic balance between the English language and the Welsh language in the Welsh pop scene is doubtful, for there is so much available to young people in the English language. Not only is the young bilingual confronted with British produced English language records, but also with the flood

of American releases. And as we have already suggested, these are constantly available on the radio.

We examined in an earlier chapter the possible link between the medium of records and cassettes and the magazine reading habits of young people. Whitehead et al (1977)⁶ showed that the magazines most popular with teenage girls were those which included a considerable amount of information about pop stars. According to Whitehead et al, the most popular magazines by teenage girls were *Bunty*, *Jackie* and *Loving*, all of which lay particular emphasis on obtaining an intimate knowledge of the pop stars. They often carry a centre page photograph of a particular pop star or of a pop group, with an invitation for the reader to pull it out of the magazine, and to hang it on the bedroom wall. Writing in 1972, J.J.Taylor says that *Jackie's* popularity

"makes it a cultural
influence with adolescent girls which cannot be ignored".⁷

And

Whitehead et al, justifying Taylor's claim, state that :-

"The
hard facts are that of the 40 pages (160 columns) the equivalent of 19 are pictures and a further 10 $\frac{1}{2}$ picture strip stories; legitimate advertisements (the distinction between editorial and advertising matter is blurred) occupy 14 $\frac{1}{2}$ pages, and pictures of pop-stars (with or without captions and forms of banal address : 'Hi, Dave') 8 $\frac{1}{2}$ pages."⁸

It is extremely difficult, if not impossible, for the Welsh press to compete with magazines such as *Jackie*. However, an effort has been made during the past three years to promote Welsh pop stars with the publication of a monthly pop magazine entitled '*Sgrech*'. This magazine is produced on a very low budget, and its

circulation figures are also low.

It would seem, therefore, that there is very little linguistic balance between the Welsh language and the English language in the very important medium of records and cassettes. In spite of brave efforts by a few companies to produce and promote Welsh records, the bilingual youngster is confronted with a relative flood of English language material. The use the members of our sample make of the available material in both languages is one focus of the research of this thesis.

Situation in Other Celtic Communities.

In other bilingual Celtic communities, the use of the native language in films, radio, records and cassettes is even more limited than is the use of the Welsh language in these media in Wales. None of the languages is used in films, and their use in the world of records and cassettes is extremely limited, being confined to a very occasional recording of a folk singer or of a folk group. A little more use is made of some of the languages on radio. In Scotland, there are between 3 and 4 hours of Gaelic on V.H.F. radio every week, out of a total of 500 hours broadcast. In Eire Radio Eireann, broadcasting from 7.30 a.m. to midnight, transmits four short news periods daily and thirty to sixty minutes of material in Irish. The Breton language is poorly served on radio, being heard for under three hours a week. And in Northern Ireland, Irish is never used as a spoken language on B.B.C. programmes.⁹

Sport.

It is very probably true to say that many children and young people have a high regard for sport, either as participants or as spectators. Most boys, and some girls, have a favourite soccer team, and it would seem that more often than not these teams

are English. The football players are sometimes idolised by youngsters, and, trivial though the point might be, it is suspected that bilingual Welsh children may not, generally speaking, have Welsh players as their favourites. Has it been passed down from one generation to the next that the Welsh cannot possibly equal the English even at football? And in sport generally, it would not be surprising to discover that these children choose English men and women as favourite personalities, and not Welsh men and women.

It may well be argued that children's choice of favourite soccer teams and sport personalities has very little, if anything, to do with bilingualism. However, the very way in which children think about such matters, which to them are very important, may well give us a clue as to the stability of bilingualism at present in the Welsh-speaking areas of Wales.

Conclusion

In this chapter, we have considered English/Welsh bilingualism in the media of film, radio, records and cassettes. It was explained that the medium of film is completely dominated by the English language, with no Welsh films at all shown in the commercial cinemas. The medium of radio, however, has a measure of bilingualism with Welsh language broadcasts, amounting to about ten hours per day, being confined to Radio Cymru broadcasting on V.H.F. The choice of English language programmes, on the other hand, is far greater, there being five English language B.B.C. channels. The situation is similar in the medium of records and cassettes - far more English language than Welsh language material available to young bilinguals, although a commendable effort has been made during the past ten years to increase the output of Welsh language material.

Young people's attitude to sport was also considered

briefly; although children and young people's attitude to sport may be regarded as trivial, it was contended that this attitude may give an indication of their feelings towards bilingualism, such may be the importance they themselves attach to sport.

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CHAPTER 5

METHODOLOGY OF THE RESEARCH

A) INTRODUCTION

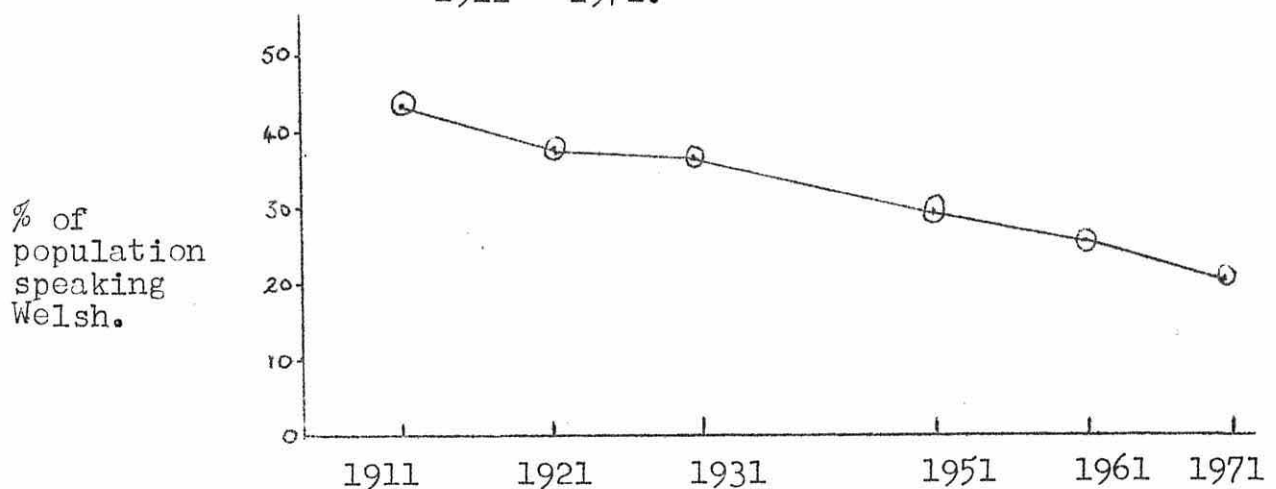
Anyone interested in bilingualism in Wales will undoubtedly be aware of the fact that the number of people who speak Welsh has been constantly falling. Figure 1, below, shows the percentage of the population who were Welsh-speaking according to the figures of each census conducted during the present century.

Fig.1 - Percentage of enumerated population (aged 3 years and over) speaking Welsh at successive censuses 1911 - 1971.

	1911	1921	1931	1951	1961	1971
% of population speaking Welsh and not English	8.5	6.3	4.0	1.7	1.0	1.3
% of population speaking both English and Welsh	35.0	30.8	32.8	27.2	25.0	19.6
Total % speaking Welsh	43.5	37.1	36.8	28.9	26.0	20.9

The decline in the percentage of the population who speak Welsh is better illustrated in Figure 2.

Fig.2 - Showing the decline in the percentage of the population who spoke Welsh from 1911 - 1971.



To really appreciate the problem of falling numbers of Welsh speakers, however, we must take a closer look at the number of Welsh-speakers within defined age groups. Figures 3, 4 and 5 give this information for the censuses of 1951, 1961 and 1971.

Fig.3 - Numbers of monolingual Welsh speakers, and of bilinguals according to the census figures of 1951.²

Age Group	Total Population	Population who speak Welsh only.	Population who are bilingual	% speaking Welsh.
3 - 4	95,022	5,670	8,065	14.45
5 - 9	191,358	7,973	30,461	20.08
10 - 14	177,866	2,843	36,724	22.25
15 - 24	337,636	3,082	73,917	22.81
25 - 44	755,945	6,087	201,159	27.42
45 - 64	633,041	7,627	216,485	35.40
65 and over	281,561	7,873	106,720	40.70

Fig.4 - Numbers of monolingual Welsh speakers, and of bilinguals according to the census figures of 1961.³

Age Group	Total Population	Population who speak Welsh only.	Population who are bilingual.	% speaking Welsh.
3 - 4	80,253	3,807	6,681	13.07
5 - 9	193,168	4,084	28,331	16.78
10 - 14	219,281	1,295	41,456	19.50
15 - 24	343,524	1,546	69,944	20.81
25 - 44	685,107	3,158	155,541	23.16
45 - 64	679,618	6,592	215,280	32.65
65 and over	317,760	5,741	112,546	37.23

Fig.5 - Numbers of monolingual Welsh speakers, and of bilinguals according to the census figures of 1971.⁴

Age Group	Total Population	Population who speak Welsh only	Population who are bilingual	% speaking Welsh
3 - 4	86,545	3,435	6,305	11.25
5 - 9	225,240	3,000	29,615	14.48
10 - 14	207,025	1,765	33,430	17.00
15 - 24	386,565	2,725	58,770	15.91
25 - 44	636,990	5,100	111,755	18.34
45 - 64	681,585	8,970	160,110	24.81
65 and over	379,010	7,725	109,710	30.98

Figures 3,4 and 5 clearly show that there was a decrease in the percentage of Welsh speakers for each age group from 1951 to 1961 and from 1961 to 1971. However, a closer look at these three Figures also shows that the percentage decrease is less marked for the younger age groups than it is for the older age groups. In fact it is worth showing these percentage decreases.

Fig.6 - Showing the percentage decrease of Welsh speakers in the various age groups between 1951 and 1961, and between 1961 and 1971.⁵

Age Group	%age decrease in Welsh speakers from 1951 to 1961	%age decrease in Welsh speakers from 1961 to 1971.
3 - 4	1.38	1.82
5 - 9	3.30	2.30
10 - 14	2.75	2.50
15 - 24	2.00	4.90
25 - 44	4.26	4.82
45 - 64	2.75	7.84
65 and over	3.47	6.25

The percentages of Figure 6 may be, in fact, quite encouraging for the future of the Welsh language and of bilingual-

ism in Wales. They show, at least, that the decrease in the number of people below the age of 15 years who spoke Welsh actually slowed down between 1961 and 1971. It can only be hoped that the figures of the 1981 census will confirm this important development.

It is interesting to note that the decrease in the percentage of Welsh speakers in the age group 15 to 24 years had not slowed down, but had in fact accelerated between 1961 and 1971 as compared to the preceeding ten years. It is vitally important, therefore, to examine closely the age group immediately preceeding the deterioration, namely the age group 10 to 14 years. It is the intention in this work to do precisely that; it is intended to study the bilingual development of a particular group of children between the ages of 10 and 13 years, and to study the relationship of this development with certain factors.

B) HYPOTHESES.

The present work is a study of the use made by bilingual children of the Pwllheli catchment area of some of the mass media, both in the Welsh language and in the English language. It is sometimes believed in Wales that the decline in the Welsh language can be attributed to a considerable degree to the effects of the mass media on young people. As we have already seen, there is very little linguistic balance between the Welsh language and the English language in most, if not all, the mass media, and it naturally follows that the bilingual children that we are investigating in this study are confronted with much more English language material than Welsh language material. It is the intention to examine in detail the use made by the children of the mass media in both languages, and in particular the use made of the mass media by children of differing linguistic backgrounds. The main hypothesis of this work may be stated thus :-

The use made of the mass media by bilingual children between the ages of 10 and 13 years varies according to the linguistic background of the child; children with a predominantly English background tend to make less use of the mass media in the Welsh language as they grow older, while pupils with a predominantly Welsh background tend to use the mass media in the Welsh language to a similar extent at 13 years old and at 10 years old, with their use of the English mass media increasing as they grow older.

As well as being interested in the use made by bilingual children of the mass media, we are also interested in their development in both languages between the ages of 10 and 13 years. As will be explained later, tests of attainment, of spelling, and of word reading, in both languages at 10 years and at 13 years were administered, to monitor the changes in the scores obtained in the tests for the three year period. The results of these tests were used to test the following subsidiary hypothesis :-
The performance of bilingual pupils in English language attainment, spelling and word reading tests improves to a greater degree than does their performance in corresponding Welsh language tests between the ages of 10 and 13 years.

In addition to the main hypothesis, and the subsidiary hypothesis, we shall put forward six hypotheses to be tested in the present work. As will be explained later, the test instruments were chosen specifically for the purpose of testing these hypotheses.

The first of our six hypotheses concerns the groups to which bilingual children belong at 10 years old and at 13 years old. We were particularly interested in discovering whether there was a shift from Welsh medium groups to bilingual or English medium groups in the period of three years. At 10 years old, it was suspected that the children would be confined to groups that existed

in their immediate environment; groups associated with Church, Chapel or Sunday School, the Urdd Branch of the local village, or other village groups. By the age of 13, they may well have developed new interests, and having moved on to secondary school were more likely to pursue those interests by joining clubs further afield than their own village, and clubs that were less dependent on the Welsh language, and more dependent on the English language. Our hypothesis in this respect may be stated as follows :-

Between 10 and 13 years of age, bilingual children decline in their use of Welsh medium formal groups.

To test this hypothesis, it was necessary to discover initially if there was any change in the attendance of the children at either a Welsh medium or an English medium Church or Chapel between the ages of 10 and 13 years. And secondly, it was necessary to discover to which clubs, movements or societies the children belonged both at 10 years and at 13 years old. As will be explained later, a questionnaire was used in our investigation, and the first three questions were included specifically to test this first hypothesis.

Our second additional hypothesis concerns the use made by bilingual children of newspapers, magazines and comics both in the Welsh language and in the English language. It was again suspected that bilingual children, as they grow older, make more and more use of the English press, and less use of the Welsh press. To pursue this enquiry, it was necessary to look at the children's reading habits of daily, Sunday, weekly or monthly newspapers, and also at their use of magazines and comics in both languages. It has been explained previously that there are no Welsh language daily or Sunday newspapers, but there is a limited amount of weekly and monthly newspapers, and of magazines and comics, in the Welsh language. There were ten questions on the children's use of this

medium in the questionnaire, and it was hoped that the answers received to these questions would enable us to test the hypothesis that :-

Between 10 and 13 years of age, bilingual children make less use of Welsh language newspapers, magazines and comics, but make more use of English language newspapers, magazines and comics.

Continuing our enquiry into the reading habits of bilingual children, the next medium to be considered was that of books. Again, it has been explained previously that there is very much more material available in English than in Welsh, particularly for the children of the age range that we are studying. It would not be surprising to discover that bilingual children read more English books as they grow older, and fewer Welsh books, and that is precisely our next hypothesis :-

Between 10 and 13 years of age, bilingual children read relatively more English books, and relatively less Welsh books.

To test this hypothesis, there were four questions in the questionnaire about book-reading habits. Also, the children were asked to write the titles of all the books they had read in a ten week period both at 10 years and at 13 years old. They were asked to indicate how often they read English books and Welsh books, how often they visited a Public Library, and to write the title of their favourite book of all the books they had ever read. If they were unable to recall the title of their favourite book, they were asked to indicate whether it was an English book or a Welsh book.

We saw in Chapter 3 that television is considered to be a very influential mass medium, particularly on children and young people. We were anxious to discover, in our investigations, the amounts of time spent by bilingual children watching English language television programmes, and watching Welsh language television programmes. As we have seen, there is very little

linguistic balance in Welsh television, with English language programmes far outnumbering Welsh programmes. Very few Welsh language programmes are transmitted during what is considered to be the peak viewing time, between 6 p.m. and 9 p.m., most Welsh programmes being shown before 6 p.m. When we also bear in mind that very few Welsh programmes indeed are transmitted on Saturdays or Sundays, we are naturally led to suspect that, as they grow older, and are allowed to watch television until a later time each evening, the bilingual children we are considering will watch more English language television, and less Welsh language television. The hypothesis to be tested is that :-

Between 10 and 13 years of age, bilingual children make more use of English language television, and less use of Welsh language television.

In order to test the above hypothesis, two questions were included in the questionnaire. The pupils were asked to write the names of their five favourite television programmes, in order of preference, and they were also asked to write the name of their favourite television personality or personalities. Also, they were asked to keep a diary for a whole week of the television programmes they watched, once in November 1978 and once in November 1981. With the aid of the questionnaire answers, and the diaries, it was possible to compare the amount of television watched in 1978 and in 1981, and also to discover any shift in the children's viewing habits from Welsh programmes to English programmes, or vice versa. The children's favourite television personalities were considered important, for it was felt that they would show us how the bilingual children regarded the medium both at 10 and 13 years old.

The other mass media to be considered were radio, the cinema, records and cassettes. We also looked at one other field which was

thought to be connected with the mass media, namely sport.

Radio tends to be overshadowed by television, and its influence upon young people may therefore be underestimated. More often than not, radio tends to be regarded as a substitute for television, to be turned to when television is not available. It is contended in this work, however, that radio and its influence can be important, especially in the first few teenage years. It is again suspected that bilingual children, as they grow older, make more use of radio, particularly of English language programmes. Three questions were included in the questionnaire about the children's use of radio; they were asked to indicate how often they listened to the radio, to name their favourite radio programmes, and to name their favourite radio personality.

There was one questionnaire question about the children's use of the cinema. It has previously been explained that there are no Welsh language films on the cinema circuits, and therefore any increase that may be found in the use of the cinema by the children could mean an increased use of the English language. Visits made by children to the cinema at 10 years old are possibly mostly made when accompanied by a parent, whereas a 13 year old child may be more likely to visit the cinema with a friend or as a member of a group. Consequently, it was expected that we would find the children making more use of the cinema at 13 years old than at 10 years old.

Another important medium for children of the age range we are studying is that of records and cassettes. At the age of 10 years, children are probably on the verge of becoming accustomed to, and interested in the pop world. By the age of 13, however, they have become at least interested in, if not deeply involved in, the pop world. There is an enormous chasm between the amounts of pop material available in the English language and in the Welsh language. In this very important medium, therefore, we fully

expected to find the children becoming more interested in English records and less interested in Welsh records between the ages of 10 and 13 years. Three questions were included in the questionnaire on this topic; the children were asked to indicate how often they played English and Welsh records or cassettes, and they were also asked to write the name or names of their favourite recording stars.

A topic that may be described as related to, or as being influenced by the mass media that we have just been discussing, is sport. It may even be argued that to think of bilingualism in the world of sport is particularly trivial; on the contrary, it is contended in this work that the views of bilingual children on the world of sport could be most illuminating. Who do bilingual children name as their favourite sports personalities? Do they name Welsh sports persons? Which soccer teams do bilingual children support? Do they show allegiance to Welsh soccer teams? And is the image that people have outside Wales of all Welsh children being brought up to avidly follow rugby a correct image? These topics were covered by the final three questions of the questionnaire.

The hypothesis to be tested concerning the children's use of radio, cinema, records or cassettes together with their views on sport may be stated as follows :-

Between 10 and 13 years of age, bilingual children increase their use of radio, cinema, records and cassettes in the English language, but there is no increase in their use of these media in the Welsh language. Also, there is a decline in their allegiance to Welsh persons in the world of sport.

Our final hypothesis concerns the attitude of bilingual children to both the English language and the Welsh language at 10 years old and at 13 years old. The lack of linguistic balance in the mass media in Wales has been outlined in Chapters 2,3 and 4, and the contention in this work is that the dominance of the English

language over the Welsh language in the mass media is so overwhelming that it is bound to influence, among other factors, bilingual children's attitude towards the two languages. Our hypothesis is that :-

Between 10 and 13 years of age, bilingual children's attitude towards the English language becomes more favourable, while their attitude towards the Welsh language becomes less favourable.

As well as the attitude tests which will be presently described, one other factor was considered to investigate any change in attitude. There were two versions of the questionnaires administered, one in each language, and the children were allowed to freely choose either version. The number of Welsh and English questionnaires chosen in both investigations were noted, and compared. Such choice could be regarded as an indirect and partial measure of attitude.

C) METHOD.

The present work is based on two investigations carried out on school children in the catchment area of Pwllheli Secondary School. It is a longitudinal study, involving the same children over a period of three years. The first investigation was carried out in November 1978, and involved all the pupils in Standard 3 of every primary school within the catchment area. The second investigation was conducted three years later, in November 1981, and involved the same children, who by then were in the second year of secondary school. The majority of the children had entered Ysgol Glanymor, Pwllheli, in September 1980, but a few had gone either to Ysgol Botwnnog, or to Ysgol Dyffryn Nantlle, two neighbouring secondary schools. For the second investigation, therefore, it was necessary to visit all three secondary schools.

As can be seen from Figure 7, the catchment area of Ysgol Glanymor covers a substantial part of the Llŷn Peninsula. Within

the catchment area, there are eleven feeder primary schools, and Figure 8 shows the numbers of pupils from each of these primary schools who participated in the first investigation.

Fig.7 - Showing the catchment area of Ysgol Glanymor, Pwllheli.

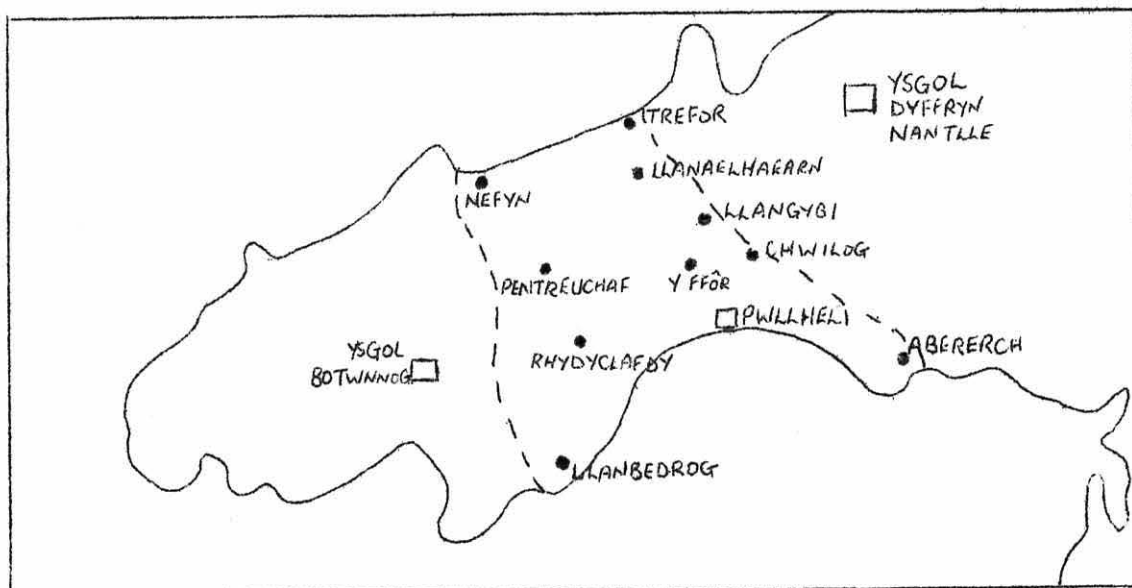


Fig.8 - Showing the number of pupils from each primary school in the catchment area of Pwllheli Secondary School who participated in the first investigation.

Llangybi	9
Llanaelhaearn	7
Trefor	8
Cymerau	84
Nefyn	31
Chwillog	6
Y Ffôr	11
Abererch	4
Pentreuchaf	14
Llanbedrog	14
Rhydyclafdy	4
	<hr/>
	192

Pwllheli is a market town, and is the principal town of Llŷn. The peninsula itself is often regarded as one of the remaining

strongholds of the Welsh language, to such an extent that until comparatively recently some of the inhabitants were monoglot Welsh speakers. In his essay entitled 'Welsh Rural Communities',⁶ written in 1960, T. Jones Hughes expresses surprise at having found, 25 years earlier, a number of monoglot Welsh speakers at Aberdaron. The Welsh language has certainly lost ground since then, even in Llŷn, but the majority of school children still retain Welsh as their first language. In 1977, The Department of Education and Science published a Report on "The Welsh Language in the Schools of Gwynedd".⁷ The following Figure, from that Report, shows the number of primary school children from the catchment area of each Secondary School who had Welsh as their first language.

Fig.9 - Showing the number of primary school children from the catchment area of each Secondary School in Gwynedd who had Welsh as their first language (1977).

Catchment Area	No. of children for whom Welsh is first language.	Total No. of children	%age children for whom Welsh is first lang.
Amlwch	861	1689	51
Porthaethwy	872	1773	49
Llangefni	1040	1376	76
Caergybi	692	2785	25
Llanrwst	358	984	36
Llandudno	107	1920	6
Aberconwy	207	1187	17
Dyffryn Ogwen	499	644	77
Brynrefail	762	955	80
Caernarfon	1225	1640	75
Dyffryn Nantlle	627	732	86
Bangor	746	2478	30
Botwnnog	423	523	81
Porthmadog	595	840	71

Pwllheli	890	1142	78
Y Gader	259	526	49
Y Moelwyn	581	753	77
Tywyn	228	640	36
Y Berwyn	281	360	78
Ardudwy	367	831	44

From Figure 9, it will be seen that 78% of the children attending primary schools in the Pwllheli catchment area in 1977 had Welsh as their first language. There were only three catchment areas in the whole of Gwynedd with a higher percentage of children having Welsh as their first language. In addition to the 78% of children who had Welsh as their first language, it is reasonable to assume that the other 22% were proficient in the Welsh language to varying degrees. It is also reasonable to assert that the pupils attending the primary schools within the catchment area of Ysgol Glanymor, Pwllheli are to varying degrees bilingual.

The present work is based on two investigations carried out on the school children of the Pwllheli catchment area, in November 1978 and in November 1981. Both investigations were similar in nature, and consisted of three parts; a questionnaire, the keeping of a diary of television programmes watched by the children each day for a week, and some attainment and attitude tests both in Welsh and in English.

In November 1978, all eleven primary schools in the catchment area were visited, and the tests administered to the pupils. Because of absenteeism, all the schools had to be visited at least twice, and in the case of one of the largest primary schools, five visits were required before all the tests had been completed. By November 1981, 160 of the original total of 192 pupils had entered Ysgol Glanymor, Pwllheli, 17 had gone to Ysgol Botwnnog, and 2 to Ysgol

Dyffryn Nantlle. Thirteen of the original sample of 192 had been lost for various reasons, as will be seen in Appendix A. All three secondary schools, therefore, had to be visited, and initially a whole day was spent at each administering the tests. One day was sufficient in the case of Ysgol Botwnnog and Ysgol Dyffryn Nantlle, but it took a total of four days to complete the testing at Ysgol Glanymor.

The questionnaire used in the first investigation consisted of questions concerning the language background of the child, followed by questions concerning the use made by the child of the various mass media both in Welsh and in English. The questionnaire for the second investigation was identical to that used in the first survey, except that the questions on language background were omitted. As will be presently explained, the answers received to the questions on language background in the first investigation were used to divide the total sample into groups having similar linguistic backgrounds using a technique known as Cluster Analysis. These questions were therefore not required in the second investigation. The questionnaires used may be seen in Appendices B,C,M and N.

The second instrument used in both investigations was a diary sheet on which the children recorded the television programmes they watched for a week in November 1978, and in November 1981. The procedure adopted for filling the diaries was that they were kept by the teachers at school, and each morning every child was given an opportunity to write the names of the programmes watched the previous evening. The children were also asked to write the names of the English books, and of the Welsh books they had read since the beginning of term on the diary sheets. The diary sheet used may be seen in Appendix L.

Each of the two investigations also contained eight tests of attainment and attitude; two word reading tests, two spelling tests, two attainment tests, and two attitude tests.

The first two tests were word recognition tests, a Welsh words test, and an English words test. These may be seen in Appendices F and G. From both these tests, each pupil's reading age could be calculated by counting the number of words read correctly, and then using the following formula :-

$$\text{Reading Age (Yrs)} = 5 + \frac{\text{Number of words correctly read}}{10}$$

The test was terminated for a pupil when he or she had failed to read correctly ten consecutive words.

After obtaining a reading age in both languages for each child, it was then possible to calculate a Reading Quotient for that child in each language. The Reading Quotient is defined as :-

$$\text{R.Q.} = \frac{\text{Reading Age}}{\text{Actual Age}} \times 100$$

In this way it was possible to discover the difference in each child's R.Q. both in Welsh and in English over the three year period.

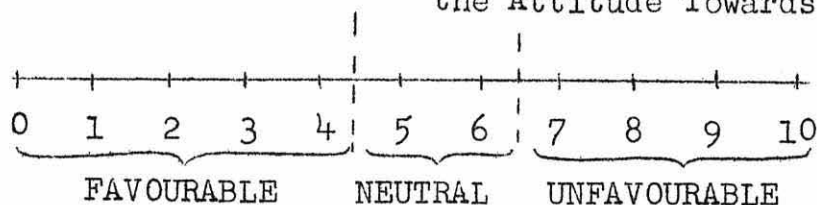
The English spelling test used in both investigations can be seen in Appendix D. Considerable difficulty was encountered with a Welsh spelling test for the simple reason that there was no suitable test available. It was therefore necessary to construct a Welsh spelling test, and an account of its construction will be given in Chapter 6. The completed test can be seen in Appendix E.

The final four tests were taken from the Schools Council Research and Development Project on "Attitudes to and Motivation for the Learning of Welsh and English in Wales", under the direction

of Derek Sharp at the University of Swansea. In the first investigation, there was an attainment test both in English and in Welsh each test being scored out of a possible 60 marks. These tests may be seen in Appendices J and K. In the second investigation, also, there were two attainment tests; the English Attainment Test was scored out of 60, and the Welsh Attainment Test out of 44. Before explaining the use made of the results of these four tests, we must describe the Attitude tests.

In the first investigation, both the Attitude Towards English Test and the Attitude Towards Welsh Test (Appendices H and I) had twelve items. The children were asked to tick each item with which they agreed, and to leave the ones with which they disagreed blank. Each item had been assigned a score by Sharp, and the scores of the items ticked were added, the total score then being divided by the number of items ticked. This gave an Attitude score on the test, and using Sharp's scale shown below, each child's attitude towards the language being considered could be determined as favourable, neutral or unfavourable. The Attitude tests used in the second investigation were used in exactly the same manner, but each test contained 24 items (See Appendices O and P).

Fig.10 - Sharp's Attitude Scale for use with both the Attitude Towards English tests and the Attitude Towards Welsh tests.



The scores obtained in the two spelling tests and in the two attainment tests in each investigation were used for two purposes. In the first place, we were interested in the performance of the whole sample in these tests, and in particular in the difference between the mean scores on a particular test in 1978 and

in 1981. Secondly, we were interested in the relative performance of the clusters having different linguistic backgrounds in the tests, and for this purpose, instead of using the change in scores during the three year period, we used a measure known as a residualized score.

In his book 'Analysing Social and Educational Research Data' (1979), Michael B. Youngman⁹ writes the following about the measurement of change.

"So many researchers are concerned with investigating how things change over time that one might expect the associated statistical methodology to have become both standard and automatic. Unfortunately neither hope can be satisfied. Statisticians still show disagreement over how change should be measured, if at all."

The natural definition of change is the difference between the initial and final scores. Unfortunately, as Youngman points out, this is an unsatisfactory measure, and he goes on to say

"This deficiency is easily seen at the practical level. Anyone with a low initial score has ample opportunity to improve; a higher score will be unlikely to better his initial score by more than a small amount. So low scorers tend to have high gain scores while high scorers record low ones. In statistical terms this defines a negative correlation between initial and difference scores".

The use of individual gain scores defined as simple differences, then, has little merit. Instead, several writers (e.g. Cronbach and Furby, 1970)¹⁰ recommend the use of a residualized change score. Residual scores are not correlated with initial scores, but with final scores, and they show greater reliability (Behrstedt, 1969)¹¹. A residual score is the difference

between an expected final score (predicted from the correlation between the two scores) and the actual final score. A positive residual implies that the individual does better than expected. In terms of the two measures X and Y, the residual (Ry) is :-

$$R_y = (Y - m_y) - r_{xy} \frac{s_y}{s_x} (X - m_x)$$

where X and Y are the individual's scores on the initial and final measures,

s_x and s_y are the standard deviations for these two measures,

m_x and m_y are their means,

r_{xy} is the correlation between them.

When comparing the performance of the various clusters on the attainment tests, then, residualized scores were used as will be seen in Chapter 8.

As stated earlier in this chapter, we were particularly interested in both bilingual development and the use made of bilingual mass media by children of differing linguistic background. It is very difficult to estimate whether a bilingual child is from a Welsh background or from an English background; indeed it is contended that such a simple dichotomy could be most misleading. Bilingual children tend to use their two languages for different purposes under different circumstances, and it was for this reason that the questionnaire used in the first investigation included questions about the language used by the child at home, in his neighbourhood, and at school. The answers obtained to these questions were used to divide the total sample of 192 children into groups or clusters having a common linguistic background, using a process known as Cluster Analysis.

Cluster Analysis is a technique for the analysis of multivariate data. It attempts to solve the following problem :-

Given a sample of N objects or individuals, each of which is measured on each of p variables, devise a classification scheme for grouping the objects into g classes. The number of classes and the characteristics of the classes to be determined.

Classifying people into types is certainly not new. Sex, physical and behavioural characteristics were used by the Hindus to classify people into six types, each type being designated the name of an animal. Several typologies based on variations in physical characteristics based on the four humours were developed by the early Greek and Roman physicians. However, most of the early work on classification was conducted in the fields of biology and zoology, being known not as cluster analysis, but as taxonomy. Although there were attempts to use numerical classification techniques in fields other than the natural sciences (e.g. Zubin 1938, and Thorndike 1953) their use has only become widespread within the last decade. The main reason for this is that the burden of the very large amounts of computation needed has been taken by electronic computers.

One of the leading experts on Cluster Analysis in this country is Brian Everitt, lecturer in the Biometric Unit of the Institute of Psychiatry, London. In the Foreword to Everitt's book 'Cluster Analysis' (1974)², Jeremy Mitchell writes

"The subject

was chosen by the Statistics Committee as one of the more notable growth-points in statistics applied to the social sciences, with emphasis on topics which were so far inadequately covered in the existing literature. Cluster Analysis is an outstanding example of one of those important and newly developing fields."

During the past ten years, then, mathematical statisticians and mathematicians have become aware of the need for a more formal approach to cluster analysis, and attempts have been made to

formulate precise statistical and mathematical models and to adopt a more rigorous approach to classification problems. It is now possible to use cluster analysis techniques to perform data reduction, reducing the information on the whole set of say N individuals to information about say g groups (where g is smaller than N). In this way it may be possible to give a more concise and understandable account of the observations under consideration.

Cluster Analysis techniques may be divided into types roughly as follows :-

1. Hierarchical techniques - here the classes themselves are classified into groups. The process is repeated at different levels to form a tree.
2. Optimization-partitioning technique - here clusters are formed by optimization of a predetermined clustering criterion. Mutually exclusive classes result, forming a partition of the set of entities.
3. Density or mode-seeking techniques - here regions containing a dense concentration of entities are searched for to form the clusters.
4. Clumping techniques - here, there is an overlap of classes or clumps.
5. Other methods which do not fall into any of the four above categories.

The first Cluster Analysis technique described above, the Hierarchical technique, may be divided into two, agglomerative methods and divisive methods. In the former, classification starts with individuals and gradually forms clusters by a process of accumulation. Divisive methods start with the complete sample, and partition the set of N entities successively into finer partitions. Whether an agglomerative or a divisive method is used, the results

may be presented in the form of a two-dimensional diagram, known as a dendrogram, which illustrates the fusions or partitions which have been made at each successive level. All agglomerative hierarchical techniques ultimately reduce the data to a single cluster, while divisive techniques will finally split the entire set of data into N groups each containing a single entity. Therefore the stage at which the analysis is to stop must be decided by the investigator.

The choice of a particular cluster analysis technique depends on the nature of the investigation. In this particular investigation, an agglomerative method was chosen, namely Ward's method, on the recommendation of Wishart. A second reason for choosing Ward's method was that a computer programme was available for it. Youngman (1979)¹³ outlines Ward's method in his book "Analysing Social and Educational Research Data" under seven steps as follows :-

- Step 1 : Compare each individual with every other by means of the distance measure. In Ward's method similarity is defined in terms of distance, low distance implying high similarity
- Step 2 : Combine the two cases with the smallest associated distance.
- Step 3 : Compute the error potential increases associated with combining the new cluster with each of the others.
- Step 4 : Combine the two clusters for whom the error increase is smallest.
- Step 5 : Recycle with Step 3 followed by Step 4.
- Step 6 : Select one or more classifications from the complete set.
- Step 7 : Obtain the characteristics of the clusters comprising the selected classification(s).

The following simple example given by Everitt (1974)¹⁴ will illustrate the general principle of agglomerative methods.

Suppose five individuals are to be classified, and the matrix of distances between the individuals, namely D_1 , is as follows :-

$$D_1 = \begin{matrix} & \begin{matrix} 1 & 2 & 3 & 4 & 5 \end{matrix} \\ \begin{matrix} 1 \\ 2 \\ 3 \\ 4 \\ 5 \end{matrix} & \begin{bmatrix} 0.0 & 2.0 & 6.0 & 10.0 & 9.0 \\ 2.0 & 0.0 & 5.0 & 9.0 & 8.0 \\ 6.0 & 5.0 & 0.0 & 4.0 & 5.0 \\ 10.0 & 9.0 & 4.0 & 0.0 & 3.0 \\ 9.0 & 8.0 & 5.0 & 3.0 & 0.0 \end{bmatrix} \end{matrix}$$

(In this matrix the element in the i th row and j th column gives the distance, d_{ij} , between individuals i and j .)

At stage one of the procedure individuals 1 and 2 are fused to form a group, since d_{12} is the smallest entry in the matrix D_1 . The distance between this group and the three remaining single individuals 3, 4 and 5 are obtained from D_1 as follows :-

$$d(12)3 = \min \{d_{13}, d_{23}\} = d_{23} = 5.0$$

$$d(12)4 = \min \{d_{14}, d_{24}\} = d_{24} = 9.0$$

$$d(12)5 = \min \{d_{15}, d_{25}\} = d_{25} = 8.0$$

and we may form a new distance matrix, D_2 , giving inter-individual distances, and group-individual distances.

$$D_2 = \begin{matrix} & \begin{matrix} (12) & 3 & 4 & 5 \end{matrix} \\ \begin{matrix} (12) \\ 3 \\ 4 \\ 5 \end{matrix} & \begin{bmatrix} 0.0 & 5.0 & 9.0 & 8.0 \\ 5.0 & 0.0 & 4.0 & 5.0 \\ 9.0 & 4.0 & 0.0 & 3.0 \\ 8.0 & 5.0 & 3.0 & 0.0 \end{bmatrix} \end{matrix}$$

The smallest entry in D_2 is d_{45} which is 3.0, and so individuals 4 and 5 are fused to become a second group, and distances now become :-

$$d(12)3 = 5.0 \quad (\text{as before}).$$

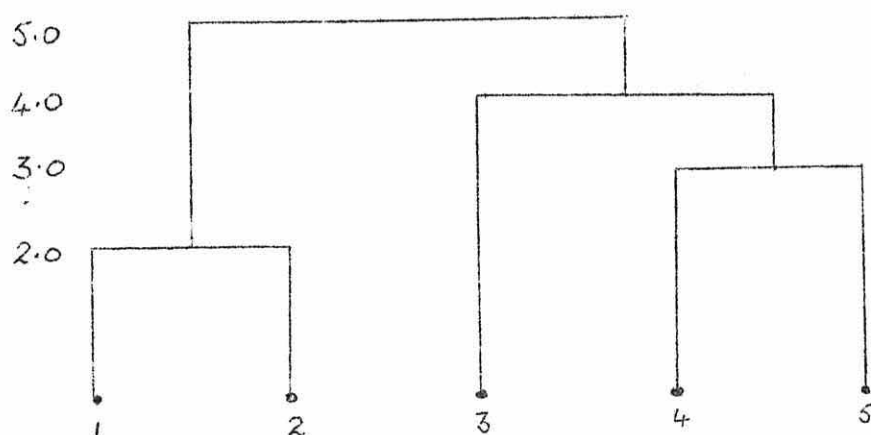
$$d(12)(45) = \min \{d_{14}, d_{15}, d_{24}, d_{25}\} = d_{25} = 8.0$$

$$d(45)3 = \min \{d_{34}, d_{35}\} = d_{34} = 4.0$$

These may be arranged in a matrix D_3 .

$$D_3 = \begin{array}{cc} & \begin{array}{ccc} (12) & 3 & (45) \end{array} \\ \begin{array}{c} (12) \\ 3 \\ (45) \end{array} & \begin{bmatrix} 0.0 & 5.0 & 8.0 \\ 5.0 & 0.0 & 4.0 \\ 8.0 & 4.0 & 0.0 \end{bmatrix} \end{array}$$

The smallest entry now is $d(45)3$ and so individual 3 is added to the group containing individuals 4 and 5. Finally fusion of the two groups at this stage takes place to form a single group containing all five individuals. The dendrogram showing these fusions is shown below.



The main advantage of Ward's method is that an attempt is made to limit the loss of information when forming clusters. Ward (1963) proposes that at any stage of an analysis the loss of information which results from the grouping of individuals into clusters can be measured by the total sum of squared deviations of every point from the mean of the cluster to which it belongs. At

each step in the analysis, union of every possible pair of clusters is considered and the two clusters whose fusion results in the minimum increase in the error sum of squares are combined.

In the present work, Ward's method was used to divide the 192 pupils into clusters using 10 variables. It was the original intention to use 25 variables, namely the children's answers to the first six questions in the questionnaire of the first investigation. It was found, however, that the clusters so obtained were not meaningful in the context of the present research. For example, one question of the questionnaire asked the children to indicate in which language they spoke to their sisters. If a child had no sister, he was told to leave the question unanswered. Using answers to this particular question as one of our variables meant that children having no sisters tended to be in the same cluster, and this defeated the object of having clusters with varying linguistic backgrounds. It was decided to use the following 10 variables as measures of each child's linguistic background :-

1. Language in which father spoke to child.
2. Language in which mother spoke to child.
3. Language in which child spoke to mother.
4. Language in which child spoke to brothers.
5. Language in which child spoke to people living close to his house.
6. Language in which people living close to his house spoke to child.
7. Language in which friends spoke to the child when playing outside school hours.
8. Language spoken by the child to friends when playing outside school hours.
9. Language spoken by friends to child when playing at school.
10. Language spoken by child to friends when playing at school.

As has been mentioned previously, the investigator must stop the process of fusion when it is felt that the number of

clusters is appropriate to the investigation. In this particular investigation, it was found possible to obtain eight meaningful clusters, the linguistic background of the members of each cluster being different. Fewer than eight clusters produced a cluster with only one person, while more than eight clusters destroyed meaningful differences between clusters. The linguistic backgrounds of the eight clusters formed were as follows :-

	Home	Neighbour- hood	Lang.of play outside school hours.	Lang of play at school	No. in each cluster
CLUSTER 1	Welsh	English = Welsh	Eng. = Welsh	Welsh>Eng	21
CLUSTER 2	Welsh	Welsh > English	Welsh	Welsh	49
CLUSTER 3	Welsh	Welsh > English	Welsh	Welsh>Eng.	28
CLUSTER 4	Eng > Wel.	Welsh > English	Welsh	Welsh	8
CLUSTER 5	Eng > Wel.	English > Welsh	Eng.>Welsh	Eng > Wel.	19
CLUSTER 6	English	English	English	English	30
CLUSTER 7	English	English > Welsh	English	English	22
CLUSTER 8	Welsh	Welsh	Eng > Welsh	Welsh>Eng.	15

Earlier in this present chapter, we formulated hypotheses which we will be testing for the whole sample in Chapter 7. In Chapter 8, we will be concentrating on the clusters whose linguistic backgrounds are described above. We shall be particularly interested in discovering whether different clusters behave in different ways with regard to the use made by their members of the mass media, and also in discovering changes of attainment in, and attitude towards, both Welsh and English by the members of the different clusters.

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CHAPTER 6

THE CONSTRUCTION OF A WELSH SPELLING TEST

For the purpose of the two investigations carried out on the 10 and 13 year old pupils in the Pwllheli Secondary School catchment area, it was necessary to have a Welsh Spelling Test similar in nature to the English Spelling Test that was being used. The English test consisted of 40 words, graded in difficulty, and it was therefore desirable to have a Welsh test also consisting of 40 words. Since no such test was available in Welsh, it was decided to construct one, and this chapter will explain the steps taken in the construction process.

At first sight, any spelling test may appear to be a list of words chosen at random; in actual fact, a properly constructed test is much more intricate. There are two basic factors to be considered in the construction; in the first place, the list of words must contain as many examples as possible of words formed under different conditions; and secondly, the completed test must be such that it discriminates effectively between the pupils who sit it.

In order to obtain a final list of 40 words, it was necessary to form initially a list containing substantially more than 40. Our initial list contained 64 words. It must be emphasised that strong though the temptation was to have an even longer initial list, it was realised that a longer list would prove to be difficult and time consuming to administer to 10 year old children. The list of 64 words was in fact used as the Welsh Spelling Test for the first investigation, the pupils' answers being used to select the final 40 words as will presently be explained. The scripts were then re-marked out of a possible total of 40.

The original list of 64 words was based on R.Cyril Hughes' 'Ffynhonnell Eirfaol' (1978), which classifies Welsh words according to their sound. Hughes bases his classification of words on eight phonetic steps in conjunction with six other factors.

The phonetic steps are :-

1. Single consonants - p, t, c, b, d, g, f, h, l, m, n, r, s, j.
2. Short vowels - tap, pen, pin, dol, tun, pwt, sym.
3. Long vowels - tad, deg, tir, gof, sur, gwg, fy.

Note the large number of words where the vowel is long and yet has no circumflex (^). Also, the last letter of the alphabet (y), in words such as dy, dyma, rydw, hynny, is known as "y dywyll" (dark y).

4. The sound "y glir" (clear y) - ty, byw, bys, cyn, hynny.
5. The Diphthongs (two vowels) - mae, oer, cawr, dewr.
6. Double consonants - cant, bocs, cnwd, tasg.

(It is believed that a new sound should be introduced to a slow pupil at the end of a word, so that he has almost reached the end of the word and has grasped its meaning before reaching the difficulty).

7. "Blend" with "l" or "r" (consonant + l or r) - budr, gafr, blin.
(Double consonants and "Blend" are very similar, but in "blend" the consonants are almost one sound).
8. Two consonants, but one sound - ch, dd, ff, ng, ll, rh, th.
Also in the Nasal and the Spirant Mutations - ph, mh, nh, ngh.

The six other factors in the grading are :-

1. Graded combinations of the eight phonetic steps mentioned.
2. Length of the word in terms of letters and syllables.
3. The position of a particular sound in a word, in the order 'end', 'beginning' and 'middle'.
4. Doubling of letters. The only letters doubled in Welsh are 'n' and 'r'.

5. Use of the apostrophe - mae'n, mae'r, i'w etc.

6. Certain sounds that are borrowed from English.

si	siop	sh-op	-	si-op
	Sian	J-ane	-	Si-an
	siwgwr	s-ugar	-	si-wgwr
	siawns	ch-ance	-	si-awns
ts	tsain	ch-ain	-	ts-ain
	matsen	ma-tch	-	ma-ts-en

In compiling our list of 64 words, all eight phonetic steps were used, together with five of the above factors. The factor not used was the use of the apostrophe. Having compiled a list, each word was incorporated into a sentence for the purpose of administering the test to the 191 pupils (1 pupil did not take the 64 word spelling test, but took the final 40 word test).

Below is the list of words, together with the number of correct spellings received for each word.

1	at	183
2	ci	183
3	du	166
4	ef	172
5	mam	187
6	pen	176
7	del	154
8	tad	176
9	mêl	97
10	cig	177
11	mul	154
12	gwan	181
13	afon	176
14	cadw	171
15	yfed	160
16	ateb	172
17	seren	180
18	papur	159
19	byd	136
20	fyny	73
21	tynnu	48
22	poen	154
23	clwt	161
24	sinc	135
25	dros	167
26	tref	167
27	pump	150

28	parc	124
29	mynd	169
30	darlun	118
31	clust	142
32	cath	182
33	twll	166
34	colli	167
35	saith	170
36	llawr	175
37	llanw	164
38	cloff	110
39	llyfr	140
40	serth	166
41	hwylio	104
42	cadair	164
43	gwyro	111
44	garej	53
45	plentyn	142
46	annwyl	71
47	eithin	127
48	mynydd	122
49	llygad	112
50	uchel	131
51	newydd	149
52	edrych	150
53	llithro	141
54	gwyrdd	136
55	creadur	70
56	cychwyn	138
57	rhywun	37
58	goleuni	35
59	crwydryn	78
60	clogwyn	133
61	gwasgaru	131
62	perfffeithio	69
63	anghysbell	72
64	penderfynu	82

In order to select the 40 most suitable words from the list of 64, it was necessary to perform two operations on the above figures. Firstly, it was necessary to obtain an 'Index of Difficulty' for each word, and this was done as follows. Suppose that 123 correct spellings had been received for a particular word; since there could possibly have been 191 correct spellings, we could express the index of difficulty for the word as $123/191$, which expressed as a decimal correct to 3 decimal places is 0.644 . The higher the coefficient, the easier the word was to spell.

The second index to be determined for each word was its 'Discriminating Index'. The purpose of this index was to discover

the degree to which a particular word was able to discriminate between the high scoring group and the low scoring group. Words which discriminate between the two groups are regarded as the better items. There is some disagreement amongst statisticians as to the correct method of calculating the discriminating index. There are two schools of thought, arguing for the following two methods. The first method is to arrange the scores of all the pupils in descending order, and then dividing the total number into two halves; the two groups are then compared on their performance on each word in the test. The second method is to form two groups by selecting the top 27% scores and the lowest 27% scores, again after arranging all the scores in descending order; the performance of these two groups is then compared for each word in the test. Whichever of the two methods is used, the discriminating index obtained is by a correlation termed a Phi Coefficient. Both these methods were used with our original list of 64 words, and the phi coefficients can be seen in the table below.

	Discriminating Index (comparing top half with bottom half).	Discriminating Index (comparing top 27% with bottom 27%).	Difficul- ty Index
1 at	.21	.29	.95
2 ci	.20	.27	.96
3 du	.35	.52	.86
4 ef	.29	.40	.90
5 mam	.14	.20	.98
6 pen	.16	.16	.92
7 del	.18	.19	.81
8 tad	.19	.27	.93
9 mel	.45	.70	.51
10 cig	.27	.40	.93
11 mul	.36	.52	.81
12 gwan	.13	.20	.95
13 afon	.20	.33	.92
14 cadw	.33	.48	.90
15 yfed	.37	.53	.84
16 ateb	.29	.44	.90
17 seren	.25	.33	.94
18 papur	.28	.50	.84

19	byd	.45	.69	.71
20	fyny	.49	.66	.38
21	tynnu	.40	.68	.25
22	poen	.39	.69	.81
23	clwt	.33	.50	.84
24	sinc	.22	.51	.71
25	dros	.30	.38	.87
26	tref	.37	.50	.87
27	pump	.34	.61	.79
28	parc	.42	.64	.65
29	mynd	.31	.40	.88
30	darlun	.48	.64	.62
31	clust	.39	.61	.75
32	cath	.21	.29	.95
33	twll	.28	.45	.87
34	colli	.33	.53	.87
35	saith	.31	.48	.89
36	llawr	.29	.40	.92
37	llanw	.30	.39	.86
38	cloff	.51	.84	.58
39	llyfr	.50	.76	.73
40	serth	.37	.52	.87
41	hwylio	.55	.86	.54
42	cadair	.36	.55	.86
43	gwyro	.50	.80	.58
44	garej	.48	.68	.28
45	plentyn	.50	.68	.74
46	annwyl	.54	.83	.37
47	eithin	.46	.75	.66
48	mynydd	.52	.82	.63
49	llygad	.15	.44	.59
50	uchel	.54	.77	.69
51	newydd	.52	.78	.77
52	edrych	.44	.69	.78
53	llithro	.53	.77	.74
54	gwyrdd	.60	.89	.71
55	creadur	.53	.73	.37
56	cychwyn	.48	.82	.72
57	rhywun	.46	.61	.20
58	goleuni	.36	.58	.18
59	crwydryn	.51	.72	.40
60	clogwyn	.49	.79	.69
61	gwasgaru	.43	.57	.69
62	perffeithio	.56	.78	.36
63	anghysbell	.58	.83	.38
64	penderfynu	.23	.51	.42

For the purpose of selecting our final 40 words for the spelling test, we could use any of the three columns in the above table. However, since we require the 40 words which best discriminate between pupils in the test, the reduction process starts with the difficulty index and proceeds to the use of the phi coefficients.

The next step, therefore, was to discover the frequency

with which each 'Difficulty Index' occurred. The table below shows this information.

Index of Difficulty	Frequency
0.18	1
0.20	1
0.25	1
0.28	1
0.36	1
0.37	2
0.38	2
0.40	1
0.42	1
0.51	1
0.54	1
0.58	2
0.59	1
0.62	1
0.63	1
0.65	1
0.66	1
0.69	3
0.71	3
0.72	1
0.73	1
0.74	2
0.75	1
0.77	1
0.78	1
0.79	1
0.81	3
0.84	3
0.86	3
0.87	5
0.88	1
0.89	1
0.90	3
0.92	3
0.93	2
0.94	1
0.95	3
0.96	1
0.98	1

For the final list of 40 words, any words with an index of difficulty below .10 or above .90 should not be included. If the index is below .10, it means that up to 10% of pupils spelt the word correctly, while if the index is above 0.90 it means that very many pupils spelt the word correctly. Thus words which are "too easy" or "too hard" are ommitted. The 14 words having indic.e.s of difficulty within these two ranges were therefore

discarded, leaving us with 50 words.

From the above table, we also see that some words had the same index of difficulty. Ideally, we should not have two or more words with the same index of difficulty, but we continue our process of rejecting words by ensuring that we do not have more than two words with the same index of difficulty. In cases where three or more exist, we use the Discriminating Indices to select the word or words to be rejected. For example, we see that three words have an index of difficulty of 0.69. In the table below, we include the two Discriminating Indices for each word.

	Discriminating Index (Comparing top half with bottom half).	Discriminating Index (Comparing the top 27% with the bottom 27%).
uchel	.54	.77
clogwyn	.49	.79
gwasgaru	.43	.57

The word discarded is the word with the lowest Discriminating Index, in this case the word 'gwasgaru'.

This process of elimination can be repeated with other groups of words having the same Difficulty Index.

	Discriminating Index (Comparing top half with bottom half).	Discriminating Index (Comparing the top 27% with the bottom 27%).
byd	.45	.69
sinc	.22	.51
gwyrdd	.60	.89

The word discarded is the word 'sinc'.

	Discriminating Index (Comparing top half with bottom half).	Discriminating Index (Comparing top 27% with bottom 27%).
del	.18	.19
mul	.36	.52
poen	.39	.69

The word discarded is the word 'del'.

	Discriminating Index (Comparing top half with bottom half).	Discriminating Index (Comparing top 27% with bottom 27%).
yfed	.37	.53
papur	.28	.50
clwt	.33	.50

The word discarded is the word 'papur'.

	Discriminating Index (Comparing top half with bottom half).	Discriminating Index (Comparing top 27% with bottom 27%).
du	.35	.52
llanw	.30	.39
cadair	.36	.55

The word discarded is the word 'llanw'.

	Discriminating Index (Comparing top half with bottom half).	Discriminating Index (Comparing top 27% with bottom 27%).
dros	.30	.38
tref	.37	.50
twll	.28	.45
colli	.33	.53
serth	.37	.52

The three words discarded are the words 'dros', 'twll'
and 'colli'.

The following words are therefore discarded from the initial list of 64 words: -

gwasgaru
sinc
del
papur
llanw
dros
twll
colli
at
ci
ef
mam
pen
tad
cig
gwan
afon
cadw
ateb
seren
cath
llawr

We are now in the position of having 42 words in our list, and we therefore need to eliminate two more words. To do this, we look again at the pairs of words having the same indices of difficulty; they are listed below.

	Discriminating Index (Comparing top half with bottom half).	Discriminating Index (Comparing top 27% with bottom 27%).
annwyl	.54	.83
creadur	.53	.73
fyny	.49	.66
anghysbell	.58	.83
cloff	.51	.84
gwyro	.50	.80
uchel	.54	.77
clogwyn	.49	.79
byd	.45	.69
gwyrdd	.60	.89

plentyn	.50	.68
llithro	.53	.77
mul	.36	.52
poen	.39	.69
yfed	.37	.53
clwt	.33	.50
du	.35	.52
cadair	.36	.55
tref	.37	.50
serth	.37	.52

From the above list, we see that the two words with the lowest indices of discrimination are 'clwt' and 'du'. We therefore discard these two words.

Our final list of 40 words for the Welsh Spelling Test, then, is :-

mêl
mul
yfed
byd
fyny
tynnu
poen
tref
pump
parc
mynd
darlun
clust
saith
cloff

llyfr
serth
hwyllo
cadair
gwyrô
garej
plenty
annwyl
eithin
mynydd
llygad
uchel
newydd
edrych
llithro
gwyrdd
creadur
cychwyn
rhywun
goleuni
crwydryn
clogwyn
perffeithio
anghysbell
pederfynu

The final version of the Welsh Spelling Test, where the words used have been incorporated into sentences, can be seen in Appendix E.

CHAPTER 7

COMPARING THE RESULTS OF THE TWO INVESTIGATIONS

Having completed the two investigations with the children of the Pwllheli Secondary School Catchment area, we were then in a position to compare the results of the investigations. In this chapter, we will be comparing the results for the entire sample, and in Chapter 8 we will be concentrating on the differences found between the various clusters. The present chapter concerns the changes that took place over the three year period, while the next chapter examines the differences between the clusters in these changes.

When the first investigation was conducted in November 1978, the sample consisted of 192 children in Standard 3 of the primary schools within the catchment area of Ysgol Glanymor, Pwllheli. By the time the second investigation was conducted in November 1981, 13 of these children had to be discarded from the sample, the reasons for this being given in Appendix A. The instruments used in the investigations were described in Chapter 5, and also in that chapter several hypotheses were postulated concerning the children's use of the various mass media, and their aptitude in, and attitude towards, both the English language and the Welsh language. We now propose to test these hypotheses, and will do so in the same order as they were postulated.

The first hypothesis to be tested concerns the groups to which bilingual children belong at 10 years old and at 13 years old. The actual hypothesis was that :-

Between 10 and 13 years of age, bilingual children decline in their use of Welsh medium formal groups.

In the questionnaire used for both investigations, there

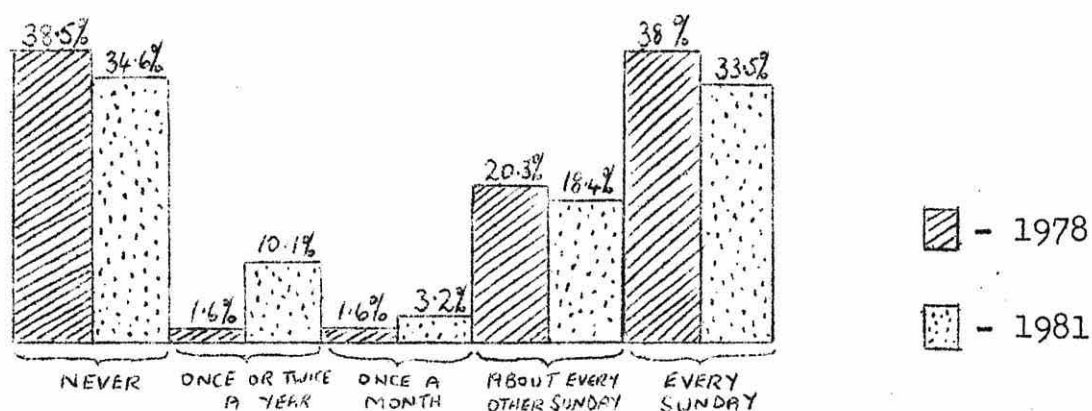
were three questions whose answers were to be used to test this hypothesis. The children were asked to indicate how often they attended a Welsh Church or Chapel, how often they attended an English Church or Chapel, and also to write the names of any groups, clubs or movements to which they belonged. We begin by looking at the answers received to the first of these three questions, namely "How often do you attend a Welsh Church, Chapel or Sunday School ?"

Fig.1 - Showing the frequencies of the answers received to the question "How often do you attend a Welsh Church, Chapel or Sunday School ?" in both investigations.

	Never	Once or twice a year	Once a month	About every other Sunday	Every Sunday	Total
1978	74	3	3	39	73	192
1981	62	18	6	33	60	179

The frequencies of Figure 1 may be shown to better effect in Figure 2.

Fig.2 - Showing the %age of the sample giving the various answers to the question "How often do you attend a Welsh Church, Chapel or Sunday School?" in both investigations.



We see from Figure 2 that there was a decrease in the attendance of the children at a Welsh Church or Chapel between

1978 and 1981. We must now investigate further to see if this difference was significant, and we do so by performing a χ^2 test.

As the reader may be aware, results obtained in samples do not always agree exactly with theoretical results expected according to rules of probability. For example, although theoretical considerations lead us to expect 50 heads and 50 tails when we toss a fair coin 100 times, it is rare that these results are obtained exactly.

Suppose that in a particular sample a set of possible events $E_1, E_2, E_3, \dots, E_k$ are observed to occur with frequencies $O_1, O_2, O_3, \dots, O_k$ called observed frequencies, and that according to probability rules they are expected to occur with frequencies $e_1, e_2, e_3, \dots, e_k$ called expected or theoretical frequencies.

Event	E_1	E_2	E_3	\dots	E_k
Observed frequency	O_1	O_2	O_3	\dots	O_k
Expected frequency	e_1	e_2	e_3	\dots	e_k

Often we wish to know whether observed frequencies differ significantly from expected frequencies. A measure of the discrepancy existing between observed and expected frequencies is supplied by the statistic χ^2 (read chi-square) given by

$$\chi^2 = \frac{(O_1 - e_1)^2}{e_1} + \frac{(O_2 - e_2)^2}{e_2} + \dots + \frac{(O_k - e_k)^2}{e_k} = \sum_{j=1}^k \frac{(O_j - e_j)^2}{e_j}$$

If $\chi^2 = 0$, observed and theoretical frequencies agree exactly, while if $\chi^2 > 0$, they do not agree exactly. The larger the value of χ^2 , the greater is the discrepancy between observed and expected frequencies.

In practice, expected frequencies are computed on the basis of a hypothesis H_0 . If under this hypothesis the computed value

of χ^2 is greater than some critical value (such as $\chi^2_{0.05}$ or $\chi^2_{0.01}$, which are the critical values at the 0.05 and 0.01 significance levels respectively), we would conclude that observed frequencies differ significantly from expected frequencies and would reject H_0 at the corresponding level of significance. Otherwise we would accept it or at least not reject it. This procedure is called the chi-square test of hypothesis or significance.

One firm stipulation involved in a χ^2 test is that no more than 20% of the expected frequencies should be 5 or less. It is therefore necessary, occasionally, to adjust the observed frequencies by collapsing some columns before proceeding with the χ^2 test.

The frequencies of Figure 1 are adjusted for the purpose of a χ^2 test, the adjusted frequencies, together with the expected frequencies, being shown in Figure 3.

Fig.3 - Showing the adjusted frequencies of the children's answers to the question "How often do you attend a Welsh Church, Chapel or Sunday School?" in both investigations, together with the expected frequencies.

	Never	Once a month or less	About every other Sunday	Every Sunday	Tot		Nev.	Once a mth or less	Abt ev other S'day	Ev, S'dy	Tot
1978	74	6	39	73	192	1978	70.4	15.5	37.3	68.8	192
1981	62	24	33	60	179	1981	65.6	14.5	34.7	64.2	179
	136	30	72	133	371		136	30	72	133	371

The procedure for calculating the statistic χ^2 is as follows :-

O	E	E - O	(E - O) ²	(E - O) ² / E
74	70.4	-3.6	12.96	0.184
6	15.5	-9.5	90.25	5.823
39	37.3	-1.7	2.89	0.077
73	68.8	-4.2	17.64	0.256
62	65.6	-3.6	12.96	0.198
24	14.5	-9.5	90.25	6.224
33	34.7	-1.7	2.89	0.083
60	64.2	-4.2	17.64	0.275
				$\Sigma = 13.120$

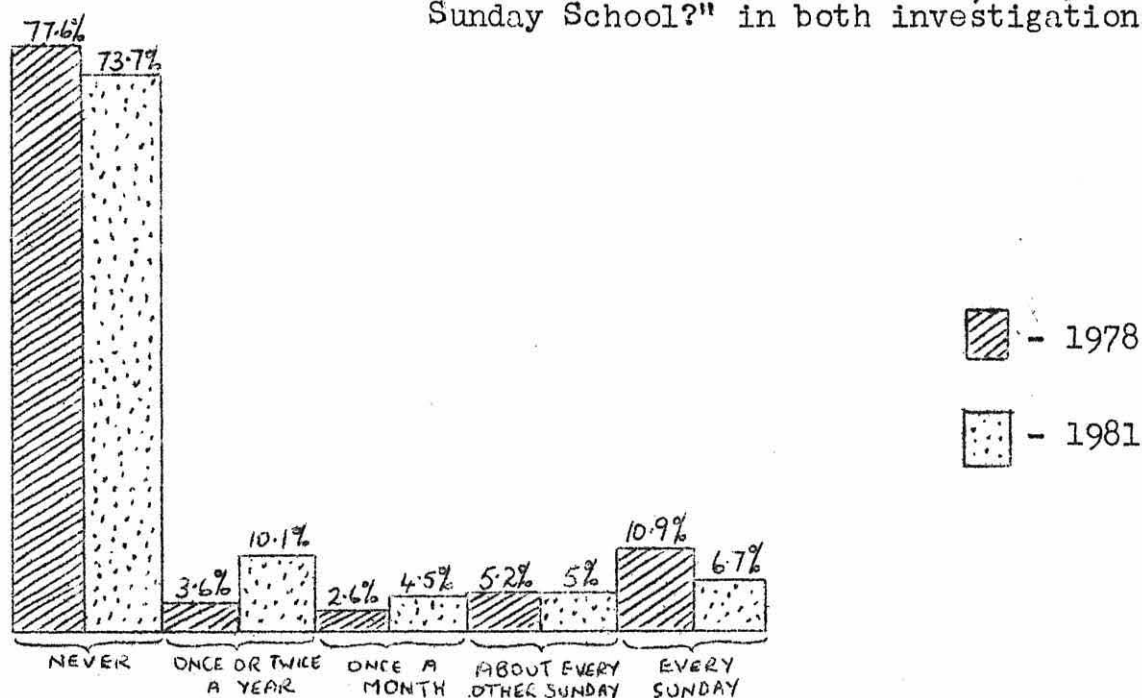
The value of χ^2 obtained is 13.120, and the observed frequencies table of Figure 3 has 3 degrees of freedom. The critical values of χ^2 for 3 degrees of freedom are 7.815 (0.95) and 11.345 (0.99). We see, therefore, that the difference in the attendance of the children at a Welsh Church or Chapel between 1978 and 1981 was significant at the 1% level. Furthermore, we see from the frequencies of Figure 3, and from Figure 2 that this particular change was a decrease.

The frequencies of the answers received to the question "How often do you attend an English Church, Chapel or Sunday School?" are shown in Figures 4 and 5.

Fig.4 - Showing the frequencies of the children's answers to the question "Do you attend an English Church, Chapel or Sunday School?" in both investigations.

	Never	Once or twice a year	Once a month	About every other Sunday	Every Sunday	Total
1978	149	7	5	10	21	192
1981	132	18	8	9	12	179
	281	25	13	19	33	371

Fig.5 - Showing the %age of the sample which gave the various answers to the question "Do you attend an English Church, Chapel or Sunday School?" in both investigations.



From Figure 5, we see that there was a decrease, also, in the attendance of the children at an English Church or Chapel. The observed frequencies and the expected frequencies tables are shown in Figure 6.

Fig.6 - Adjusted frequencies of the children's answers to the question "Do you attend an English Church, Chapel or Sunday School?" in both investigations, together with the expected frequencies.

	Never	Once a month or less	About every other Sunday	Every Sunday	Tot
1978	149	12	10	21	192
1981	132	26	9	12	179
	281	38	19	33	371

	Never	Once a month or less	About every other Sunday	Every Sunday	Tot
1978	145.4	19.7	9.8	17.1	192
1981	135.6	18.3	9.2	15.9	179
	281	38	19	33	371

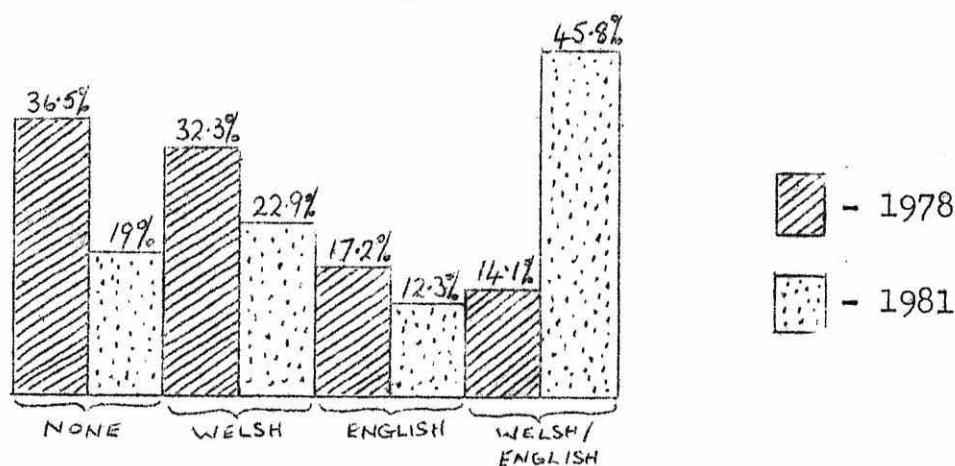
$\chi^2 = 8.289$ with 3 degrees of freedom, where the 1% level of significance is 11.345. Therefore, the difference in the attendance at an English Church or Chapel between the two investigations was not significant at the 1% level.

We next consider the clubs, movements, or societies named by the children as the ones they belonged to. There were four possible answers to this question; a child could belong to Welsh medium clubs only, to English medium clubs only, to clubs where both languages were used, or finally to no club. Figures 7 and 8 show the frequencies of the answers received in the two investigations to this question.

Fig.7 - Showing the number of children who were members of clubs, movements or societies with varying linguistic backgrounds at the time of both investigations.

	None	Welsh	English	Welsh/English	Total
1978	70	62	33	27	192
1981	34	41	22	82	179
	104	103	55	109	371

Fig.8 - Showing the %age of the sample who belonged to clubs, movements or societies with varying linguistic backgrounds at the time of both investigations.



From Figure 8, we see clearly that three changes occurred between 1978 and 1981 :-

- i) There were fewer children who were not members of clubs;
- ii) There were fewer children who belonged to Welsh medium only clubs, and there were fewer children who belonged to English medium only clubs;
- iii) Many more children were members of bilingual clubs.

There was, then, a definite shift from single medium clubs to bilingual clubs between 1978 and 1981. When a χ^2 test was conducted on the frequencies of Figure 7, the value of χ^2 obtained was 46.283 . Since the 1% level of significance with three degrees of freedom is 11.345, the difference in club membership between 1978 and 1981 was highly significant at the 1% level.

The three χ^2 tests that we have performed have shown

the following :-

- (a) There was a significant decrease in the attendance of the bilingual children of our sample at a Welsh Church or Chapel between 10 and 13 years old.
- (b) There was no significant difference in the attendance of the bilingual pupils at an English Church or Chapel between 10 and 13 years old.
- (c) There was a highly significant difference in club membership of the bilingual children between the ages of 10 and 13 years. At 10 years old, the children tended to belong to Welsh clubs or to English clubs, but by the age of 13 years they tended to belong to bilingual clubs.

Faced with these three results, it seems fair to accept the hypothesis that :-

Between 10 and 13 years of age bilingual children decline in their use of Welsh medium formal groups.

Our next topic of investigation was the use made by the children of newspapers, magazines and comics both in the English and Welsh languages. The hypothesis to be tested was that :-

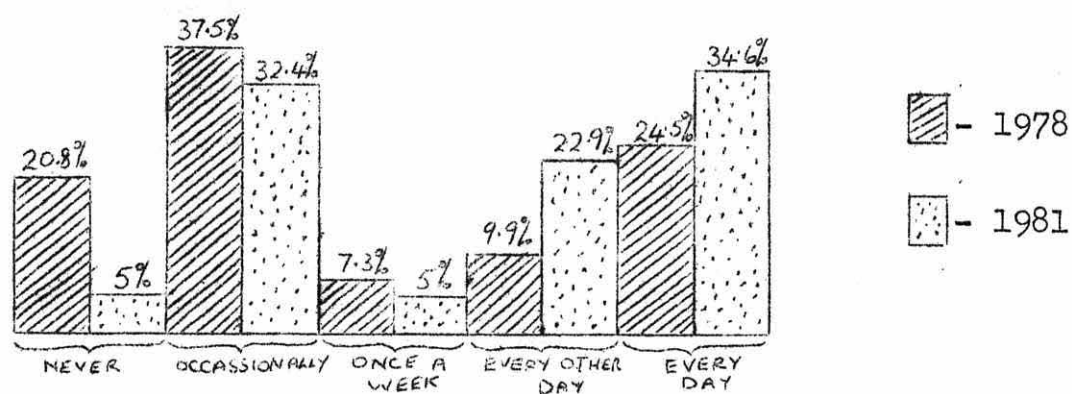
Between 10 and 13 years of age, bilingual children make less use of Welsh language newspapers, magazines and comics, but make more use of English language newspapers, magazines and comics.

We initially looked at the children's use of daily newspapers at 10 and 13 years old. Figures 9 and 10 show the frequencies of the children's answers to the question "Do you read a daily newspaper?"

Fig.9 - Showing the frequencies of children's answers to the question "Do you read a daily newspaper?" in 1978 and in 1981

	Never	Occassionally	Once a week	Every other day	Every day	Total
1978	40	72	14	19	47	192
1981	9	58	9	41	62	179
	49	130	23	60	109	371

Fig.10 - Showing the %age of the sample who gave the various answers to the question "Do you read a daily newspaper?" in 1978 and in 1981.



There is clear evidence in Figures 9 and 10 that the children read a daily newspaper more often in 1981 than in 1978. It must also be remembered that there are no Welsh language daily newspapers, and therefore the increase in the use of daily newspapers means an increase in the use of the English language. When a χ^2 test was performed on the frequencies of Figure 9, the value of χ^2 obtained was 31.823, showing that the difference in the use of daily newspapers by the bilingual children at 13 years old and at 10 years old was significant at the 1% level of significance ($\chi^2 \geq 13.277$).

The children were asked to write the names of the daily newspapers that they read, and Figure 11 shows the newspapers that were named, together with the number of times each one was named, in both investigations.

Fig.11 - Showing the number of times the various daily newspapers were named by the children in both investigations.

1978			1981		
The Sun	60	31.3%	The Sun	63	35.2%
Liverpool Daily Post	33	17.2%	Liverpool Daily Post	46	25.7%
Daily Mirror	18	9.4%	Daily Mirror	19	10.6%
Daily Express	12	6.3%	Daily Mail	14	7.8%
Daily Mail	16	8.3%	Daily Star	12	6.7%
Daily Star	2	1.0%	Daily Express	9	5.0%

Western Mail	1	0.5%	The Times	1	0.6%
None	50	26.0%	None	15	8.4%
	192			179	

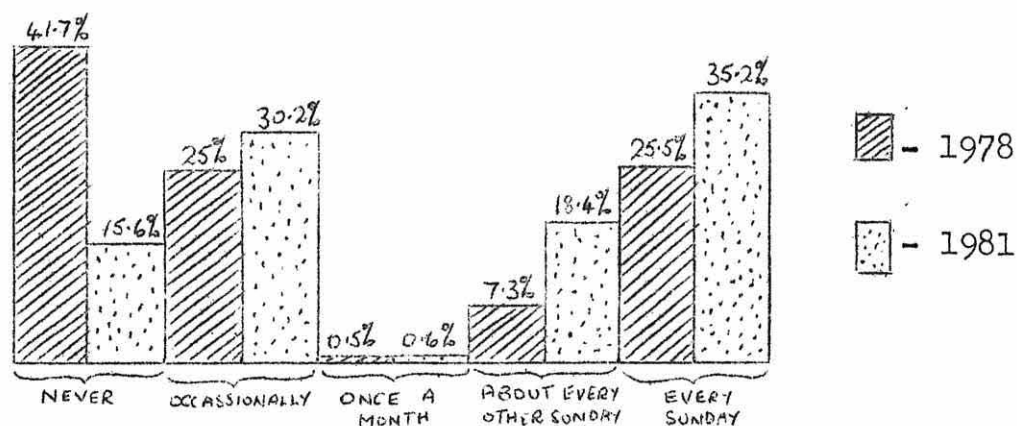
The two lists of Figure 11 are remarkably similar, with one important exception. In 1978, there were 50 children who did not write the name of a daily newspaper, while in 1981, only 15 children did not write the name of a newspaper. This fact, again, would appear to support the hypothesis that at 13 years old the children made more use of daily newspapers than they did at 10 years old.

The next two Figures, 12 and 13, show the frequencies of the children's answers to the question "Do you read a Sunday newspaper?" in both investigations.

Fig.12 - Showing the frequencies of the children's answers to the question "Do you read a Sunday newspaper?" in 1978 and in 1981.

	Never	Occasionally	Once a month	About every other Sunday	Every Sunday	Tot.
1978	80	48	1	14	49	192
1981	28	54	1	33	63	179
	108	102	2	47	112	371

Fig.13 - Showing the percentage of the sample who gave the various answers to the question "Do you read a Sunday newspaper?" in 1978 and in 1981.



From Figures 12 and 13, it can clearly be seen that there was an increase in the use of Sunday newspapers by the children between the ages of 10 and 13 years. A χ^2 test carried out on the frequencies of Figure 12 gave a value for χ^2 of 34.379, showing that the difference in the use made of Sunday newspapers between 10 and 13 years old was significant ($\chi^2 > 13.277$) at the 1% level of significance. Again, it must be pointed out that there are no Welsh language Sunday newspapers, and therefore the increase found in the use of Sunday newspapers by the children is an increase in the use of the English language.

Figure 14 shows the Sunday newspapers named by the children as the ones they read, together with the number of times each one was named.

Fig.14 - Showing the number of times the various Sunday newspapers were named by the children in both investigations.

<u>1978</u>			<u>1981</u>		
News of the World	29	15.1%	News of the World	65	36.3%
Sunday People	26	13.5%	Sunday People	34	19.0%
Sunday Mirror	21	10.9%	Sunday Express	19	10.6%
Sunday Express	18	9.4%	Sunday Mirror	16	8.9%
Sunday Times	5	2.6%	Sunday Times	6	3.4%
The Observer	3	1.6%	Sunday Telegraph	5	2.8%
Sunday Telegraph	1	0.5%	The Observer	1	0.6%
None	89	46.4%	None	33	18.4%
<hr/> 192			<hr/> 179		

From the above lists we see that while 89 children did not name a Sunday newspaper in 1978, this number had fallen to 33 by 1981, again supporting our finding that the children made more use of Sunday newspapers at 13 years old than at 10 years old.

The first weekly newspaper that we considered was the

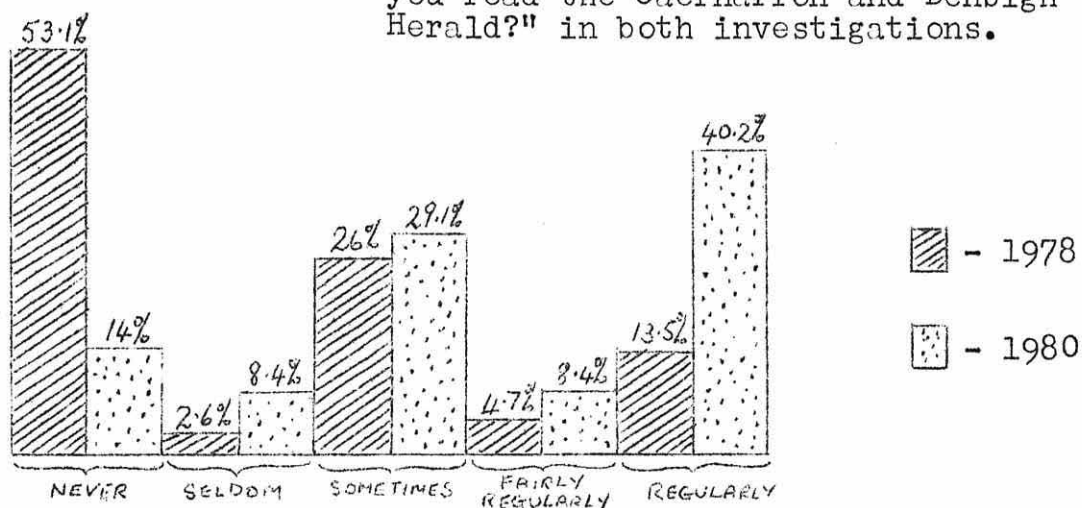
Caernarfon and Denbigh Herald, and as will be seen from Figures 15 and 16, there was an increase in the use made by the children of this newspaper between 1978 and 1981.

Fig.15 - Showing the frequencies of the answers received to the question "Do you read the Caernarfon and Denbigh Herald?" in both investigations, together with the expected frequencies.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot
1978	102	5	50	9	26	192
1981	25	15	52	15	72	179
	127	20	102	24	98	371

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot
1978	65.7	10.4	52.8	12.4	50.7	192
1981	61.3	9.6	49.2	11.6	47.3	179
	127	20	102	24	98	371

Fig.16 - Showing the %age of the sample which gave the various answers to the question "Do you read the Caernarfon and Denbigh Herald?" in both investigations.



The value of χ^2 obtained with the frequencies of Figure 15 was 74.561, showing that the difference in the use made of the Caernarfon and Denbigh Herald by the children between 10 and 13

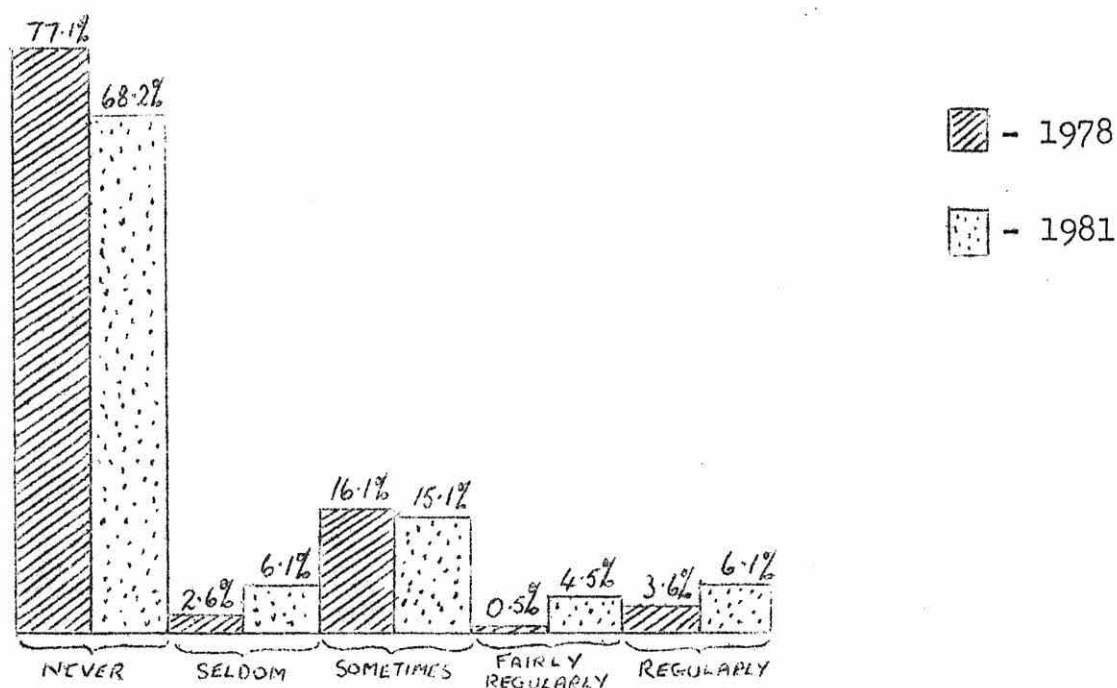
years old was highly significant at the 1% level of significance ($\chi^2 \geq 13.277$).

There was also an increase in the use made by the children of the second English weekly newspaper, The Cambrian News, between the two investigations. In this case, however, the increase was not significant at the 1% level of significance, the value of χ^2 obtained with the frequencies of Figure 17 being 11.091 (Significance if $\chi^2 \geq 13.277$ at the 1% level).

Fig.17 - Showing the frequencies of the children's answers to the question "Do you read the Cambrian News?" in both investigations.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot
1978	148	5	31	1	7	192
1981	122	11	27	8	11	179
	270	16	58	9	18	371

Fig.18 - Showing the %age of the sample which gave the various answers to the question "Do you read the Cambrian News?" in both investigations.



When we investigated the children's reading habits of Welsh language newspapers, the first discovery we made, both in 1978 and in 1981, was that very few children read them at all. Their answers to the question "Do you read Y Cymro?" illustrates this clearly, the frequencies of the answers being shown in Figure 19. There is very little difference between the frequencies of 1978 and 1981, the value of χ^2 obtained after adjusting the frequencies to those shown in Figure 20 being 1.322 .

Fig.19 - Showing the frequencies of the children's answers to the question "Do you read Y Cymro?" in both investigations.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	164	6	12	7	3	192
1981	155	3	16	3	2	179
	319	9	28	10	5	371

Fig.20 - Adjusted frequencies of the children's answers to the question "Do you read Y Cymro?" in both investigations.

	Never	Seldom or Sometimes	Regularly or Fairly Regularly	Tot.
1978	164	18	10	192
1981	155	19	5	179
	319	37	15	371

Much the same was true about the second Welsh language national weekly newspaper, Y Faner. Very few pupils indeed read it at all in 1978 or in 1981, and there was no significant difference between the frequencies of the children's answers to the question "Do you read Y Faner?" between 1978 and 1981. A χ^2 test conducted on the frequencies of Figure 22 gave a value of χ^2 of 2.326 (Significance at the 1% level if $\chi^2 \geq 6.635$).

Fig.21 - Showing the frequencies of the children's answers to the question "Do you read Y Faner?" in both investigations.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot
1978	188	1	2	1	0	192
1981	170	2	5	1	1	179
	358	3	7	2	1	371

Fig.22 - Adjusted frequencies of the children's answers to the question "Do you read Y Faner?" in both investigations.

	Never	Read at all	Total
1978	188	4	192
1981	170	9	179
	358	13	371

More children read the Welsh language local weekly newspaper Yr Herald Gymraeg than read Y Cymro and Y Faner both in 1978 and in 1981. There was, indeed, an increase in the readership of Yr Herald Gymraeg between 1978 and 1981, but this increase was not significant. The value of χ^2 obtained from the frequencies of Figure 23 was 4.221 (For significance at the 1% level $\chi^2 \geq 13.277$).

Fig.23 - Showing the frequencies of the children's answers to the question "Do you read Yr Herald Gymraeg?" in both investigations.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	157	5	16	8	6	192
1981	137	7	12	11	12	179
	294	12	28	19	18	371

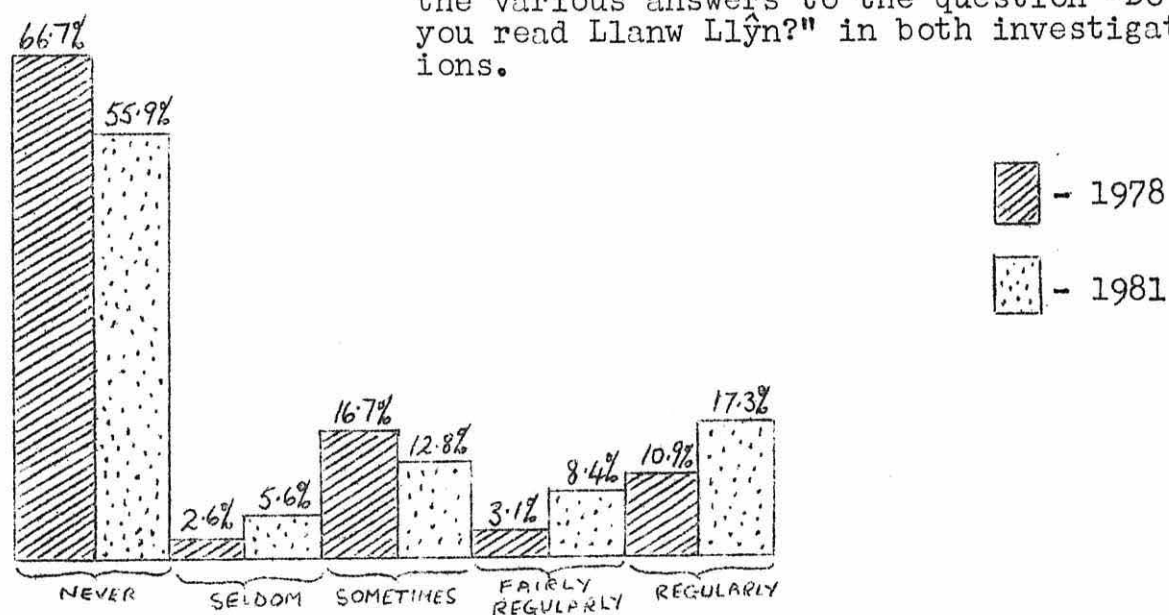
When we investigated the readership of the first of the Community Welsh language newspapers, Llanw Llŷn, we again found that there was a small increase in the readership between 1978

and 1981. This increase may clearly be seen in Figures 24 and 25.

Fig.24 - Showing the frequencies of the children's answers to the question "Do you read Llanw Llŷn?" in both investigations,

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot
1978	128	5	32	6	21	192
1981	100	10	23	15	31	179
	228	15	55	21	52	371

Fig.25 - Showing the %age of the sample who gave the various answers to the question "Do you read Llanw Llŷn?" in both investigations.



When we carried out a χ^2 test on the frequencies of Figure 24, the value of χ^2 obtained was 11.912, showing that the increase in the readership of Llanw Llŷn by the children between 1978 and 1981 was not significant at the 1% level of significance (For significance $\chi^2 \geq 13.277$).

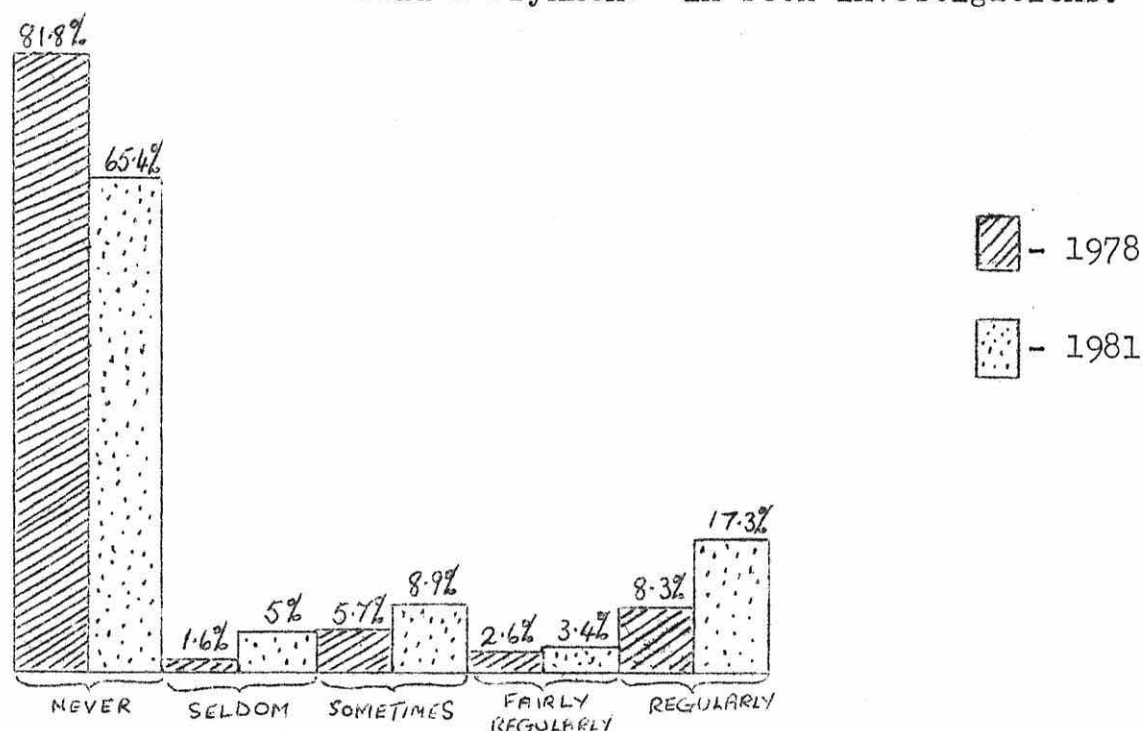
There was an increase in the readership of the second Welsh language Community newspaper, Y Ffynnon, between 1978 and 1981 also. The increase in this case was significant at the 1% level, for when we carried out a χ^2 test on the frequencies of Figure 26, the value of χ^2 obtained was 14.178 (Significance if

$\chi^2 13.277$).

Fig.26 - Showing the frequencies of the children's answers to the question "Do you read Y Ffynnon?" in both investigations.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	157	3	11	5	16	192
1981	117	9	16	6	31	179
	274	12	27	11	47	371

Fig.27 - Showing the %age of the sample which gave the various answers to the question "Do you read Y Ffynnon?" in both investigations.



The children were asked to indicate which section of a newspaper they most enjoyed reading. Figure 28 shows the number of children who named the various sections of a newspaper.

Fig.28 - Showing the number of children who named the various sections of a newspaper as their favourite section in both investigations.

<u>1978</u>			<u>1981</u>		
Sport	70	36.5%	Sport	68	38.0%
Fashion	4	2.1%	Fashion	13	7.3%

News	29	15.1%	News	35	19.6%
Articles	1	0.5%	Articles	5	2.8%
Children's Corner	8	4.2%	Children's Corner	4	2.2%
T.V. Page	32	16.7%	T.V. Page	9	5.0%
Page 3	2	1.0%	Page 3	1	0.6%
None	46	24.0%	Letters	6	3.4%
	<hr/> 192		Cartoons	9	5.0%
			Adverts	6	3.4%
			Jokes	2	1.1%
			Horoscopes	5	2.8%
			Problem Page	4	2.2%
			None	12	6.7%
				<hr/> 179	

Several important factors emerge from the lists of Figure 28. It will be noticed that 36.5% of the children in the first investigation, and 38.0% in the second, named the sports section of a newspaper as the section they most enjoyed reading. This would seem to suggest that the children consider sports to be very important in their lives, a point to which we will return later in this chapter. The second noticeable factor is that the children's choices were more numerous in the second investigation than in the first. By 13 years old, they had become interested in advertisements, letters, horoscopes and problem pages. And thirdly, although 24.0% of the children did not have a favourite section of a newspaper at 10 years old, by the age of 13 this percentage had fallen to 6.7%; this would seem to support our earlier finding that the children made more use of newspapers at 13 years old than at 10 years old.

Having investigated the children's newspaper reading

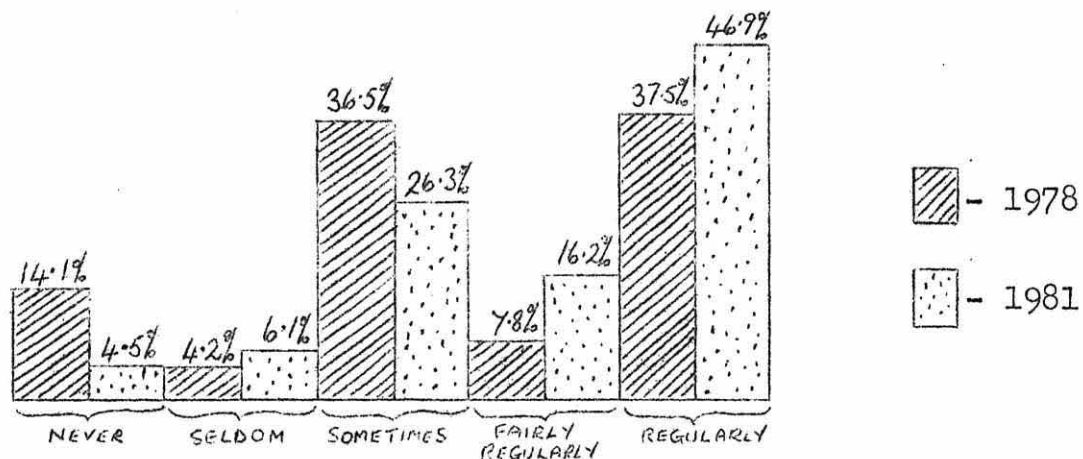
habits, we next turn our attention to their reading of comics and magazines. There were four questionnaire items on this topic, and Figures 29 and 30 show the frequencies of the children's answers to the first of these.

Fig.29 - Showing the frequencies of the children's answers to the question "Do you read English magazines or comics?" in both investigations, together with the expected frequencies.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	27	8	70	15	72	192
1981	8	11	47	29	84	179
	35	19	117	44	156	371

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	18.1	9.8	60.5	22.8	80.8	192
1981	16.9	9.2	56.5	21.2	75.2	179
	35	19	117	44	156	371

Fig.30 - Showing the percentage of the sample which gave the various answers to the question "Do you read English magazines or comics?" in both investigations.



When we performed a χ^2 test on the frequencies shown in Figure 29, the value of χ^2 obtained was 20.361, showing that the increase in the reading of English language magazines and comics between 1978 and 1981 was significant at the 1% level (significance

if $\chi^2 \geq 13.277$).

The children were asked to write the names of the comics or magazines that they read, and there was a significant increase in the number named between 1978 and 1981. When we performed a χ^2 test on the frequencies of Figure 31, the value of χ^2 obtained was 20.671, showing that the increase was significant at the 1% level of significance ($\chi^2 \geq 15.086$).

Fig.31 - Showing the numbers of English language magazines or comics named by the children as the ones they read, together with the expected frequencies.

	0	1	2	3	4	5+	Tot.
1978	34	36	47	36	18	21	192
1981	8	26	53	40	19	33	179
	42	62	100	76	37	54	371

	0	1	2	3	4	5+	Tot.
1978	21.7	32.1	51.8	39.3	19.1	28	192
1981	20.3	29.9	48.2	36.7	17.9	26	179
	42	62	100	76	37	54	371

From the last two results, then, we are able to say with confidence that the bilingual children made more use of English language magazines and comics at 13 years old than at 10 years old. We then proceeded to investigate the children's use of Welsh language magazines and comics at both ages.

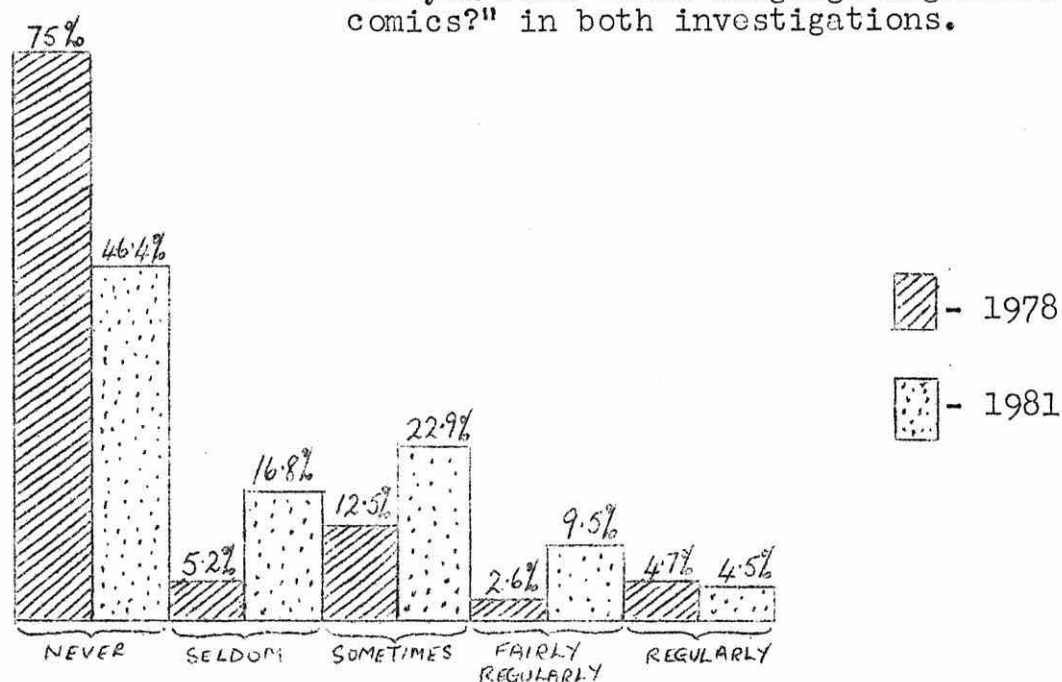
Figures 32 and 33 show the frequencies of the children's answers to the question "Do you read Welsh language magazines or comics?"

Fig.32 - Showing the frequencies of the children's answers to the question "Do you read Welsh language magazines or comics?" in both investigations, together with the expected frequencies.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	144	10	24	5	9	192
1981	83	30	41	17	8	179
	227	40	65	22	17	371

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	117.5	20.7	33.6	11.4	8.8	192
1981	109.5	19.3	31.4	10.6	8.2	179
	227	40	65	22	17	371

Fig.33 - Showing the percentage of the sample which gave the various answers to the question "Do you read Welsh language magazines or comics?" in both investigations.



There was, in fact, an increase in the use made of Welsh language magazines and comics between 1978 and 1981. A χ^2 test performed on the frequencies of Figure 32 gave a value of χ^2 of

36.998, showing that this increase was significant at the 1% level of significance ($\chi^2 \geq 13.277$). This result, however, must be treated very carefully, for if we look closely at Figure 33 we will see that the main difference between the results of 1978 and 1981 was that fewer children (46.4%) indicated that they never read Welsh magazines or comics in 1981 than did in 1978 (75%). Indeed, only 4.5% of the sample read Welsh magazines or comics regularly in 1981, compared with 4.7% in 1978. A factor which may well have brought about the increase in the reading of Welsh comics was the introduction in 1979 of the Welsh comic Sboncyn. The figures in 1978 were extremely low, only 7.3% of the sample reading Welsh language material with any regularity, and by 1981 this percentage had risen to 14.0%.

In Figure 34, we see the numbers of Welsh language comics or magazines named by the children as being the ones they read, and we see immediately that more were named in 1981 than in 1978. In fact, the value of χ^2 obtained from the frequencies of Figure 34 was 34.515, showing that the increase in the number of Welsh language comics or magazines named by the children in 1981 as compared to 1978 was significant at the 1% level of significance ($\chi^2 \geq 9.210$).

Fig.34 - Showing the number of Welsh language magazines or comics named by the children as being the ones they read, in 1978 and in 1981, together with the expected frequencies.

	0	1	2+	Tot		0	1	2+	Tot
1978	151	34	7	192	1978	124.2	53.3	14.5	192
1981	89	69	21	179	1981	115.8	49.7	13.5	179
	240	103	28	371		240	103	28	371

Before concluding our investigation into the use of magazines and comics by the children, attention must be drawn to

the fact that, both at 10 and 13 years old, they read much more English material than Welsh material. This fact is vividly shown in both the regularity with which they read material in the two languages, and also in the number of comics or magazines named as being the ones they read. Although there was an increase, from 1978 to 1981, in the children's use of magazines and comics generally, the fact still remains that in 1981 only 4.5% of the sample never read English magazines or comics, while 46.4% of the sample never read Welsh language magazines or comics.

At this juncture, we pause to consider our findings as regards the children's reading habits of newspapers, magazines and comics. These findings are now listed :-

- (a) There was a significant increase in the use made of daily newspapers by the bilingual children at 13 years old as compared to the use made of daily newspapers at 10 years old. As there are only English language daily newspapers, this increase was regarded as an increase in the use of the English language.
- (b) A similar finding was made about the use of Sunday newspapers; there was therefore a second increase in the use of the English language by the bilingual children.
- (c) There was a significant increase in the use made by the children of the Caernarfon and Denbigh Herald at 13 years old as compared to the use made of the paper at 10 years old. The difference was in fact highly significant, for while only 13.5% of the sample read the newspaper regularly at 10 years old, 40.2% read it regularly at 13 years old. Again, this was regarded as a significant increase in the use of the English language by the bilingual children.
- (d) Although there was an increase in the use made by the children

of the Cambrian News, this increase was not significant at the 1% level of significance.

- (e) There was no significant difference in the use made by the children of Y Cymro between 1978 and 1981. Very few children read the paper, and in fact there was a slight decrease from 1978 to 1981.
- (f) Even fewer children read Y Faner in both investigations, and there was no significant increase from 1978 to 1981.
- (g) Although more children read Yr Herald Gymraeg than read Y Cymro and Y Faner in both investigations, there was no significant increase in its readership between 1978 and 1981.
- (h) There were increases in the use made by the children of both the Welsh language community newspapers, Llanw Llŷn and Y Ffynnon, between 1978 and 1981, and in the case of Y Ffynnon, the increase was significant.
- (i) The children's choices of their favourite section of a newspaper were more numerous and varied in 1981 than they were in 1978. The sports section was the most popular in both investigations. In 1978, 24% of the sample were unable to name a favourite newspaper section, but by 1981 this figure had dropped to 6.7%.
- (j) There was a significant increase in the children's reading of English language comics and magazines between 1978 and 1981. There was also a significant increase in the numbers of English magazines or comics named by the children as the ones they read from the first investigation to the second.
- (k) There was a significant increase in the children's reading of Welsh language comics and magazines between 1978 and 1981. There was also a significant increase in the number of Welsh magazines or comics named by the children as being the ones they read from the first to the second investigation.

The hypothesis which we wished to test concerning the

bilingual children's newspaper, comic and magazine reading habits was that :-

Between 10 and 13 years of age, bilingual children make less use of Welsh language newspapers, magazines and comics, but make more use of English language newspapers, magazines and comics.

We have certainly shown that the children made more use of English language newspapers, magazines and comics at 13 years old than at 10 years old, but we did not find a decrease in the use of Welsh language newspapers, magazines and comics. In fact, there was also an increase in the reading of Welsh language material during the three year period, although it must be emphasised that even after this increase, the number of children who read the Welsh language newspapers, magazines and comics was still small compared to the number who read English material. We cannot, therefore, accept the hypothesis in its present form. We can, however, state the following alternative :-

Between 10 and 13 years of age, bilingual children make more use of newspapers, magazines and comics both in the Welsh language and in the English language. Furthermore, both at 10 years and at 13 years old, more bilingual children make use of English language newspapers, magazines and comics than make use of the similar Welsh language material available.

Continuing with our investigation of the bilingual children's reading habits, we next move on to consider book reading both in English and in Welsh. The hypothesis which we put forward in Chapter 5 was that :-

Between 10 and 13 years of age, bilingual children read more English language books, and read fewer Welsh language books.

The first question on book reading in the questionnaire asked the children to indicate how often they read English books out of school. Figures 35 and 36 show the frequencies of the

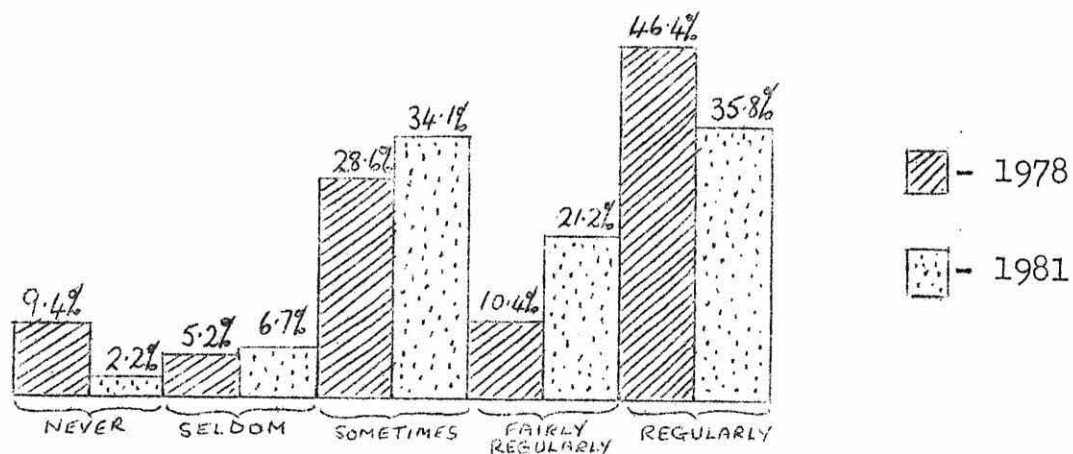
answers received to this question.

Fig.35 - Showing the frequencies of the children's answers to the question "Do you read English books at home?" in both investigations, together with the expected frequencies.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	18	10	55	20	89	192
1981	4	12	61	38	64	179
	22	22	116	58	153	371

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	11.4	11.4	60	30	79.2	192
1981	10.6	10.6	56	28	73.8	179
	22	22	116	58	153	371

Fig.36 - Showing the percentage of the sample who gave the various answers to the question "Do you read English books at home?" in both investigations.



If we look closely at Figure 36, we see that there was a difference between the answers received in 1978 and in 1981 to the question on reading English books. In fact, there was an increase in the amount of reading of English books done in 1981 as compared to 1978. In 1981, 91.1% of the sample indicated that they read English books sometimes, fairly regularly or regularly,

while in 1978 the corresponding figure was 85.4%. Also, while 9.4% of the sample indicated in 1978 that they never read English books, the figure had fallen to 2.2% by 1981. When we conducted a χ^2 test on the frequencies of Figure 35, the value of χ^2 obtained was 18.568, showing that there was a significant difference between the frequencies of the answers in 1978 and in 1981 (Significance at the 1% level if $\chi^2 \geq 13.277$).

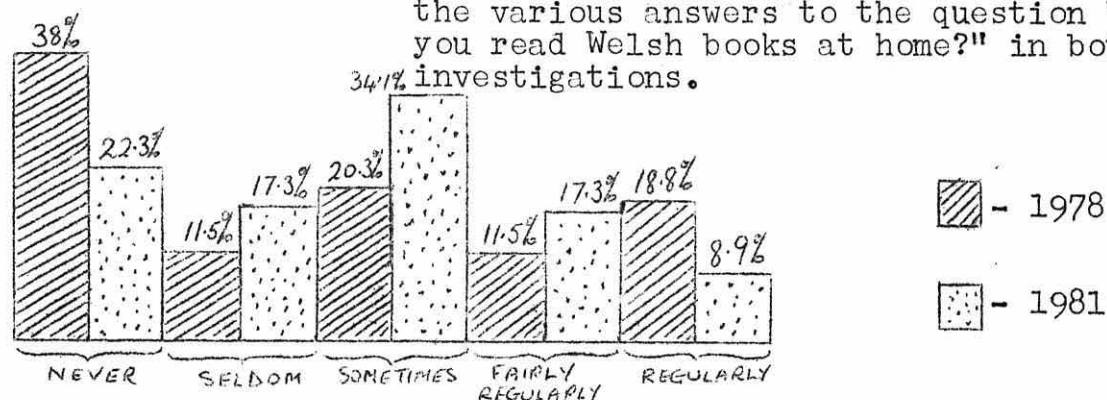
In Figures 37 and 38 we see the frequencies of the children's answers to the question "Do you read Welsh books at home?"

Fig.37 - Showing the frequencies of the children's answers to the question "Do you read Welsh books at home?" in both investigations, together with the expected frequencies.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	73	22	39	22	36	192
1981	40	31	61	31	16	179
	113	53	100	53	52	371

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	58.5	27.4	51.8	27.4	26.9	192
1981	54.5	25.6	48.2	25.6	25.1	179
	113	53	100	53	52	371

Fig.38 - Showing the %age of the sample who gave the various answers to the question "Do you read Welsh books at home?" in both investigations.



When a χ^2 test was conducted on the frequencies of Figure 37, we obtained a value of 24.797 for χ^2 , showing that there was a significant difference between the answers given in 1978 and in 1981 to the question "Do you read Welsh books at home?" (Significance at the 1% level if $\chi^2 \geq 13.277$). If we look closely at Figure 38, we see that there were fewer children in 1981 than in 1978 who never read Welsh books, but there were also fewer who read Welsh books regularly in 1981 than in 1978. In 1981, 60.3% of the sample indicated that they read Welsh books sometimes, fairly regularly, or regularly, while the corresponding figure in 1978 was 50.6%. Therefore, on the evidence of the questionnaire answers, we must assume that there was a small increase in Welsh book reading by the children in 1981 as compared to 1978.

The children were asked to indicate how often they visited a Public Library in both investigations, and the frequencies of their answers are shown in Figure 39. There was very little difference between the answers of 1978 and those of 1981, and a χ^2 test on the frequencies of Figure 39 gave a χ^2 value of 3.255, showing that the difference was not significant.

Fig.39 - Showing the frequencies of the children's answers to the question "How often do you visit a Public Library?" in both investigations.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	117	25	31	9	10	192
1981	96	29	28	13	13	179
	213	54	59	22	23	371

Before leaving the topic of use of a Public Library, attention must be drawn to two facts; firstly, in the first investigation, 60.9% of the sample never used a Public Library,

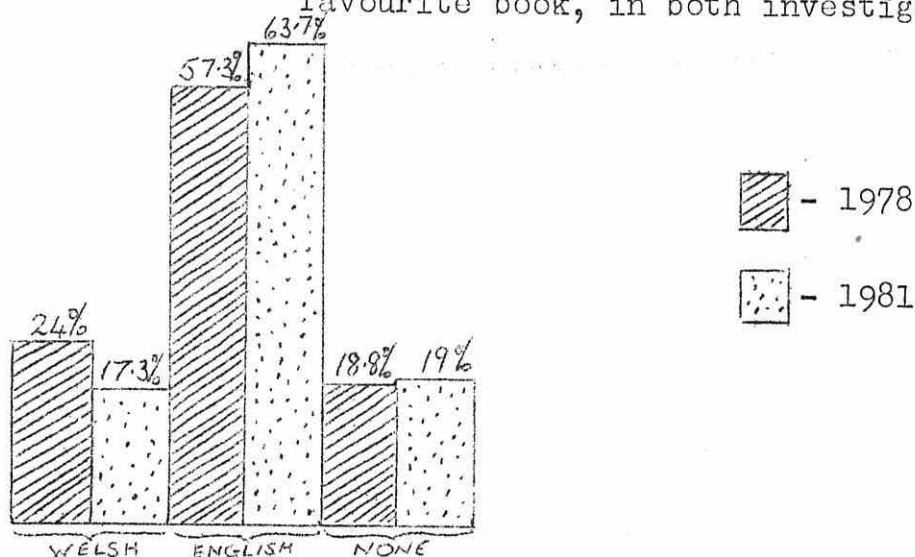
the corresponding figure for the second investigation being 53.6%. And secondly, only 10 children, or 5.2% of the sample visited a Public Library regularly in 1978, while this figure had risen to 13 children, or 7.3% by 1981. In short, few of the children under investigation were using a Public Library at 10 years old or at 13 years old.

The final question on book reading asked the children to write the title of their favourite book of all the books they had ever read. In Figure 40, we see the number of children who named a Welsh book, an English book, or had no favourite book, in both investigations. We see that there was a slight shift from Welsh to English books from 1978 to 1981, but this did not prove to be significant. The value of χ^2 obtained from the frequencies of Figure 40 was 2.626 (Significance at the 1% level if $\chi^2 \geq 9.210$).

Fig.40 - Showing the number of children who named a favourite Welsh book, a favourite English book, or had no favourite book, in both investigations,

	Welsh	English	None	Total
1978	46	110	36	192
1981	31	114	34	179
	77	224	70	371

Fig.41 - Showing the percentage of the sample which named a Welsh favourite book, an English favourite book, or had no favourite book, in both investigations.



To conclude our investigation into the bilingual children's book reading habits, we turn to the diary sheets which they were asked to complete both in November 1978 and in November 1981. As well as being asked to keep a diary of the television programmes they watched during a week, they were also asked to write the titles of all the books they had read during that school term. In both cases, this was a period of 10 weeks. The information received from the diary sheets about the children's book reading is shown in Figure 42.

Fig.42 - Information received about the numbers of Welsh books and of English books read by the children during part of the Autumn term in 1978 and in 1981.

<u>1978</u>			<u>1981</u>		
Number of children not naming any English books.	19	(9.9%)	Number of children not naming any English books.	28	(15.6%)
Number of children not naming any Welsh books.	69	(35.9%)	Number of children not naming any Welsh books.	86	(48%)
Total number of English books named.	1065	(66.1%)	Total number of English books named.	626	(71.4%)
Total number of Welsh books named.	546	(33.9%)	Total number of Welsh books named.	251	(28.6%)
Average number of English books read per month.	2.47		Average number of English books read per month.	1.40	
Average number of Welsh books read per month.	1.28		Average number of Welsh books read per month.	0.56	

From the information of Figure 42, it would seem that the amount of book reading done by the children decreased considerably between 1978 and 1981. The total number of books named as being the ones the children had read was almost halved in the three year interval, but the decrease was more marked in the case of Welsh books than in the case of English books. The difference between

the decrease in Welsh books read and the decrease in English books read between 1978 and 1981 was significant at the 1% level, for when we carried out a χ^2 test on the frequencies of Figure 43, we obtained a value for χ^2 of 7.232 (Significance if $\chi^2 \geq 6.636$).

Fig.43 - Showing the numbers of English books and of Welsh books named by the children as being the ones they had read, in 1978 and in 1981.

	English	Welsh	Total
1978	1065	546	1611
1981	626	251	877
	1691	797	2488

From Figure 42 we see that the ratio English books read : Welsh books read in 1978 was 1065 : 546, or 1.95 : 1. By 1981, this ratio had become 626 : 251, or 2.49 : 1, showing clearly that by 13 years of age the bilingual children read more English books than Welsh books.

All the information gathered about the children's book reading habits is now re-stated :-

- (a) There was a significant increase in the amount of English book reading done by the children between 1978 and 1981, as measured by the question "Do you read English books at home?"
- (b) There was a small increase in Welsh book reading by the children between 1978 and 1981, as measured by the question "Do you read Welsh books at home?"
- (c) There was no significant difference in the children's use of a Public Library between 1978 and 1981. It was found that, both at 10 years old and at 13 years old, few children used a Public Library regularly.
- (d) When we considered the language of the children's favourite book, we found a slight, but not significant, shift from Welsh books to English books between 1978 and 1981.

(e) There was a decrease in the amount of book reading done by the children between 1978 and 1981 on the evidence of the books named as having been read. This conflicted with our findings in (a) and (b), but must be regarded as being more reliable than the children's own estimates of the amounts of their book reading. It was certainly easier for the children to write the titles of the books they had read than to estimate the amount of their reading. The decrease was more marked in the case of Welsh book reading, the difference between the decreases in Welsh book reading and English book reading being significant at the 1% level.

On the strength of the above evidence, it is necessary to reject the hypothesis that between 10 and 13 years of age, bilingual children read more English books and fewer Welsh books. The evidence is somewhat conflicting, as we have seen, but the following alternative hypothesis may be suggested :-

Between 10 and 13 years of age, bilingual children read fewer books, but the decrease in Welsh book reading is more pronounced than the decrease in English book reading.

The next mass medium which concerned us in our enquiry was the medium of television. In an attempt at discovering the use made of this medium by the bilingual children, two questionnaire items and a diary sheet of television viewing provided the data for analysis. The hypothesis to be tested in the field of television was that :-

Between 10 and 13 years of age, bilingual children make more use of English language television, and less use of Welsh language television.

In both investigations, the children were asked to write down their five favourite television programmes, in order of preference. The programmes named were then weighted as follows :-

each first choice was given 5 votes, each second choice 4 votes, each third choice 3 votes, each fourth choice 2 votes, and each fifth choice 1 vote. Finally, a list was compiled in both investigations of the children's favourite television programmes, and these lists may be seen in Appendices S and U. In Figure 44, we see the total number of votes cast for both English programmes and Welsh programmes in the two investigations.

Fig.44 - Showing the total number of votes cast for English language television programmes and for Welsh language television programmes in both investigations.

	English	Welsh	Total
1978	2501 (91.4%)	234 (8.6%)	2735
1981	2385 (90.7%)	244 (9.3%)	2629
	4886	478	5364

From Figure 44, we see that between 1978 and 1981 there was a small decrease in the votes cast for English language programmes, and a very small increase in the number of votes cast for Welsh language programmes. The change in this respect, however, was very small, and was certainly not significant; the value of χ^2 obtained on the frequencies of Figure 44 was 0.919 (Significance at the 1% level if $\chi^2 \geq 6.635$).

Attention must be drawn to the difference between the votes cast for English programmes and for Welsh programmes in both investigations. In 1978, 91.4% of the votes cast were for English programmes, with 8.6% cast for Welsh language programmes. In 1981, the corresponding percentages were 90.7% and 9.3%. It is therefore true to say that English television programmes were much more popular with the bilingual children than Welsh television programmes both at 10 years old and at 13 years old.

The second questionnaire item asked the children to write

the name or names of their favourite television personality or personalities. In Figure 45, we see the personalities named divided into their respective nationalities.

Fig.45 - Showing the number of favourite television personalities of various nationalities named by the children in both investigations.

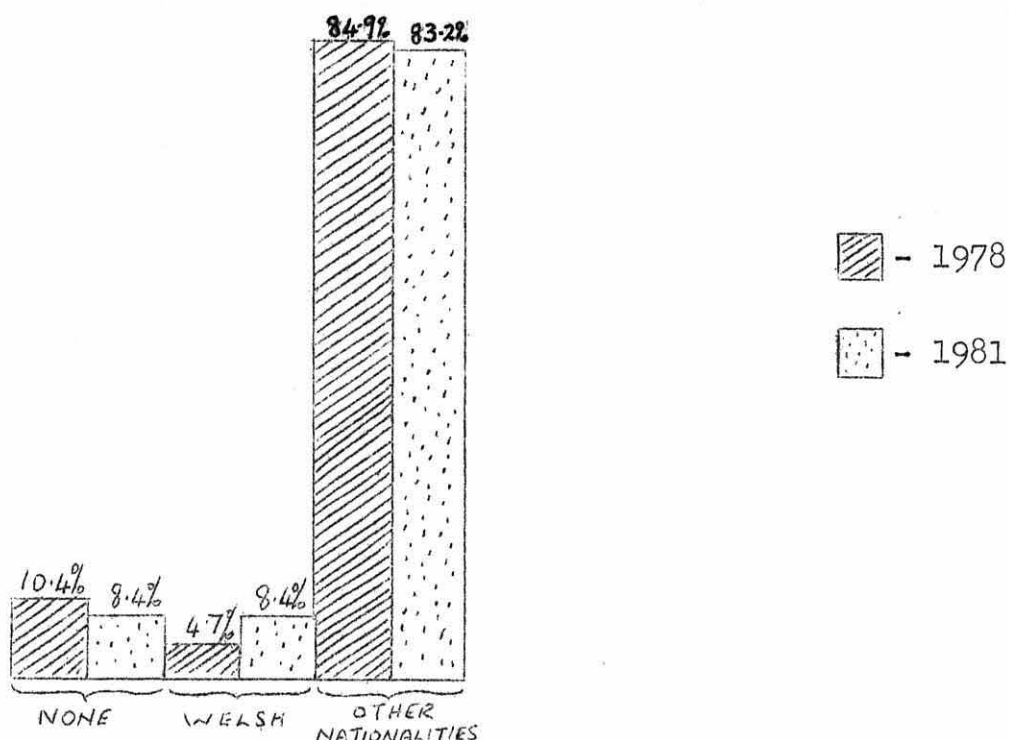
	None	Welsh	English	American	English/ American	Irish	Tot,
1978	20	9	68	92	3	0	192
1981	15	15	99	48	0	2	179
	35	24	167	140	3	2	371

We were not interested in the actual nationalities of favourite television personalities; our interest lay in discovering whether or not the children's favourite personalities were Welsh or not. Therefore, the frequencies of Figure 45 were adjusted, to give those of Figure 46.

Fig.46 - Showing the numbers of Welsh favourite television personalities named by the children, together with the numbers of favourite personalities of other nationalities named by the children.

	None	Welsh	Other Nationalities	Total
1978	20	9	163	192
1981	15	15	149	179
	35	24	312	371

Fig.47 - Showing the percentage of the sample naming Welsh personalities, English personalities, or personalities of other nationalities as favourite television personalities in both investigations.



We see from Figure 46 that there was a slight increase in the number of Welsh television personalities named between 1978 and 1981, but this increase was not significant. A χ^2 test performed on the frequencies of Figure 46 gave a χ^2 value of 2.371 (Significance at the 1% level if $\chi^2 \geq 9.210$). We can again say, therefore, that there was very little change between 1978 and 1981 in the number of Welsh favourite television personalities named by the children.

It has been explained previously that the children were asked to keep a diary for a whole week in November 1978, and again in November 1981, of all the television programmes they watched during that week. From the diaries we were able to discover the total time spent watching both English language and Welsh language programmes during each sample week. This information is given in Figure 48.

Fig.48 - Showing the times spent watching Welsh language television programmes, and the times spent watching English language television programmes during the two sample weeks.

1978		1981	
Total time watching English language programmes	3208.83 hours	Total time watching English language programmes	2986.92hrs

Total time watching Welsh language programmes	116.25 hrs	Total time watching Welsh language programmes	189.33hrs
Average time per child watching English language programmes for the week	16hr 42m.	Average time per child watching English language programmes for the week	16hr 41m.
Average time per child watching Welsh language programmes for the week	0hr 36m.	Average time per child watching Welsh language programmes for the week	1hr 3m.
Children watched English programmes for 96.5% of the total time spent watching television, and 3.5% of the time watching Welsh language programmes.		Children watched English programmes for 94.0% of the total time spent watching television, and 6.0% of the time watching Welsh language programmes.	

The most striking feature of the above Figure is the difference in the times spent watching English language programmes and Welsh language programmes by the bilingual children both in 1978 and in 1981. The average time per child spent watching English language programmes remained the same in 1981 as it was in 1978, but there was an increase in the average time per child spent watching Welsh language programmes from 1978 to 1981, an increase of 27 minutes. This increase, it is suspected, was mainly due to the introduction in 1979 of an hour long programme for children on Sunday mornings between 8.45 and 9.45, "Yr Awr Fawr". No fewer than 63 of the 179 children watched this programme on the Sunday of the sample week in November 1981; in fact, discounting "Yr Awr Fawr", the average time per child watching Welsh language programmes would have been 42 minutes, an increase on the 1978 figure of 6 minutes.

Whether we look at the 1978 figures or at the 1981 figures, it is obviously true to say that the bilingual children spent far more time watching English programmes than Welsh programmes on television. And in spite of a small increase in the watching of Welsh language programmes between 1978 and 1981, the time spent

watching Welsh language programmes in 1981 still only amounted to 6% of the total time spent watching television by the children during the sample week.

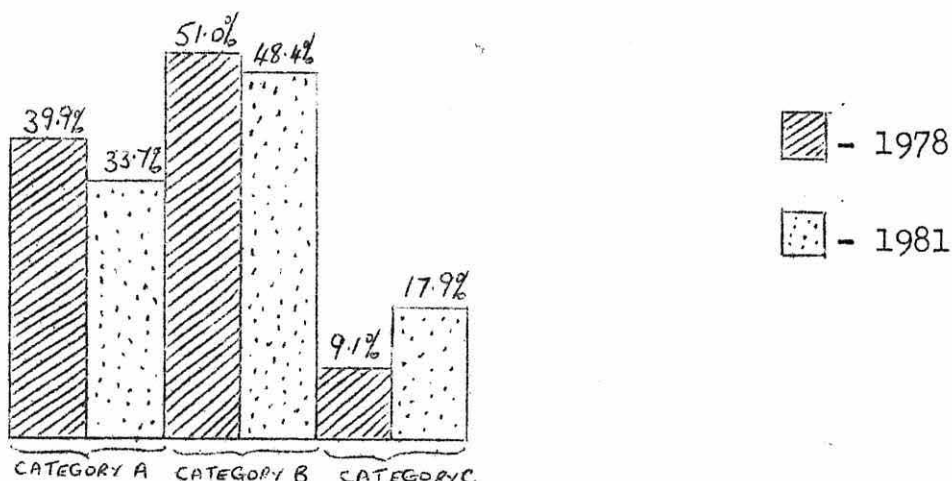
From the diary sheets kept by the children, we were also able to calculate the total time spent watching television at various times of the day. It was decided to use three categories of programmes ; category A was for programmes transmitted before 6 p.m. each day, category B for programmes transmitted between 6 p.m. and 9 p.m., and category C for programmes transmitted after 9 p.m.. Figure 49 shows the times spent watching the various categories during the sample weeks in 1978 and 1981.

Fig.49 - Showing the total times, in hours, spent by the children watching category A, category B, category C programmes during the sample weeks in November 1978 and November 1981.

	Category A	Category B	Category C	Tot.
1978	1318.2	1686.9	302.1	3307.2
1981	1055.2	1515.7	560.1	3131
	2373.4	3202.6	862.2	6438.2

In Figure 50, the times of Figure 49 are shown as percentages of the total times for both investigations.

Fig.50 - Showing the categoryA, category B and category C programmes watched as %ages of the total times spent watching television in the sample weeks of 1978 and 1981.



From Figure 50, we see that there was a reduction in the time spent watching category A programmes between 1978 and 1981, a slight reduction in the time spent watching category B programmes, and an increase in the time spent watching category C programmes. This was a little unexpected, for we had expected to find an increase in the time spent watching category B programmes, since these programmes are transmitted at the peak viewing time each day. An increase in the time spent watching category C programmes was expected, the children probably being allowed to stay up later at night to watch television at 13 years old than at 10 years old. Practically all Welsh language television programmes are either category A or category B, so that the reduction in the times spent watching both categories would seem to suggest that Welsh language programmes are less popular at 13 years than at 10 years old.

Our findings in the field of television may be summarised as follows :-

- (a) There was little change in the children's choice of favourite television programmes, as regards English or Welsh programmes, between 1978 and 1981. However, we found that English programmes were very much more popular than Welsh programmes ; in 1978 91.4% of the children's favourite programmes were English programmes, and 8.6% were Welsh programmes. The corresponding figures in 1981 were 90.7% and 9.3%.
- (b) There was very little change between 1978 and 1981 in the number of Welsh favourite television personalities named by the children. It was noted, however, in both investigations that very few of the children named a Welsh person as their favourite television personality.
- (c) There was no real comparison between the times spent by the children watching English television programmes, and watching

Welsh television programmes, in either investigation. In the first sample week, in November 1978, the total time spent watching English television programmes was 3208 hours and 50 minutes, while the total time watching Welsh language television programmes was 116 hours and 15 minutes. The corresponding times for the second sample week, in November 1981, were 2986 hours 55 minutes, and 189 hours 20 minutes. There had been an increase in the time spent watching Welsh language programmes from 1978 to 1981, but it was suspected that this was mostly due to many of the children watching an hour long programme each Sunday morning in 1981.

- (d) When we investigated the time of day at which the children watched television, we found a decrease in the times spent watching programmes before 6 p.m., and also a small decrease in the time spent viewing between 6 p.m. and 9 p.m. from 1978 to 1981. There was an increase in the time spent viewing after 9 p.m.

In view of our findings, we are unable to accept our hypothesis that between 10 and 13 years of age, bilingual children make more use of English language television, and less use of Welsh language television. What we have actually shown is that :- At 13 years old, the amount of English television watched by the children remained the same as it was at 10 years old, while there was a small increase in the amount of Welsh language television watched by the children at 13 years old.

However, the most important fact of all that we discovered was that, both at 10 years old and at 13 years old, the bilingual children were heavily dependent on English television programmes. It was found in 1978 that 73 children (38%) did not watch any Welsh television programmes during the sample week, and in 1981

the corresponding figure was 71 children (39.7%). Undoubtedly the imbalance between the bilingual children's viewing of Welsh programmes and of English programmes gives cause for concern, for it is very difficult not to question whether or not the actual concept of bilingualism is being diluted by the constant reception of the English language by children. Television is very likely an important medium in the lives of our children and young people, and on the evidence that we have gathered in our two investigations, it does not appear to be a medium which is likely to foster bilingualism in Wales.

The next media considered in our investigations were the cinema, radio, records and cassettes, together with the children's views on sport. The hypothesis to be tested is that :-

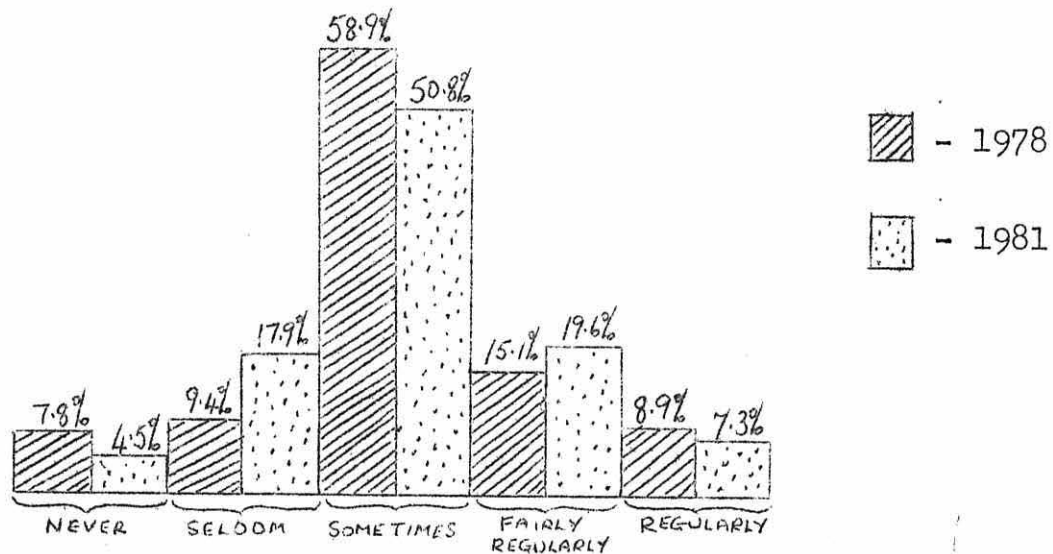
Between 10 and 13 years of age, bilingual children increase their use of radio, cinema, records and cassettes in the English language, but there is a decrease in their use of these media in the Welsh language. Also, there is a decline in their allegiance to Welsh persons in the world of sport.

We began by asking the children to indicate how often they visited the cinema, which is ostensibly English medium only. The frequencies of their answers are shown in Figures 51 and 52.

Fig.51 - Showing the frequencies of the children's answers to the question "How often do you visit a cinema?" in both investigations.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	15	18	113	29	17	192
1981	8	32	91	35	13	179
	23	50	204	64	30	371

Fig.52 - Showing the percentage of the sample which gave the various answers to the question "How often do you visit a cinema?" in both investigations.



We see from Figures 51 and 52 that there was little change in the children's use of the cinema between 1978 and 1981. A χ^2 test on the frequencies of Figure 51 gave a χ^2 value of 9.102, showing that there was no significant difference between the answers received in 1978 and those received in 1981 (Significance at the 1% level if $\chi^2 \geq 13.277$). There was, however, a slight increase in the percentage of the sample who visited a cinema fairly regularly or regularly in 1981 (26.9%) as compared to the percentage in 1978 (24%). There was also a drop in the percentage who never visited a cinema, from 1978 to 1981 (7.8% to 4.5%). We may therefore say that there was a slight increase in the use of the cinema by the bilingual children between 1978 and 1981.

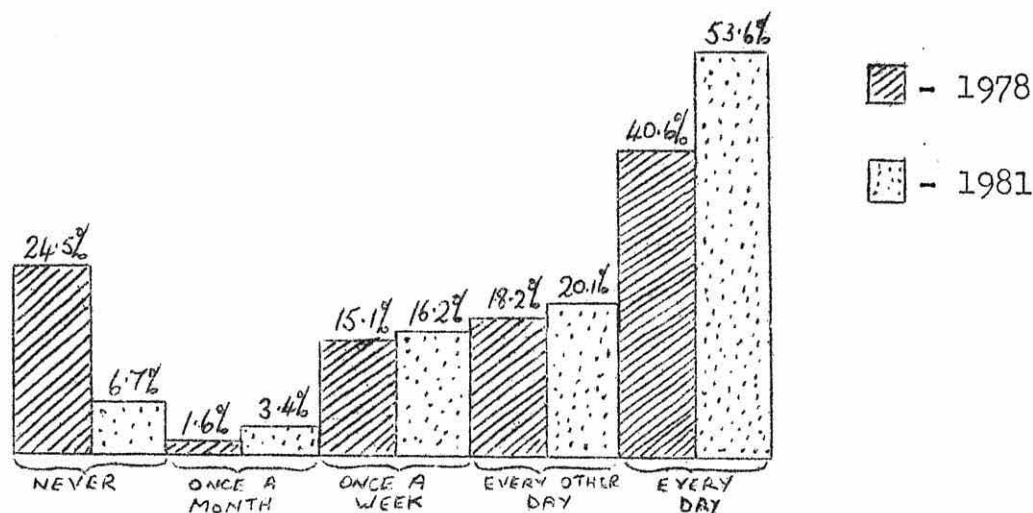
Figures 53 and 54 show the frequencies of the answers received to the question "How often do you listen to the radio at home?"

Fig.53 - Showing the frequencies of the children's answers to the question "How often do you listen to the radio at home?" in both investigations, together with the expected frequencies.

	Never	Once a month	Once a week	Every other day	Every day	Tot.
1978	47	3	29	35	78	192
1981	12	6	29	36	96	179
	59	9	58	71	174	371

	Never	Once a month	Once a week	Every other day	Every day	Tot.
1978	30.5	4.7	30	36.7	90.1	192
1981	28.5	4.3	28	34.3	83.9	179
	59	9	58	71	174	371

Fig.54 - Showing the percentage of the sample which gave the various answers to the question "How often do you listen to the radio at home?" in both investigations.



Clearly there was an increase in the children's use of radio between 1978 and 1981, and this increase was significant, for a χ^2 test conducted on the frequencies of Figure 53 gave a χ^2 value of 23.368 (Significance at the 1% level if $\chi^2 \geq 13.277$).

From Figure 54 we see that in 1981 73.7% of the sample listened to the radio at least every other day, while the corresponding figure in 1978 was 58.8%. We also see that whereas 24.5% of the sample never listened to the radio in 1978, by 1981 this had fallen to

6.7%.

In an attempt at discovering whether the children listened to Welsh language radio programmes or to English language programmes, they were asked in both investigations to write the names of their favourite radio programmes, in order of preference. As was done in the case of television, the first programme named was allocated five votes, the second programme four votes, the third programme three votes, the fourth programme two votes, and the fifth programme one vote. A list was then compiled showing the radio programmes named, together with the number of votes cast for each programme. The lists obtained from the two investigations are given in Appendices T and V. The total number of votes cast for English radio programmes in 1978 was 477 (72.8%) and for Welsh language programmes 178 (27.2%). In 1981, 1009 votes (69%) were cast for English language programmes, and 454 (31%) for Welsh language programmes. Two important deductions were made from these figures. Firstly, it was obvious that many more programmes were named by the children in 1981 than in 1978, thus confirming our finding that they made more use of radio at 13 years old than at 10 years old. And secondly, judging by these figures, it would seem that Welsh language programmes were relatively more popular in 1981 than in 1978. It must be pointed out at this stage that no attempt was made at having the children keep a diary of their listening to the radio. The reason for this is that radio is a more casual medium than television; it was felt that the children would experience difficulty in naming the actual radio programmes listened to each day, for in many homes the radio tends to be on in the background. Also, it was felt more desirable for the children to concentrate on noting the television programmes that they watched during the sample weeks. Consequently, our findings concerning the bilingual children's use of the radio may be limited.

The final question on radio in the questionnaire asked the children to write the name of their favourite radio personalities. We were primarily interested in discovering whether or not they named Welsh-speaking persons, and in Figure 55, which shows the number of favourite radio personalities of various nationalities named, a Welsh favourite person is a Welsh-speaking person.

Fig.55 - Showing the number of favourite radio personalities of various nationalities named by the pupils in both investigations.

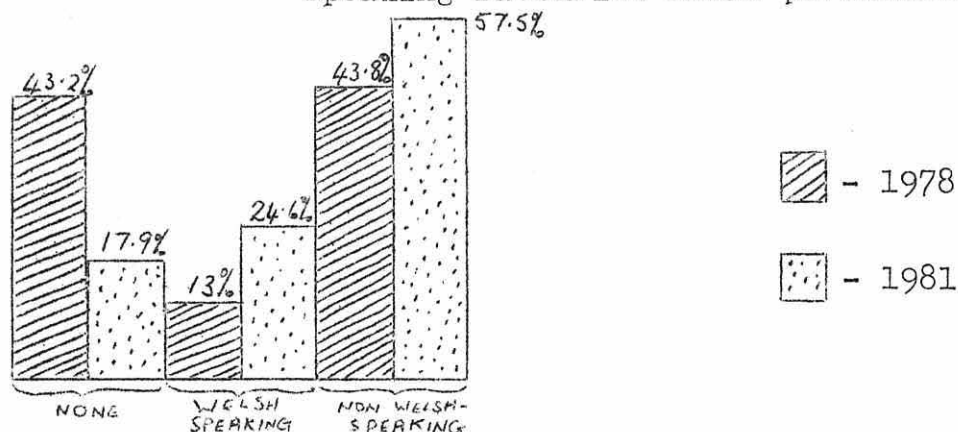
	None	Welsh	English	American	Irish	English/ American	Tot.
1978	83	25	48	12	20	4	192
1981	32	44	60	0	43	0	179
	115	69	108	12	63	4	371

The frequencies of Figure 55 are adjusted in Figure 56 to show the Welsh-speaking and non Welsh-speaking favourite radio personalities.

Fig.56 - Showing the number of Welsh-speaking and of non Welsh-speaking favourite radio personalities named by the children in the two investigations.

	None	Welsh speaking	Non Welsh speaking	Tot.
1978	83	25	84	192
1981	32	44	103	179
	115	69	187	371

Fig.57 - Showing the percent ge of the sample naming Welsh-speaking and non Welsh-speaking favourite radio personalities.



We see from Figures 56 and 57 that there was an increase in both the number of Welsh-speaking favourite radio personalities and in the number of non Welsh-speaking favourite radio personalities from 1978 to 1981. The latter increase, however, was relatively greater than the former. There was a sharp decrease in the number of children who had no favourite radio personality from 1978 to 1981, again supporting our earlier finding that at 13 years old the children made more use of radio than they did at 10 years old.

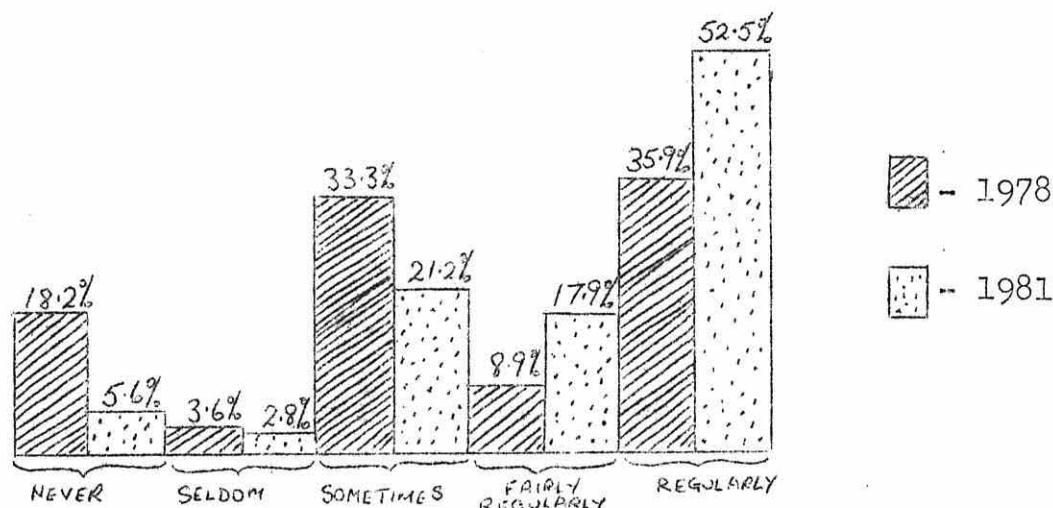
It has already been explained that the medium of records and cassettes is an important medium for young people. In both our investigations, three questions were included in the questionnaires on the children's use of records and cassettes. The first of these asked them to indicate how often they played English records or cassettes, and the frequencies of their answers are shown in Figures 58 and 59.

Fig.58 - Showing the frequencies of the children's answers to the question "Do you play English records or cassettes at home?" in both investigations, together with the expected frequencies.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	35	7	64	17	69	192
1981	10	5	38	32	94	179
	45	12	102	49	163	371

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	23.3	6.2	52.8	25.4	84.3	192
1981	21.7	5.8	49.2	23.6	78.7	179
	45	12	102	49	163	371

Fig.59 - Showing the percentage of the sample which gave the various answers to the question "Do you play English records or cassettes at home?" in both investigations.



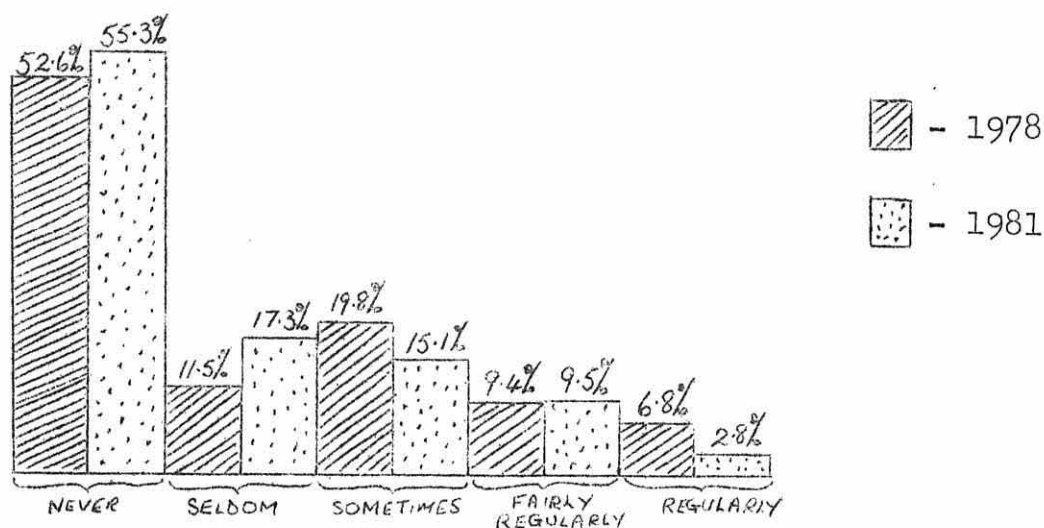
Clearly, there was an increase in the use made by the children of English records and cassettes between 1978 and 1981, and the increase was significant at the 1% level, for a χ^2 test conducted on the frequencies of Figure 58 gave a χ^2 value of 28.841 (Significance at the 1% level if $\chi^2 > 13.277$).

Figures 60 and 61 show the frequencies of the answers received to a similar question on the use of Welsh language records and cassettes.

Fig.60 - Showing the frequencies of the children's answers to the question "Do you play Welsh language records or cassettes at home?" in both investigations.

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
1978	101	22	38	18	13	192
1981	99	31	27	17	5	179
	200	53	65	35	18	371

Fig.61 - Showing the percentage of the sample which gave the various answers to the question "Do you play Welsh language records or cassettes at home?" in both investigations.



There was a decrease in the use of Welsh language records and cassettes by the children between 1978 and 1981. The decrease, however, was not significant, the χ^2 value obtained from the frequencies of Figure 60 being 6.407 (Significance at the 1% level if $\chi^2 \geq 13.277$). Nevertheless, the decrease contrasts sharply with the significant increase that we found in the use of English records and cassettes between 1978 and 1981. It will be noticed from Figure 61 that, in both investigations, more than half the sample did not play Welsh records or cassettes at all. Furthermore, the number of children who regularly played Welsh records or cassettes was extremely low both in 1978 and in 1981, being 13 and 5 respectively.

To complete our investigation into the children's record playing habits, they were asked to write the names of their favourite recording artist or artistes. Figure 62 shows the artistes named divided into nationalities.

Fig.62 - Showing the number of favourite recording stars of various nationalities named by the children in both investigations.

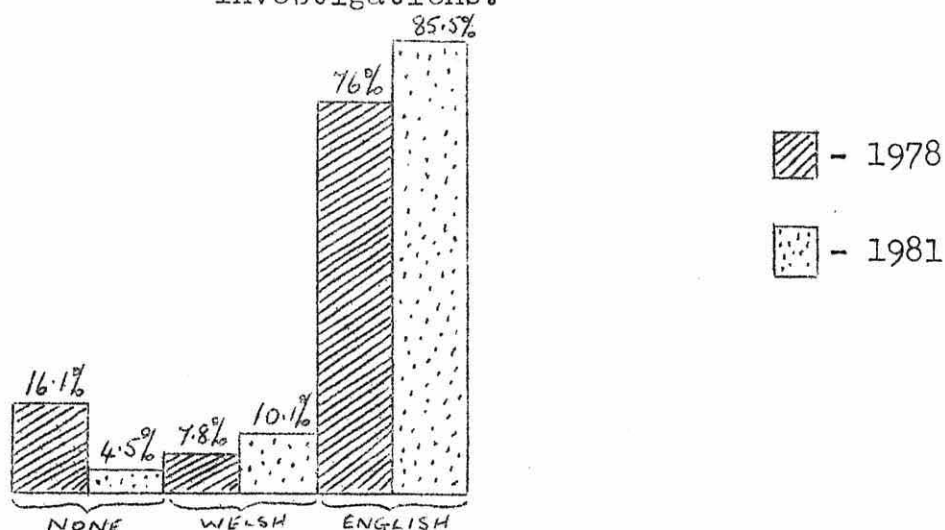
	None	Welsh	English	Amer.	Swedish	Germ.	Irish	Eng/ Amer.	Tot.
1978	31	15	20	84	20	1	1	20	192
1981	8	18	131	12	8	0	2	0	179
	39	33	151	96	28	1	3	20	371

It should be explained that by Welsh artistes, we mean artistes from Welsh language records or cassettes. We were, in fact, interested in the division of favourite artistes into those from Welsh language records, and the ones from English language records. Figure 62 has therefore been adjusted to give Figure 63, which shows this information.

Fig.63 - Showing the number of favourite artistes named from Welsh records or cassettes, and the number named from English language records or cassettes, together with the expected frequencies.

	None	Welsh	English	Tot		None	Welsh	English	Tot
1978	31	15	146	192	1978	20.2	17.1	154.7	192
1981	8	18	153	179	1981	18.8	15.9	144.3	179
	39	33	299	371		39	33	299	371

Fig.64 - Showing the percentage of the sample which named a favourite recording star from Welsh records, from English records, or had no favourite recording star, in both investigations.



There was a significant difference between the frequencies shown in Figure 63 for 1978 and 1981 ($\chi^2 = 13.527$ showing significance at the 1% level since $\chi^2 \geq 9.210$). This was due mainly to the fact that considerably fewer failed to name a favourite recording star in 1981 than in 1978. Also, there was a slight increase in the number of Welsh recording stars named, and a greater increase in the number of English recording stars named. Attention must be drawn to the fact that, in both investigations, a high percentage of the sample (76% and 85.5% respectively) named English recording artistes as their favourite.

The answers received to the three questionnaire items on records and cassettes showed that English language records and cassettes were far more popular with the children both at 10 years old and at 13 years old than were Welsh language records and cassettes.

The last three questions in both questionnaires concerned the children's interests in sport. They were initially asked to name their favourite sports person, and Figure 65 shows the number of persons of various nationalities that were named in 1978 and in 1981. It should be explained that a 'Welsh' person in Figure 65 does not necessarily mean a Welsh-speaking person, but rather a person of Welsh nationality.

Fig.65 - Showing the number of favourite sports persons of various nationalities named by the children in both investigations.

	None	Welsh	English	Scot.	Irish	Swede	Amer.	Rus.	Braz	Gr	Sp	Tot
1978	54	21	73	33	3	1	2	1	4	0	0	192
1981	25	16	94	22	2	5	11	0	2	1	1	179
	79	37	167	55	5	6	13	1	6	1	1	371

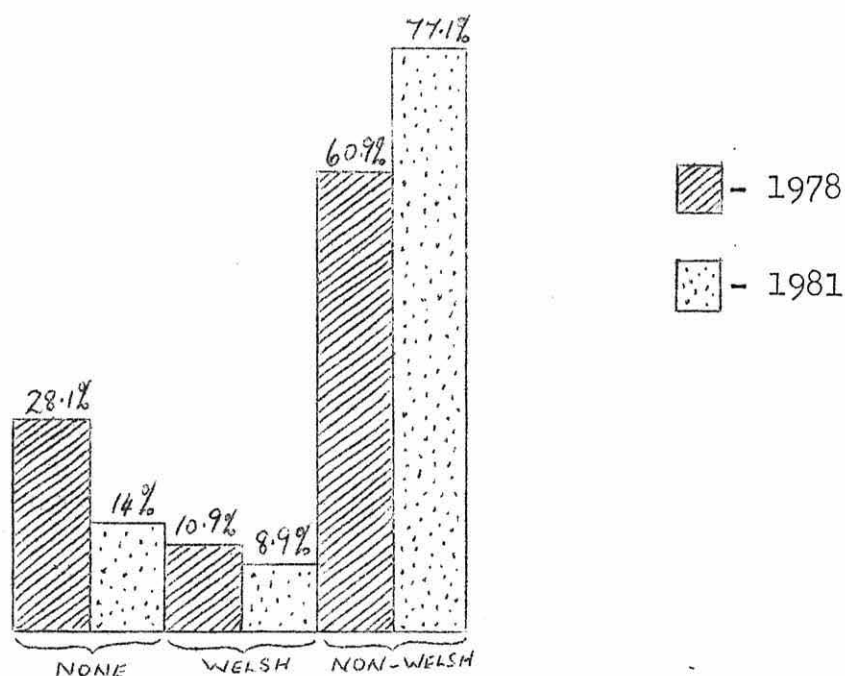
In asking this particular question, we were primarily interested in discovering whether there was a reduction in the

children's allegiance to Welsh sports persons between 10 and 13 years of age. We therefore adjusted the frequencies of Figure 65 to give those shown in Figure 66.

Fig.66 - Showing the number of Welsh persons, and of non-Welsh persons named by the children as their favourite sports persons, in both investigations.

	None	Welsh	Non-Welsh	Total
1978	54	21	117	192
1981	25	16	138	179
	79	37	255	371

Fig.67 - Showing the percentage of the sample which named a Welsh person, a non-Welsh person, or made no choice of a favourite sports person, in both investigations.



We see from Figures 66 and 67 that a smaller percentage of the sample named a Welsh person as their favourite sports person in 1981 than did in 1978. Also clear is the fact that more children named a non-Welsh person as their favourite sports person in 1981 than in 1978.

When asked to name their favourite soccer team, the large

majority of the children named an English soccer team both in 1978 and in 1981. Only one child named the local soccer team, Pwllheli and District, as his favourite soccer team in either investigation. Figure 68 shows the soccer teams named, together with the number of children who named each.

Fig.68 - Showing the children's favourite soccer teams in both investigations.

<u>1978</u>		<u>1981</u>	
Liverpool	116 (60.4%)	Liverpool	93 (52.0%)
Manchester Utd.	23 (12.0%)	Manchester Utd.	26 (14.5%)
Leeds Utd.	13 (6.8%)	Swansea City	11 (6.1%)
Wrexham	9 (4.7%)	Spurs	8 (4.5%)
Wales	5 (2.6%)	Leeds Utd.	5 (2.8%)
Everton	4 (2.1%)	Everton	4 (2.2%)
Wolves	3 (1.6%)	Wales	3 (1.7%)
Notts Forest	2 (1.0%)	Notts Forest	3 (1.7%)
Southampton	1 (0.5%)	Wolves	3 (1.7%)
Italy	1 (0.5%)	Ipswich T.	2 (1.1%)
Scotland	1 (0.5%)	Swindon T.	1 (0.6%)
Brazil	1 (0.5%)	Southampton	1 (0.6%)
Manchester City	1 (0.5%)	Norwich City	1 (0.6%)
None	12 (6.25%)	Pwllheli and Dist.	1 (0.6%)
	<u>192</u>	None	17 (9.5%)
			<u>179</u>

There is obviously little allegiance to Welsh soccer teams by the children on the evidence of the above two lists.

The final question of the questionnaire asked the children to indicate whether they preferred to watch soccer or rugby. Rugby is considered to be the national game of Wales, and it was expected that the majority of the children would prefer to watch rugby .

Figure 69 gives the distribution of the answers.

Fig.69 - Showing the children's answers to the question "Which do you prefer to watch, soccer or rugby?" in both investigations.

	None	Soccer	Rugby	Total
1978	3	147	42	192
1981	14	127	38	179
	17	274	80	371

Fig.70 - Showing the %age of the sample which preferred to watch either soccer or rugby, in both investigations.

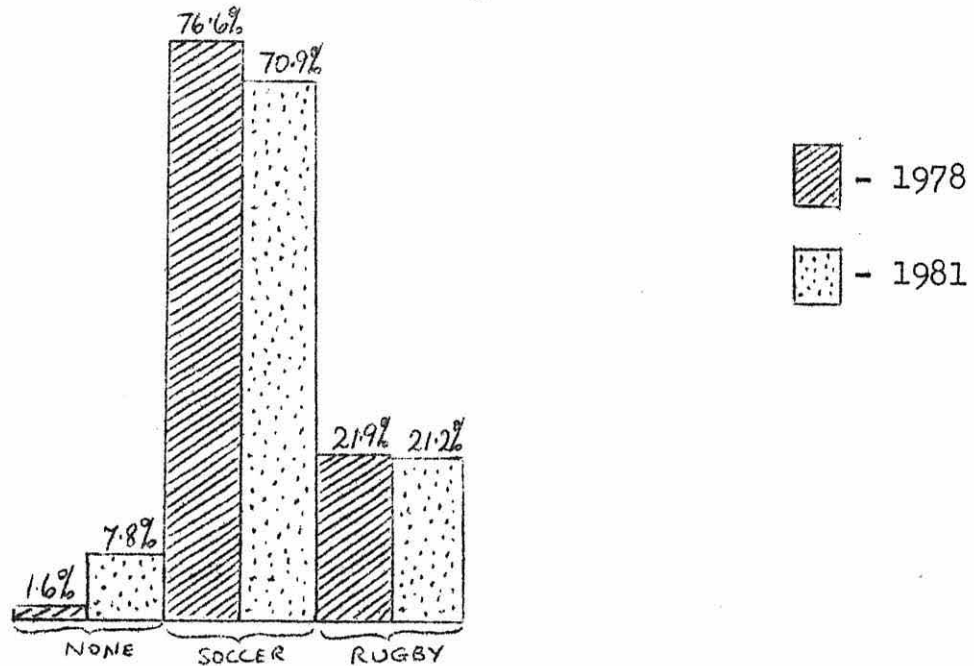


Figure 70 shows that there was very little change in the answers received to this particular question between 1978 and 1981. It was clear, in both investigations, that soccer was much more popular with the children than was rugby.

Our findings in this section on the cinema, radio, records and cassettes, and sport may be summarised as follows :-

- There was a slight increase in the use of the cinema by the bilingual children between 1978 and 1981.
- There was a significant increase in the use made of radio by the children between 1978 and 1981. Although English radio programmes were much more popular than Welsh language radio

programmes in both investigations, there was a slight relative increase in the popularity of Welsh language programmes between 1978 and 1981, and a slight relative decrease in the popularity of English programmes. There was little change in the children's choice of favourite radio personalities as regards their being Welsh-speaking or not. There was, however, a sharp drop in the number of children who did not name a favourite radio personality, a fact which seemed to support the earlier finding that more use was made of radio at 13 years old than at 10 years old.

- (c) There was a significant increase in the use made by the children of English language records and cassettes between 1978 and 1981.
- (d) There was a decrease, though it was not significant, in the use made by the children of Welsh language records and cassettes between 1978 and 1981.
- (e) There was a slight increase in the number of Welsh favourite recording stars named by the children in 1981 as compared to 1978, with a greater increase in the number of English recording stars named. Obviously, English language records and cassettes were far more popular with the children both at 10 years old and at 13 years old than were Welsh language records and cassettes.
- (f) There was a small decrease in the percentage of the sample naming a Welsh person as favourite sports person between 1978 and 1981, with an increase in the number of non-Welsh persons named as favourite sports persons.
- (g) The vast majority of the children named an English team as their favourite soccer team in both investigations.
- (h) There was little change between the answers received in 1978 and in 1981 to the question "Which do you prefer to watch, soccer or rugby?". Soccer was easily the most popular of the

two sports.

The hypothesis put forward to be tested in this section was that :-

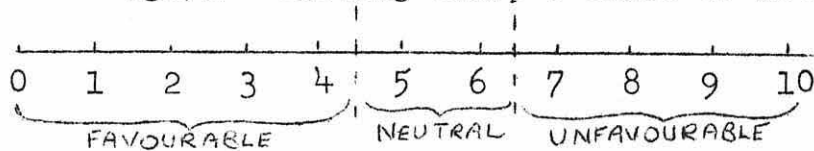
Between 10 and 13 years of age, bilingual children increase their use of radio, cinema, records and cassettes in the English language, but there is a decrease in their use of these media in the Welsh language. Also, there is a decline in their allegiance to Welsh persons in the world of sport.

Our findings enable us to accept this hypothesis, with one slight adjustment. We did not find a decrease in the children's use of Welsh radio, and we therefore restate our hypothesis as follows :-

Between 10 and 13 years of age, bilingual children increase their use of radio, cinema, records and cassettes in the English language but there is a decrease in their use of records and cassettes in the Welsh language. Also, there is a decline in their allegiance to Welsh persons in the world of sport.

We have seen in the present chapter that the bilingual children under investigation make much more use of the English mass media than of the Welsh mass media. There is no linguistic balance in the mass media in Wales, and our contention, as outlined earlier, is that the dominance of the English language over the Welsh language in the mass media is so overwhelming that it is bound to influence, among other factors, bilingual children's attitude towards the two languages. Both in 1978 and in 1981, two attitude tests were administered to the children, an Attitude Towards English test, and an Attitude Towards Welsh test. It was possible to calculate an attitude score for each child on these tests, using Sharp's attitude scale, the scale being similar for both the Attitude Towards English test and for the Attitude Towards Welsh test. Sharp's scale is shown in Figure 71.

Fig.71 - Showing Sharp's Scale of Attitude.

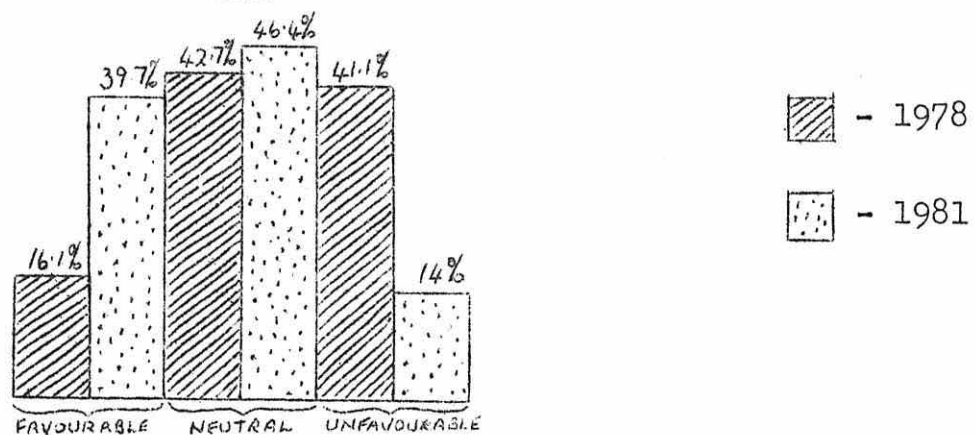


The attitude of every child towards both the English language and the Welsh language could therefore be described as favourable, neutral or unfavourable. In Figure 72, we see the number of children who fell into these three categories in the Attitude Towards English tests in 1978 and in 1981.

Fig.72 - Showing the Attitude Towards English of the children as measured in 1978 and in 1981.

	Favourable	Neutral	Unfavourable	Total
1978	31	82	79	192
1981	71	83	25	179
	102	165	104	371

Fig.73 - Showing the percentage of the sample having a favourable, neutral or unfavourable attitude towards English in both investigations.



We see from Figures 72 and 73 that there was a difference between the children's attitude towards English in 1981 and in 1978, their attitude being much more favourable in 1981 than in 1978. A χ^2 test on the frequencies of Figure 72 gave a χ^2 value of 43.394, showing that the difference was significant at the 1%

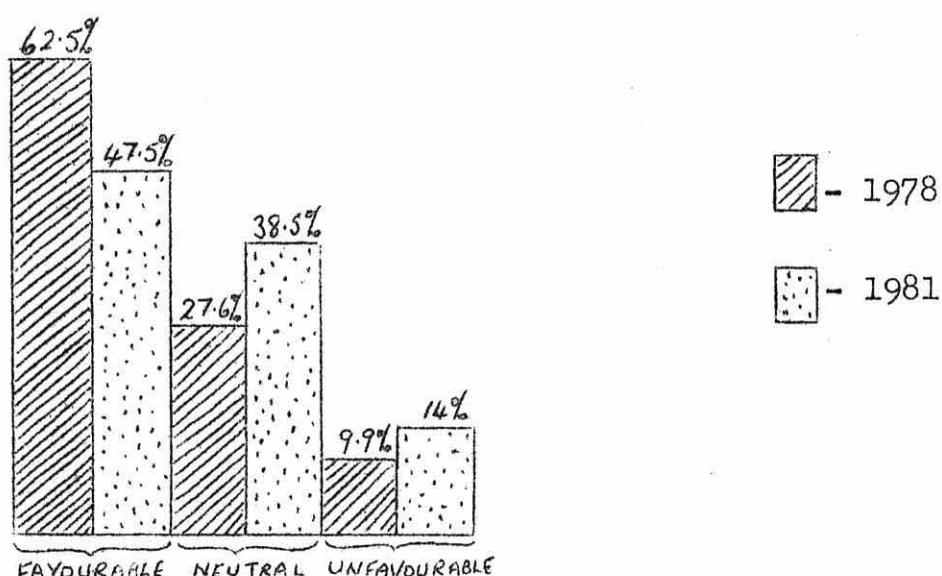
level (Significance if $\chi^2 \geq 9.210$).

Figures 74 and 75 show the attitudes of the children towards the Welsh language.

Fig.74 - Showing the Attitude Towards Welsh of the children as measured in 1978 and in 1981.

	Favourable	Neutral	Unfavourable	Total
1978	120	53	19	192
1981	85	69	25	179
	205	122	44	371

Fig.75 - Showing the %age of the sample having a favourable, neutral or unfavourable attitude towards the Welsh language, in both investigations.



We see from Figures 74 and 75 that there was a difference in the children's attitude towards the Welsh language between 1978 and 1981, their attitude being less favourable in 1981 than it was in 1978. A χ^2 test on the frequencies of Figure 74 gave a χ^2 value of 8.438, showing that this difference was approaching significance at the 1% level (Significance at the 1% level if $\chi^2 \geq 9.210$, and Significance at the 5% level if $\chi^2 \geq 5.991$).

We may therefore say that between 10 and 13 years old, the attitude of the bilingual children under investigation became less

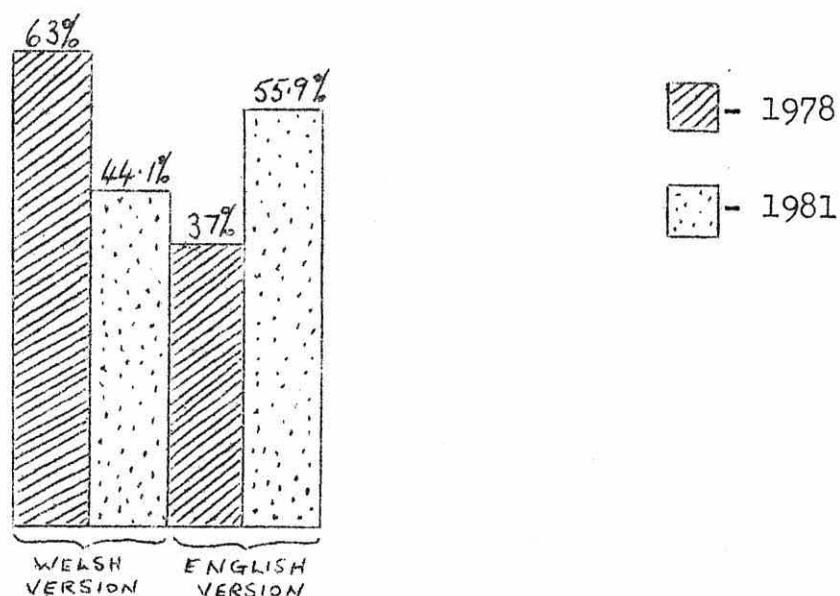
favourable towards the Welsh language, while their attitude towards the English language became more favourable.

A second indirect measure of the children's attitude to the two languages was obtained when we considered the version of the questionnaire chosen by the pupils in the two investigations. In the first investigation, the majority of the children chose the Welsh version of the questionnaire, but in 1981 the English version was chosen more often than the Welsh version. Figure 76 shows the number of both versions of the questionnaire chosen in the two investigations.

Fig.76 - Showing the number of the Welsh version, and of the English version of the questionnaire chosen by the children to answer in the two investigations, together with the expected frequencies.

	Welsh version	English version	Tot.		Welsh version	English version	Tot.
1978	121	71	192	1978	103.5	88.5	192
1981	79	100	179	1981	96.5	82.5	179
	200	171	371		200	171	371

Fig.77 - Showing the %age of the sample which chose the respective versions of the questionnaire in 1978 and in 1981.



We see that there was a considerable difference in the children's choice of questionnaires between the two investigations. When a χ^2 test was conducted on the frequencies of Figure 76, a value of 13.305 was obtained, showing that the difference was significant at the 1% level (Significance if $\chi^2 \geq 6.635$). At 13 years old, therefore, the bilingual children were considerably more inclined to choose the English version of the questionnaire than they were at 10 years old.

The hypothesis put forward for testing on the children's attitude to the two languages was that :-

Between 10 and 13 years of age, bilingual children's attitude towards the English language becomes more favourable, while their attitude towards the Welsh language becomes less favourable.

On the evidence of the attitude tests in both investigations, together with the observed difference in the children's choice of questionnaire to answer, we must accept this hypothesis.

Our final task with the entire sample was to investigate the performance of the children in spelling, attainment and word reading tests in both languages. We will begin by looking at the English spelling test scores for both investigations. Figure 78 gives the relevant information.

Fig.78 - Showing the mean scores and standard deviations for the English spelling test.

<u>1978</u>		<u>1981</u>	
Mean Score	= 28.9	Mean Score	= 35.8
Standard Deviation	= 8.5	Standard Deviation	= 6.3

As was explained earlier, the same spelling test was used in both investigations, and we see that between 1978 and 1981 there was an improvement in the mean score on the English spelling test of 6.9 .

In Figure 79 we see the relevant information on the Welsh

spelling test, again the same test being used in both investigations.

Fig.79 - Showing the mean scores and standard deviations for the Welsh spelling test.

<u>1978</u>		<u>1981</u>	
Mean Score	= 24.6	Mean Score	= 29.6
Standard Deviation	= 10.3	Standard Deviation	= 8.2

The improvement in the mean score on the Welsh spelling test between 1978 and 1981 was 5.0 .

While realising the dangers of comparing the English spelling test and the Welsh spelling test, we must note the fact that there was a greater increase in the mean score on the English test between 1978 and 1981 than there was on the Welsh test. However, it is impossible to conclude whether this was due to the difference in the gradient of difficulty between the two tests or to differential progress in English and Welsh spelling, or both.

Figures 80 and 81 show the mean scores and standard deviations of the attainment tests administered. The two attainment tests of 1978 were scored out of 60, as was the English Attainment test of 1981. The Welsh Attainment test of 1981 was initially scored out of 44, but the scores were adjusted so that they also were out of 60.

Fig.80 - Showing the mean scores and standard deviations for the English Attainment tests.

<u>1978</u>		<u>1981</u>	
Mean Score	= 23.8	Mean Score	= 27.4
Standard Deviation	= 11.7	Standard Deviation	= 10.9

Fig.81 - Showing the mean scores and standard deviations for the Welsh Attainment tests

<u>1978</u>		<u>1981</u>	
Mean Score	= 16.1	Mean Score	= 22.5
Standard Deviation	= 13.4	Standard Deviation	= 13.3

From Figures 80 and 81, we see that there was an improvement in the mean score on the English Attainment test of 3.6 between 1978 and 1981, with an increase of 6.4 in the mean score on the Welsh Attainment test. It should be noted, however, that both in 1978 and in 1981 the mean scores on the Welsh Attainment tests were considerably lower than the mean scores on the English Attainment tests. Again, this may suggest differences in attainment in the two languages or differences in difficulty between the tests, or both factors.

The same word reading tests were used in both investigations. Having found a child's reading age in Welsh and in English, it was possible to calculate a reading quotient for that child in both languages, the reading quotient being defined as :-

$$\text{R.Q.} = \frac{\text{Reading Age}}{\text{Actual Age}} \times 100$$

Figures 82 and 83 show the mean R.Q. in the two investigations both for English and Welsh.

Fig.82 - Showing the mean English R.Q. in both investigations.

<u>1978</u>	<u>1981</u>
Mean R.Q. = 100	Mean R.Q. = 90.5
Reduction in mean R.Q. from 1978 to 1981 = 9.5	

Fig.83 - Showing the mean Welsh R.Q. in both investigations.

<u>1978</u>	<u>1981</u>
Mean R.Q. = 107	Mean R.Q. = 94
Reduction in mean R.Q. from 1978 to 1981 = 13	

Between 1978 and 1981 there was a decrease in the mean R.Q. both in Welsh and in English. However, the reduction was more marked in the Welsh reading test than in the English reading test, the reductions being 13 and 9.5 respectively. When a 't' test was

conducted to compare the decreases in the English and Welsh R.Q.'s, it was found that the decrease in the Welsh R.Q. was significantly greater than the decrease in the English R.Q. The results of the 't' test are shown in Figure 84.

Fig.84 - Showing the results of a 't' test conducted on English and Welsh R.Q.'s.

t	degrees of freedom	significance
+4.43	178	0.0001

Summarising the results of the tests administered, we found that :-

- (a) On the English spelling test administered in both investigations, there was an improvement of 6.9 in the mean score between 1978 and 1981. There was also an improvement in the mean score for the Welsh spelling test of 5.0 during the same period.
- (b) On the English Attainment test, there was an improvement in the mean score of 3.6 between 1978 and 1981. There was an improvement of 6.4 in the mean score on the Welsh Attainment test during the same period.
- (c) Between 1978 and 1981, there was a decrease in the mean R.Q. both in Welsh and in English, but the decrease in Welsh mean R.Q. was significantly greater than the decrease in the mean English R.Q.

In Chapter 5, the following hypothesis was postulated :-

The performance of bilingual pupils in English language attainment spelling and word reading tests improves to a greater degree than does their performance in corresponding Welsh language tests between the ages of 10 and 13 years.

The evidence gathered in our investigations, however, does not support this hypothesis in its entirety. If there are no problems in test comparison, it would appear that the performance

of the children in spelling and in word reading in English improved to a greater extent than did their performance in Welsh spelling and word reading, but there was a greater improvement in Welsh attainment than in English attainment. Our suspicion, then, that the linguistic imbalance in the mass media used by the bilingual children would cause their performance in English tests to improve more than their performance in Welsh tests is not entirely supported by the evidence gathered from the two investigations conducted. However, the hypothesis is very difficult to test with validity. It is only on the word recognition tests that comparison can be made between the English and Welsh tests. This is because both have been standardized to provide reading ages. Even with these, the comparison between English and Welsh tests assumes that the reading ages are accurate and valid. Such an assumption may be questioned due to change in vocabulary over time and the problems attendant on standardizing a test with degrees of bilingualism in Wales. Although the same spelling tests were used in 1978 and in 1981, a comparison between the English and Welsh versions assumes equal difficulty in terms of pairs of test items. Such an assumption may not be warranted, and would require prior research in standardizing the tests throughout Wales. The same difficulty arises with the attainment tests. We cannot assume equal gradients of difficulty in the Welsh and English tests, a problem which is further exacerbated since different tests were used in 1978 and in 1981. Apart from standardization of the tests at national level, there is no solution to these problems. The hypothesis therefore can neither be accepted nor rejected.

Summary.

Taking the whole sample into consideration, we have made the following findings :-

- (a) Between 10 and 13 years of age, the bilingual children declined

in their use of Welsh medium formal groups.

- (b) Between 10 and 13 years of age the bilingual children made more use of newspapers, magazines and comics both in the Welsh language and in the English language. Both at 10 and 13 years old, however, more of the children made use of the English language material than of the Welsh language material.
- (c) Fewer books were read by the children at 13 years old than at 10 years old, but the decrease in Welsh book-reading was more pronounced than the decrease in English book-reading.
- (d) At 13 years old, the amount of English television watched by the children remained the same as it was at 10 years old, while there was a small increase in the amount of Welsh language television watched by the children at 13 years old.
- (e) Between 10 and 13 years of age, the children increased their use of radio, the cinema, records and cassettes in the English language, but there was a decrease in their use of Welsh language records and cassettes. Also, there was a decline in their allegiance to Welsh persons in the world of sport.
- (f) Between 10 and 13 years of age, the children's attitude towards the English language became more favourable, while their attitude towards the Welsh language became less favourable.
- (g) Because of problems in test comparison, we were unable to ascertain whether or not the children's attainment in English increased at a faster rate than did their attainment in Welsh. It was suspected that this was the case, and we found a significant difference between the fall in the mean Welsh R.Q. and the mean English R.Q. during the three year period, the Welsh mean R.Q. showing the greater fall.

In view of the above findings, it would seem reasonable to suggest that the lack of linguistic balance in the mass media

available to young people in Wales is a threat to bilingualism. It would appear that during the three year period of our investigation, the bilingual children made more use of the English language and less use of the Welsh language in most of the mass media. And this fact, in turn, may well have been at least partly responsible for the change of attitude that we found towards the two languages over the three year period, the attitude towards English becoming more favourable, and the attitude towards Welsh becoming less favourable.

Having considered the sample as a whole, we must now proceed to investigate the behaviour of the various clusters having different linguistic backgrounds.

CHAPTER 8

INVESTIGATING THE DIFFERENCES BETWEEN CLUSTERS

In Chapter 5, it was explained that the sample of 192 children were divided into eight clusters of varying linguistic backgrounds using the technique known as Cluster Analysis. It is the intention in this chapter to investigate the differences that may exist between the clusters in the use made by their members of the various mass media, and also the differences that may exist in their members' attainment in, and attitude towards, both the Welsh and English languages.

We will begin by reminding ourselves of the linguistic characteristics of the various clusters; this information is shown in Figure 1.

Fig.1 - Showing the linguistic backgrounds of the 8 clusters into which the sample was divided.

	Lang. of home	Lang. of Neigh- bourhood.	Lang of play outside school	Lang. of play at school	No. in each clust.	No lost by 2nd Invest.
CLUSTER 1	Welsh	Eng = Welsh	Eng = Welsh	Wel > Eng	21	0
CLUSTER 2	Welsh	Welsh > Eng	Welsh	Welsh	49	1
CLUSTER 3	Welsh	Welsh > Eng	Welsh	Wel > Eng	28	3
CLUSTER 4	Eng > Wel	Welsh > Eng	Welsh	Welsh	8	1
CLUSTER 5	Eng > Wel	Eng > Welsh	Eng > Welsh	Eng > Wel.	19	1
CLUSTER 6	English	English	English	English	30	5
CLUSTER 7	English	Eng > Welsh	English	English	22	2
CLUSTER 8	Welsh	Welsh	Eng > Welsh	Wel > Eng	15	0

When the first investigation was conducted in 1978, the

sample of 192 children consisted of 96 boys and 96 girls. It was important to investigate, however, whether there was a significant difference between the numbers of boys and of girls in the various clusters, for if there was, the differences that were found between the clusters, and which are described in this chapter, may be at least partly attributable to sex differences. This information is given in Figure 2, together with the expected frequencies.

Fig.2 - Showing the numbers of boys and of girls in the various clusters in the first investigation, together with the expected frequencies.

	Boys	Girls	Total		Boys	Girls	Total
CLUSTER 1	17	4	21	CLUSTER 1	10.5	10.5	21
CLUSTER 2	23	26	49	CLUSTER 2	24.5	24.5	49
CLUSTER 3	12	16	28	CLUSTER 3	14	14	28
CLUSTER 4	6	2	8	CLUSTER 4	4	4	8
CLUSTER 5	6	13	19	CLUSTER 5	9.5	9.5	19
CLUSTER 6	10	20	30	CLUSTER 6	15	15	30
CLUSTER 7	12	10	22	CLUSTER 7	11	11	22
CLUSTER 8	10	5	15	CLUSTER 8	7.5	7.5	15
	96	96	192		96	96	192

A χ^2 test carried out on the frequencies of Figure 2 gave a χ^2 value of 18.560, showing that the difference between the clusters in their composition with regards to boys and girls was just significant at the 1% level of significance (Significance if $\chi^2 \geq 18.475$).

In Figure 3, we see the composition of the clusters in the second investigation, in 1981. There was again a significant difference between the clusters in their composition, as the value of χ^2 obtained was 19.270 (Significance if $\chi^2 \geq 18.475$).

Fig.3 - Showing the numbers of girls and of boys in the various clusters in the second investigation, together with the expected frequencies.

	Boys	Girls	Total		Boys	Girls	Total
CLUSTER 1	17	4	21	CLUSTER 1	10.3	10.7	21
CLUSTER 2	22	26	48	CLUSTER 2	23.6	24.4	48
CLUSTER 3	10	15	25	CLUSTER 3	12.3	12.7	25
CLUSTER 4	5	2	7	CLUSTER 4	3.4	3.6	7
CLUSTER 5	6	12	18	CLUSTER 5	8.8	9.2	18
CLUSTER 6	7	18	25	CLUSTER 6	12.3	12.7	25
CLUSTER 7	11	9	20	CLUSTER 7	9.8	10.2	20
CLUSTER 8	10	5	15	CLUSTER 8	7.5	7.5	15
	88	91	179		88	91	179

It was also important that we discovered whether or not there was a significant difference between the clusters in the social class backgrounds of their members, for again, if there was, the differences found between the clusters in the use of the mass media could be at least partly attributed to differences in social class backgrounds. Information regarding the occupations of the children's fathers was obtained from the primary schools during the first investigation, and the 192 children were then divided into social classes, the division being based on the Registrar General's classification of occupations of parents. The initial division is shown in Figure 4.

Fig.4 - Division of the 192 children into social classes based on the Registrar General's classification of social classes.

Social Class							
1	2	3N	3M	4	5	U	Tot.
12	40	24	72	15	5	24	192

When we looked at the social class backgrounds of the

various clusters, we obtained the breakdown shown in Figure 5.

Fig.5 - Showing the social class backgrounds within the various clusters.

	Social Class							Tot.
	1	2	3N	3M	4	5	U	
CLUSTER 1	2	4	6	6	1	0	2	21
CLUSTER 2	4	12	5	16	6	2	4	49
CLUSTER 3	1	7	3	11	3	0	3	28
CLUSTER 4	1	2	0	2	1	1	1	8
CLUSTER 5	1	3	4	8	0	0	3	19
CLUSTER 6	3	4	3	10	1	0	9	30
CLUSTER 7	0	5	1	10	3	1	2	22
CLUSTER 8	0	3	2	9	0	1	0	15
	12	40	24	72	15	5	24	192

For the purpose of a χ^2 test, Figure 5 was adjusted by collapsing its columns, giving the frequencies displayed in Figure 6.

Fig.6 - Frequencies of social class membership within the various clusters, together with the expected frequencies.

	Social Class						Social Class					
	1 or 2	3N or 3M	4,5 or U	Tot			1 or 2	3N or 3M	4,5 or U	Tot		
CLUSTER 1	6	12	3	21	CLUSTER 1		5.7	10.5	4.8	21		
CLUSTER 2	16	21	12	49	CLUSTER 2		13.3	24.5	11.2	49		
CLUSTER 3	8	14	6	28	CLUSTER 3		7.6	14	6.4	28		
CLUSTER 4	3	2	3	8	CLUSTER 4		2.2	4	1.8	8		
CLUSTER 5	4	12	3	19	CLUSTER 5		5.1	9.5	4.4	19		
CLUSTER 6	7	13	10	30	CLUSTER 6		8.1	15	6.9	30		
CLUSTER 7	5	11	6	22	CLUSTER 7		6	11	5	22		
CLUSTER 8	3	11	1	15	CLUSTER 8		4	7.5	3.5	15		
	52	96	44	192			52	96	44	192		

The value of χ^2 obtained was 11.332, showing that there was no significant difference between the clusters in the social class backgrounds of their members (Significance at the 1% level if $\chi^2 \geq 29.141$).

By 1981, the breakdown of the clusters into the social classes of their members was as shown in Figure 7.

Fig.7 - Frequencies of social class membership within the various clusters in 1981, together with the expected frequencies.

	Social Class					Social Class			
	1 or 2	3N or 3M	4,5 or U	Tot		1 or 2	3N or 3M	4,5 or U	Tot.
CLUSTER 1	6	12	3	21	CLUSTER 1	5.5	10.6	4.9	21
CLUSTER 2	16	21	11	48	CLUSTER 2	12.6	24.1	11.3	48
CLUSTER 3	6	14	5	25	CLUSTER 3	6.6	12.6	5.8	25
CLUSTER 4	3	1	3	7	CLUSTER 4	1.8	3.5	1.7	7
CLUSTER 5	4	11	3	18	CLUSTER 5	4.7	9.1	4.2	18
CLUSTER 6	5	10	10	25	CLUSTER 6	6.6	12.6	5.8	25
CLUSTER 7	4	10	6	20	CLUSTER 7	5.3	10.1	4.6	20
CLUSTER 8	3	11	1	15	CLUSTER 8	3.9	7.4	3.7	15
	47	90	42	179		47	90	42	179

A χ^2 test performed on the frequencies of Figure 7 gave a χ^2 value of 15.677, showing that in 1981 also, there was no significant difference between the clusters in the social class backgrounds of their members. Therefore the differences between the clusters described in this chapter are not to be confounded with social class differences.

To investigate the differences between the clusters, we first used a technique known as Discriminative Analysis. This technique gave us the variables on which the clusters did differ significantly, and will now be described briefly.

DISCRIMINATIVE ANALYSIS.

Discriminative Analysis is a technique which may be used if we wish to statistically distinguish between two or more groups of cases. These groups are defined by the particular research situation, and in the present research they are clusters of bilingual children having different linguistic backgrounds.

To distinguish between the clusters, the researcher selects a collection of discriminating variables that measure characteristics on which the clusters are expected to differ. For instance, we expect to find that the clusters will differ in the mean time spent by the members of each watching Welsh language television programmes. The mathematical objective of discriminative analysis is to weight and linearly combine the discriminative variables so that the clusters are forced to be as statistically distinct as possible. In other words, we want to be able to "discriminate" between the clusters in the sense of being able to tell them apart. Of course, no single variable will perfectly differentiate between the clusters, but by taking several variables and mathematically combining them, we would hope to be able to discriminate between the clusters.

Discriminative Analysis attempts to do this by forming one or more linear combinations of the discriminating variables. These "discriminant functions" are of the form

$$D_i = d_{i1}Z_1 + d_{i2}Z_2 + \dots + d_{ip}Z_p$$

where D_i is the score on discriminant function i ,
the d 's are weighting coefficients,
the Z 's are the standardized values of the p discriminating variables used in the analysis.

The functions are formed in such a way as to maximize the separation of the clusters, and once they have been derived, we are able to pursue the two research objectives of this technique :

analysis and classification.

The analysis aspects of this technique provide several tools for the interpretation of data. Among these are statistical tests for measuring the success with which the discriminating variables actually discriminate when combined into the discriminant functions. The weighting coefficients serve to identify the variables which contribute most to differentiation amongst the clusters. For example, we may find that the time spent watching Welsh language television programmes discriminates between the clusters, but not the time spent watching English television programmes.

The use of discriminative analysis as a classification technique comes after the initial computation. Once a set of variables is found which provides satisfactory discrimination for cases with known group memberships, a set of classification functions can be derived which will permit the classification of new cases with unknown membership. More importantly from our point of view, we can check the adequacy of our discriminant functions by classifying the original set of cases, and seeing how many are correctly classified by the variables being used. This information is shown in Appendix W.

Not only does Discriminative Analysis tell us on which variables the clusters differ significantly, but it also gives us the order of significance. In other words, it tells us on which variable the clusters differ most significantly, which is the second variable with the most significant difference, and so on. In our particular analysis, it was found that the clusters differed significantly on a linear combination of 26 variables, these variables being shown in Figure 8 in the order of significance.

Fig.8 - Showing the variables on which the clusters showed a significant difference.

No.	Variable	Significance
1	English Attainment.	0.0025
2	Composition of the Clusters with regard to sex	0.0002
3	The reading of local English weeklies	0.0000
4	The reading of Welsh books.	0.0000
5	Nationalities of children's favourite sports personalities.	0.0000
6	Use of radio.	0.0000
7	Attitude towards English.	0.0000
8	Nationalities of favourite radio personalities.	0.0000
9	Attendance at a Welsh Church or Chapel.	0.0000
10	Language of the questionnaire chosen.	0.0000
11	The number of Welsh comics named by the children as being the ones they read.	0.0000
12	Welsh Attainment.	0.0000
13	Nationality of favourite television personalities.	0.0000
14	Reading of English comics and magazines.	0.0000
15	Use made of Welsh language records and cassettes.	0.0000
16	Language of favourite book.	0.0000
17	Use made of Yr Herald Gymraeg.	0.0000
18	Number of English books read during a 10 week period.	0.0000
19	Attitude towards Welsh.	0.0000
20	Number of Welsh books read during a 10 week period.	0.0000
21	Welsh Reading Age.	0.0000
22	Children's club membership.	0.0000
23	English Reading Age.	0.0000
24	Use of the cinema.	0.0000
25	Reading of English books.	0.0000

26	Time spent watching Welsh language television programmes.	0.0000
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1. English Attainment.

The most significant difference between the clusters occurred on the English attainment scores. Figure 9 shows the frequencies with which three ranges of scores were obtained by the members of the various clusters both in the 1978 and in the 1981 tests.

Fig.9 - Showing the scores obtained by the members of each cluster in the English Attainment Tests of 1978 and 1981.

1978					1981				
	0-19	20-39	40-60	Tot		0-19	20-39	40-60	Tot
CLUSTER 1	8	11	2	21	CLUSTER 1	4	14	3	21
CLUSTER 2	22	23	4	49	CLUSTER 2	19	23	6	48
CLUSTER 3	7	18	3	28	CLUSTER 3	4	20	1	25
CLUSTER 4	3	4	1	8	CLUSTER 4	1	5	1	7
CLUSTER 5	6	9	4	19	CLUSTER 5	4	10	4	18
CLUSTER 6	10	15	5	30	CLUSTER 6	9	12	4	25
CLUSTER 7	5	15	2	22	CLUSTER 7	2	12	6	20
CLUSTER 8	10	5	0	15	CLUSTER 8	10	4	1	15
	71	100	21	192		53	100	26	179

As was explained in Chapter 5, difference scores on tests of attainment are of little value; of much more value is what is known as a residual score, which is defined as :-

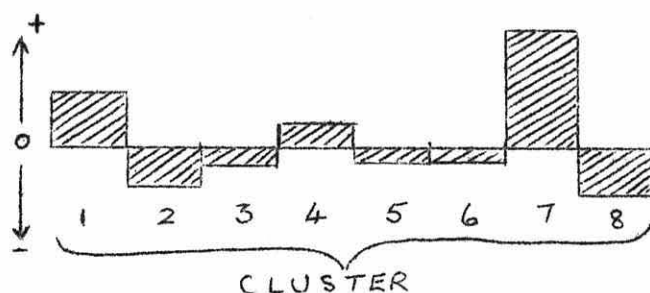
$$R_y = (Y - m_y) - r_{xy} \frac{s_y}{s_x} (X - m_x)$$

where X and Y are the individual's scores on the initial and final measures, s_x and s_y are the standard deviations for these two measures, m_x and m_y are their means, and r_{xy} is the correlation between them.

In Figure 10, we see the mean residual score for each cluster, a negative score indicating that the members of the cluster did less well than expected.

Fig.10 - Showing the mean residual score for each cluster in the English Attainment Tests.

CLUSTER 1	+0.37273
CLUSTER 2	-0.26997
CLUSTER 3	-0.12002
CLUSTER 4	+0.16855
CLUSTER 5	-0.09099
CLUSTER 6	-0.09118
CLUSTER 7	+0.78194
CLUSTER 8	-0.31796



We see from the above statistics that the cluster with the greatest improvement in English Attainment was Cluster 7, which is a predominantly English cluster. The members of Cluster 1 also showed an improvement in English Attainment, as also did Cluster 4, and both these clusters are predominantly Welsh in background. The members of the English cluster, Cluster 6, performed less well than expected, the mean residual score of the cluster being -0.09118 .

2. Composition of the clusters with regard to sex.

We have already dealt with this issue, and found that, both in 1978 and in 1981, there was a significant difference between the clusters in their composition with regard to sex.

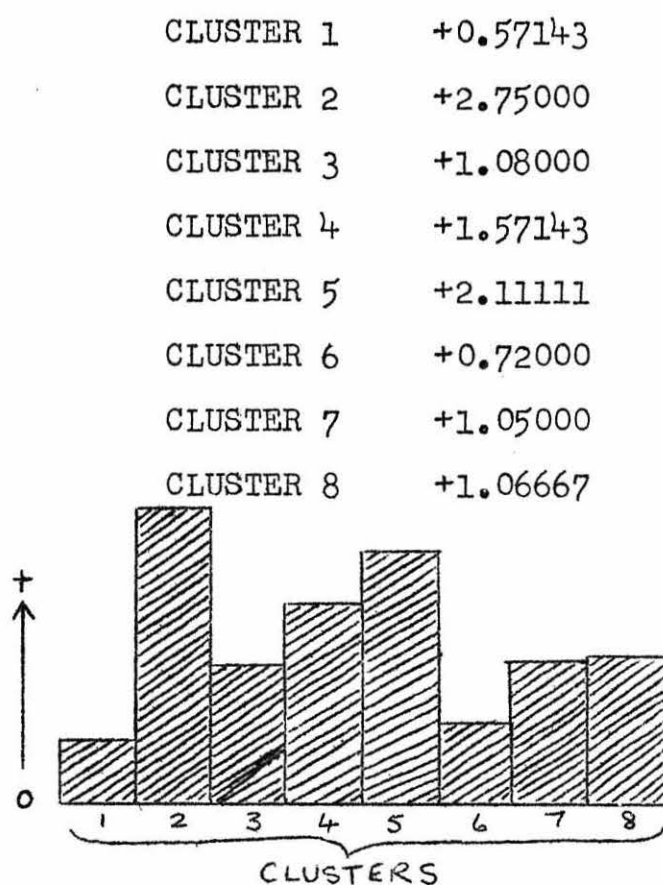
3. The Reading of Local English Weeklies.

The two local English language weekly newspapers available to the children under investigation are the Caernarfon and Denbigh Herald, and the Cambrian News. In both investigations, the children were asked to indicate how often they read both newspapers, their answers for each newspaper falling into one of the following five categories :-

Regularly Fairly Regularly Sometimes Seldom Never

Scores ranging from 5 for 'regularly' to 1 for 'never' were allocated to each answer, so that, taking both newspapers together, every child scored between 2 and 10 in each investigation. It was possible to calculate a mean score for each cluster both in 1978 and in 1981, and Figure 11 shows the mean increase for each cluster between 1978 and 1981.

Fig.11 - Showing the increase in the mean score for each cluster on the reading of the Caernarfon and Denbigh Herald and the Cambrian News between 1978 and 1981.



From Figure 11 we see that there was an increase in the mean score for every group, supporting our finding in Chapter 7 that there was an increase in the children's use of the local English language weekly newspapers between 1978 and 1981. It will also be seen from Figure 11 that the cluster with the greatest mean increase over the three year period was Cluster 2, the cluster with the strongest Welsh linguistic background. The cluster having a completely English linguistic background, Cluster 7, had the third smallest increase in mean score.

4. The Reading of Welsh Books.

In both investigations, the children were asked to indicate how often they read Welsh books at home. Figure 12 shows the frequencies of their answers in 1978 and in 1981.

Fig.12 - Showing the frequencies of the children's answers to the question "Do you read Welsh books at home?" in both investigations.

1978

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
CLUSTER 1	6	1	7	1	6	21
CLUSTER 2	6	5	12	10	16	49
CLUSTER 3	1	3	9	6	9	28
CLUSTER 4	2	2	0	3	1	8
CLUSTER 5	11	3	3	0	2	19
CLUSTER 6	26	1	2	1	0	30
CLUSTER 7	14	4	3	1	0	22
CLUSTER 8	7	3	3	0	2	15
	73	22	39	22	36	192

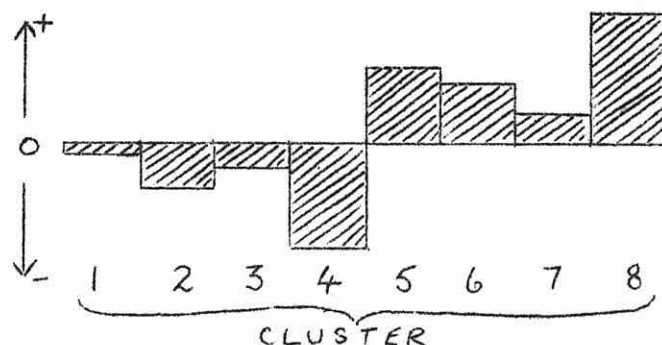
1981

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot
CLUSTER 1	4	3	6	6	2	21
CLUSTER 2	2	6	24	10	6	48
CLUSTER 3	2	3	7	8	5	25
CLUSTER 4	2	1	2	2	0	7
CLUSTER 5	4	6	6	0	2	18
CLUSTER 6	15	3	6	1	0	25
CLUSTER 7	9	8	2	1	0	20
CLUSTER 8	2	1	8	3	1	15
	40	31	61	31	16	179

Each answer was allocated a score ranging from 5 for 'regularly' to 1 for 'never', and the mean score for each cluster was calculated both in 1978 and in 1981. Figure 13 shows the difference in the mean for each cluster over the three year period, a negative difference indicating a decrease in the reading of Welsh books, and a positive difference indicating an increase.

Fig.13 - Showing the difference in the mean score on Welsh book-reading for each cluster between 1978 and 1981.

CLUSTER 1	-0.04762
CLUSTER 2	-0.31250
CLUSTER 3	-0.16000
CLUSTER 4	-0.71429
CLUSTER 5	+0.55556
CLUSTER 6	+0.40000
CLUSTER 7	+0.20000
CLUSTER 8	+0.93333



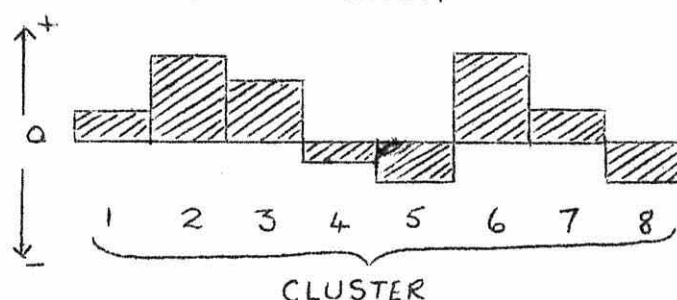
The results displayed in Figure 13 are somewhat surprising. If we disregard Cluster 8 for a moment, we see that the clusters having a predominantly English linguistic background (Clusters 5, 6 and 7) showed an increase in Welsh book-reading between 1978 and 1981, whereas the first four clusters, which had a predominantly Welsh linguistic background, showed a decrease in Welsh book-reading over the same period. It must be remembered, however, that in 1978 few members from Clusters 5, 6 and 7 read Welsh books with any regularity, and the increase shown by 1981 was only small. Cluster 8 differed from the other clusters having a Welsh linguistic background, for the members of this cluster showed the greatest increase in Welsh book-reading over the three year period of all the clusters.

5. Nationalities of children's favourite sports personalities.

The favourite sports personalities named by the children in answer to the question "Who is your favourite sports person?" were divided into three categories, namely no answer, a Welsh sports person, and a non-Welsh sports person. Having allocated these answers scores of 0, 1 and 2 respectively, the mean score for each cluster was calculated both in 1978 and in 1981. It was then possible to find the increase in the mean score for each cluster, a negative increase indicating a shift towards Welsh favourite sports persons by the members of a cluster.

Fig.14 - Showing the difference in the mean score for each cluster of favourite sports persons between 1978 and 1981.

CLUSTER 1	+0.19048
CLUSTER 2	+0.58333
CLUSTER 3	+0.40000
CLUSTER 4	-0.14286
CLUSTER 5	-0.27778
CLUSTER 6	+0.60000
CLUSTER 7	+0.20000
CLUSTER 8	-0.26667



The mean scores for Clusters 4, 5 and 8 had decreased from 1978 to 1981, showing that the members of these clusters were more inclined to name Welsh favourite sports persons in 1981 than they were in 1978. The opposite was true of the members of Clusters 1, 2, 3, 6 and 7. The cluster showing the greatest shift away from Welsh favourite sports persons was Cluster 6, the cluster having the strongest English linguistic background. It is worth noting, however, that Clusters 2 and 3 closely followed Cluster 6 in this respect, and these two clusters had the strongest Welsh linguistic backgrounds of all the clusters.

6. Use of radio.

The sixth variable that entered the discriminative analysis was the frequencies of the children's answers to the question "Do you listen to the radio at home?". These frequencies are shown in Figure 15.

Fig.15 - Showing the frequencies of the children's answers to the question "Do you listen to the radio at home?" in both investigations.

1978

	Never	Once a month	Once a week	Every other day	Every day	Tot.
CLUSTER 1	5	0	3	5	8	21
CLUSTER 2	12	1	3	13	20	49
CLUSTER 3	9	1	5	2	11	28
CLUSTER 4	1	0	3	1	3	8
CLUSTER 5	4	0	3	3	9	19
CLUSTER 6	7	0	6	5	12	30
CLUSTER 7	3	1	4	3	11	22
CLUSTER 8	6	0	2	3	4	15
	47	3	29	35	78	192

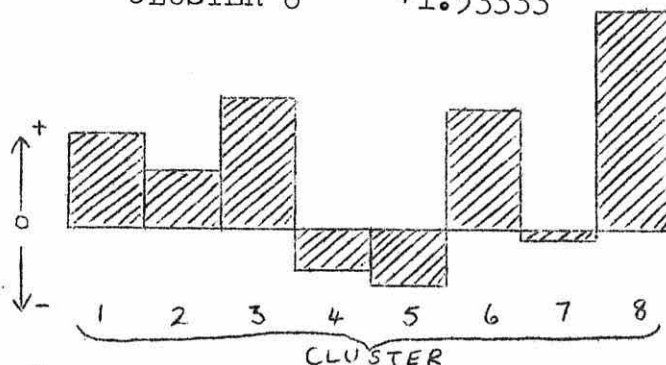
1981

	Never	Once a month	Once a week	Every other day	Every day	Tot.
CLUSTER 1	1	1	3	7	9	21
CLUSTER 2	3	2	8	5	30	48
CLUSTER 3	2	1	5	6	11	25
CLUSTER 4	1	1	0	2	3	7
CLUSTER 5	2	0	3	2	11	18
CLUSTER 6	1	0	2	6	16	25
CLUSTER 7	1	0	8	3	8	20
CLUSTER 8	1	1	0	5	8	15
	12	6	29	36	96	179

Scores were allocated to each answer, ranging from 5 for 'every day' to 1 for 'never', and then it was possible to calculate a mean score for each cluster in both investigations. In Figure 16, we see the increase in the mean score for each cluster between 1978 and 1981.

Fig.16 - Showing the increase in the mean score for each cluster on the question "Do you listen to the radio at home?" between 1978 and 1981.

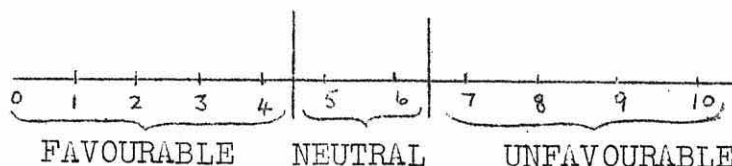
CLUSTER 1	+0.66667
CLUSTER 2	+0.41667
CLUSTER 3	+0.88000
CLUSTER 4	-0.28571
CLUSTER 5	+0.38889
CLUSTER 6	+0.80000
CLUSTER 7	-0.05000
CLUSTER 8	+1.53333



There was an increase in the use of radio by the members of six clusters between 1978 and 1981, with the members of clusters 4 and 7 showing a decrease in the use of radio. The greatest increase was amongst the members of Cluster 8.

7. Attitude Towards English.

The Attitude Towards English Tests used in both investigations were scored on Sharp's (1973) Scale, which is shown below.



Scores falling between 0 and 4.5 are regarded by Sharp as being favourable towards the language, scores falling between 4.5 and 6.5 are neutral, and scores above 6.5 are regarded as being unfavourable towards the language. In Figure 17, we see the categories into which the members of each cluster were allocated

on the basis of the Attitude Towards English Tests of 1978 and 1981.

Fig.17 - Showing the numbers of children from each cluster who had a favourable, neutral or unfavourable attitude towards English in 1978 and in 1981.

1978

	Favourable	Neutral	Unfavourable	Total
CLUSTER 1	0	7	14	21
CLUSTER 2	5	18	26	49
CLUSTER 3	2	10	16	28
CLUSTER 4	1	6	1	8
CLUSTER 5	5	9	5	19
CLUSTER 6	9	20	1	30
CLUSTER 7	7	7	8	22
CLUSTER 8	2	5	8	15
	31	82	79	192

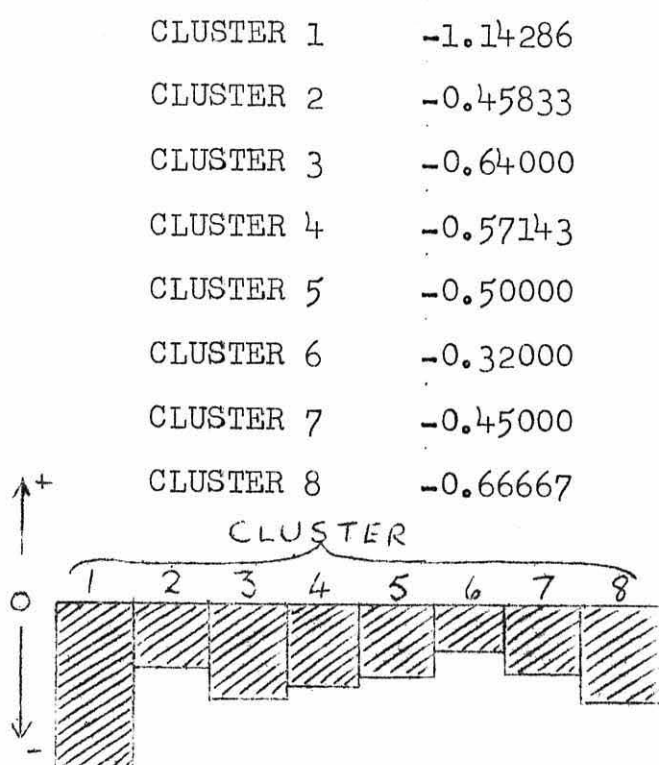
1981

	Favourable	Neutral	Unfavourable	Total
CLUSTER 1	9	12	0	21
CLUSTER 2	12	22	14	48
CLUSTER 3	8	10	7	25
CLUSTER 4	5	2	0	7
CLUSTER 5	10	7	1	18
CLUSTER 6	13	12	0	25
CLUSTER 7	10	9	1	20
CLUSTER 8	4	9	2	15
	71	83	25	179

We see from Figure 17 that the Attitude Towards English of every cluster became more favourable between 1978 and 1981. This fact is underlined in Figure 18, which shows the increase in the

mean scores for each cluster in the three year period. Since the lower a pupil's score on the Attitude test, the more favourable his attitude towards the language, a negative increase in a mean score means that the attitude of the cluster has become more favourable between the two investigations.

Fig.18 - Showing the increase in the mean score for each cluster on the Attitude Towards English Test between 1978 and 1981.

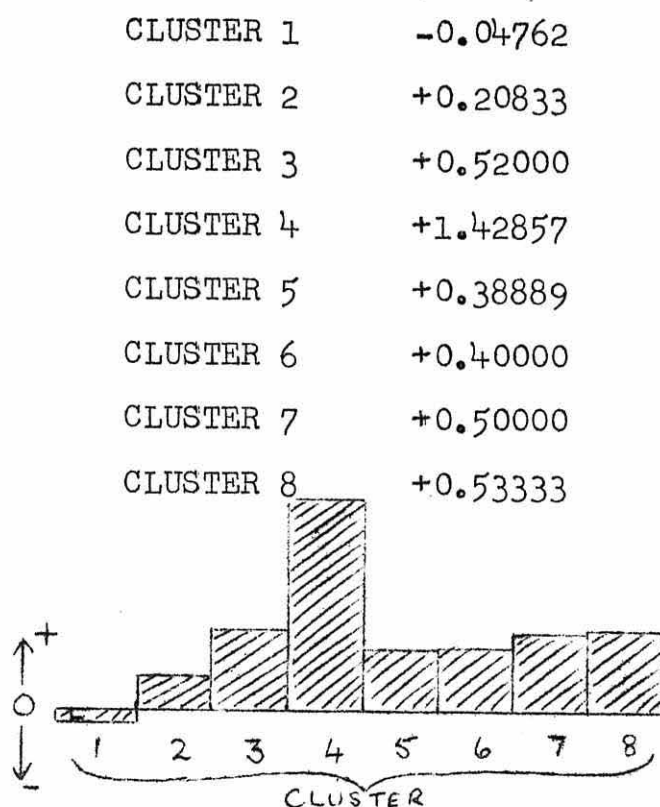


The greatest change in attitude towards English between 1978 and 1981 occurred amongst the members of Cluster 1, with Clusters 3 and 8 showing the second greatest change. That is, these three clusters, all having predominantly Welsh linguistic backgrounds, showed the greatest shift in attitude towards the English language over the three year period, the attitude in each case becoming more favourable. It is also interesting to note that the cluster having the smallest shift in this direction was Cluster 6, the cluster having the strongest English background.

8. Nationalities of Favourite Radio Personalities.

In the questionnaire of both investigations, the children were asked to write the name of their favourite radio personality. The answers received were divided into three categories :- none, Welsh-speaking, and non Welsh-speaking. These categories were allocated scores of 0,1 and 2 respectively, and a mean score for each cluster calculated. In Figure 19, we see the increase in the mean score of each cluster between 1978 and 1981, an increase in the mean indicating a shift from Welsh-speaking to non Welsh-speaking favourite radio personalities.

Fig.19 - Showing the increase in the mean score of each cluster on the children's favourite radio personalities between 1978 and 1981.



We see that, apart from Cluster 1, there was a steady shift away from Welsh-speaking favourite radio personalities between 1978 and 1981, with the members of Cluster 4 most striking in this change. This result may seem surprising at first, but it is worth remembering that more use is made of the English language than of

the Welsh language in the homes of the members of this cluster. It is therefore reasonable to assume that more English radio programmes will be heard in the homes.

9. Attendance at a Welsh Church or Chapel.

The frequencies of the children's answers to the question "Do you attend a Church or Chapel where the language used is Welsh?" both in 1978 and in 1981 are shown in Figure 20.

Fig.20 - Showing the distribution of answers to the question "Do you attend a Church or Chapel where the language used is Welsh?" in both investigations.

1978

	Never	Once or twice a year	Once a month	About every other Sunday	Every Sunday	Tot.
CLUSTER 1	4	1	1	7	8	21
CLUSTER 2	8	0	1	16	24	49
CLUSTER 3	3	0	0	7	18	28
CLUSTER 4	4	1	0	1	2	8
CLUSTER 5	11	0	0	3	5	19
CLUSTER 6	27	0	0	1	2	30
CLUSTER 7	15	1	1	1	4	22
CLUSTER 8	2	0	0	3	10	15
	74	3	3	39	73	192

1981

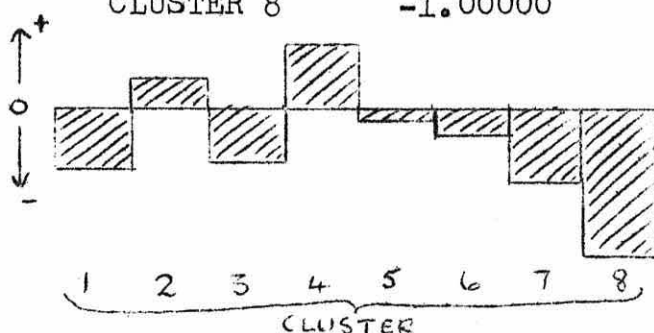
	Never	Once or twice a year	Once a month	About every other Sunday	Every Sunday	Tot.
CLUSTER 1	4	5	0	5	7	21
CLUSTER 2	6	1	1	13	27	48
CLUSTER 3	4	1	1	4	15	25
CLUSTER 4	2	0	2	1	2	7
CLUSTER 5	7	4	1	2	4	18

CLUSTER 6	21	3	0	0	1	25
CLUSTER 7	13	4	1	2	0	20
CLUSTER 8	5	0	0	6	4	15
	62	18	6	33	60	179

Allocating scores ranging from 5 for 'every Sunday' to 1 for 'never' to the answers received, a mean score was calculated for each cluster. In Figure 21 we see the change in the mean score for each cluster between 1978 and 1981.

Fig.21 - Showing the difference in the mean score for each cluster on the question "Do you attend a Church or Chapel where the language used is Welsh?" between 1978 and 1981.

CLUSTER 1	-0.38095
CLUSTER 2	+0.16667
CLUSTER 3	-0.32000
CLUSTER 4	+0.42857
CLUSTER 5	-0.05556
CLUSTER 6	-0.16000
CLUSTER 7	-0.50000
CLUSTER 8	-1.00000



A positive increase in the mean score of a cluster meant that there had been an increase in the attendance at a Welsh Church or Chapel by the members of that cluster between 1978 and 1981. We see from the above Figure that this happened in the case of Clusters 2 and 4, but for the remaining six clusters there was a decline in the regularity of attendance at a Welsh Church or Chapel.

This decline was particularly marked in the case of Cluster 8.

10. Language of questionnaire chosen.

When the children answered the questionnaires used in the investigations, they were given the choice of answering either a Welsh language version or an English language version. In Chapter 7 we discovered that for the sample as a whole there was a significant difference between the choices made. In 1978, the majority chose to answer the Welsh version, but in 1981, the English version was the more popular. In Figure 22, we see the number of children who chose the respective versions of the questionnaire in the two investigations.

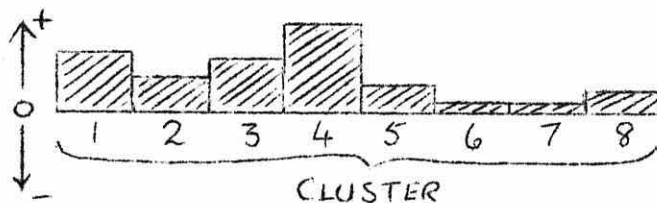
Fig.22 - Showing the number of children from each cluster who chose the respective versions of the questionnaire in both investigations.

1978				1981			
	Welsh	English	Tot.		Welsh	English	Tot.
CLUSTER 1	18	3	21	CLUSTER 1	10	11	21
CLUSTER 2	48	1	49	CLUSTER 2	36	12	48
CLUSTER 3	27	1	28	CLUSTER 3	16	9	25
CLUSTER 4	6	2	8	CLUSTER 4	3	4	7
CLUSTER 5	7	12	19	CLUSTER 5	4	14	18
CLUSTER 6	1	29	30	CLUSTER 6	0	25	25
CLUSTER 7	1	21	22	CLUSTER 7	0	20	20
CLUSTER 8	13	2	15	CLUSTER 8	10	5	15
	121	71	192		79	100	179

Mean scores were calculated for each cluster, having allocated a score of 1 to a pupil who chose the Welsh version of the questionnaire, and a score of 2 to a pupil who chose the English version. The difference between the mean scores for each cluster from 1978 to 1981 is shown in Figure 23.

Fig.23 - Showing the difference between the mean scores for each cluster on the version of questionnaire chosen in both investigations

CLUSTER 1	+0.38095
CLUSTER 2	+0.22917
CLUSTER 3	+0.32000
CLUSTER 4	+0.57143
CLUSTER 5	+0.16667
CLUSTER 6	+0.04000
CLUSTER 7	+0.05000
CLUSTER 8	+0.13333



It will be noted that the greatest swing from Welsh questionnaires to English questionnaires occurred amongst the members of Clusters 1,2,3 and 4, all of which have a predominantly Welsh linguistic background. The increase in this direction was small for clusters 6 and 7, but it must be remembered that very few members indeed of these two clusters chose the Welsh version in 1978, and in 1981 all the members of both clusters chose the English version. It is also worth noting that the shift from Welsh version to English version was small in the case of Cluster 8.

11. The number of Welsh comics named by the children as being the ones they read.

When we were investigating the children's use of Welsh language magazines and comics, we asked them to write the names of those that they did read. In Figure 24, we see the numbers of Welsh language magazines or comics named by the members of the various

clusters, both in 1978 and in 1981.

Fig.24 - Showing the numbers of Welsh language magazines or comics named by the members of each cluster in both investigations.

1978

	0	1	2	3	Tot.
CLUSTER 1	17	4	0	0	21
CLUSTER 2	34	12	2	1	49
CLUSTER 3	17	8	3	0	28
CLUSTER 4	5	3	0	0	8
CLUSTER 5	16	2	1	0	19
CLUSTER 6	29	1	0	0	30
CLUSTER 7	20	2	0	0	22
CLUSTER 8	13	2	0	0	15
	151	34	6	1	192

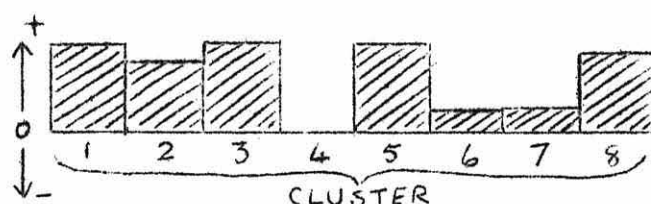
1981

	0	1	2	3	4	5	Tot.
CLUSTER 1	6	13	2	0	0	0	21
CLUSTER 2	18	24	4	0	1	1	48
CLUSTER 3	7	10	8	0	0	0	25
CLUSTER 4	4	3	0	0	0	0	7
CLUSTER 5	7	9	1	1	0	0	18
CLUSTER 6	21	4	0	0	0	0	25
CLUSTER 7	16	4	0	0	0	0	20
CLUSTER 8	10	2	2	1	0	0	15
	89	69	17	2	1	1	179

A mean score was calculated for each cluster of the number of Welsh comics or magazines named by the members, and in Figure 25 we see the increase in the mean score for each cluster between 1978 and 1981.

Fig.25 - Showing the increase in the mean score for each cluster on the number of Welsh language magazines or comics named by the members in 1978 and in 1981.

CLUSTER 1	+0.61905
CLUSTER 2	+0.45833
CLUSTER 3	+0.60000
CLUSTER 4	0.00000
CLUSTER 5	+0.61111
CLUSTER 6	+0.12000
CLUSTER 7	+0.15000
CLUSTER 8	+0.53333



Apart from Cluster 4, there was an increase in the numbers of Welsh language comics or magazines named by the members of every cluster. Even the two clusters having predominantly English linguistic backgrounds, Clusters 6 and 7, showed small increases, and Cluster 5, which also has a predominantly English background, showed a substantial increase. There were substantial increases amongst the members of the clusters having predominantly Welsh linguistic backgrounds, Clusters 1,2,3 and 8, The only exception was Cluster 4, which showed neither an increase nor a decrease.

12. Welsh Attainment.

In the first investigation in 1978, the scores in the Welsh Attainment Test were out of a possible 60 marks, whereas in the second investigation the scores were out of a possible 44 marks. Figure 26 shows the distribution of the scores obtained by the members of the various clusters in both tests.

Fig.26 - Showing the distribution of the scores obtained by the members of the various clusters in the Welsh Attainment Tests of 1978 and 1981.

1978

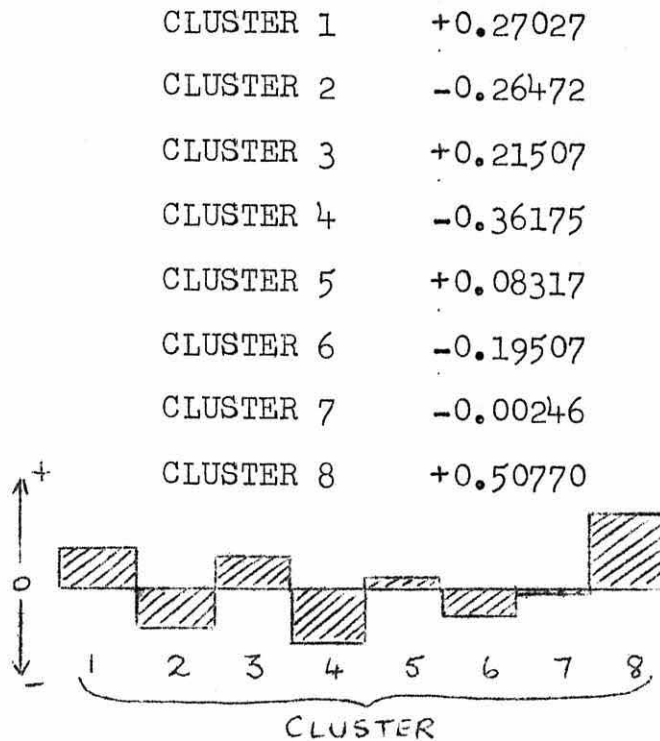
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 60	Tot.
CLUSTER 1	6	8	2	4	1	0	21
CLUSTER 2	6	18	10	6	7	2	49
CLUSTER 3	3	9	7	6	3	0	28
CLUSTER 4	3	0	3	0	2	0	8
CLUSTER 5	10	6	3	0	0	0	19
CLUSTER 6	27	3	0	0	0	0	30
CLUSTER 7	15	6	0	1	0	0	22
CLUSTER 8	7	6	1	0	1	0	15
	77	56	26	17	14	2	192

1981

	0 - 9	10 - 19	20 - 29	30 - 44	Tot.
CLUSTER 1	4	6	7	4	21
CLUSTER 2	11	16	11	10	48
CLUSTER 3	0	14	6	5	25
CLUSTER 4	1	2	2	2	7
CLUSTER 5	6	10	2	0	18
CLUSTER 6	13	11	1	0	25
CLUSTER 7	10	7	2	1	20
CLUSTER 8	4	7	1	3	15
	49	73	32	25	179

The scores obtained on the 1981 test were adjusted to be out of 60, and then a residual score was calculated for each child. It was then possible to calculate a mean residual score for each cluster, and these are shown in Figure 27 below.

Fig.27 - Showing the mean residual score for each cluster on the Welsh Attainment Tests.

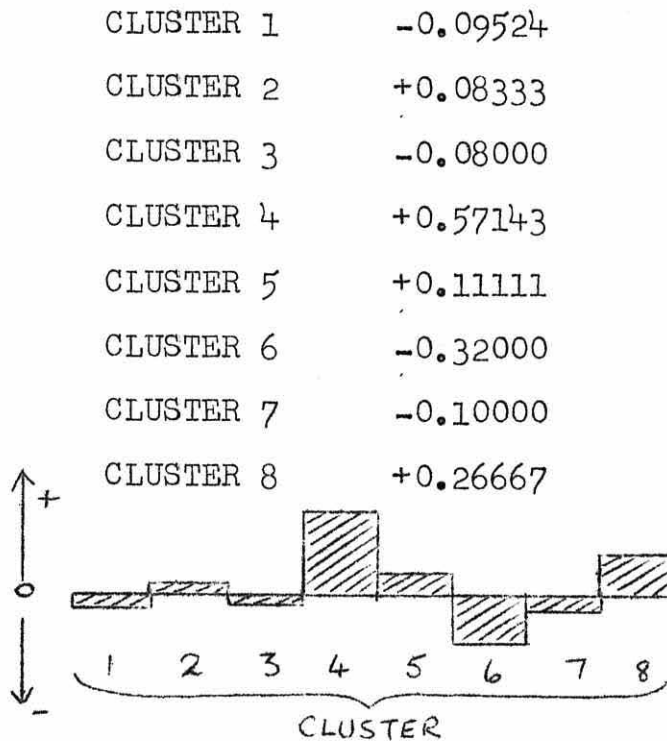


The cluster with the greatest improvement in Welsh attainment over the three year period was Cluster 8, with Clusters 1,3 and 5 also showing some improvement. Although there was a small deterioration in Welsh attainment amongst the members of Clusters 6 and 7, it is surprising to find that the two clusters with the greatest deterioration are the two Welsh background clusters, 2 and 4.

13. Nationalities of Favourite Television Personalities.

As was done in the case of the children's favourite radio personalities, their favourite television personalities were divided into three categories, the categories being allocated 0, 1 and 2 marks respectively. The categories were :- none, Welsh and non-Welsh. The mean score was calculated for each cluster in both investigations and the difference between the means for each cluster is shown in the following Figure.

Fig.28 - Showing the increase in the mean score for each cluster on nationalities of Favourite Television Personalities between 1978 and 1981.



An increase in the mean score of a cluster means a shift from Welsh favourite television personalities to non-Welsh favourite personalities. We see that Clusters 4 and 8 had the greatest increase in mean scores over the three year period, with Cluster 6 having the greatest decrease in mean score. Therefore, two of the clusters having Welsh linguistic backgrounds had the greatest shift from Welsh favourite television personalities to non-Welsh personalities, while a cluster having an English linguistic background had the greatest shift in the opposite direction.

14. Reading of English Comics and Magazines.

In both investigations, the questionnaire contained the question "Do you read English magazines or comics?". The frequencies of the answers received to this question are shown in Figure 29.

Fig.29 - Frequencies of the children's answers to the question "Do you read English magazines or comics?" in 1978 and in 1981.

1978

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
CLUSTER 1	3	1	7	2	8	21
CLUSTER 2	11	5	17	2	14	49
CLUSTER 3	4	1	12	6	5	28
CLUSTER 4	3	0	1	0	4	8
CLUSTER 5	2	0	4	1	12	19
CLUSTER 6	2	0	11	3	14	30
CLUSTER 7	1	1	9	1	10	22
CLUSTER 8	1	0	9	0	5	15
	27	8	70	15	72	192

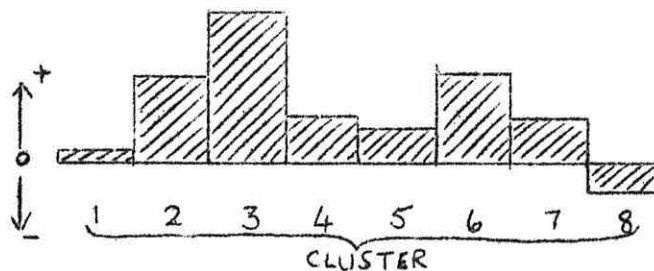
1981

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
CLUSTER 1	1	1	9	5	5	21
CLUSTER 2	5	4	15	6	18	48
CLUSTER 3	0	0	7	3	15	25
CLUSTER 4	0	2	1	1	3	7
CLUSTER 5	0	0	3	3	12	18
CLUSTER 6	0	1	4	2	18	25
CLUSTER 7	0	2	2	8	8	20
CLUSTER 8	2	1	6	1	5	15
	8	11	47	29	84	179

Having allocated scores ranging from 5 for 'Regularly' to 1 for 'Never' to the answers, a mean score was calculated for each cluster both in 1978 and in 1981. The increase in the mean score of each cluster over the three year period is shown in Figure 30.

Fig.30 - Showing the difference between the mean scores for each cluster on the question "Do you read English magazines or comics?" between 1978 and 1981.

CLUSTER 1	+0.04762
CLUSTER 2	+0.56250
CLUSTER 3	+1.08000
CLUSTER 4	+0.28571
CLUSTER 5	+0.22222
CLUSTER 6	+0.60000
CLUSTER 7	+0.30000
CLUSTER 8	-0.20000



With the exception of Cluster 8, there was an increase in the reading of English comics and magazines by the members of every cluster between 1978 and 1981. The greatest increase was by the members of Cluster 3. The members of Cluster 8, on the other hand, showed a decrease in their reading of English magazines and comics.

15. Use made of Welsh language records and cassettes.

The frequencies of the children's answers to the question "Do you play Welsh language records or cassettes at home?" in both investigations are shown in Figure 31. In Figure 32, we see the increase in the mean score for each cluster on this question, having once again allocated scores to the answers received ranging from 5 for 'Regularly' to 1 for 'Never'.

Fig.31 - Showing the frequencies of the answers received from the members of each cluster to the question "Do you play Welsh language records or cassettes at home?" in both investigations.

1978

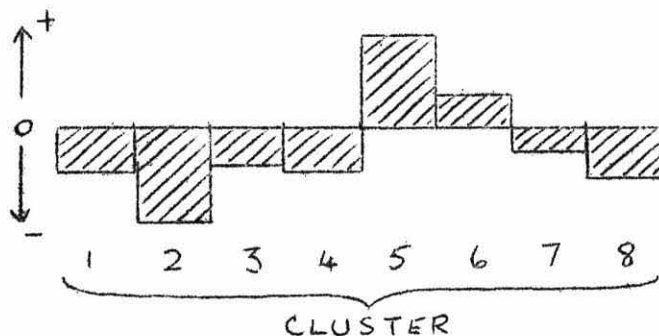
	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
CLUSTER 1	7	3	8	2	1	21
CLUSTER 2	12	7	14	8	8	49
CLUSTER 3	6	8	7	5	2	28
CLUSTER 4	5	1	2	0	0	8
CLUSTER 5	17	1	0	0	1	19
CLUSTER 6	30	0	0	0	0	30
CLUSTER 7	15	2	4	1	0	22
CLUSTER 8	9	0	3	2	1	15
	101	22	38	18	13	192

1981

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
CLUSTER 1	10	3	4	4	0	21
CLUSTER 2	17	11	12	7	1	48
CLUSTER 3	8	8	3	5	1	25
CLUSTER 4	5	1	1	0	0	7
CLUSTER 5	12	2	1	0	3	18
CLUSTER 6	24	1	0	0	0	25
CLUSTER 7	13	5	2	0	0	20
CLUSTER 8	10	0	4	1	0	15
	99	31	27	17	5	179

Fig.32 - Showing the increase in the mean score for each cluster on the question "Do you play Welsh language records or cassettes at home?" between 1978 and 1981.

CLUSTER 1	-0.28571
CLUSTER 2	-0.64583
CLUSTER 3	-0.24000
CLUSTER 4	-0.28571
CLUSTER 5	+0.61111
CLUSTER 6	+0.20000
CLUSTER 7	-0.15000
CLUSTER 8	-0.33333



From the above Figures we see that, generally speaking, there was a decrease in the use made of Welsh language records and cassettes by the children between 1978 and 1981, with the members of Cluster 2 showing the greatest decrease. The only clusters to show increases were Clusters 5 and 6, and reference to Figure 31 will show that these increases were small. On the whole, then, little use was made of Welsh language records and cassettes by the children both in 1978 and in 1981.

16. Language of Favourite Book.

Both in 1978 and in 1981, the children were asked to write the title of their favourite book of all the books they had ever read. If they were unable to remember the title, they were asked to indicate whether it was a Welsh language book or an English language book. In Figure 33, we see the number of children from

each cluster who named a Welsh book, an English book, or had no favourite book, in both investigations.

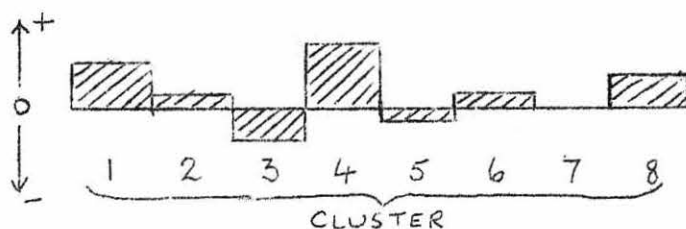
Fig.33 - Showing the language of the children's favourite book in both investigations.

1978					1981				
	None	Welsh	English	Tot		None	Welsh	English	Tot
CLUSTER 1	4	6	11	21	CLUSTER 1	7	3	11	21
CLUSTER 2	14	23	12	49	CLUSTER 2	9	16	23	48
CLUSTER 3	5	10	13	28	CLUSTER 3	2	8	15	25
CLUSTER 4	1	3	4	8	CLUSTER 4	3	1	3	7
CLUSTER 5	3	3	13	19	CLUSTER 5	1	2	15	18
CLUSTER 6	4	0	26	30	CLUSTER 6	5	0	20	25
CLUSTER 7	1	0	21	22	CLUSTER 7	1	0	19	20
CLUSTER 8	4	1	10	15	CLUSTER 8	6	1	8	15
	36	46	110	192		34	31	114	179

The three possible answers, none, Welsh book and English book were allocated scores of 0,1 and 2 respectively, and a mean score calculated for each cluster. In Figure 34, we see the increase in the mean score for each cluster between 1978 and 1981.

Fig.34 - Showing the increase in the mean score of each cluster on the language of the members' favourite book, between 1978 and 1981.

CLUSTER 1	+0.28571
CLUSTER 2	+0.06250
CLUSTER 3	-0.16000
CLUSTER 4	+0.42857
CLUSTER 5	-0.05556
CLUSTER 6	+0.08000
CLUSTER 7	0.00000
CLUSTER 8	+0.20000



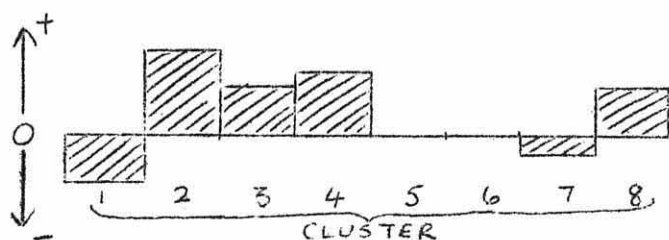
An increase in the mean score of a cluster indicates that between 1978 and 1981 there was an increase in that cluster in the number of children who named an English favourite book. We see that this was so for Clusters 1,2,4,6 and 8, with the members of Cluster 4 showing the greatest tendency in this direction. Only two clusters showed a tendency to name more Welsh language favourite books, Clusters 3 and 5, with Cluster 7 remaining unchanged between 1978 and 1981.

17. Use made of Yr Herald Gymraeg.

The only Welsh language local weekly newspaper available in the area of our investigation is 'Yr Herald Gymraeg', and the children were asked to indicate how often they read this newspaper. The answers received were allocated scores ranging from 5 for 'Regularly' to 1 for 'Never', and then a mean score was calculated for each cluster both in 1978 and in 1981. In Figure 35, we see the increase in these mean scores for each cluster.

Fig.35 - Showing the increase in the mean score of each cluster on the question "Do you read Yr Herald Gymraeg?" between 1978 and 1981.

CLUSTER 1	-0.33333
CLUSTER 2	+0.56250
CLUSTER 3	+0.32000
CLUSTER 4	+0.42857
CLUSTER 5	0.00000
CLUSTER 6	0.00000
CLUSTER 7	-0.10000
CLUSTER 8	+0.33333



We found in Chapter 7 that few of the children read 'Yr Herald Gymraeg' with any degree of regularity either in 1978 or in 1981. However, we see from the above Figure that there was an increase over the three year period in its reading by the members of Clusters 2,3,4 and 8, with a decrease by the members of Clusters 1 and 7.

18. Number of English books read during a ten week period.

One instrument used in both investigations was a diary sheet on which the children were asked to write the names of all the television programmes they watched during a particular week. On this sheet, also, they were asked to write the titles of all the books they had read since the beginning of term, and in Figure 36 we see the numbers of English books named by the members of the various clusters in both investigations.

Fig.36 - Showing the numbers of English books read by the children in the various clusters during a 10 week period, both in 1978 and in 1981.

1978

	0,1 or 2	3,4 or 5	6,7 or 8	9,10 or 11	12+	Tot.
CLUSTER 1	5	10	5	0	1	21
CLUSTER 2	11	12	15	7	4	49
CLUSTER 3	3	10	7	4	4	28
CLUSTER 4	3	3	0	2	0	8
CLUSTER 5	4	9	3	2	1	19
CLUSTER 6	6	14	4	3	3	30
CLUSTER 7	7	4	5	2	4	22

CLUSTER 8	9	2	4	0	0	15
	48	64	43	20	17	192

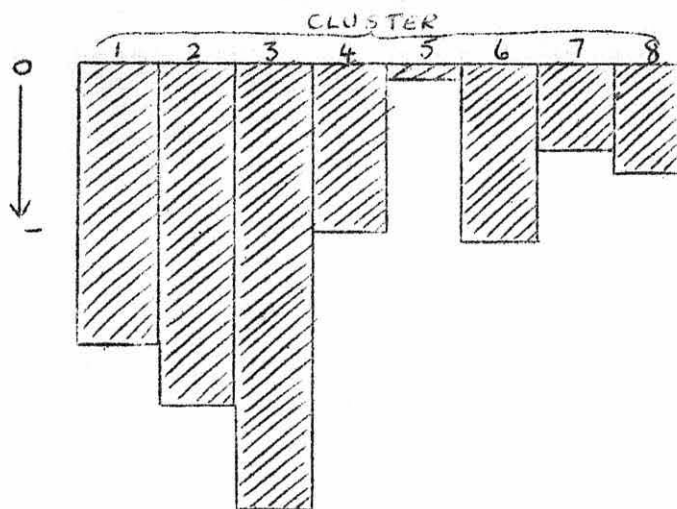
1981

	0,1 or 2	3,4 or 5	6,7 or 8	9,10,11 or 12	Tot.
CLUSTER 1	9	9	2	1	21
CLUSTER 2	22	18	6	2	48
CLUSTER 3	8	11	4	2	25
CLUSTER 4	3	3	1	0	7
CLUSTER 5	7	5	3	3	18
CLUSTER 6	13	5	3	4	25
CLUSTER 7	5	10	2	3	20
CLUSTER 8	9	5	1	0	15
	76	66	22	15	179

A mean score was calculated for each cluster of the number of English books read, and then the difference in the mean for each cluster between 1978 and 1981 was found. This information is shown in Figure 37.

Fig.37 - Showing the difference in the mean score for each cluster of the number of English books read during a 10 week period in 1978 and in 1981.

CLUSTER 1	-2.04762
CLUSTER 2	-2.47917
CLUSTER 3	-3.20000
CLUSTER 4	-1.28571
CLUSTER 5	-0.11111
CLUSTER 6	-1.32000
CLUSTER 7	-0.70000
CLUSTER 8	-0.86667



There was a decrease, then, in the number of English books read by the members of every cluster between 1978 and 1981. These decreases ranged from a very small decrease in the case of Cluster 5 members, to substantial decreases in the case of Clusters 1, 2 and 3 members. The general picture supports our finding, in Chapter 7, that there was a general decrease in the number of English books read by the children at 13 years old as compared to the number they read at 10 years old. Even the members of the cluster with an English linguistic background, Cluster 6, read 1.32 fewer English books on average in 1981 than in 1978.

19. Attitude Towards Welsh.

As in the case of Attitude Towards English, the Attitude Towards Welsh Tests were scored on Sharp's (1973) scale. Figure 38 shows the number of children from the various clusters whose scores placed them in the favourable, neutral and unfavourable categories of attitude towards Welsh in the two investigations.

Fig.38 - Showing the number of children from each cluster who had a favourable, neutral or unfavourable attitude towards Welsh, in the two investigations.

1978

	Favourable	Neutral	Unfavourable	Total
CLUSTER 1	13	6	2	21
CLUSTER 2	44	1	4	49
CLUSTER 3	20	8	0	28

CLUSTER 4	5	2	1	8
CLUSTER 5	10	8	1	19
CLUSTER 6	9	12	9	30
CLUSTER 7	10	10	2	22
CLUSTER 8	9	6	0	15
	120	53	19	192

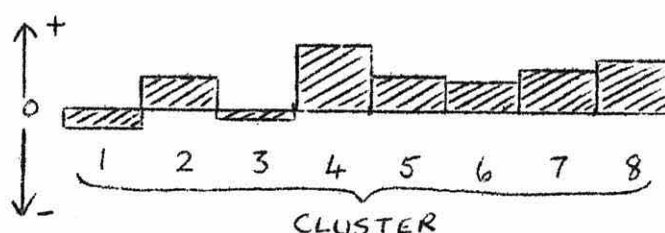
1981

	Favourable	Neutral	Unfavourable	Total
CLUSTER 1	13	8	0	21
CLUSTER 2	27	17	4	48
CLUSTER 3	18	7	0	25
CLUSTER 4	1	4	2	7
CLUSTER 5	8	7	3	18
CLUSTER 6	5	12	8	25
CLUSTER 7	5	10	5	20
CLUSTER 8	8	4	3	15
	85	69	25	179

Since every child was allocated a score on the Attitude Towards Welsh Tests, in 1978 and in 1981, it was possible to calculate a mean score for each cluster. In Figure 39, we see the difference between the mean scores for each cluster over the three year period. It should be noticed that an increase in the mean score of a cluster means that the attitude of the members of that cluster towards Welsh became less favourable.

Fig.39 - Showing the difference in the mean score of each cluster on the Attitude Towards Welsh Test between 1978 and 1981.

CLUSTER 1	-0.09524
CLUSTER 2	+0.18750
CLUSTER 3	-0.04000
CLUSTER 4	+0.42857
CLUSTER 5	+0.22222
CLUSTER 6	+0.20000
CLUSTER 7	+0.25000
CLUSTER 8	+0.33333



From the above Figure, we see that on average the members of Clusters 2,4,5,6,7 and 8 had a less favourable attitude towards Welsh in 1981 than they did in 1978. This tendency to regard Welsh less favourably was most prominent amongst the members of Cluster 4. There was a slight tendency in the other direction amongst the members of Clusters 1 and 3, but in general, the bilingual children's attitude towards Welsh was less favourable at 13 years old than at 10 years old.

20. Number of Welsh books read during a ten week period.

As has been explained previously, both in 1978 and in 1981 the children were asked to write the titles of all the books that they had read since the beginning of that school term, a period of ten weeks. In Figure 40, we show the number of Welsh books named by the members of the various clusters in both investigations.

Fig.40 - Showing the number of Welsh books named by the members of each cluster as having been read during ten week periods in 1978 and in 1981.

1978

	0,1 or 2	3,4 or 5	6,7 or 8	9+	Total
CLUSTER 1	10	6	5	0	21
CLUSTER 2	15	18	8	8	49
CLUSTER 3	11	11	3	3	28
CLUSTER 4	4	1	1	2	8
CLUSTER 5	16	1	1	1	19
CLUSTER 6	27	2	1	0	30
CLUSTER 7	17	5	0	0	22
CLUSTER 8	9	4	1	1	15
	109	48	20	15	192

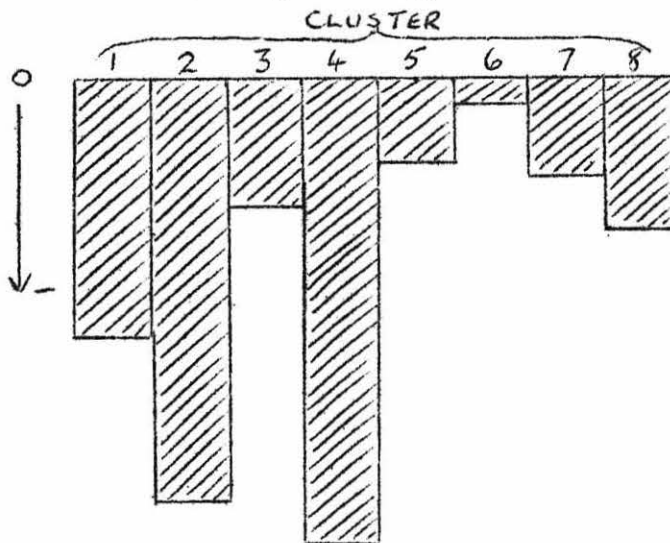
1981

	0	1 or 2	3+	Total
CLUSTER 1	11	8	2	21
CLUSTER 2	19	13	16	48
CLUSTER 3	6	6	13	25
CLUSTER 4	4	2	1	7
CLUSTER 5	12	3	3	18
CLUSTER 6	13	11	1	25
CLUSTER 7	14	6	0	20
CLUSTER 8	7	4	4	15
	86	53	40	179

The difference between the mean number of books read by the members of each cluster is shown in Figure 41.

Fig.41 - Showing the difference between the mean number of Welsh books read by the members of each cluster in 1978 and in 1981.

CLUSTER 1	-1.71429
CLUSTER 2	-2.83333
CLUSTER 3	-0.88000
CLUSTER 4	-3.14286
CLUSTER 5	-0.55556
CLUSTER 6	-0.16000
CLUSTER 7	-0.65000
CLUSTER 8	-1.00000



Between 1978 and 1981, then, there was a decrease in the mean number of Welsh books read in a ten week period for every cluster. The main decrease was on the part of Cluster 4 members, closely followed by the members of Clusters 1 and 2. The smallest decrease was by the members of Cluster 6, but it must be remembered that very few Welsh books were named by these children in the first investigation in 1978.

21. Welsh Reading Age.

A reading age was calculated for every child in both investigations, in English and in Welsh. A reading quotient was

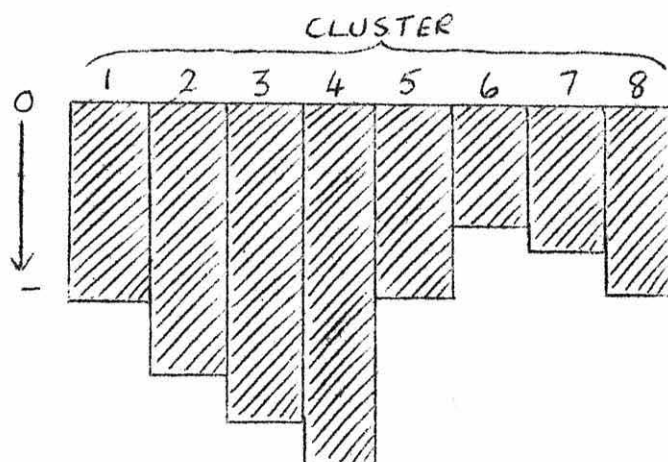
then calculated for every child, using the formula :-

$$R.Q. = \frac{\text{Reading Age}}{\text{Actual Age}} \times 100$$

The mean R.Q. for each cluster was then found, in 1978 and in 1981, and Figure 42 shows the difference in the mean R.Q. for each cluster between 1978 and 1981.

Fig.42 - Showing the difference in the mean Welsh R.Q. for each cluster between 1978 and 1981.

CLUSTER 1	-13.800
CLUSTER 2	-18.086
CLUSTER 3	-21.282
CLUSTER 4	-24.314
CLUSTER 5	-13.661
CLUSTER 6	-8.304
CLUSTER 7	-9.705
CLUSTER 8	-12.447



There was a decrease in the mean Welsh R.Q. for every cluster between 1978 and 1981. It was certainly surprising to find such relatively large decreases in the mean R.Q.'s of the predominantly Welsh language linguistic background Clusters 1,2,3,4 and 8. Indeed, the cluster with the smallest decrease in its mean R.Q. over the three year period was the English linguistic background

cluster, Cluster 8.

It is interesting to note the resemblance between the histogram of Figure 41, and the histogram of the previous Figure, Figure 42. It would indeed seem reasonable to suggest that there may be a relationship between the fall in Welsh R.Q's of the clusters between 1978 and 1981, and the fall in the mean number of Welsh books read by the members of each cluster during a ten week period.

22. Children's Club Membership.

In both investigations, the children were asked to name any clubs, movements or societies of which they were members. The answers were then divided into three categories ; Welsh medium clubs, English medium clubs, and clubs in which both languages were used. In Figure 43, we see the distribution of the children's answers.

Fig.43 - Showing the medium used in clubs, societies or movements named by the children as being the ones of which they were members, both in 1978 and in 1981.

1978

	None	Welsh	English	English/ Welsh	Total
CLUSTER 1	8	7	4	2	21
CLUSTER 2	11	27	1	10	49
CLUSTER 3	7	13	4	4	28
CLUSTER 4	3	4	1	0	8
CLUSTER 5	5	7	5	2	19
CLUSTER 6	16	0	12	2	30
CLUSTER 7	13	2	5	2	22
CLUSTER 8	7	2	1	5	15
	70	62	33	27	192

1981

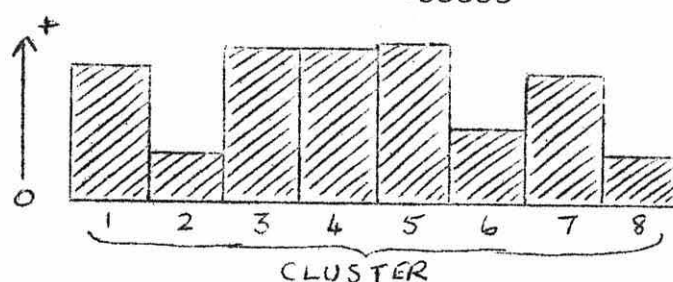
	None	Welsh	English	English/ Welsh	Tot.
CLUSTER 1	2	5	6	8	21
CLUSTER 2	9	18	4	17	48
CLUSTER 3	2	6	0	17	25
CLUSTER 4	2	0	0	5	7
CLUSTER 5	3	1	2	12	18
CLUSTER 6	8	3	6	8	25
CLUSTER 7	6	2	1	11	20
CLUSTER 8	2	6	3	4	15
	34	41	22	82	179

The answers received were allocated scores as follows :-

No Club 0, Welsh Clubs only 1, English Clubs only 2, Bilingual Clubs 3. A mean score was then calculated for each cluster, and the difference between the 1978 and 1981 means are shown in Figure 44.

Fig.44 - Showing the difference between the mean scores for each cluster on the medium used in the clubs named by the children in 1978 and in 1981.

CLUSTER 1 +0.90476
 CLUSTER 2 +0.31250
 CLUSTER 3 +1.00000
 CLUSTER 4 +1.00000
 CLUSTER 5 +1.05556
 CLUSTER 6 +0.52000
 CLUSTER 7 +0.85000
 CLUSTER 8 +0.33333



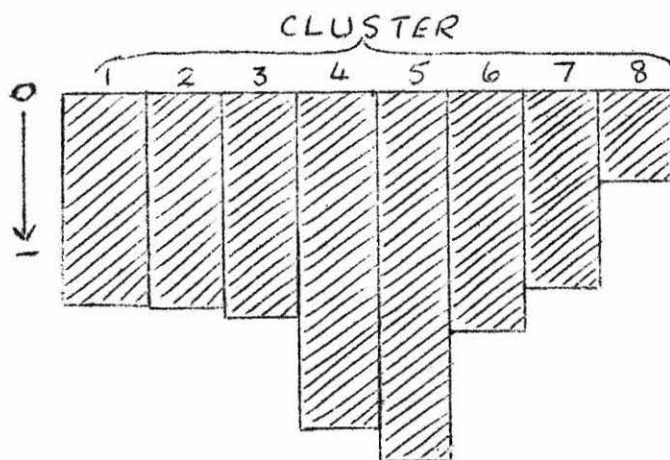
An increase in the mean score for a cluster means a general shift from left to right in the table of Figure 43. That is, a shift from Welsh only clubs to English only clubs to bilingual clubs. We see that there was this tendency in every cluster, with Clusters 1,3,4,5 and 7 having the greatest increases in mean score.

23. English Reading Age.

Having calculated an English R.Q. for every child both in 1978 and in 1981, it was possible to calculate the mean R.Q. for each cluster, and hence the difference in mean R.Q. for each cluster between 1978 and 1981. This information is shown in Figure 45.

Fig.45 - Showing the difference in mean English R.Q. for each cluster between 1978 and 1981.

CLUSTER 1	-8.357
CLUSTER 2	-8.453
CLUSTER 3	-9.044
CLUSTER 4	-13.629
CLUSTER 5	-14.833
CLUSTER 6	-9.796
CLUSTER 7	-7.930
CLUSTER 8	-3.640



There was a fall in the mean R.Q. of every cluster between 1978 and 1981. It will be remembered that there was also a fall in the mean Welsh R.Q. of every cluster in the same period, but that fall was more pronounced for most of the clusters.

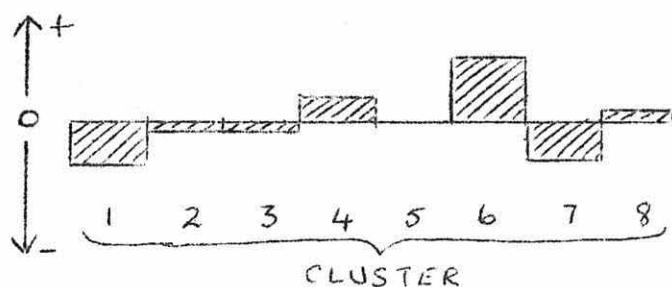
It was somewhat disturbing to discover that every cluster had a decrease in both its mean Welsh R.Q. and its mean English R.Q. between 1978 and 1981. We discovered in Chapter 7 that the children read fewer books at 13 years old than at 10 years old, and it would seem that this fact is reflected in the standard of their reading, both in Welsh and in English.

24. Use of the Cinema.

The children's answers to the question "How often do you visit a cinema?" fell into five categories, and scores were allocated to each category ranging from 5 for "Regularly" to 1 for "Never". A mean score was calculated for each cluster in 1978 and in 1981, and Figure 46 shows the difference between these mean scores over the three year period.

Fig.46 - Showing the difference between the mean scores for each cluster on the question "How often do you visit a cinema?" from 1978 to 1981.

CLUSTER 1	-0.28571
CLUSTER 2	-0.04167
CLUSTER 3	-0.04000
CLUSTER 4	+0.14286
CLUSTER 5	0.00000
CLUSTER 6	+0.44000
CLUSTER 7	-0.25000
CLUSTER 8	+0.06667



We see that the members of Clusters 4,6 and 8 showed an increase in the use of the cinema between 1978 and 1981, while the members of Clusters 1,2,3 and 7 showed small decreases in cinema use over the same period. The cluster showing the greatest increase was Cluster 6, the cluster having an English linguistic background.

25. Reading of English books.

One of the questions included in the questionnaire of both investigations was "Do you read English books at home?". The distribution of the children's answers to this question is shown in Figure 47.

Fig.47 - Showing the distribution of answers to the question "Do you read English books at home?" in both investigations.

1978

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
CLUSTER 1	1	3	5	0	12	21
CLUSTER 2	8	4	13	6	18	49
CLUSTER 3	2	1	10	7	8	28
CLUSTER 4	1	0	2	2	3	8
CLUSTER 5	1	1	4	1	12	19
CLUSTER 6	2	0	8	2	18	30
CLUSTER 7	0	0	8	2	12	22
CLUSTER 8	3	1	5	0	6	15
	18	10	55	20	89	192

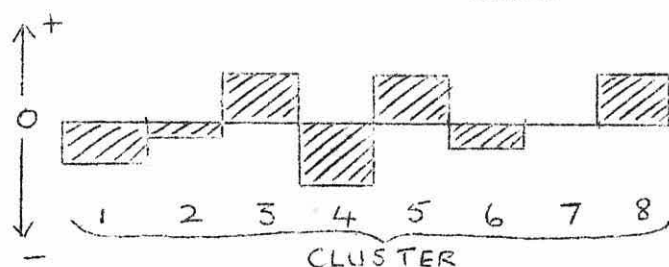
1981

	Never	Seldom	Sometimes	Fairly Regularly	Regularly	Tot.
CLUSTER 1	1	1	9	4	6	21
CLUSTER 2	1	4	25	11	7	48
CLUSTER 3	0	1	8	7	9	25
CLUSTER 4	1	0	1	3	2	7
CLUSTER 5	0	0	3	3	12	18
CLUSTER 6	0	1	9	3	12	25
CLUSTER 7	0	2	3	4	11	20
CLUSTER 8	1	3	3	3	5	15
	4	12	61	38	64	179

Allocating scores to these answers ranging from 5 for 'Regularly' to 1 for 'Never', it was possible to calculate a mean score for each cluster in 1978 and in 1981. The following Figure, Figure 48, shows the difference between the mean scores for each cluster between 1978 and 1981.

Fig.48 - Showing the difference between the mean scores of each cluster on the question "Do you read English books at home?" in 1978 and in 1981.

CLUSTER 1	-0.28571
CLUSTER 2	-0.10417
CLUSTER 3	+0.32000
CLUSTER 4	-0.42857
CLUSTER 5	+0.33333
CLUSTER 6	-0.16000
CLUSTER 7	0.00000
CLUSTER 8	+0.33333



We see from the above Figure that there was only a slight change in the children's estimates of the amount of English book reading done at home in 1978 and in 1981. The members of Clusters 3,5 and 8 felt that they read more in 1981 than they did in 1978, while the members of Clusters 1,2,4 and 6 felt that they read less by the second investigation. This does not fully agree with our earlier finding that the children generally read fewer books at 13 years old than at 10 years old, but that finding was based on the number of books read by the children over a ten week period, and is arguably more reliable than the children's own estimate of the amount of their reading.

26. Time spent watching Welsh language Television Programmes.

From the diary sheets kept by the children in 1978 and in 1981, it was possible to find the time spent by each child watching Welsh language television programmes for a week. This information is shown in Figure 49.

Fig.49 - Showing the times spent(in minutes) by the members of the various clusters watching Welsh language television programmes during sample weeks in 1978 and 1981.

1978

	0	1-29	30-59	60-89	90-119	120-149	150-179	180-209	Tot.
CLUSTER 1	5	3	9	1	1	2	0	0	21
CLUSTER 2	4	1	21	8	5	8	2	0	49
CLUSTER 3	5	3	11	6	1	1	0	1	28
CLUSTER 4	4	0	2	1	1	0	0	0	8
CLUSTER 5	12	2	3	1	1	0	0	0	19
CLUSTER 6	25	3	1	1	0	0	0	0	30
CLUSTER 7	11	5	4	2	0	0	0	0	22
CLUSTER 8	7	1	5	0	1	1	0	0	15
	73	18	56	20	10	12	2	1	192

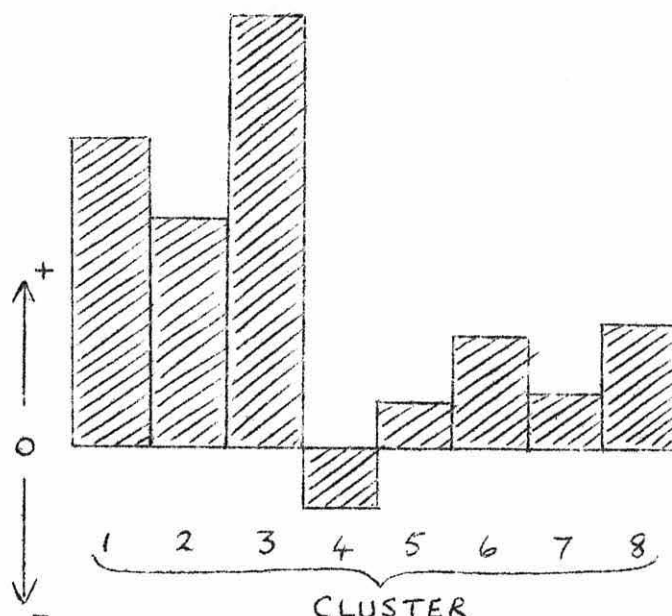
1981

	0 1-29	30-59	60-89	90-119	120-149	150-179	180-209	Tot.
CLUSTER 1	4 0	4	4	3	2	2	2	21
CLUSTER 2	6 0	9	6	12	3	6	6	48
CLUSTER 3	4 0	2	6	3	4	2	4	25
CLUSTER 4	4 1	1	0	1	0	0	0	7
CLUSTER 5	13 0	0	3	1	1	0	0	18
CLUSTER 6	18 0	1	3	2	1	0	0	25
CLUSTER 7	13 0	2	4	0	0	1	0	20
CLUSTER 8	9 0	0	1	1	3	1	0	15
	71 1	19	27	23	14	12	12	179

The mean time spent by the members of each cluster watching Welsh language television programmes for a week was found, and Figure 50 shows the difference between the mean times for each cluster in 1978 and in 1981.

Fig.50 - Showing the difference between the mean times spent by the members of each cluster watching Welsh language television programmes during two sample weeks in 1978 and 1981.

CLUSTER 1	+41.190 mins.
CLUSTER 2	+30.208 mins.
CLUSTER 3	+57.000 mins.
CLUSTER 4	-7.858 mins.
CLUSTER 5	+5.833 mins.
CLUSTER 6	+14.400 mins.
CLUSTER 7	+7.500 mins.
CLUSTER 8	+16.666 mins.



There was an increase in the mean times spent watching Welsh language television programmes for every cluster except Cluster 4 between 1978 and 1981. The greatest increases were in the cases of Clusters 3, 1 and 2, three clusters with predominantly Welsh linguistic backgrounds. It is surprising to find a fall in the mean time of Cluster 4; indeed it is even more surprising to find that in the sample week of 1981, the mean time spent watching Welsh language television programmes by the members of this cluster was only 23.571 minutes, compared with a mean of 62.151 minutes for the entire sample.

SUMMARY.

It is at this stage desirable to summarize our findings from the Discriminative Analysis. In Figure 51, the 26 variables on which the clusters differed significantly are listed, and the increase (I) or decrease (D) in the mean score of each cluster on every variable between 1978 and 1981 is shown. Also shown is whether or not the increase or decrease was average or above average, the following example illustrating the procedure adopted in making that decision.

If we consider the first variable entered into the Discriminative Analysis, English Attainment, the mean residual score for each cluster was :-

CLUSTER 1	+0.37273
CLUSTER 2	-0.26997
CLUSTER 3	-0.12002
CLUSTER 4	+0.16855
CLUSTER 5	-0.09099
CLUSTER 6	-0.09118
CLUSTER 7	+0.78194
CLUSTER 8	-0.31796

The average deviation from a zero score for the above is their sum, ignoring signs, divided by 8. This gives an average deviation of 0.27667. Consequently, a mean residual score between -0.27667 and +0.27667 is denoted Av; a mean residual score greater than +0.27667 is denoted +Av, and a mean residual score less than -0.27667 is denoted -Av.

Fig.51 - Showing the increase (I) or decrease (D) in the mean score of every cluster on the 26 variables on which the clusters differed significantly.

	CLUSTER							
	1	2	3	4	5	6	7	8
1.English Attainment	I +Av	D Av	D Av	I Av	D Av	D Av	I +Av	D -Av
2.Composition of clusters.	--	I	I	I	D	I	--	--
3.Reading of local English weeklies.	I Av	I +Av	I Av	I +Av	I +Av	I Av	I Av	I Av
4.Reading of Welsh books.	D Av	D Av	D Av	D -Av	I +Av	I Av	I Av	I +Av
5.Nationalities of favourite sports personaliyies.	I Av	I +Av	I +Av	D Av	D Av	I +Av	I Av	D Av

	CLUSTER							
	1	2	3	4	5	6	7	8
6. Use of radio	I +Av	I Av	I +Av	D Av	I Av	I +Av	D Av	I +Av
7. Attitude Towards English.	D -Av	D Av	D -Av	D Av	D Av	D Av	D Av	D -Av
8. Nationalities of favourite radio personalities.	D Av	I Av	I +Av	I +Av	I Av	I Av	I Av	I +Av
9. Attendance at Welsh Church or Chapel.	D Av	I Av	D Av	I +Av	D Av	D Av	D -Av	D -Av
10. Language of questionnaire chosen.	I +Av	I Av	I +Av	I +Av	I Av	I Av	I Av	I Av
11. Number of Welsh comics or magazines named.	I +Av	I +Av	I +Av	--	I +Av	I Av	I Av	I +Av
12. Welsh Attainment.	I Av	D Av	I Av	D -Av	I Av	D Av	D Av	I +Av
13. Nationalities of favourite T.V. personalities.	D Av	I Av	D Av	I +Av	I Av	D -Av	D Av	I +Av
14. Reading of English comics and magazines.	I Av	I +Av	I +Av	I Av	I Av	I +Av	I Av	D Av
15. Welsh language records and cassettes.	D Av	D -Av	D Av	D Av	I +Av	I Av	D Av	D Av
16. Language of favourite book.	I +Av	I Av	D Av	I +Av	D Av	I Av	--	I +Av
17. Reading of Yr Herald Gymraeg.	D -Av	I +Av	I +Av	I +Av	--	--	D Av	I +Av
18. Number of English books named.	D -Av	D -Av	D -Av	D Av	D Av	D Av	D Av	D Av
19. Attitude towards Welsh	D Av	I Av	D Av	I +Av	I Av	I Av	I +Av	I +Av
20. Number of Welsh books named.	D -Av	D -Av	D Av	D -Av	D Av	D Av	D Av	D Av
21. Welsh Reading Quotient.	D Av	D -Av	D -Av	D -Av	D Av	D Av	D Av	D Av
22. Club Membership.	I +Av	I Av	I +Av	I +Av	I +Av	I Av	I +Av	I Av
23. English Reading Quotient	D Av	D Av	D Av	D -Av	D -Av	D -Av	D Av	D Av

	CLUSTER							
	1	2	3	4	5	6	7	8
24. Use of the Cinema	D -Av	D Av	D Av	I Av	--	I +Av	D -Av	I Av
25. Reading of English books.	D -Av	D Av	I +Av	D -Av	I +Av	D Av	--	I +Av
26. Time spent watching Welsh language T.V. programmes.	I +Av	I +Av	I +Av	D Av	I Av	I Av	I Av	I Av

We now give a profile of each cluster, showing the main tendencies during the three year period between 1978 and 1981.

CLUSTER 1

Number of children in the cluster = 21 in both investigations.

Linguistic background :- Home - Welsh; Neighbourhood - English=Welsh

Language of play outside school hours - English = Welsh; Language of play at school - Welsh > English.

This cluster has a mixed linguistic background, but with the Welsh language being more predominant than the English language. It is very approximately the fifth Welsh cluster in terms of its "Welsh background".

Between 1978 and 1981, the members of this cluster showed above average increases or trends in the following :-

- (a) English attainment.
- (b) Use of radio.
- (c) Number of Welsh language comics or magazines read.
- (d) Time spent watching Welsh language television programmes.
- (e) More inclined to choose the English version of the questionnaire in 1981.
- (f) More inclined to name an English book as favourite in 1981.
- (g) Less inclined to be members of Welsh medium clubs in 1981.
- (h) Had a more favourable attitude towards English in 1981.

There were above average decreases or trends in the following between 1978 and 1981:-

- (a) The reading of Yr Herald Gymraeg.
- (b) The number of English books read.
- (c) The number of Welsh books read.
- (d) Use of the cinema.
- (e) The regularity of reading English books.

As already stated, this cluster has a very mixed linguistic background. The language of the home, however, is Welsh, and this may be associated with the fact that the members showed an above average increase in the number of Welsh comics or magazines read, and in the time spent watching Welsh language television programmes. On the other hand, the members showed an above average change of attitude towards the English language, from unfavourable to favourable.

CLUSTER 2.

Number of children in the Cluster = 49 (1978) and 48 (1981).

Linguistic background :- Home - Welsh; Neighbourhood - Welsh > English; Language of play outside school hours - Welsh; Language of play at school - Welsh.

This is the cluster having the strongest Welsh linguistic background. It has in fact almost a totally Welsh background, with the language of the home and of play being Welsh.

Between 1978 and 1981, the members of this cluster showed above average increases or trends in the following :-

- (a) The regularity of reading local English weeklies.
- (b) The number of Welsh language comics or magazines read.
- (c) The regularity of reading English comics or magazines.
- (d) The time spent watching Welsh language television programmes.
- (e) The regularity of reading Yr Herald Gymraeg.

(f) Less inclined to name Welsh persons as favourite sports persons in 1981.

There were above average decreases or trends in the following between 1978 and 1981.

- (a) The use of Welsh language records and cassettes.
- (b) The number of English books read.
- (c) The number of Welsh books read.
- (d) Welsh reading quotient.

In spite of the fact that this was the cluster with an almost totally Welsh linguistic background, there were clear signs that the members were making use of the mass media in both languages. As we shall see, this is in direct contrast with the cluster having the strongest English linguistic background, Cluster 6, whose members showed very little contact with the Welsh language both in 1978 and in 1981. We note, however, that the members of Cluster 2 showed above average decreases in the use of Welsh language records and cassettes, in the number of Welsh books read, and in the Welsh reading quotient. On a more optimistic note, the members showed an above average increase in the time spent watching Welsh language television programmes.

CLUSTER 3

Number of children in the cluster = 28 (1978) and 25 (1981).

Linguistic background :- Home - Welsh; Neighbourhood - Welsh > English
Language of play outside school hours - Welsh; Language of play at school - Welsh > English.

This is the cluster having approximately the second strongest Welsh linguistic background. Between 1978 and 1981, the members showed above average increases or trends in the following :-

- (a) Use of radio.
- (b) The number of Welsh language comics and magazines read.

- (c) The regularity of reading English comics and magazines.
- (d) The regularity of reading Yr Herald Gymraeg.
- (e) The regularity of reading English books.
- (f) The time spent watching Welsh language television programmes.
- (g) Less inclined to name Welsh persons as favourite sports persons in 1981.
- (h) More inclined to choose the English version of the questionnaire in 1981.
- (i) Less inclined to be members of Welsh medium clubs in 1981.

There were above average decreases or trends in the following between 1978 and 1981 :-

- (a) The number of English books read.
- (b) Welsh reading quotient.
- (c) Attitude towards English had become more favourable by 1981.

There was clear evidence again for this cluster that the members were making increased use of the mass media in both languages. There was an above average increase in actual reading, both in English and in Welsh. The shift of attitude towards English from unfavourable to favourable was above average, as also was the tendency to choose the English version of the questionnaire in the second investigation.

CLUSTER 4

Number of children in the cluster = 8 (1978) and 7 (1981).

Linguistic background :- Home - English > Welsh; Language of Neighbourhood - Welsh > English; Language of play outside school hours - Welsh; Language of play at school - Welsh.

This is an interesting cluster, because although English seems to be the dominant language in the home, the roles of the two languages are reversed outside the home, with the language of play being totally Welsh. This cluster has roughly the third

strongest Welsh linguistic background. Between 1978 and 1981, the members showed above average increases or trends in the following:-

- (a) Regularity of reading local English weeklies.
- (b) Attendance at a Welsh Church or Chapel.
- (c) Regularity of reading Yr Herald Gymraeg.
- (d) Less inclined to name Welsh-speaking persons as favourite radio personalities in 1981.
- (e) More inclined to choose the English version of the questionnaire in 1981.
- (f) Less inclined to name Welsh persons as favourite television personalities in 1981.
- (g) More inclined to have an English favourite book in 1981.
- (h) Had a less favourable attitude towards Welsh in 1981.
- (i) Less inclined to be members of Welsh medium clubs in 1981.

There were above average decreases or trends in the following between 1978 and 1981:-

- (a) The regularity of reading Welsh books.
- (b) Welsh attainment.
- (c) The number of Welsh books read.
- (d) Welsh Reading Quotient.
- (e) English Reading Quotient.
- (f) The regularity of reading English books.

There was a most noticeable shift of emphasis from Welsh to English amongst the members of this cluster between 1978 and 1981. Not only is this reflected in the above average change of attitude towards Welsh from favourable to unfavourable, but also in the members' use of the mass media in the two languages. The fact that English is the dominant language of the home may possibly be associated with the trend to replace Welsh with English.

CLUSTER 5

Number of children in the cluster = 19 (1978) and 18 (1981).

Linguistic background :- Language of Home - English > Welsh;

Language of Neighbourhood - English > Welsh; Language of play outside school hours - English > Welsh; Language of play at school - English > Welsh.

This is the first of three clusters having a predominantly English linguistic background. It has approximately the third strongest English background. Between 1978 and 1981, the members of this cluster showed above average increases or trends in the following:-

- (a) Regularity of reading local English weeklies.
- (b) Regularity of reading Welsh books.
- (c) The number of Welsh language comics and magazines read.
- (d) The use of Welsh language records and cassettes.
- (e) Regularity of reading English books.
- (f) Less inclined to be members of Welsh medium clubs in 1981.

There were above average decreases or trends in the following between 1978 and 1981:-

- (a) English Reading Quotient.

In spite of having a predominantly English linguistic background, the members of this cluster showed unmistakeable signs of making more use of the Welsh language between 1978 and 1981. We see from the above that there were above average increases by the members in the regularity of reading Welsh books, in the number of Welsh language magazines and comics read, and in the use of Welsh language records and cassettes. The only above average decrease was in the English reading quotient. Perhaps it is the uniformity of contact with the Welsh language, at home, at school, and in the neighbourhood, that helps create the increase in the use of Welsh.

CLUSTER 6

Number of children in the cluster = 30 (1978) and 25 (1981).

Linguistic background :- Language of the home - English; Language of the Neighbourhood - English; Language of play outside school hours - English; Language of play at school - English.

This cluster has a totally English linguistic background. Between 1978 and 1981, the members showed above average increases or trends in the following:-

- (a) Use of radio.
- (b) Regularity of reading English comics and magazines.
- (c) Use of the cinema.
- (d) Less inclined to name Welsh persons as favourite sports persons in 1981.

There were above average decreases or trends in the following between 1978 and 1981:-

- (a) English Reading Quotient.
- (b) More inclined to name Welsh persons as favourite television personalities in 1981.

Over the three year period, the members of this cluster showed little sign of increased contact with or use of the Welsh language. We see that there were above average increases in the use of radio, the cinema, and in the regularity of reading English comics and magazines. Somewhat surprising was the above average decrease in the English reading quotient.

CLUSTER 7

Number of children in the cluster = 22 (1978) and 20 (1981).

Linguistic background :- Language of home - English; Language of Neighbourhood - English > Welsh; Language of play outside school hours - English; Language of play at school - English.

This cluster has an almost completely English linguistic background, having the second strongest English background after

Cluster 6. Between 1978 and 1981, the members of this cluster showed above average increases or trends in the following:-

- (a) English attainment.
- (b) Had a less favourable attitude towards Welsh in 1981.
- (c) Less inclined to be members of Welsh medium clubs in 1981.

There were above average decreases or trends in the following between 1978 and 1981:-

- (a) Attendance at a Welsh Church or Chapel.
- (b) Use of the cinema.

Again, as with Cluster 6, there was little evidence of increased use of the Welsh language by the members of this cluster. There was an above average shift in attitude towards Welsh from favourable to unfavourable during the three year period. On the whole, this cluster showed little change between 1978 and 1981, remaining linguistically stable during this period.

CLUSTER 8

Number of children in the cluster = 15 (both in 1978 and in 1981).

Linguistic background:- Language of the home - Welsh; Language of the Neighbourhood - Welsh; Language of play outside school hours - English > Welsh; Language of play at school - Welsh > English.

This cluster had a predominantly Welsh linguistic background having approximately the fourth strongest Welsh background. Between 1978 and 1981, the members of this cluster showed above average increases or trends in the following:-

- (a) Regularity of reading Welsh books.
- (b) Use of radio.
- (c) Number of Welsh language comics or magazines read.
- (d) Welsh attainment.
- (e) Regularity of reading Yr Herald Gymraeg.
- (f) Regularity of reading English books.

- (g) Less inclined to name Welsh-speaking persons as favourite radio personalities in 1981.
- (h) Less inclined to name Welsh persons as favourite Television personalities in 1981.
- (i) More inclined to name an English book as favourite in 1981.
- (j) Had a less favourable attitude towards Welsh in 1981.

There were above average decreases or trends in the following between 1978 and 1981:-

- (a) English attainment.
- (b) Attendance at a Welsh Church or Chapel.
- (c) Had a more favourable attitude towards English in 1981.

There was clear evidence of an above average increase in Welsh language reading amongst the members of this cluster. On the other hand, there was a marked change of attitude towards both languages between 1978 and 1981, the members' attitude to English becoming more favourable, and their attitude to Welsh becoming less favourable.

NON DISCRIMINATING VARIABLES.

The Discriminative Analysis which we conducted also showed us that the clusters did not differ significantly on several variables. These variables are listed in Figure 52, and also shown is whether there was an increase (I) or a decrease (D) in the mean score of every cluster on each variable between 1978 and 1981.

Fig.52 - Showing the variables on which there was no significant difference between the clusters.

	CLUSTER							
	1	2	3	4	5	6	7	8
1.English Spelling Test.	I	D	I	D	D	D	I	I
2.Welsh Spelling Test.	I	I	I	D	I	D	D	I

	CLUSTER							
	1	2	3	4	5	6	7	8
3. Attendance at an English Church or Chapel	D	D	D	I	I	D	D	D
4. Regularity of reading daily newspapers	I	I	I	I	I	I	I	I
5. Regularity of reading Sunday newspapers	I	I	I	I	I	I	I	I
6. Regularity of reading Welsh language national weeklies	D	I	I	I	I	D	D	I
7. Regularity of reading Llanw Llyn	I	I	I	I	I	I	I	D
8. Regularity of reading Y Ffynnon	D	I	D	I	D	I	I	D
9. Number of English comics and magazines read	D	I	I	I	I	I	D	I
10. Regularity of reading Welsh language comics or magazines	I	I	I	D	I	I	I	I
11. Regularity of visiting a Public Library	D	I	I	I	I	I	I	I
12. Use of English records and cassettes	I	I	I	I	I	I	I	I
13. Time spent watching English television programmes	I	I	I	D	D	D	D	D
14. Nationality of favourite recording stars	I	I	I	I	I	I	D	I
15. Preference for watching rugby or soccer	D	D	D	I	D	D	D	D

Of the above 15 variables on which the clusters did not differ significantly, four should be particularly noted. There was no significant difference between the clusters in the regularity of reading daily or Sunday newspapers, and every cluster showed an increase in this respect. There was no significant difference, either, in the use made by the members of each cluster of English

records and cassettes, nor in the time spent watching English language television programmes. In other words, there was no difference between the clusters in the use of these four English media by their members.

In Chapter 5, the main hypothesis of this work was postulated thus:-

The use made of the mass media by bilingual children between the ages of 10 and 13 years varies according to the linguistic background of the child; children with a predominantly English background tend to make less use of mass media in the Welsh language as they grow older, while children with a predominantly Welsh background tend to use the mass media in the Welsh language to a similar extent at 13 and 10 years old, with their use of the English mass media increasing as they grow older.

The clusters with a predominantly English background are Clusters 6,7 and 5, the order indicating the strength of the English background. We certainly found no evidence that the members of Clusters 6 and 7 were making more use of the Welsh language mass media at 13 years old than at 10 years old, while there was some evidence of an increased use of the English language mass media at 13 years old. The members of these two clusters in fact made very little use of the Welsh language mass media either at 10 years old or at 13 years old. There was evidence, however, of an increase in the use of Welsh language mass media by the members of Cluster 5 between 1978 and 1981. We found above average increases in the regularity of reading Welsh books, in the number of Welsh language comics or magazines read, and in the use of Welsh language records and cassettes. However, it seems reasonable to state that the stronger the English linguistic background, the more likely are the children to make less use of Welsh language mass media as they grow

older.

The clusters having a predominantly Welsh linguistic background were Clusters 2,3,4,8 and 1, the order again being from the strongest Welsh background to the weakest. It must be said at once that no firm pattern emerged from the cluster profiles; all the clusters showed above average increases and decreases in the use of some of the mass media both in English and in Welsh between 1978 and 1981. Of the Welsh clusters, Cluster 4 was the only one having a predominantly English home background, and we did find a most noticeable decrease in the use of the Welsh mass media by its members. We also found that Cluster 4 was the only Welsh cluster to show a decrease in the time spent by its members watching Welsh language television programmes between 1978 and 1981; the members of clusters 1,2 and 3 actually showed above average increases in the time spent watching Welsh language programmes over the three year period.

As already explained, several important facts emerge from Figure 52 in our comparison of the 'English' and 'Welsh' clusters. It will be seen that all the clusters showed an increase in the reading of daily and Sunday newspapers, and therefore an increase in the use of the English language. Also, all the clusters showed an increase in the use of English records and cassettes. And from Figure 51, it will be remembered that all the clusters showed a more favourable attitude towards English at 13 years old than at 10 years old.

Our findings in the present chapter do not enable us to accept the main hypothesis as it stands. However, we are also unable to reject it completely, for there may well be several elements of truth contained in it. We therefore present the following alternative hypothesis:-

The use made of the mass media by bilingual children between the
ages of 10 and 13 years varies according to the linguistic
background of the child; the stronger the English background, the
greater the tendency to make less use of the mass media in the
Welsh language as they grow older. Children with a predominantly
Welsh linguistic background tend to make more use of the mass
media in both languages as they grow older, but there is a greater
increase in their use of the English mass media than of the Welsh
mass media. Furthermore, as bilingual children grow older, their
attitude towards English becomes more favourable, while their
attitude towards Welsh becomes less favourable.

CHAPTER 9

CONCLUSIONS AND RECOMMENDATIONS

At the commencement of this work, anxiety was expressed at the apparent lack of research concerning the use made by bilingual children of the mass media. It may not be unreasonable to state that this important field has hitherto been largely neglected in the arguments and counter arguments about the state of bilingualism in Wales. An attempt was therefore made at discovering how, and to what extent, bilingual children from a Welsh-speaking area of Wales used the mass media both in English and in Welsh at 10 years old and at 13 years old.

Our initial finding was that the bilingual children were less inclined to be members of Welsh medium clubs at 13 years old than at 10 years old. It was thought that this was due to the fact that at 10 years old, the children would be mostly confined to membership of clubs within their immediate vicinity, in their own villages, with the consequent likelihood of their being Welsh medium clubs. By 13 years of age, the children had progressed to secondary school, and had probably developed broader interests, and were more inclined to join clubs which were less dependent on the Welsh language as a medium. We accepted the following hypothesis on the basis of our results :-

Between 10 and 13 years of age bilingual children decline in their use of Welsh medium formal groups.

Our second topic of investigation was the use made by the bilingual children of newspapers, magazines and comics both in the English and Welsh languages. We had anticipated finding the children making less use of Welsh language newspapers, magazines and comics between 10 and 13 years of age, and making more use of

English language newspapers, magazines and comics. We certainly found that the children made more use of English language newspapers magazines and comics at 13 years old than at 10 years old, but we also found a small increase in their use of Welsh language newspapers, magazines and comics by 13 years old. However, the number of children who read the Welsh newspapers, magazines and comics was still small compared to the number who read English material. We consequently stated the following alternative hypothesis :-

Between 10 and 13 years of age, bilingual children make more use of newspapers, magazines and comics both in the Welsh language and in the English language. Furthermore, both at 10 years and at 13 years, more bilingual children make use of English language newspapers, magazines and comics than make use of the similar Welsh language material available.

We found a general decrease in the amount of book-reading done by the children between 10 and 13 years old, both in English and in Welsh. The following hypothesis was suggested :-

Between 10 and 13 years of age, bilingual children read fewer books, but the decrease in Welsh book-reading is more pronounced than the decrease in English book-reading.

The amount of time spent by the children watching television was much the same at 13 years old as it was at 10 years old. It had been expected that we would find a decrease in the time spent watching Welsh language programmes by 13 years old, but we actually found a small increase. However, there was no real comparison between the time spent watching English language programmes and the time spent watching Welsh language programmes either at 10 years old or at 13 years old. In a sample week in 1978, the children spent a total of 3208 hours and 50 minutes watching English language

programmes, and 116 hours and 15 minutes watching Welsh language programmes. The corresponding totals in 1981 were 2986 hours 55 minutes and 189 hours 20 minutes. Our findings in the field of television may be summarised thus :-

At 13 years old, the amount of English television watched by the children remained the same as it was at 10 years old, while there was a small increase in the amount of Welsh language television watched by the children at 13 years old.

The final media considered in our investigations were the cinema, radio, records and cassettes, together with the children's views on sport. During the three year period between 1978 and 1981 we discovered a slight increase in the use of the cinema by the children, a significant increase in the use of radio, and a significant increase in the use of English language records and cassettes. Although there was an increase in the popularity of Welsh language radio programmes, there was a decrease, though it was not significant, in the use made of Welsh language records and cassettes. By 1981, also, the children were less inclined to name Welsh persons as their favourite sports persons. The hypothesis which we accepted was that :-

Between 10 and 13 years of age, bilingual children increase their use of radio, cinema, records and cassettes in the English language, but there is a decrease in their use of records and cassettes in the Welsh language. Also, there is a decline in their allegiance to Welsh persons in the world of sport.

Undoubtedly, one of the most important finding of our investigation was the change of attitude towards both languages by the bilingual children between 1978 and 1981. During this time, the attitude of the children towards English became more favourable, while their attitude towards Welsh became less favourable. This

change of attitude was reflected in the children's choice of questionnaire in the two investigations; in 1978 the majority chose the Welsh version, whereas in 1981 the reverse was true. The fact that the children made more use of the English language than of the Welsh language in the mass media may well be responsible for the change of attitude that we detected, although we must be fully aware of the possibility that the change of attitude may be responsible for the children's increased use of the English mass media.

The test of attainment, spelling, and word reading in both languages administered both in 1978 and in 1981 did not prove conclusive. The reason for this was that we could not assume the tests to be of equal difficulty on the two occasions of testing, and could not compare tests. It had been anticipated that we would have found the children's English attainment to have increased at a faster rate than their Welsh attainment over the three year period, but although our findings certainly indicated that this might be the case, we were unable to prove so with any certainty.

In view of our findings in this work, we may certainly ask the question whether it is reasonable to expect a bilingual educational policy to safeguard and foster bilingualism within society. Bilingual educational policies may be put forward, and indeed adopted, without a deep understanding of the effects of those policies. It may be of paramount importance to consider education as being a part of a child's life, and to consider that part in the context of life as a whole. Education should certainly not be an artificial, set-aside portion of the whole, but should complement and enrich life for every individual child.

It is often argued that a school's curriculum, and hence the educational policy adopted for that school, should be constantly

reviewed and updated, so that it is in step with the needs of society. Admirable though this sentiment may be, the extent to which it occurs is debateable, and it is also debateable whether it is in the interest of society that it should occur. Is it a matter of deciding what are the needs of society, or what the needs of society should be? Any society is partly shaped by its educational policies, and the inadequacies of those policies are often referred to when the ills within society are discussed and debated. But education cannot exist healthily within a vacuum, and just as it has a duty towards shaping society, so society also has a duty to support education. It is most certainly a two-way process.

The education of bilingual children is a prime example of the rift which exists between educational theorists and society. It is possible that some parents of bilingual children, given a free choice, would not be in favour of a bilingual educational policy. Having themselves gone through an educational system that contained very little Welsh, they may now have fears that their children will be disadvantaged by having to follow Welsh medium courses. There are occasions when it is difficult to convince these people of the benefits of a bilingual education, and they may simply not be prepared to be convinced. Some may regard the fact that their children are able to speak Welsh as a hindrance rather than an advantage, and may be resigned to the belief that to get ahead their children must be immersed in an English language dominated education. At the other extreme there may be bilingual parents who wish their children to receive a totally Welsh medium education, and may be prepared to see their children brought up to be monoglot Welsh speakers.

The general aims of a bilingual educational policy would appear on rational grounds to be both reasonable and sensible.

Under the influence of such a policy, it is hoped that every child will be thoroughly bilingual by school-leaving age, and will be able to converse intelligently in both languages. However, the question has to be asked whether or not the fostering or existence of a bilingual society should be so dependent on the educational system. It would surely be much better if the society had a genuine desire to be bilingual, for that society would then be in a position to demand the continuation of bilingualism. However, this does not appear to be the case at present in Wales. Bilingual education tends to be forced upon parents and children, and this enforcement in turn may create a great deal of alienation towards the Welsh language. It may of course be argued that such enforcement is morally wrong, and that parents should be free to decide whether they wish their children to pursue bilingual education. This parallels the practice encountered by several generations of Welsh children who were forced to follow a totally English education, this fact being one of those mainly responsible for the perilous state of the Welsh language today.

It was not the intention in this work to support either of the above viewpoints, but rather to investigate the conditions under which a bilingual system of education is expected to thrive and to bear fruit. It was suggested at the outset that one of the main factors which should be investigated amongst bilingual children, and one which could have a far-reaching effect on their bilingualism and on their education, is the use made by those children of the mass media available to them. It was suspected that much more English material was available than Welsh material, and it was also suspected that bilingual children made more use of English material than of Welsh material. Our investigations have shown that both suspicions were founded. There is no comparison

between the amount of English medium and Welsh medium material available to bilingual children, and there is no comparison either between the amount of English material and of Welsh material used by the children. In other words, bilingual education is expected to thrive in an atmosphere which is not conducive to a healthy balance between the Welsh and English languages, an atmosphere which lays far more emphasis on English than on Welsh. The linguistic imbalance that exists in the mass media available to bilingual Welsh children may be a social problem of urgent concern, and yet little, if anything, appears to be done to combat this problem. The bilingual state of affairs may not exist indefinitely; if this is so, then it appears unfair for successive educational policies to be held responsible for defending Welsh-speaking areas of Wales against Anglicisation. How much hope can a bilingual educational policy have when the children in the present investigation spend, on average, 17 hours per week watching English language television programmes and one hour per week watching Welsh language television programmes? Difficult though it may be to prove that this particular imbalance endangers the survival of the Welsh language, and consequently of bilingualism, it is not unreasonable to suggest that it may very well do so, or at the very least be one contribution amongst others.

Such appears to be the imbalance between the English and Welsh languages in the popular mass media that it may not be outrageous or irresponsible to ask whether the Welsh language itself is approaching the point of existing in a vacuum. Reading material in Welsh, both in the form of newsprint and in the form of books appears limited; the transmission times of daily Welsh language television programmes can be expressed in minutes rather than in hours; a Welsh language film industry is non-existent; and

the Welsh record industry may be fighting a losing battle against its English counterpart. The only medium in which the two languages seem to be competing on fairly competitive terms is that of radio.

Possibly the most alarming feature of education in Wales during the past quarter century is that it has become so entwined in the language debate. Education can be independent of medium, and can be discussed in its own right. In Chapter 1 we traced the battle of the Welsh language for survival since the sixteenth century, and found that one of the main objectives of the education system that existed was to foster the English language. And in the first half of the present century, the educational norm of most parents for their children was to ensure that they received a good English education. Over the last quarter century the emphasis has shifted somewhat, and education has sometimes been regarded as the only major vehicle of survival for the Welsh language. There have been campaigns for bilingual education, for the establishment of bilingual schools, and for the adoption of bilingual education policies by Welsh Education Authorities. The results of these pressures, from the Welsh language's viewpoint, have been encouraging, and the roles played by successive governments in financing these developments may have been commendable. Unfortunately, it may well be that with the best possible intentions, these pressure groups who wish to see a healthy state of bilingualism exist in Wales are possibly being misled. It is as if they were guarding a house, and baricading the front door; but alas, the back door is wide open and unguarded. One back door, in Wales, may well be the mass media. There is very little linguistic control on the mass media available to Welsh children; the actual material offered differs very little from the material offered to monolingual children in England. The only difference is that there is a very limited

amount of Welsh language material available in Wales in addition to the wealth of English material.

How can this system be changed in Wales? This is obviously an extremely difficult question to answer, but one which nevertheless has to be tackled if any degree of bilingualism is to survive. Before a bilingual educational system can healthily survive, a platform of social bilingualism must be created for that system. It appears that this problem is being tackled in reverse order, with bilingual education being expected to be the major creator of a totally bilingual society. Should not education be expected to be just one partner in the company of other influences?

The very first priority is to decide whether or not a bilingual society in Wales is desirable. It is suspected that few Welsh people would object to such an ideal, for although the percentage of bilingual persons has dropped to a mere 20%, it is by no means true, or fair, to say that the remaining 80% object to bilingualism. Indeed, it would probably be much more accurate to say that a sizeable proportion of parents in the 80% would support bilingualism, and may welcome the opportunity afforded their children to become bilingual.

Assuming that a bilingual society is desired, steps could then be taken to ensure the homogeneity of bilingualism in that society. The central government could set up machinery to ensure the building up of the Welsh language mass media. This would in all probability be a slow and costly operation, and would undoubtedly meet with stern opposition from a minority. It could entail, in the first place, the development of a subsidized Welsh language national daily newspaper, followed by a Welsh language Sunday newspaper. Then, Welsh language comics and magazines would be required, and these would need to be aimed at the different age groups. The few

publications available at present attempt to cater for children of all ages, and consequently do not adequately cater for any age specifically. The publishing of Welsh books, particularly books for children, would have to be heavily subsidized. And then we come to the most important of the mass media, television. A serious attempt would have to be made to set up a complete Welsh language television service. Steps have already been taken in this direction in 1981, with the government's decision to set up S4C - Sianel 4 Cymru, which will start transmitting in the Autumn of 1982. Initially, this channel will transmit around 25 hours of Welsh language programmes per week, and the hope is that this total time will grow within the next few years into a complete Welsh language service. The present Welsh language radio channel, Radio Cymru, could transmit more Welsh language programmes, and provide a whole day service instead of the present partial service. Alternatively, both radio stations transmitting in Wales, Radio Cymru and Radio Wales could be encouraged to alter from their present policies of linguistic polarisation. The commercial radio stations operating in Wales could be granted licences on the understanding that they would transmit an equal amount of Welsh language and of English language broadcasts. The development of a Welsh language film industry may well be beyond the realms of possibility, but ideally a strong film industry would be particularly helpful to foster total bilingualism. And perhaps even more important would be the need for a Welsh language record industry, producing Welsh records which would be attractive to adolescents. As has already been suggested, this medium may well be the medium with which young people identify themselves most often, and is therefore particularly fundamental.

Given the move towards a truly bilingual society, it may

then be possible for every education authority in Wales to successfully run a bilingual educational policy. Indeed, it would hardly be necessary for such policies to be fought for. The extension of bilingualism into education could be considered as entirely natural and automatic. The language issue could be removed from the educational debate in Wales, and much more effort could be devoted to tackling the many problems of education. For the education of children should be high on the list of priorities of any civilized society; it should truly enrich the life of every individual child. It should not create differences within society, but on the contrary should play a vital role in developing a healthy, dynamic, and tolerant society. Such a society, in Wales, is naturally a bilingual one; its realisation would take a great deal of effort and understanding, and a great deal of thought.

APPENDIX A

List of children rejected by the second investigation

In the first investigation conducted in 1978, the sample consisted of 192 children. By 1981, this number had been reduced to 179, and details of the 13 children withdrawn are given below.

1. Male. Family moved from the area. Was in Cluster 3.
2. Female. Constantly unavailable. Was in Cluster 3.
3. Female. Family moved from the area. Was in Cluster 6.
4. Male. Family moved from the area. Was in Cluster 6.
5. Female. Family moved from the area. Was in Cluster 7.
6. Female. Family moved from the area. Was in Cluster 6.
7. Male. Entered Public School at 11 years old. Was in Cluster 3.
8. Male. Family moved from the area. Was in Cluster 6.
9. Male. Family moved from the area. Was in Cluster 7.
10. Male. Constantly unavailable. Was in Cluster 2.
11. Female. Family moved from the area. Was in Cluster 5.
12. Male. Family moved from the area. Was in Cluster 4.
13. Male. Family moved from the area. Was in Cluster 6.

APPENDIX B

English version of the questionnaire used in the first investigation.

1. In which language do the following people speak to you?

	Always in Welsh	In Welsh more often than in English	In Welsh as often as in English	In English more often than in Welsh	Always in English
Father					
Mother					
Brothers					
Sisters					

2. In which language do you speak to the following people?

	Always in English	In English more often than in Welsh	In English as often as in Welsh	In Welsh more often than in English	Always in Welsh
Father					
Mother					
Brothers					
Sisters					

3. In which language does your FATHER speak to the following people?

	Always in Welsh	In Welsh more often than in English	In Welsh as often as in English	In English more often than in Welsh	Always in English
Mother					
Brothers					
Sisters					

4. In which language does your MOTHER speak to the following people?

	Always in English	In English more often than in Welsh	In English as often as in Welsh	In Welsh more often than in English	Always in Welsh
Father					
Brothers					
Sisters					

5. In which language do your BROTHERS speak to the following people?

	Always in Welsh	In Welsh more often than in English	In Welsh as often as in English	In English more often than in Welsh	Always in English
Father					
Mother					
Sisters					

6. In which language do your SISTERS speak to the following people?

	Always in English	In English more often than in Welsh	In English as often as in Welsh	In Welsh more often than in English	Always in Welsh
Father					
Mother					
Brothers					

7. In which language do you speak to the people living close to your house?

Always in Welsh	In Welsh more often than in English	In Welsh as often as in English	In English more often than in Welsh	Always in English

8. In which language do the people living close to your house speak to you?

Always in English	In English more often than in Welsh	In English as often as in Welsh	In Welsh more often than in English	Always in Welsh

9. In which language do your friends speak to you when playing outside school hours?

Always in Welsh	In Welsh more often than in English	In Welsh as often as in English	In English more often than in Welsh	Always in English

10. In which language do you speak to your friends when playing outside school hours?

Always in English	In English more often than in Welsh	In English as often as in Welsh	In Welsh more often than in English	Always in Welsh

11. In which language do your friends speak to you at school?

Always in Welsh	In Welsh more often than in English	In Welsh as often as in English	In English more often than in Welsh	Always in English

12. In which language do you speak to your friends at school?

Always in English	In English more often than in Welsh	In English as often as in Welsh	In Welsh more often than in English	Always in Welsh

13. Do you attend a Church or Chapel or Sunday School where Welsh is the main language used?

Every Sunday	About every other Sunday	Once a month	Once or twice a year	Never

14. Do you attend a Church or Chapel or Sunday School where English is the main language used?

Every Sunday	About every other Sunday	Once a month	Once or twice a year	Never

15. Would you please writ below the names of any Club, Society, Group or Movement of which you are a member.

.....

.....

.....

16. Do you read a daily newspaper?

Every day	About every other day	Once a week	Occasionally	Never

17. Would you please write below the name/names of the daily newspaper/newspapers that you read.

.....

18. Do you read a Sunday newspaper?

Every Sunday	About every other Sunday	Once a month	Occasionally	Never

19. Would you please write below the name/names of the Sunday newspaper/newspapers that you read.

.....

20. Do you read the following weekly or monthly newspapers?

	Regularly	Fairly Regularly	Sometimes	Seldom	Never
Caernarfon & Denbigh Herald					
The Cambrian News					
Y Cymro					
Yr Herald Gymraeg					
Y Faner					
Llanw Llŷn					
Y Ffynnon					

21. Which section of a newspaper do you most enjoy reading?

.....

22. Do you read English language magazines or comics?

Regularly	Fairly Regularly	Sometimes	Seldom	Never

23. Could you please write below the names of the English language magazines or comics that you read.

.....

24. Do you read Welsh language magazines or comics?

Regularly	Fairly Regularly	Sometimes	Seldom	Never

25. Would you please write below the names of the Welsh language magazines or comics that you read.

.....

26. Do you read books, written in English, outside school hours?

Regularly	Fairly Regularly	Sometimes	Seldom	Never

27. Do you read books, written in Welsh, outside school hours?

Regularly	Fairly Regularly	Sometimes	Seldom	Never

28. How often do you visit a Public Library?

Regularly	Fairly Regularly	Sometimes	Seldom	Never

29. Of all the books that you have ever read, is there one particular book that you consider to be your favourite book?

YES	NO

If your answer is YES, would you please name the book.

.....

30. Would you please write below the names of your five favourite television programmes, in order of preference.

1..... 2.....
3..... 4.....
5.....

31. Would you please name your favourite television personality or character.

.....

32. How often do you visit a cinema?

Regularly	Fairly Regularly	Sometimes	Seldom	Never

33. Do you listen to the radio at home?

Every day	About every other day	About once a week	About once a month	Never

34. Would you please write below the names of your favourite radio programmes in order of preference.

.....
.....

35. Would you please name your favourite radio personality or character.

.....

36. Do you play English language records or cassettes at home?

Regularly	Fairly Regularly	Sometimes	Seldom	Never

37. Do you play Welsh language records or cassettes at home?

Regularly	Fairly Regularly	Sometimes	Seldom	Never

38. Would you please write below the name/names of your favourite
artist/artists from the world of records/cassettes.

.....

39. Who is your favourite sports personality?

.....

40. Which soccer team do you support?

.....

41. Which do you prefer to watch, soccer or rugby?

.....

APPENDIX C

Welsh version of the questionnaire used in the first investigation

1. Ym mha iaith y bydd y bobl yma yn siarad a chi?

	Pob amser yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Yng Nghymraeg mor aml ag yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Pob amser yn Saesneg
Tad					
Mam					
Brodyr					
Chwiorydd					

2. Ym mha iaith y byddwch chi'n siarad a'r bobl yma?

	Pob amser yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Yn Saesneg mor aml ag yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Pob amser yng Nghymraeg
Tad					
Mam					
Brodyr					
Chwiorydd					

3. Ym mha iaith y bydd eich TAD yn siarad a'r bobl yma?

	Pob amser yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Yng Nghymraeg mor aml ag yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Pob amser yn Saesneg
Mam					
Brodyr					
Chwiorydd					

4. Ym mha iaith y bydd eich MAM yn siarad a'r bobl yma?

	Pob amser yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Yn Saesneg mor aml ag yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Pob amser yng Nghymraeg
Tad					
Brodyr					
Chwiorydd					

5. Ym mha iaith y bydd eich BRODYR yn siarad a'r bobl yma?

	Pob amser yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Yng Nghymraeg mor aml ag yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Pob amser yn Saesneg
Tad					
Mam					
Chwirydd					

6. Ym mha iaith y bydd eich CHWIORYDD yn siarad a'r bobl yma?

	Pob amser yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Yn Saesneg mor aml ag yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Pob amser yng Nghymraeg
Tad					
Mam					
Brodyr					

7. Ym mha iaith y byddwch yn siarad a phobl sy'n byw yn agos at eich ty chi?

Pob amser yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Yng Nghymraeg mor aml ag yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Pob amser yn Saesneg

8. Ym mha iaith y bydd y bobl sy'n byw yn agos at eich ty chi yn siarad a chi?

Pob amser yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Yn Saesneg mor aml ag yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Pob amser yng Nghymraeg

9. Ym mha iaith y bydd eich ffrindiau yn siarad a chi pan fyddwch yn chwarae y tu allan i oriau ysgol?

Pob amser yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Yng Nghymraeg mor aml ag yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Pob amser yn Saesneg

10. Ym mha iaith y byddwch chi yn siarad a'ch ffrindiau pan fyddwch yn chwarae y tu allan i oriau ysgol?

Pob amser yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Yn Saesneg mor aml ag yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Pob amser yng Nghymraeg

11. Ym mha iaith y bydd eich ffrindiau yn siarad a chi yn yr ysgol?

Pob amser yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Yng Nghymraeg mor aml ag yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Pob amser yn Saesneg

12. Ym mha iaith y byddwch chi'n siarad a'ch ffrindiau yn yr ysgol?

Pob amser yn Saesneg	Yn Saesneg yn amlach nag yng Nghymraeg	Yn Saesneg mor aml ag yng Nghymraeg	Yng Nghymraeg yn amlach nag yn Saesneg	Pob amser yng Nghymraeg

13. A fyddwch yn mynychu Capel neu Eglwys neu Ysgol Sul ple defnyddir y Gymraeg yn bennaf?

Pob Sul	Tua pob yn ail Sul	Unwaith yn y mis	Unwaith neu ddwywaith y flwyddyn	Byth

14. A fyddwch yn mynychu Capel neu Eglwys neu Ysgol Sul ple defnyddir y Saesneg yn bennaf?

Pob Sul	Tua pob yn ail Sul	Unwaith yn y mis	Unwaith neu ddwywaith y flwyddyn.	Byth

15. A wnewch chi ysgrifennu isod enw unrhyw Glwb, Cymdeithas, Grwp neu Fudiad yr ydych yn perthyn iddo.

.....?

.....

.....

16. A fyddwch yn darllen papur newydd dyddiol?

Pob dydd	Tua pob yn ail diwrnod	Unwaith yr wythnos	Weithiau	Byth

17. Ysgrifennwch isod enw/enwau y papur/papurau dyddiol y byddwch yn eu darllen.

.....

18. A fyddwch yn darllen papur Sul?

Pob Sul	Tua pob yn ail Sul	Unwaith yn y mis	Weithiau	Byth

19. Ysgrifennwch isod enw/enwau y papur/papurau Sul y byddwch yn eu darllen.

.....

20. A fyddwch yn darllen y papurau wythnosol neu fisol canlynol?

	Yn Rheolaidd	Yn weddol reolaidd	Weithiau	Yn anaml	Byth
Caernarfon and Denbigh Herald					
Cambrian News					
Y Cymro					
Yr Herald Gymraeg					
Y Faner					
Llanw Llŷn					
Y Ffynnon					

21. Pa ran o bapur newydd fyddwch chi yn mwynhau ei ddarllen fwyaf?

.....

22. A fyddwch yn darllen cylchgronnau neu gomics Saesneg?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

23. Ysgrifennwch isod enwau'r cylchgronnau neu gomics Saesneg y byddwch yn eu darllen.

.....
;

24. A fyddwch yn darllen cylchgronnau neu gomics Cymraeg?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

25. Ysgrifennwch isod enwau'r cylchgronnau neu gomics Cymraeg y byddwch yn eu darllen.

.....

26. A fyddwch chi'n darllen llyfrau Saesneg y tu allan i oriau ysgol?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

27. A fyddwch yn darllen llyfrau Cymraeg y tu allan i oriau ysgol?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

28. Pa mor aml y byddwch yn ymweld a Llyfrgell Gyhoeddus?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

29. O'r holl lyfrau a ddarllenasoch erioed, a oes gennych un ffefryn arbennig?

OES	NAC OES

Os mai OES oedd eich ateb, a wnewch chi enwi'r llyfr.

.....

30. Ysgrifennwch isod enwau'r pump rhaglen deledu yr ydych mwyaf hoff ohonynt, yn eu trefn.

1..... 2.....

3..... 4.....

5.....

31. Ysgrifennwch isod enw'ch hoff gymeriad neu berson a'r y teledu.

.....

32. Pa mor aml y byddwch yn mynd i'r sinema?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

33. A fyddwch yn gwrando ar y radio adref?

Pob dydd	Tua pob yn ail diwrnod	Tua unwaith yr wythnos	Tua unwaith y mis	Byth

34. Ysgrifennwch isod enwau'r pump rhaglen radio yr ydych fwyaf hoff ohonynt, yn eu trefn.

.....

.....

.....

35. Ysgrifennwch isod enw'ch hoff gymeriad neu berson o fyd radio.

.....

36. A fyddwch yn chwarae recordiau neu gasetiau Saesneg adref?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

37. A fyddwch yn chwarae recordiau neu gasetiau Cymraeg adref?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

38. Ysgrifennwch isod enw/enwau eich hoff artist/artistiaid o fyd recordiau a chasetiau.

.....

39. Pwy yw'ch hoff gymeriad ym myd chwaraeon

.....

40. Pa dim peldroed fyddwch chi'n ei gefnogi?

.....

41. Ai rygbi, ynteu peldroed fyddwch chi'n hoffi ei wyllo orau?

.....

APPENDIX D

The English Spelling Test used in both investigations.

How to give the Test.

Tell the children that they are going to do a spelling test. Read out the first word 'Number 1 - on. Write down on. The boy sits on the table. Spell on.' Then proceed with the other words.

1. On. The boy sits on the table.
2. Not. Mary has not been to school today.
3. Cup. I drink my tea from a cup.
4. Van. The baker delivers bread in a van.
5. Jam. For breakfast, peter has jam on his toast.
6. Lost. The boy lost some money in the grass.
7. Sit. Jane likes to sit on the high chair.
8. Plan. Before building a house, a contractor must draw a plan.
9. Mud. After playing football, John has a lot of mud on his boots.
10. Beg. My little kitten will often beg for more milk.
11. The. I will go to school in the morning.
12. Go. David likes to go to the cinema.
13. For. Jane said that she would come for the book tonight.
14. So. The weather is so cold in the Winter.
15. Me. She saw me on the bus yesterday.
16. Are. Most of the girls are reading their books.
17. Of. Sunday is the first day of the week.
18. Do. "Good morning, and what can I do for you?" asked the man.
19. Who. The man who came to my house yesterday was my uncle.
20. Here. Mary came here yesterday on her pony.
21. Ship. There was a large ship in the harbour.
22. Food. We had plenty of food to eat on the picnic.
23. Fire. During a drought, it is easy to start a fire in the forest.

24. Thin. In the film, there was a fat man, and a thin man.
25. Date. The date which had been ringed on the calendar was December 25th.
26. Chop. After school, I have to chop some firewood.
27. Seem. I seem to remember reading this book before.
28. Dart. The little puppy would dart to and fro excitedly.
29. Loud. The boy answered in a loud voice.
30. Form. We were told to form a queue before entering the bus.
31. Eye. Tom is unable to see properly with his right eye.
32. Fight. Boys should not fight in the playground.
33. Friend. John's best friend is Michael.
34. Done. I was told that I could play when my work was done.
35. Any. Are there any sweets left?
36. Great. It was a great relief to me when I found my watch.
37. Sure. Keeping on wet clothes is a sure way of catching a cold.
38. Women. Most of the women were knitting.
39. Answer. I will answer your question tomorrow.
40. Beautiful. The lady wore a beautiful dress.

APPENDIX E

The Welsh Spelling Test used in both investigations.

Sut i roddi'r Prawf.

Dywedwch wrth y plant eu bod am gael prawf sillafu. Yna, darllener y gair cyntaf : "Mel. Bu'r gwenyn yn brysur drwy'r haf yn gwneud mel. Sillafwch mel." Yna, ymlaen gyda'r geiriau eraill.

1. Mel. Bu'r gwenyn yn brysur drwy'r haf yn gwneud mel.
2. Mul. Cafodd Gwen fynd ar y mul bach ar lan y mor.
3. Yfed. Byddaf yn yfed cwpanaid o lefrith bob bore.
4. Byd. Aeth modryb Sian am daith o amgylch y byd.
5. Fyny. Nid hawdd yw mynd i fyny i ben y twr.
6. Tynnu. Byddaf yn tynnu fy nillad cyn mynd i'r gwely.
7. Poen. Ni allai Dafydd ddod i chwarae, am fod poen yn ei gefn.
8. Tref. Pwllheli ye ein tref ni.
9. Pump. Pump o fysedd sydd ar fy llaw.
10. Parc. Bydd y bechgyn yn mynd i ddringo coed i'r parc.
11. Mynd. Ni wyddwn yr amser, gan nad oedd y cloc yn mynd.
12. Darlun. Y mae darlun i fyny ar wal fy ystafell.
13. Clust. Bydd clust y ddafad yn cael ei nodi gan y ffermwr.
14. Saith. Y mae saith diwrnod mewn wythnos.
15. Cloff. Bachgen bach clloff oedd Eifion, gan ei fod wedi torri ei goes.
16. Llyfr. Pob nos, bydd Gwen yn darllen ei llyfr cyn mynd i gysgu.
17. Serth. Mae'r allt i fyny i'r ysgol yn serth.
18. Hwyllo. Heno, gan ei bod yn braf, af i hwyllo i'r bae.
19. Cadair. Byddaf yn hoffi eistedd mewn cadair esmwyth.
20. Gwyro. Mae'n rhaid gwyro eich pen cyn mynd drwy'r drws.
21. Garej. Bydd fy nhad yn cadw'i gar yn y garej.

22. Plentyn. Nid oedd yr un plentyn yn yr ysgol ddoe.
23. Annwyl. Gwraig annwyl a charedig yw fy modryb.
24. Eithin. Byddai'r bechgyn yn cynnau tan eithin ar y mynydd.
25. Mynydd. Byddaf yn hoff iawn o ddringo i ben y mynydd.
26. Llygad. Nid oedd Sian yn gallu gweld yn iawn a'i llygad chwith.
27. Uchel. Mae'r Wyddfa yn fynydd uchel iawn
28. Newydd. Cefais feic newydd fel anrheg penblwydd.
29. Edrych. Bydd y plant i gyd yn edrych ymlaen at y gwylliau.
30. Llithro. Mae angen gofal rhag llithro ar y rhew.
31. Gwyrdd. Trowsus gwyrdd oedd gan Hefin amdano.
32. Creadur. Yn y goedwig y trigai'r creadur gwyllt.
33. Cychwyn. 'Roedd fy nhad yn methu cychwyn y car heddiw.
34. Rhywun. "Oes rhywun wedi gweld fy nghot?" gofynodd Gwen.
35. Goleuni. Gan fod y trydan i ffwrdd, nid oedd goleuni yn y ty.
36. Crwydryn. Dillad bler iawn oedd gan y crwydryn.
37. Clogwyn. Nid doeth yw mynd yn rhy agos at y clogwyn, rhag ofn
cwmp.
38. Perffeithio. Trwy ddyfal barhad y mae perffeithio unrhyw grefft.
39. Anghysbell. 'Roedd bwthyn y bugail i fyny'n uchel, mewn lle
anghysbell.
40. Penderfynu. Nid yw'n hawdd penderfynu pa ddiod i'w ddewis.

APPENDIX F

English Word Recognition Test used in both investigations

tree	little	milk	egg	book
school	sit	frog	playing	bun
flower	road	clock	train	light
picture	think	summer	people	something
dream	downstairs	biscuit	shepherd	thirsty
crowd	sandwich	beginning	postage	island
saucer	angel	ceiling	appeared	gnome
canary	attractive	imagine	nephew	gradually
smoulder	applaud	disposal	nourished	diseased
university	orchestra	knowledge	audience	situated
physics	campaign	choir	intercede	fascinate
forfeit	siege	recent	plausible	prophecy
colonel	soloist	systematic	slovenly	classification
genuine	institution	pivot	conscience	heroic
pneumonia	preliminary	antique	susceptible	enigma
oblivion	scintillate	satirical	sabre	beguile
terrestrial	belligerent	adamant	sepulchre	statistics
miscellaneous	procrastinate	tyrranical	evangelical	grotesque
ineradicable	judicature	preferential	homonym	fictitious
rescind	metamorphosis	somnambulist	bibliography	idiosyncrasy

APPENDIX G

Welsh Word Recognition Test used in both investigations

pen	oes	byw	pren	chwarae
troed	llyfr	eistedd	punt	lliwio
hydref	chwith	llaeth	hwyr	llyffant
neithiwr	lladd	dychryn	rhwymo	caeau
goleuni	ynys	bychan	lleol	breuddwyd
tyrfa	gofynnaf	clochdar	ymhellach	ceiliogod
chwys	heol	noswyllo	sychedig	angel
gorchymyn	hynafol	cyflwyno	gwriddo	gwnio
blodeuyn	gwrych	gwenwyno	pobloedd	chwegrwn
neiaint	tanbeidrwydd	dyrnaid	neilltuol	grawnwin
coeglyd	porfeydd	distawrwydd	ymddangosodd	paratoad
deheuwynt	mwsogli	ceisiwyd	diwydiant	llyfrgell
deffroad	llieiniau	diffeithwch	cylchoedd	ewyllysiodd
gloywi	diffuant	ymneilltuodd	boddhaol	ymgyrch
enghreifftiau	cynghorwyr	crefyddwyr	pendramwnwgl	cyffroad
lluniwyd	efeilliaid	erthygl	camddealltwr- iaeth	angenrheidiol
crynhoad	duwch	cyfnodolyn	anniben	celfyddyddau
gwarchaeasant	dieithriaid	teyrngar	dienyddiwyd	pensaerniaeth
crwydriaid	efengylaidd	annuwiolion	penceirddiaid	arwyddocaol
llyfryddiaeth	cynghreiriaid	anghyddfurfiol	llethrfeydd	claearaidd

APPENDIX H

Attitude towards English test of the first Investigation

1. English version

Please read the following sentences and put a tick (✓) opposite each one with which you agree. Do not tick those with which you do not agree.

✓	No.	Sentence.
	1	We need to know English to enjoy pop songs.
	2	Welsh people speak too much English.
	3	English should be taught all over the world.
	4	I should not like English to take over from the Welsh language.
	5	English will take you further than Welsh.
	6	The Welsh language is better than the English language.
	7	English is easier to learn than Welsh.
	8	English is a beautiful language.
	9	The Welsh ought to speak Welsh, not a second-hand language like English.
	10	English is more difficult than Welsh.
	11	We should leave it to the English to speak English.
	12	Learning English is boring but necessary.

2. Welsh Version.

Darllenwch y gosodiadau canlynol, a rhowch dic (✓) gyferbyn a'r rhai yr ydych yn cydfynd a hwy. Peidiwch a thicio'r rhai nad ydych yn cydfynd a hwy.

✓	Rhif	Gosodiad
	1	Mae eisiau gwybodaeth o'r Saesneg i fwynhau caneuon pop.
	2	Mae'r Cymry'n siarad gormod o Saesneg.
	3	Dylid dysgu Saesneg dros y byd i gyd.

	4	Fyddwn i ddim yn hoffi gweld y Saesneg yn cymryd lle'r Gymraeg.
	5	Fe ewch ymhellach a'r Saesneg nag a'r Gymraeg.
	6	Mae'r iaith Gymraeg yn well na'r iaith Saesneg.
	7	Mae'r Saesneg yn haws ei dysgu na'r Gymraeg.
	8	Mae'r Saesneg yn iaith brydferth.
	9	Dylai'r Cymry siarad Cymraeg ac nid siarad iaith ail-law fel y Saesneg.
	10	Mae'r Saesneg yn fwy anodd na'r Gymraeg.
	11	Dylem adael y Saesneg i'r Saeson.
	12	Mae dysgu Saesneg yn anniddorol ond mae'n angenrheidiol.

APPENDIX I

Attitude towards Welsh test of the first Investigation

1. English Version.

Please read the following sentences and put a tick (✓) opposite each one with which you agree. Do not tick those with which you do not agree.

✓	No.	Sentence.
	1	I like hearing Welsh spoken.
	2	We should work tirelessly to save the Welsh language.
	3	Welsh should not be forced upon non-Welsh pupils.
	4	As all Welsh people speak English, it's a complete waste of time to keep up Welsh.
	5	I like speaking Welsh.
	6	Welsh is a difficult language to learn.
	7	There are far more useful languages to spend time on than Welsh.
	8	I don't want to learn Welsh, as I'm not likely ever to use it.
	9	Welsh is a language worth learning.
	10	I'd like to be able to speak Welsh if it were easier to learn.
	11	I don't speak Welsh, but I don't object to it.
	12	I should like to be able to read Welsh books.

2. Welsh Version.

Darllenwch y gosodiadau canlynol, a rhwch dic (✓) gyferbyn a'r rhai yr ydych yn cydfynd a hwy. Peidiwch a thicio'r rhai nad ydych yn cydfynd a hwy.

✓	Rhif	Gosodiad
	1	Yr wyf yn hoffi clywed y Gymraeg yn cael ei siarad.
	2	Fe ddylem weithio'n galed i gadw'r iaith Gymraeg yn fyw.

	3	Ni ddylid gorfodi plant di-Gymraeg i ddysgu Cymraeg.
	4	Gan fod pob Cymro'n siarad Saesneg, gwastraff amser yn llwyr yw hi i gadw'r Gymraeg.
	5	Yr wyf yn hoffi siarad Cymraeg.
	6	Gellir treulio amser ar ieithoedd llawer mwy defnyddiol na'r Gymraeg.
	7	Mae'r Gymraeg yn iaith anodd ei dysgu.
	8	Dylai dysgu Cymraeg fod yn fater o ddewis.

APPENDIX J

English Attainment Test of the
first Investigation.

Read the instructions carefully and attempt all questions.

In each of the following sentences a word (or a number of words) is missing. Choose the correct answer (from A,B,C or D), and put a ring around the letter in front of it.

Example.

A hungry child longs for

A warmth B clothing (C) food D sleep

1. The son who inherited the money was the rich man's

A hair B hare C heir D here

2. The long hot summer has caused a

A draught B drought C draft D doubt

3. An artist mixes his colours on a

A plate B canvas C palate D palette

4. A mammal is

A a bird B an insect C an animal D a snake

5. At the same time means the same as

[illegible]

6. To be fatigued is to be

A playful B happy C sad D tired

7. A versatile person is one who

A can do several things well B repairs roofs

C is good at reciting poetry D is always well dressed

In each of the following sentences a phrase has been underlined. From the possible answers (A,B,C or D), choose the word which means the same as the phrase underlined and put a ring around the letter in front of it.

Example. The school bus is always on time.

(A) punctual B puncture C permanent D early

8. The boy expressed his regret for his bad behaviour.

A apologised B appealed C applauded D boasted

9. The strange creature was able to move on land or water.

A ambiguous B amphibious C amorous D ample

Complete the following sentences by choosing from the possible answers (A, B, C or D) the word opposite in meaning to the word already underlined. Put a ring around the letter in front of the word you choose.

Example.

I called out in a loud voice; he answered in a whisper.

A clear B noisy C distinct ☒ D low

10. She decided to accept her mother's advice and the offer of a new job.

A choose B avoid C reject D change

11. Vegetables which will not thrive in barren soil, will quickly grow in soil.

A futile B dark C sandy D fertile

12. The man often uses the train but he uses the bus.

A never B seldom C frequently D once

In each of the following sentences a word has been underlined. From the possible answers (A, B, C or D) choose the word which means the same and put a ring around the letter in front of it.

Example.

The pupil did not understand the problem.

A inquire ☒ B comprehend C project D discover

13. The stamps were extremely rare.

A valuable B plentiful C scarce D unknown

14. The boys were eager to start the game.

A happy B lively C slow D impatient

15. This equipment is very expensive.

A cheap B costly C worthless D valueless

16. After playing football during the lunch-time break, the boys felt drowsy in the English lesson.

A sleepy B lazy C silly D wakeful

17. The hostile attitude of the man did not surprise him.

A frightening B unfriendly C comical D reckless

In this exercise statements are followed by questions. Choose the question (A,B,C or D) for which the statement is the best answer and put a ring around the letter in front of it.

Example.

I am ten years old.

A When were you born? (B) How old are you?
C When is your birthday? D How old will you be next year?

18. We missed the bus yesterday.

A Did you miss the bus yesterday? B What time did you arrive?
C Did you miss the bus today? D Did you miss the train yesterday?

19. I will come if my parents are willing.

A Have you asked your parents? B Did you go to the beach?
C Will you come with us? D Are your parents willing for you to come?

20. No, I was alone when I found it.

A Were you alone when you found it? B Is this where you found it?
C Was anyone with you when you found it? D Did you find it without help?

Below, statements are made about what someone has said. These are followed by versions of what might have been the actual words used by the speaker. Choose the correct answer (from A,B,C and D) and put a ring around the letter in front of it.

Example.

The girl said that she had enjoyed the book.

(A) "I have enjoyed the book". B "She had enjoyed the book".
C "I enjoy the book". D "I would enjoy the book".

21. Tom thanked the old gentleman for his kindness.

A "Thank you for his kindness". B "Thank you for my kindness".
C "Thank him for your kindness". D "Thank you for your kindness".

22. The boy said he had posted the letter on his way to school.

- A "He posted the letter on my way to school". B "I posted the letter on my way to school".
C "He posted the letter on his way to school". D "I posted the letter on his way to school".

23. He told the boy that he could have a new book if he wanted one.

- A "He could have a new book if he wanted one". B "You should have a new book if you wanted one".
C "You can have a new book if you want one". D "He can have a new book if he wants one".

Read this passage carefully, and then answer the questions which follow it.

Very miserably and uncertainly, but putting off the police for one more hour, Ernest went back to the cliffs and walked along close to their edges, looking down at the rocks and the sea. The tide was racing up with the wind behind it. The waves broke merrily, quite far out to sea, and the water was the colour of whipped forget-me-not. Suddenly Ernest saw something just beneath move on the rocks, larger than a gull. When the tide was high those rocks were first cut off and then submerged. The cliff upon which Ernest stood was precipitous. No one could climb up or down it. Ernest started running to an easier headland down which he would be able to descend. He wasn't sure even then that it was Tommy, but he ran as if he were under thirty. No one else was in sight.

In each question put a ring around the letter in front of the one answer which seems best to you.

24. The tide was -

- A coming in B at its highest C receding D about to turn

25. Ernest's mood, as he walked along the cliffs, was -

- A happy B anxious C confident D thoughtful

26. 'Submerged', in the passage, means -

- A almost covered B covered when struck by an unusually high wave.
C invisible D completely covered

27. 'Precipitous', in the passage, means -

- A composed of crumbling rocks and soil. B very steep
C exposed to the strongest winds. D slippery

28. Ernest's age was -

- A considerably less than thirty B about sixty-five
C considerably more than thirty D about fifteen

29. Uppermost in Ernest's mind was -

- A whether to fetch the police B to go to the rescue himself
C his own safety D the onset of dusk

30. A good title for the passage would be -

- A A walk on the cliffs B The dangers of rock-climbing
C The coast in winter D Cut off by the tide.

In each of the following sentences a word or number of words is missing. Choose the correct answer (from A,B,C or D) and put a ring around the letter in front of it.

Example.

The headmaster for a certain boy in Form 3.

- A be looking B am looking **(C) is looking** D are looking

31. May I your ruler to draw my straight line?

- A lend B borrow C have a lend of D have a borrow of

32. The boy his hand to answer the question.

- A rose B rised C rosed D raised

33. He the examination.

- A has passed B has past C as passed D as past

34. have ivory keys.

- A them pianos B this piano C those pianos D these piano

35. My young brothers made this model

- A themselfs B theirselves C themselves D theirselves.

36. The tired sailor and slept.

- A lay down B laid down C layed down D led down

37. The bridge connected the island the mainland.

- A from B off C by D with

38. He took the toffee the child.

A off of B of C from D off

39. I intend going tomorrow you come or not.

A whether B weather C wether D weaver

In each of the following sentences a number of words is missing. These are given below the sentences in the wrong order. Write out the words in the correct order above the line.

Example.

All the travellers
destination
at
arrived
their

40. Eight men lost

when
the lifeboat
their lives
capsized

41. The children were

a
asked
to form
queue

42. I want to borrow

library
books
the
from

43. When the astronaut

from
he

the spacecraft

stepped

quickly

disappeared

44. The boy was;.....
for
deliberately
the classroom window
punished
breaking

Below you are given a number of questions. Choose the best answer for each question (from A,B,C or D) and put a ring around the letter in front of it.

Example.

Have you plenty of money?

- A No, my pockets are full ☒ B Yes, I have plenty of money.
C No, I have plenty of money. D Yes, my pockets are empty.

45. Is it warmer today than it was yesterday?

- A Yes, it is colder. B No, it is warmer.
C Yes, it is not warmer. D No, it is colder.

46. Did the tennis star autograph your book?

- A Yes, because of the crowd I couldn't get near him.
B No, he signed his name in the front of my book.
C Yes, he signed his name at the back of my book.
D Yes, he wrote his name on the back of an envelope.

47. Can my friends leave their coats here?

- A Yes, they can, they can't leave them here.
B No, they can leave them in the other room.
C Yes, they will have to take them with them.
D No, they may leave them safely.

Put a ring around the letter (A,B,C or D) next to the phrase which should be used to fill in the blank in the sentences below.

Example.

They want there for tea.

A that we go

B for us to go

☒ C us to go

D that us go

48. We should like

A the arrangements you make

B that you make the arrangements.

C you make the arrangements

D you to make the arrangements.

49. He asked to town.

A was I going

B whether I was going

C were I going

D whether was I going.

50. He could

A not of done nothing

B of not done anything

C not have done anything

D of not of done anything

51. He saw football

A superior to any he had seen before

B and it was better than he had seen it before

C which he had not seen so good before

D so good as he had seen before

In the following sentences you will find the actual words used by someone in speaking. These are followed by versions of how the speech might have been reported in writing by someone else. Choose the correct version (from A,B,C or D) and put a ring around the letter in front of it.

Example.

"I know how to play the game", answered John.

☒ A John answered that he knew how to play the game.

B I know how to play the game was John's answer.

C John answered, I know how to play the game.

D John answered that he had played the game before.

52. "I am going home", John said.
- A John said, I am going home.
 - B John says, that he was going home.
 - C I am going home said John.
 - D John said that he was going home.
53. "I will play with you after tea", he said.
- A He said, I will play with you after tea.
 - B He said that he would play with me after tea.
 - C I will play with you after tea, said he.
 - D That I will play with him after tea was said by him.
54. "The dog has taken the sausages", said Mr Smith.
- A The dog took the sausages, says Mr Smith.
 - B That the dog takes sausages was said by Mr Smith.
 - C Mr Smith said that the dog had taken the sausages.
 - D The dog has taken the sausages, said Mr Smith.

Read this passage carefully, and then answer the questions which follow it.

The end of their argument was that they sent Fili and Kili to look for a better shelter. They had very sharp eyes, and being the youngest of the dwarves by some fifty years they usually got these sort of jobs (when everyone could see that it was absolutely no use sending Bilbo)

Soon Fili and Kili came crawling back, holding on to the rocks in the wind. "We have found a dry cave", they said, "not far round the next corner; and ponies and all could get inside".

"Have you thoroughly explored it?" said the wizard, who knew that caves up in the mountains were seldom unoccupied.

"Yes, yes" they said, though everybody knew they could not have been long about it; they had come back too quick.

In each question put a ring around the letter in front of the one answer which seems best to you.

55. How large was the cave which they found?
- A It was an enormous cave.
 - B It was a very small cave.
 - C It was large enough to shelter the whole party in comfort.

- D They had no idea how big it was.
56. Why were Fili and Kili sent to look for a shelter?
- A Because they had no shelter at all where they were.
 - B Because they had a very good shelter already.
 - C Because the shelter they had was not satisfactory.
 - D Because they were too hot where they were.
57. What was the weather like?
- A It was snowing heavily.
 - B It was very stormy.
 - C The sun was shining brightly.
 - D It was a dull but dry day.
58. How well do you think Fili and Kili had examined the cave?
- A Not at all.
 - B Very thoroughly.
 - C They had just seen the entrance to it.
 - D They had made a quick examination of it.
59. The word 'thoroughly' means -
- A completely
 - B half-heartedly
 - C carelessly
 - D enthusiastically
60. The words 'seldom unoccupied' means that -
- A there were very few caves in the mountains.
 - B creatures of some kind made their homes in most of the caves.
 - C the caves were full of rocks and could not be used.
 - D all the caves were empty.

APPENDIX K

Welsh Attainment Test of the first Investigation.

SYLWCH.

Y mae'n bwysig iawn i chi ddarllen pob cwestiwn yn ofalus. Dim ond i chi ddarllen yn ofalus fe welwch beth i'w wneud wrth fynd ymlaen.

Yn awr gwnewch eich gorau heb ofyn dim un cwestiwn.

Ar yr ochr chwith fe welwch nifer o eiriau, ac ar yr ochr dde mae rhestr o eiriau eraill.

Rhowch linell o dan y gair sydd fwyaf tebyg o ran ystyr i'r rhai ar yr ochr dde i'r tudalen. Fel hyn -

Dyn sy'n trwsio esgidiau (cerddor, crydd, ffermwr, clochydd)

1. Gelwir rhywun sy'n gweithio'n (ddiwyd, ddiog, ddi-fai, ddi-waith galed yn
2. Tâl am waith (cyfoeth, cyflog, cyflenwad, cyfanswm)
3. Tywydd braf (hirben, hirwyntog, hiraethus, hindda)

Ar yr ochr chwith fe welwch un gair ar ei ben ei hun.
Ar yr ochr dde y mae rhes o eiriau.

Cysgu (huno, neidio, colli, ceisio)

Y mae llinell o dan y gair 'huno' am mai dyna'r gair sydd fwyaf tebyg i 'cysgu' o ran ystyr. Rhowch linell o dan y gair sydd fwyaf tebyg o ran ystyr i'r gair ar yr ochr chwith.

4. Dyffryn (dol, cwm, cae, gweirglodd)
5. Gofod (lleuad, clogwyn, gofaint, gwagle)
6. Afradlon (cas, creulon, anhapus, gwastraffus)
7. Llesg (egniol, llesol, difywyd, mwyn)
8. Heini (henaid, bywiog, heintus, araf)

Dywedwn 'llawer o ddynion' ond 'un dyn'.
Yn awr ysgrifennwch chwi'r gair am un o'r pethau hyn.

9. lloriau
10. meysydd

- 11. meirch
- 12. seiri
- 13. meini

Ar yr ochr chwith fe welwch un gair ar ei ben ei hun.
Ar yr ochr dde nifer o eiriau eraill.

Uchel (hir, isel, hen, bach)

Y mae llinell o dan 'isel' am ei fod yn groes ei ystyr i 'uchel'.
Gwnewch chwi'r rhain, trwy roi llinell o dan y gair croes ei ystyr.

- 14. Dôf (dewr, cartrefol, gwyllt, hyf)
- 15. Llwyddiant (llawenydd, llywydd, llafar, methiant)
- 16. Terfyn (terfysg, gorffwys, diwedd, dechrau)
- 17. Cyson (annifyr, anwadal, anfodlon, cynnes)
- 18. Mwyn (man, caled, garw, trist)
- 19. Clyd (oer, anwar, anghysurus, anghyffwrdd)

Dywedwn 'un afon', ond 'afonydd' am fwy nag un.
Ysgrifennwch chi'r gair am fwy nag un o'r pethau hyn.

- 20. troed
- 21. ffon
- 22. draenen

DARLLEN A DEALL.

Mae Môr Galilea tua saith gant o droedfeddi yn is na lefel y môr. Mae'r Môr Marw bron cymaint a hynny eto, ryw fil a thri chant o droedfeddi i lawr. Nid yw'n syndod deall mai 'un sy'n disgyn' yw ystyr yr enw Iorddonen. Pe bai'r afon yn dewis mynd yn syth o un môr i'r llall, nid yw'r pellter ond pum milltir a thrugain ond mae'n troi a throelli nes bod ei gwir hyd dros deirgwaith gymaint a hynny. Mae'r gwres yn y dyffryn hwn bron yn annioddefol, yn enwedig yn yr haf pan nad oes awel yn cyrraedd y rhannau isaf ohono.

Ceid eira ar Fynyddoedd Libanus i'r gogledd o Balesteina, a phan doddai hwn byddai llif yn yr afonydd. Yn y tymor sych nid oedd yr Iorddonen yn ddim ond nant fechan. Weithiau rhuthrai gwynt oer i lawr o gyffiniau Mynydd Hermon i gyfeiriad Môr Galilea gan achosi stormydd sydyn arno; darllenwn am yr Iesu'n tawelu storm o'r fath. Rhwng y ddau for mae gwely'r afon mewn hafn ddofn, wedi'i gorchuddio gan goedwig drwchus, cynefin anifeiliaid gwylltion.

Ymhob cwestiwn rhwch linell o dan yr ateb sy'n disgrifio orau beth a ddigwyddodd yn y darn.

23. Mae'r Môr Marw

- (a) yn uwch na Môr Galilea
- (b) yn is na Môr Galilea
- (c) yn uchel yn y mynyddoedd
- (d) yn uwch na lefel y môr.

24. Ystyr yr enw Iorddonen yw

- (a) lle'r disgyblion
- (b) un yn syrthio
- (c) un sy'n esgyn
- (d) un sy'n disgwyl

25. Mae'r afon Iorddonen

- (a) yn mynd yn syth o un môr i'r llall
- (b) yn dilyn cwrs igam ogam
- (c) deirgwaith yn hwy na Môr Galilea
- (d) Yn bum milltir a thrigain o hyd

26. Mae'r dyffryn yn yr haf

- (a) yn annioddefol o oer
- (b) yn llawn o awelon braf
- (c) yn ddi-wres ac yn wlyb
- (d) yn llethol o boeth

27. Pan doddai'r eira

- (a) byddai'r afonydd yn rhewi
- (b) byddai'r afonydd yn orlawn o ddwr
- (c) byddai'r stormydd yn tawelu
- (d) ni fyddai'r afon ond nant fechan

28. Achosir stormydd ar Fôr Galilea gan

- (a) yr eira wedi toddi
- (b) y tymor sych

- (c) y gwynt oer
- (d) lawer o nentydd bychain

29. Mae'r coed yno'n

- (a) brin a thenau
- (b) niferus a deiliog
- (c) druenus i'w gweld
- (d) cael eu trochi yn y dwr.

30. Mae'r goedwig yn

- (a) gartref arferol i'r anifeiliaid gwylltion
- (b) ddieithr i'r anifeiliaid gwylltion
- (c) gyrru'r anifeiliaid gwylltion yn gynddeiriog
- (d) rhoi min ar ewinedd yr anifeiliaid gwylltion.

Mae'r gair 'anhapus' wedi ei wneud trwy roi 'an' a 'hapus' gyda'i gilydd. Mae 'cyd' + 'gweld' yn rhoi 'cydweld'.

Gwnewch chi eiriau gyda'r rhain :

- 31. an + gobaith =
- 32. an + cofio =
- 33. di + blas =
- 34. an + disgwyl =
- 35. af + rhesymol =

Mae gair ar goll ym mhob brawddeg. Y mae'r gair sydd ar goll wedi ei wneud o'r gair sydd mewn llythrennau mawr ar y chwith fel hyn -

DOETH Mae Solomon yn enwog am ei
 'Doethineb' yw'r gair sydd ar goll.

Gwnewch chi'r rhain.

- 36. TLAWD Mae llawer o blant India'n byw mewn mawr.
- 37. HIRAETH Wedi bod oddi cartref am flynyddoedd bu'n
 am ddod yn ol.
- 38. GWROL Rhoddwyd medal iddo am ei
- 39. RHYDD Mae pob i chi i wneud fel y mynoch.
- 40. BYDDAR Mae swm y peiriant yn ddigon i'ch

Ar yr ochr chwith fe welwch un gair. Rhwch y ffurf gywir o'r gair yn y frawddeg fel hyn .

uchel Yr wyddfa yw'r mynydd yng Nghymru.

'uchaf' yw'r gair sydd ar goll.

Yn awr, gwnewch chi'r rhain.

- 41. da Gwen yw'r ferch yn y dosbarth.
- 42. isel Mae'r gadair esmwyth yn na'r gadair galed.
- 43. hardd Mae'r rhosyn coch yn na'r rhosyn gwyn.
- 44. bach Mae Mr Jones yn na Cassius Clay.
- 45. byr Chwefror yw'r mis yn y flwyddyn.

Ar yr ochr chwith fe welwch ddechrau brawddeg, ac ar yr ochr dde ddewis o bedair ffurf i orffen y frawddeg, fel hyn -

- Mae Ifan yn gwybod
- (a) nid yw'n iawn
 - (b) lawer o bethau
 - (c) pwy sy'n dod
 - (d) y dyn yma

Mae llinell o dan 'pwy sy'n dod' am mai dyna'r ateb cywir. Gwnewch chi'r rhain drwy roi llinell o dan yr ateb sy'n gorffen y frawddeg yn gywir.

- 46. Ni fydd cyfarfod heno os (a) nid yw'r siaradwr yn dod.
 - (b) mae'r siaradwr yn dod.
 - (c) ni ddaeth y siaradwr.
 - (d) na ddaw'r siaradwr.
- 47. Ni chafodd y plant hyd (a) mae nhw'n chwilio'n ofalus.
 - i'r bel er (b) mae'r plant wedi chwilio'n ofalus.
 - (c) nid ydynt wedi chwilio'n ofalus.
 - (d) iddynt chwilio'n ofalus.
- 48. Pwy yw hwn (a) nid ydyw yma?
 - (b) ni welais o'r blaen?
 - (c) sy'n canu'n uchel?
 - (d) y bu yma?

Ar yr ochr chwith mae dywediadau Cymraeg. Y mae eisiau i chi ddweud beth maent yn ei feddwl trwy roi llinell o dan yr ateb cywir ar yr ochr dde, fel hyn -

- heb siw na miw (a) heb son na sylw
 (b) yn ddistaw iawn
 (c) yn gerddorol
 (d) heb syniad o gwbl.

Mae llinell o dan 'yn ddistaw iawn' am mai dyna'r ateb cywir. Gwnewch chi'r rhain.

49. wysg ei gefn (a) dan ei gesail
 (b) wedi gwisgo cot
 (c) tuag yn ol
 (d) a'i gefn wedi crymu
50. uchel ei gloch (a) swnllyd
 (b) yn nhwr yr eglwys
 (c) yn ddeallus iawn
 (d) yn codi'n gynnar
51. yn draed moch (a) yn ddestlus
 (b) yn ddidrefn
 (c) yn frwnt iawn
 (d) yn dyner iawn
52. canu'n iach (a) canu'n swynol
 (b) codi oalon
 (c) cyfarch
 (d) ffarwelio
53. ar bigau'r drain (a) casglu mwyar
 (b) yn afler
 (c) yn ofidus
 (d) bron a syrthio

DARLLEN A DEALL.

Yr oedd y brenin Maelgwn yn hela un diwrnod yn Llŷn ac ar ddal gafr. Yr oedd Sant Cybi, fodd bynnag, yn mynd heibio ac fe redodd yr afr ato am loches. Fe orchmynnodd y brenin i'r sant

ildio'r anifail, ond fe fynnodd Cybi gael yr holl dir y byddai'r afr yn rhedeg o'i gylch cyn ei dal gan yr helgwn. Fe gytunodd Maelgwn. Ac yna fe redodd y bwystfil cadarndroed o amgylch Llŷn oll cyn dychwelyd i ddiogelwch clog Cybi. Felly fe sylfaenodd Cybi ei eglwys yn Llangybi, yng nghanol yr orynys. Fe adeiladodd ei eglwys enwocach yng Nghaergybi (Holyhead) ar dir a roddwyd iddo gan Faelgwn yn benyd, fel y dywedid, am lofruddio sant arall.

Ymhob cwestiwn rhwch linell o dan yr ateb sy'n disgrifio orau beth a ddigwyddodd yn y darn.

54. Ystyr 'lloches' yw (a) llawes
(b) cysgod
(c) lloffion
(d) ymborth
55. Beth oedd gorchymyn y brenin? (a) I Gybi roi'r anifail iddo.
(b) I Gybi ladd yr anifail.
(c) I'r Sant weddio drosto.
(d) I'r Sant redeg i ffwrdd.
56. Gofynodd Cybi am (a) gael cadw'r afr a'r helgwn.
(b) holl dir y brenin
(c) y tir y gallai'r afr ei gwmpasu wrth ffoi rhag yr helgwn.
(d) gael dal yr helgwn rhag iddynt niweidio'r afr.
57. Ystyr 'helgwn' yw (a) helyg
(b) hen gwn
(c) helwyr
(d) cwn sy'n erlid
58. Pa un oedd 'y bwystfil cadarndroed'? (a) yr helgi
(b) ceffyl y brenin
(c) yr afr wyllt
(d) milgi'r Sant
59. Ystyr 'sylfaenodd' yw (a) sefydlodd
(b) sylweddolodd
(c) synhwyrodd
(d) dadfeiliodd

60. Sylfaenodd Cybi ei
eglwys yn Llangybi

- (a) am fod ynys yno
- (b) am ei fod yng nghanol Llŷn
- (c) am i'r anifail redeg o amgylch y lle.
- (d) am mai yno yr arhosodd yr helgwn.

APPENDIX L

The Diary Sheet used in both investigations.

Y rhaglenni teledu y bum yn eu gwyllo am wythnos.
The television programmes I watched during one week.

1. Dydd Sul / Sunday.

.....

.....

.....

.....

2. Dydd Llun / Monday.

.....

.....

.....

.....

3. Dydd Mawrth / Tuesday.

.....

.....

.....

.....

4. Dydd Mercher / Wednesday.

.....

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.....

.....

5. Dydd Iau / Thursday.

.....

.....

.....

.....

6. Dydd Gwener / Friday.

.....
.....
.....
.....

7. Dydd Sadwrn / Saturday.

.....
.....
.....
.....

Rhestr o'r llyfrau Saesneg a ddarllenais ers gwyliau'r haf.
A list of the English language books that I have read since the
summer holidays.

.....
.....
.....
.....
.....

Rhestr o'r llyfrau Cymraeg a ddarllenais ers gwyliau'r haf.
A list of the Welsh language books that I have read since the
summer holidays.

.....
.....
.....
.....
.....

APPENDIX M

English Version of the Second Investigation Questionnaire

1. Do you attend a Church or Chapel or Sunday School where Welsh is the main language used?

Every Sunday	About every other Sunday	Once a month	Once or twice a year.	Never

2. Do you attend a Church or Chapel or Sunday School where English is the main language used?

Every Sunday	About every other Sunday	Once a month	Once or twice a year	Never

3. Write below the names of any club, society, group or movement of which you are a member.

.....

.....

.....

4. Do you read a daily newspaper?

Every day	About every other day	Once a week	Sometimes	Never

5. Write below the name/names of the daily newspaper/newspapers that you read.

.....

.....

6. Do you read a Sunday newspaper?

Every Sunday	About every other Sunday	Once a month	Sometimes	Never

7. Write below the name/names of the Sunday newspaper/newspapers that you read.

.....

8. Do you read the following weekly or monthly newspapers?

	Regularly	Fairly regularly	Sometimes	Seldom	Never
Caernarfon and Denbigh Herald					
The Cambrian News					
Y Cymro					
Yr Herald Gymraeg					
Y Faner					
Llanw Llŷn					
Y Ffynnon					

9. Which section of a newspaper do you enjoy reading the most?

.....

10. Do you read English language magazines or comics?

Regularly	Fairly regularly	Sometimes	Seldom	Never

11. Write below the names of the English language magazines or comics that you read.

.....

12. Do you read Welsh language magazines or comics?

Regularly	Fairly regularly	Sometimes	Seldom	Never

13. Write below the names of the Welsh language magazines or comics that you read.

.....

14. Do you read English books outside school hours?

Regularly	Fairly regularly	Sometimes	Seldom	Never

15. Do you read Welsh books outside school hours?

Regularly	Fairly regularly	Sometimes	Seldom	Never

16. How often do you visit a Public Library?

Regularly	Fairly regularly	Sometimes	Seldom	Never

17. Of all the books that you have ever read, do you have a favourite?

YES	NO

If your answer is YES, could you write the title of your favourite book below.

.....

18. Write below the names of your favourite five television programmes, in order of preference.

1 2
 3 4
 5

19. Write below the name of your favourite television personality.

.....

20. How often do you visit a cinema?

Regularly	Fairly regularly	Sometimes	Seldom	Never

21. Do you listen to the radio at home?

Every day	About every other day	About once a week	About once a month	Never

22. Write below your five favourite radio programmes, in order of preference.

.....

23. Write below the name of your favourite radio personality.

.....

24. Do you play English records or cassettes at home?

Regularly	Fairly regularly	Sometimes	Seldom	Never

25. Do you play Welsh records or cassettes at home?

Regularly	Fairly regularly	Sometimes	Seldom	Never

26. Write below the name/names of your favourite artist/artistes from the world of records and cassettes.

.....

27. Who is your favourite sportsman or sportswoman?

.....

28. Which soccer team do you support?

.....

29. Which do you prefer to watch, soccer or rugby?

.....

APPENDIX N

Welsh Version of the Second

Investigation Questionnaire

1. A fyddwch yn mynychu Capel neu Eglwys neu Ysgol Sul ple defnyddir y Gymraeg yn bennaf?

Pob Sul	Tua pob yn ail Sul	Unwaith yn y mis	Unwaith neu ddwywaith y flwyddyn	Byth

2. A fyddwch yn mynychu Capel neu Eglwys neu Ysgol Sul ple defnyddir y Saesneg yn bennaf?

Pob Sul	Tua pob yn ail Sul	Unwaith yn y mis	Unwaith neu ddwywaith y flwyddyn	Byth

3. A wnewch chi ysgrifennu isod enw unrhyw glwb, cymdeithas, grwp neu fudiad yr ydych yn perthyn iddo.

.....

.....

.....

4. A fyddwch yn darllen papur newydd dyddiol?

Pob dydd	Tua pob yn ail ddiwrnod	Unwaith yr wythnos	Weithiau	Byth

5. Ysgrifennwch isod enw/enwau y papur/papurau dyddiol y byddwch yn eu darllen.

.....

.....

6. A fyddwch yn darllen papur Sul?

Pob Sul	Tua pob yn ail Sul	Unwaith yn y mis	Weithiau	Byth.

7. Ysgrifennwch isod enw/enwau y papur/papurau Sul y byddwch yn eu darllen.

.....

.....

8. A fyddwch yn darllen y papurau wythnosol neu fisol canlynol?

	Yn rheolaidd	Yn weddol reolaidd	Weithiau	Yn anaml	Byth
Caernarfon and Denbigh Herald					
The Cambrian News					
Y Cymro					
Yr Herald Gymraeg					
Y Faner					
Llanw Llŷn					
Y Ffynnon					

9. Pa ran o bapur newydd fyddwch chi yn mwynhau ei ddarllen fwyaf?

.....

.....

10. A fyddwch yn darllen cylchgronnau neu gomics Saesneg?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

11. Ysgrifennwch isod enwau'r cylchgronnau neu gomics Saesneg y byddwch yn eu darllen.

.....

.....

12. A fyddwch yn darllen cylchgronnau neu gomics Cymraeg?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

13. Ysgrifennwch isod enwau'r cylchgronnau neu gomics Cymraeg y byddwch yn eu darllen.

.....

14. A fyddwch chi'n darllen llyfrau Saesneg y tu allan i oriau ysgol?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

15. A fyddwch yn darllen llyfrau Cymraeg y tu allan i oriau ysgol?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

16. Pa mor aml y byddwch yn ymweld a Llyfrgell Gyhoeddus?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

17. O'r holl lyfrau a ddarllenasoch erioed, a oes gennych un ffefryn arbennig?

OES	NAC OES

Os mai OES oedd eich ateb, a wnewch chi enwi'r llyfr?

.....

18. Ysgrifennwch isod enw'r pump raglen deledu yr ydych fwyaf hoff ohonynt, yn eu trefn.

1 2
 3 4
 5

19. Ysgrifennwch isod enw'ch hoff gymeriad neu berson ar y teledu.

.....

20. Pa mor aml y byddwch yn mynd i'r sinema?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

21. A fyddwch yn gwrando ar y radio adref?

Pob dydd	tua pob yn ail diwrnod	Tua unwaith yr wythnos	Tua unwaith y mis	Byth

22. Ysgrifennwch isod enwau'r pump rhaglen radio yr ydych fwyaf hoff ohonynt, yn eu trefn.

.....

23. Ysgrifennwch isod enw'ch hoff gymeriad neu berson o fyd radio.

.....

24. A fyddwch yn chwarae recordiau neu gasetiau Saesneg adref?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

25. A fyddwch yn chwarae recordiau neu gasetiau Cymraeg adref?

Yn rheolaidd	Yn weddol reolaidd	Weithiau	Anaml	Byth

26. Ysgrifennwch isod enw/enwau eich hoff artist/artistiaid o fyd recordiau a chasetiau.

.....

27. Pwy yw'ch hoff gymeriad ym myd chwaraeon?

.....

28. Pa dim peldroed fyddwch chi'n ei gefnogi?

.....

29. Ai rygbi, ynteu peldroed fyddwch chi'n hoffi ei wyllo orau?

.....

APPENDIX 0

Attitude Towards English Test of
the Second Investigation

1. English Version

Please read the following statements and put a tick (✓) opposite each one with which you agree. Do not tick those with which you do not agree.

✓	No.	Statement.
	1	We need to know English to enjoy pop songs.
	2	Welsh people speak too much English.
	3	English should be taught all over the world.
	4	I should not like English to take over from the Welsh language.
	5	English will take you farther than Welsh.
	6	The Welsh language is better than the English language.
	7	English is easier to learn than Welsh.
	8	English is a beautiful language.
	9	The Welsh ought to speak Welsh, not a second-hand language like English.
	10	English is more difficult than Welsh.
	11	We should leave it to the English to speak English.
	12	Learning English is boring but necessary.
	13	English is necessary for higher education.
	14	One should not learn English too early in life, in case one is led to disregard Welsh.
	15	English is a vague language.
	16	It's a good thing to speak English to be able to make friends in England.
	17	English should be used in Wales only when strictly necessary
	18	The Welsh should speak Welsh as well as English.
	19	The English language is killing the Welsh language.

	20	English books are better than Welsh books.
	21	We need English to speak to visitors in Wales.
	22	English should not be any more important than Welsh in Wales.
	23	It's wrong to teach English to the Welsh when Welsh is not taught in England.
	24	English is one of the greatest languages in the world.

2. Welsh Version

Darllenwch y gosodiadau canlynol, a rhewch die (✓) gyferbyn a'r rhai yr ydych yn cydfynd a hwy. Peidiwch a thicio'r rhai nad ydych yn cydfynd a hwy.

✓	Rhif	Gosodiad.
	1	Mae eisiau gwybodaeth o'r Saesneg i fwynhau caneuon pop.
	2	Mae'r Cymry'n siarad gormod o Saesneg.
	3	Dylid dysgu Saesneg dros y byd i gyd.
	4	Fyddwn i ddim yn hoffi gweld y Saesneg yn cymryd lle'r Gymraeg.
	5	Fe ewch ymhellach a'r Saesneg nag a'r Gymraeg.
	6	Mae'r iaith Gymraeg yn well na'r iaith Saesneg.
	7	Mae'r Saesneg yn haws ei dysgu na'r Gymraeg.
	8	Mae'r Saesneg yn iaith brydferth,
	9	Dylai'r Cymry siarad Cymraeg ac nid siarad iaith ail-law fel y Saesneg.
	10	Mae'r Saesneg yn fwy anodd na'r Gymraeg.
	11	Dylem adael y Saesneg i'r Saeson.
	12	Mae dysgu Saesneg yn anniddorol ond mae'n angenrheidiol.
	13	Mae'r Saesneg yn angenrheidiol ar gyfer mynd i goleg.
	14	Rhaid peidio a dysgu Saesneg yn rhy ifanc rhag ofn i chi anwybyddu'r Gymraeg.
	15	Mae'r Saesneg yn iaith niwlog.

	16	Peth da yw siarad Saesneg er mwyn gallu ennill ffrindiau yn Lloegr.
	17	Dylid defnyddio'r Saesneg yng Nghymru yn unig pan fydd rhaid.
	18	Dylai'r Cymry siarad Cymraeg yn ogystal a'r Saesneg.
	19	Mae'r iaith Saesneg yn lladd yr iaith Gymraeg.
	20	Mae llyfrau Saesneg yn well na llyfrau Cymraeg.
	21	Mae eisiau Saesneg arnom er mwyn siarad ag ymwelwyr yng Nghymru.
	22	Ni ddylai'r Saesneg fod yn fwy pwysig na'r Gymraeg yng Nghymru.
	23	Nid yw'n iawn dysgu'r Saesneg i'r Cymry, pan na ddysgir y Gymraeg yn Lloegr.
	24	Y Saesneg yw un o ieithoedd mwyaf y byd.

APPENDIX P

Attitude Towards Welsh Test of the
Second Investigation

1. English Version

Please read the following statements and put a tick (✓) opposite each one with which you agree. Do not tick those with which you do not agree.

✓	No.	Statement.
	1	I like hearing Welsh spoken
	2	We should work tirelessly to save the Welsh language.
	3	Welsh should not be forced upon non-Welsh pupils.
	4	As all Welsh people speak English, it's a complete waste of time to keep up Welsh.
	5	I like speaking Welsh.
	6	Welsh is a difficult language to learn.
	7	There are far more useful languages to spend time on than Welsh.
	8	I don't want to learn Welsh as I'm not likely ever to use it.
	9	Welsh is a language worth learning.
	10	I'd like to be able to speak Welsh if it were easier to learn.
	11	I don't speak Welsh, but I don't object to it.
	12	I should like to be able to read Welsh books.
	13	There is no need to keep up Welsh for the sake of tradition.
	14	I want to maintain Welsh in order to enable Wales to develop.
	15	I'd like to speak Welsh just for the fun of it.
	16	The Welsh language should not dominate the school curriculum.
	17	Welsh is not an asset but only demanded by traditionalists.

	18	It is not true to say that Welsh has no value in the modern world.
	19	Welsh has no place in the modern world.
	20	Welsh studies offer few career opportunities.
	21	Welsh is essential to take part fully in Welsh life.
	22	Welsh is not much use to anybody.
	23	The learning of Welsh should be left to individual choice.
	24	We owe it to our forefathers to preserve the Welsh language.

2. Welsh Version

Darllenwch y gosodiadau canlynol, a rhwch die (✓) gyferbyn a'r rhai yr ydych yn cydfynd a hwy. Peidiwch a thicio'r rhai nad ydych yn cydfynd a hwy.

✓	Rhif	Gosodiad.
	1	Yr wyf yn hoffi clywed y Gymraeg yn cael ei siarad.
	2	Fe ddylem weithio'n ddi-flino er mwyn achub yr iaith Gymraeg.
	3	Ni ddylid gorfodi plant di-Gymraeg i ddysgu Cymraeg.
	4	Gan fod pob Cymro'n siarad Saesneg, gwastraff amser yn llwyr yw hi i gadw'r Gymraeg.
	5	Yr wyf yn hoffi siarad Cymraeg.
	6	Mae'r Gymraeg yn iaith anodd ei dysgu.
	7	Gellir treulio amser ar ieithoedd llawer mwy defnyddiol na'r Gymraeg.
	8	Mae'n afresymol ac yn ffroenuchel i feddwl bod dyn yn rhagori am ei fod yn medru'r Gymraeg.
	9	Mae'r iaith Gymraeg yn werth ei dysgu.
	10	Mae'r iaith Gymraeg yn syml o safbwynt ffonetig.
	11	Nid yw'r diwylliant Cymreig yn dibynnu'n gyfangwbl ar yr iaith Gymraeg.

	12	Mae'r gallu i siarad Cymraeg yn gwneud i rywun deimlo'n berson arbennig.
	13	Nid oes eisiau cynnal y Gymraeg er mwyn traddodiad.
	14	Yr wyf am gadw'r iaith Gymraeg er mwyn galluogi Cymru i ddatblygu.
	15	Mewn byd sy'n tueddu at unffurfiaeth mae'n bwysig cadw nodweddion cenedlaethol.
	16	Ni ddylai'r iaith Gymraeg ddylanwadu'n eithafol ar y cwrs gwaith yn yr ysgolion.
	17	Nid yw'r iaith Gymraeg yn fantais, fe'i mynnir yn unig gan rai sy'n glynnu at draddodiad.
	18	Nid yw'n wir dweud nad oes gwerth i'r Gymraeg yn y byd modern.
	19	Nid oes lle i'r Gymraeg yn y byd modern.
	20	Ychydig o ddewis o ran galwedigaeth sydd o ddilyn astudiaethau Cymraeg.
	21	Mae'n rhaid wrth y Gymraeg i gyfranogi'n iawn o'r bywyd Cymreig.
	22	Nid yw'r Gymraeg yn llawer o werth i neb.
	23	Dylai dysgu Cymraeg fod yn fater o ddewis.
	24	Mae'n ddyletswydd arnom gadw'r iaith Gymraeg er mwyn ein cyndadau.

APPENDIX Q

English Attainment Test of the
Second Investigation

Read the instructions carefully and attempt all questions.

In each of the following sentences a word (or number of words) is missing. Choose the correct answer (from A,B,C or D) and put a ring around the letter in front of it.

Example.

A horse wears on its hooves.

A stirrups B bridle C saddle D shoes

1. A tenor is

A a bird B a singer C money D a saw

2. Struck by lightning, the plane

A deflated B disintegrated C dispersed D demolished

3. Goods which are smuggled into the country are called ;

A imports B watches C cameras D contraband

4. Numerous means the same as

A some B several C many D few

5. To send down to a lower group means the same as

A reconcile B delegate C retaliate D relegate

6. Plants which are exposed to the sun and denied moisture
become

A perched B starved C parched D hot

In each of the following sentences a phrase has been underlined.
From the possible answers (A,B,C or D), choose the word which
means the same as the phrase underlined and put a ring around the
letter in front of it.

Example

The people who live next door have two cats.

A neighbours B friends C relatives D fellows

7. By far the greater number voted for John as captain of the team.
A minority B numberless C majority D countless
8. The two schools had a rugby fixture once every two years.
A annually B frequently C always D biennially

Complete the following sentences by choosing from the possible answers (A,B,C or D), the word opposite in meaning to the word already underlined. Put a ring around the letter in front of the word you choose.

Example.

Yesterday's meat was as tender as chicken but today's is as as leather.

A lean (B) tough C stiff D brittle

9. Jane was clumsy with her hands, but Susan was
A careful B deft C daft D awkward
10. Insects seem to be attracted to some plants but by others.
A propelled B repelled C expelled D excluded

In each of the following sentences a word has been underlined. From the possible answers (A,B,C or D), choose the word which means the same and put a ring around the letter in front of it.

Example.

The pupil did not understand the problem.

(A) comprehend B inquire C project D discover

11. Members of Parliament have a duty towards their constituents.
A responsibility B right C power D task
12. The hostile attitude of the man did not surprise him.
A frightening B unfriendly C comical D reckless

In each of the following sentences a word or number of words is missing. Choose the correct answer (from A,B,C or D) and put a ring around the letter in front of it.

Example.

The headmaster for a certain boy in Form 3.

A be looking B am looking (C) is looking D are looking

13. John felt giddy after his effort and on his bed.
 A lay down B laid down C layed down D led down
14. If it's going to rain this afternoon sure to get wet.
 A they're B their C there D theirs
15. My young brothers made this model
 A themselves B theirselves C themselves D theirselves
16. They the injured player.
 A rose B raised C have risen D have rised
17. The match was postponed the rain.
 A caused by B owing to C due to D from
18. He suffers bad feet.
 A from B by C with D two
19. book is this?
 A Who's B who'se C Whose D Whoose

In this exercise statements are followed by questions. Choose the question (A,B,C or D) for which the statement is the best answer and put a ring around the letter in front of it.

Example.

I am ten years old.

- A When were you born? ☒ B How old are you?
 C When is your birthday? D How old will you be next year?

20. You should have gone first.

- A Did he go first? B Who went first?
 C Did you go first? D Who should have gone first?

21. No, I was alone when I found it.

- A Were you alone when you found it? B Is this where you found it?
 C Was anyone with you when you found it? D Did you find it without any help?

In each of the following sentences a number of words is missing. These are given below the sentences in the wrong order. Write out the words in the correct order above the line.

Example.

All the travellers *arrived at their destination.*

destination

at

arrived

their

22. I would like you

to

this

after

you

can

me

if

repeat

23. The policeman wanted to know

we

there

what

doing

were

mischief

24. He admitted that

two

pocket

in

had

shillings

he

his

Below, statements are made about what someone has said. These are followed by versions of what might have been the actual words used by the speaker. Choose the correct answer (from A,B,C or D) and put a ring around the letter in front of it.

Example.

Tom thanked the old gentleman for his kindness.

- A "Thank you for his kindness".
- B "Thank you for my kindness".
- C "Thank him for your kindness".
- ☒ D "Thank you for your kindness".

25. My mother asked me if I would bring her some bread.

- A "Will you bring me some bread?"
- B "Are you bringing her some bread?"
- C "Can you bring me some bread?"
- D "Will I bring her some bread?"

26. The boy said that he was not willing to leave the town where he had been born.

- A "He was not willing to leave the town where he had been born".
- B "I am not willing to leave the town where I was born".
- C "He was not willing to leave the town where I was born".
- D "I would not be willing to leave the town where I was born".

Put a ring around the letter (A,B,C or D) next to the phrase which should be used to fill in the blank in the sentences below.

Example.

They want there for tea.

- ☒ A us to go B that we go C for us to go D that us go

27. He could

- A not of done nothing B of not done anything
- C not have done anything D of not of done anything

28. The girls would not

- A tell on a member of their class B tell tales on a member of their class
- C carry tales on a member of their class D tell tales about a member of their class

29. Although people had less leisure years ago

- | | |
|----------------------------------------------------------|---------------------------------------------------------------------|
| A they were happier than people are these days | B they were better off in their happiness than today |
| C comparatively they were less happy than they are today | D all things considered they were not so happy as what we are today |

In the following sentences you will find the actual words used by someone in speaking. These are followed by versions of how the speech might have been reported in writing by someone else. Choose the correct version (from A,B,C or D) and put a ring around the letter in front of it.

Example.

"I know how to play the game", answered John.

- A I know how to play the game was John's answer.
- ☒ B John answered that he knew how to play the game.
- C John answered, I know how to play the game.
- D John answered that he played the game before.

30. "I am going home", Tom said.

- A Tom said, I am going home.
- B I am going home, said Tom.
- C Tom says, that he was going home.
- D Tom said that he was going home.

31. "The dog has taken the sausages", said Mr Smith.

- A The dog took the sausages, says Mr Smith.
- B That the dog takes sausages was said by Mr Smith.
- C Mr Smith said that the dog had taken the sausages.
- D The dog has taken the sausages, said Mr Smith.

32. "I have given you your last chance", he said.

- A He said that he had given you his last chance.
- B He said that he had given me my last chance.
- C You have had your last chance he said.
- D He said that he had given him my last chance.

Read this passage carefully, and then answer the questions which follow.

My father being a very busy man, an inspector of schools for the Southwark district of London, we children saw practically nothing of him except during the holidays. He occasionally played games with us, but for the most part, when not busy with educational work, was writing verse or being president of literary or temperance societies. My mother, kept busy running the household and conscientiously carrying out her social obligations as my father's wife, did not see so much of us as she would have liked, except on Sundays or when we happened to be ill. We had a nurse, and one another, and found that companionship sufficient. My father's chief part in our education was to insist on our speaking grammatically, pronouncing words correctly, and using no slang. He left our religious instruction entirely to my mother, though he officiated at family prayers, which the servants were expected to attend, every morning before breakfast. Light punishments, such as being sent to bed early or being stood in a corner, were in the hands of my mother; the infliction of corporal punishment, never severe and given with a slipper, she reserved for my father. We learned to be strong moralists, and spent much of our time on self-examination and good resolutions. My sister Rosaleen put up a printed notice in her corner of the nursery - it might just as well have been put by me : 'I must not say "bang bust" or "pig-bucket", for it is rude'.

We were given very little pocket money - a penny a week with a rise to twopence at the age of twelve or so - and encouraged to give part at least of any odd money that came to us from uncles or other visitors to Dr. Barnardo's Homes and to beggars.

In each question put a ring around the letter in front of the one answer which seems best to you.

33. Why did the children not feel lonely?

- A because they were kept too busy
- B because they were always with their parents
- C because they were not used to the situation
- D because they had the company of a nurse and each other.

34. What part did the father play in the children's education?

- A he gave daily lessons
- B he insisted on correct speech
- C he taught them arithmetic
- D he taught them English grammar.

35. What is corporal punishment?

- A being sent to bed early
- B being deprived of sweets
- C spanking or beating
- D a fine

36. The author thought his parents punished their children -

- A reasonably
- B too severely
- C not severely enough
- D thoughtlessly

37. What is the meaning of 'strong moralists'?
- A they were always polite B they were well spoken
C they had clear ideas D they were keen gymnasts
about right and wrong
38. It is suggested in the passage that the author's father -
- A had a quick temper B stayed away from home to drink
with his friends
C drank alcohol to excess D abstained from alcohol
39. What feelings do you think the author has about his childhood?
- A that he was happy but not treated very well
B that he was happy and well brought up
C that he was badly neglected
D that he was severely punished and badly educated
40. What is the meaning of 'social obligations'?
- A entertaining visitors and attending functions.
B she organised concerts
C she went out to work to increase the family income
D she dutifully supported her husband's socialist views

Read the following passage carefully, and then answer the questions which follow -

John Owen stood in a narrow street full of narrow shadows; they stood in the corners of every beamed and overhanging house-front. There was light and dark up to the saw-like stepped edge of every tiled gable, and beyond that a blue night sky with very small shivering stars.

In the street there was no one but John Owen himself. On the wall in front of him there was a bright light on white stone and on a small black door. The door was the small postern in the gateway; beside it there was the big gate you could take a car through. Both gates were closed now, because it was after nine o'clock; if you wanted to go in you rang the bell. John Owen had already done that; but he had to wait until the watchman, Turle, came with the key.

"Very old Turtle", said John Owen. "Stop hibernating". But he did not mind the last few moments of holiday being stretched out longer; though there was a wind lurking in the shadows and coming out pinchingly against his ankles. The light against the pale stone of the gateways was bright and splendid; it looked like sunlight but it struck cold. Even the coats of arms looking down from their row of shields above the archway in red and blue, black

and gold, were not warming on a May night.

Turle's footsteps sounded inside the gate. The key turned and the lock jumped back : a bold sound in an empty street.

"What do you want?" said Turle, when he saw only a boy standing outside.

"Choir School", said John Owen.

"What's your name?" said Turle.

"Owen".

"Bit late", said Turle. "The others were in by half past six. I saw them walking on the grass, which you must not".

"All the trains were late".

"Hmn", said Turle, through his nose, in the proper and famous Turle way : the next remark after Hmn was always a verse from the day's Psalms.

"In the evening they will return : grin like a dog and will go about the city" said Turle, "Come on, Owen, I'm not holding this door open all night".

In each question put a ring around the letter in front of the one answer which seems best to you.

41. John Owen Believed Turle to be -

- | | |
|-----------------------------------|-------------------------------------|
| A a conscientious worker | B rather slow and lazy |
| C a pleasant and lively companion | D vicious in his dealings with boys |

42. A postern is -

- | | |
|-----------------------------|-----------------------------------|
| A a man in charge of a gate | B a small door in a gateway |
| C a notice-board by a gate | D a specially large gate for cars |

43. The passage describes John Owen's -

- | | |
|----------------------------------|-------------------------------------------------|
| A very first day at a new school | B first day back at the beginning of term |
| C return from a walk | D first day at school after the summer holidays |

44. The word 'shivering' means that the star was -

- | | |
|-----------------------------|-----------------------|
| A twinkling in the cold air | B not very bright |
| C cold | D flashing on and off |

45. 'A bold sound' in this passage means that the noise was -

- | | |
|-------------|--------------|
| A brave | B deafening |
| C startling | D terrifying |

46. The writer mentions 'the empty street' in connection with this sound, because -
- A the quietness emphasizes the noise of the lock
 - B the noise echoed back from the houses
 - C it meant there was no-one to help him
 - D the street was empty only at night
47. The sentence "All the trains were late" suggests that the school was -
- A a school for railwaymen's children
 - B an evening school
 - C a boarding school
 - D a grammar school
48. Turle's habit of quoting from the day's psalms suggests that -
- A he didn't like the boys
 - B he disliked opening the gate
 - C he was very religious
 - D he assisted at the church service every day

Mr Patch, a journeyman tailor, who lived in his own hired house, No 6 Cherry Street, Weyminster, looked up as well as down. In the dreams of his imagination, his thoughts mounted high. He rose to glory, he commanded and he was obeyed. In his other and ordinary life he worked industriously with needle and thread, with scissors and beeswax, with tape and machine.

As long as he had lived in Weyminster, one shop had employed Mr Patch. His simple, honest face could do no-one harm. To give him work was a surety that the work would be completed to everyone's satisfaction. This work was to repair, mend, clean and press naval uniforms. Laurence Sterne tells of a young lady who gave herself to the delights of love through the darning of a pair of gentleman's breeches. And so, who can be surprised that Mr Patch found the glory of gold lace and blue cloth too much for him?

He dreamed of a splendid life, of walking the quarter-decks, of drinking rich wine with distinguished guests, or gazing thoughtfully at Adan's Peak, or at the photographs of young and splendid women in his state cabin.

Mr Patch hated the sea. He was of the same opinion as St John the Divine, that there would be no sea in Heaven. He disliked the sea so much that he would never look at it if he could avoid doing so. He always walked in the back streets to avoid seeing the sea. If there were the least wind, he would creep along beside the

houses for fear of being blown over. The very thought of going in a boat would make him sick. And yet, here was Mr Patch, in day-dreams and night-dreams, giving stern commands to lieutenants even more determined to do their duty than he was himself. Here was Mr Patch facing without the least trepidation or change of countenance waves as high as mountains, through which the great ship dived like a porpoise. Here he was, ordering a large town to be shelled to little pieces, and that only because the Mayor did not show proper respect to the flag.

In each question put a ring around the letter in front of the one answer which best describes what you are told in the passage.

49. Why is it strange that Mr Patch should dream of commanding a ship at sea?
- | | |
|---------------------------------|------------------------------------|
| A He had no experience of ships | B He had been trained as a soldier |
| C He hated the sea | D He always took orders |
50. 'Industriously' tells us that Mr Patch -
- | | |
|---------------|-------------------------|
| A worked hard | B worked in a factory |
| C was lazy | D could not concentrate |
51. What was the connexion between Mr Patch's real world and his dream world?
- | | |
|--------------------------------|--------------------------|
| A He dealt with naval uniforms | B He was an ex-naval man |
| C He lived by the sea | D Tailors always dream |
52. Another word for 'surety' is -
- | | |
|--------------|----------------|
| A obligation | B certainty |
| C guarantee | D satisfaction |
53. Why did one shop continue to employ Mr Patch?
- | | |
|------------------------------------|---------------------------|
| A because he did not charge much | B because he was reliable |
| C because he was quick at his work | D because he was harmless |
54. What does 'trepidation' mean?
- | | |
|---------------|--------------|
| A nervousness | B pain |
| C difficulty | D hesitation |

55. According to the last sentence, Mr Patch saw himself as -
A loyal and sadistic B ruthless and patriotic
C revolutionary and violent D democratic and revengful
56. 'Gold lace and blue cloth' refers to -
A a young lady B commissionaires
C tailors D naval officers
57. What is a journeyman ?
A a beginner B a sailor
C a self-employed man D a man who has completed his apprenticeship
58. In the passage 'countenance' means -
A stance B position
C facial expression D usual habits
59. Which of the following words best describes the passage?
A informative B embarrassing
C entertaining D horrifying
60. Mr Patch was -
A a realist B a failure
C an adventurer D an escapist

APPENDIX R

Welsh Attainment Test of the Second Investigation

Sylwch.

Y mae'n bwysig iawn eich bod yn darllen pob cwestiwn yn ofalus. Ond i chwi ddarllen yn ofalus fe welwch beth i'w wneud wrth fynd ymlaen.

Ar yr ochr chwith fe welwch un gair ar ei ben ei hun. Ar yr ochr dde mae nifer o eiriau eraill.

Cysgu (huno , neidio , colli , ceisio)

Mae llinell o dan y gair 'huno' am mai dyna'r gair sydd fwyaf tebyg o ran ystyr i'r gair ar yr ochr chwith.

1. Gosteg (tawelwch , heddwch , gostyngiad , cynnwrf)
2. Afradlon (cas , creulon , anhapus , gwastraffus)
3. Llesg (egniol , llesol , difywyd , mwyn)
4. Heini (heintus , henaidd , araf , bywiog)
5. Priodol (pwylllog , addas , addfwyn , aeddfed)

Ar yr ochr chwith fe welwch un gair ar ei ben ei hun. Ar yr ochr dde mae nifer o eiriau eraill.

Uchel (hir , isel , hen , bach)

Mae llinell o dan y gair 'isel' am ei fod yn groes ei ystyr i 'uchel'. Gwnewch chi'r rhain trwy roi llinell o dan y gair croes ei ystyr.

6. Cyson (annifyr , anwadal , anfodlon , cynnes)
7. Mwyn (man , caled , garw , trist)
8. Clyd (oer , anwar , anghysurus , anghyffwrdd)
9. Serch (casineb , teimlad , anhapusrwydd , cariad)
10. Diolwg (dall , prydferth , treiddgar , diog)

Mae gair ar goll ym mhob brawddeg. Llunir y gair sydd ar goll o'r gair sydd mewn llythrennau mawr ar y chwith, fel hyn :-

DOETH Mae Solomon yn enwog am ei

'Doethineb' yw'r gair sydd ar goll.

Gwnewch chi'r rhain.

11. GWROL Rhoddwyd medal iddo am ei
12. HIRAETH Wedi bod oddi cartref am flynyddoedd bu'n
13. RHYDD Mae pob i chi wneud fel y mynnoch.
14. COCH Synnodd y wraig at 'r machlud.
15. CEISIO Gwnaeth John i ddechrau'r pwyllgor.

Rhowch linell o dan y gair cywir yn y rhestr, fel hyn :-

Rhedais o'r ysgol a (gwlychodd, gwlychaist, gwlychwn, gwlycahais) fy nhraed.

16. (Ceir, Cafwyd, Caf, Cei) anerchiad gwych neithiwr yn Neuadd y Pentref.

Ar yr ochr chwith mae dywediadau Cymraeg. Y mae eisiau i chi ddweud beth maent yn ei feddwl trwy roi llinell o dan yr ateb cywir ar yr ochr dde, fel hyn:-

- | | |
|----------------|------------------------------|
| heb siw na miw | (a) heb sôn na sylw. |
| | (b) <u>yn ddistaw iawn</u> . |
| | (c) yn gerddorol. |
| | (d) heb syniad o gwbl. |

Mae llinell o dan 'yn ddistaw iawn' am mai dyna'r ateb cywir. Gwnewch chi'r rhain.

- | | |
|---------------------|-------------------------|
| 17. yn bendramwnwgl | (a) a'i ben yn gyntaf |
| | (b) blith draphlith |
| | (c) yn benderfynol |
| | (d) yn brydlon |
| 18. wysg ei gefn | (a) dan ei gesail |
| | (b) wedi gwisgo côt |
| | (c) tuag yn ôl |
| | (d) a'i gefn wedi crymu |
| 19. uchel ei gloch | (a) swnllyd |
| | (b) yn nhŵr yr eglwys |
| | (c) yn ddeallus iawn |
| | (d) yn codi'n gynnar |

20. yn draed moch (a) yn ddestlus
(b) yn ddi-drefn
(c) yn frwnt iawn
(d) yn dyner iawn
21. canu'n iach (a) canu'n swynol
(b) codi calon
(c) cyfarch
(d) ffarwelio
22. ar bigau'r drain (a) casglu mwyar
(b) yn afler
(c) yn ofidus
(d) bron a syrthio

DARLLEN A DEALL

Aeth fy chwaer hynaf i fferm yn Nyffryn Clwyd wedi tymor byr fel morwyn mewn Siop yn y Llan. Yn ddiweddar arhoswn yn y fferm honno, gyda theulu gwahanol, wrth gwrs, nad oeddynt wedi eu geni pan oedd hi yno ac na wyddent y gwyddwn ddim am y lle. Cefais groeso'r parlwr gorau. Yr oedd llwybr hir o'r drws i'r gegin, a'r llwybr a lloriau'r gegin ei hun a't ty llaeth yn gerrig gleision. Nid croeso'r nos honno a oedd yn bennaf ar fy meddwl tra fum yno, canys fy ngweld fy hun yr oeddwn yn fachgen wyth oed yn cerdded yno dros y brynau a baich o ddillad glân fy chwaer ar fy ysgwyddau, cyrraedd yno ar ganol y bore a hi eisioes wedi golchi'r holl loriau cerrig gleision a chorddi, a hynny ar ol helpu i odro, ac yn paratoi at olchi, a'r cwbl am bumpunt y flwyddyn. Buasai ar ei thraed cyn chwech o'r gloch. Geneth un ar bymtheg ydoedd.

Ym mhob cwestiwn rhwch linell o dan yr ateb sy'n disgrifio orau beth a ddigwyddodd yn y darn.

23. Pwy aeth i weithio i'r fferm yn Nyffryn Clwyd?
(a) y gwas
(b) bachgen wyth oed
(c) morwyn ifanc
(d) brawd a chwaer
24. Bu ei chwaer yn gweithio yn siop y Llan -
(a) am flynyddoedd lawer
(b) am gyfnod prin

- (c) am dymor maith
(d) hyd nes ei bod yn ddeunaw oed
25. Pa bryd y bu'r awdur yn aros yn y fferm?
(a) yn y gorffennol pell
(b) yn y gorffennol agos
(c) ddim erioed
(d) ddoe
26. Pwy oedd yn byw yn y fferm pan arhosodd yr awdur yno?
(a) rhai a oedd yn blant pan weithiai ei chwaer yno
(b) rhai a oedd yn gyfarwydd a theulu'r awdur
(c) rhai a oedd yn perthyn i'w chwaer
(d) rhai oedd yn ddieithriaid hollol
27. Beth oedd bennaf ym meddwl yr awdur pan arhosodd yn y ffermdy?
(a) atgofion am y gorffennol
(b) y croeso a gafodd gan y teulu
(c) harddwch y parlwr gorau
(d) blinder y daith i'r fferm
28. Sut lawr oedd i'r gegin?
(a) llawr o farmor
(b) llawr meddal o liw'r awyr
(c) llawr a charped glas arno
(d) llawr o lechen noeth
29. Cyn iddo gyrraedd y fferm byddai ei chwaer -
(a) wedi golchi'r dillad a chorddi
(b) yn godro, wedi golchi'r lloriau a golchi'r dillad
(c) wedi corddi, golchi'r lloriau, ac wedi cynorthwyo gyda'r godro.
(d) wedi golchi'r lloriau, corddi a godro

DARLLEN A DEALL

Rhyw dro, pan oedd Gwrtheyrn ar ffo o flaen y Saeson, daeth i fynyddoedd Cymru. Cynghorwyd ef gan ei ddoethion i godi castell yn y lle cadarnaf a ellid ei gael i ddiogelu ei hun rhag y gelyn.

Wedi chwilio'n fanwl ar hyd a lled Cymru penderfynwyd ar le ym mynyddoedd Eryri.

Casglwyd llawer o gerrig a defnyddiau ynghyd, a dechreuodd y seiri meini godi'r castell. Ond erbyn bore tranoeth yr oedd y cwbl o'r gwaith maen a wnaethpwyd y diwrnod cynt wedi diflannu'n llwyr. Ac felly y digwyddai ddydd ar ôl dydd, nid oedd waeth faint o waith a wneid y dydd llyncai'r ddaear y cwbl yn ystod y nos.

Parodd hyn ofid mawr i'r brenin, a galwodd ynghyd ei ddoethion i ofyn eu cyngor. Dywedodd ei ddoethion wrtho y byddai raid chwilio am fab heb dad iddo, a'i ladd a chymryd ei waed a'i gymysgu â'r calch. Pe gwneid hynny sicrhaf y doethion y gellid codi'r castell wedyn.

Yna danfonodd y brenin genhadau i chwilio am fachgen felly. Chwiliodd y gwŷr trwy Gymru i gyd o'r bron. Rhyw fin nos, fel y marchogent i mewn i dref Caerfyrddin, gwelent dwr o fechgyn yn chwarae pêl. Pan oeddynt yn pasio'r bechgyn clywent ddau ohonynt yn ymryson, a danodai un i'r llall mai mab di-dad oedd. Myrddin oedd enw'r bachgen hwnnw. Daliwyd ef gan y cenhadau ac aed ag ef i Eryri a dygwyd ef gerbron y brenin. Dywedodd y brenin wrth Fyrddin y byddai raid cael ei waed ef cyn y gellid codi'r castell.

Yna y gofynnodd Myrddin ganiatad y brenin i holi ei ddoethion, a chafodd yntau hynny'n rhwydd.

"Beth yw'r rhwystr i godi'r castell?" gofynnai Myrddin. Ond ni wyddai'r un o'r doethion.

"Cloddiwch yn y fan hon", ebe Myrddin, "a chewch lyn dŵr".

Cloddiwyd, a chafwyd y llyn.

"Yna", medd Myrddin wrth y doethion, "dywedwch chwi, dwyllwyr cewyddog, beth sydd yng ngwaelod y llyn?" Ond ni allent hwy ateb.

"Arglwydd", ebe Myrddin gan droi at y brenin, "par di ollwng y dŵr o'r llyn, ac ar ei waelod ti a weli ddwy gist". Gollyngwyd y dŵr o'r llyn a chafwyd popeth fel y mynegodd Myrddin.

Yna cododd y ddwy ddraig, un yn wen a'r llall yn goch, a dechreuasant ymladd yn ffyrnig ac ofnadwy, gan boeri tân am bennau ei gilydd.

Ar y cyntaf y ddraig wen oedd yn trechu gan ymlid y ddraig goch i eithafoedd y llyn. Llidiodd y goch ac ail ymosododd yn ffyrnicach nag erioed ar y wen gan ei gorchfygu'n llwyr, a diflanodd honno i ganol y llyn.

Yna y gofynnodd y brenin i Fyrddin beth oedd ystyr y cwbl.

"Y ddraig goch", ebe Myrddin, "a arwyddoca genedl y Brytaniaid, a'r ddraig wen y Saeson".

Yna proffwydodd Myrddin lawer o bethau. Dywedodd y byddai i'r Brytaniaid gael y llaw uchaf ar y Saeson yn y diwedd, er i'r Saeson eu gorthrech hwy yn awr.

Ym mhob cwestiwn rhowch linell o dan yr ateb sy'n disgrifio orau beth a ddigwydd yn y darn.

30. Pam y penderfynwyd adeiladu'r castell yn Eryri?

- (a) Am fod yno ddigon o gerrig yn ymyl.
- (b) Am fod Eryri yn ddigon pell o Loegr.
- (c) Am mai dyna'r lle grymusaf yng Nghymru.
- (d) Am na wyddai'r Saeson 'ble 'roedd Eryri.

31. Pa amser o'r dydd oedd hi pan ddaeth cenhadau'r brenin i Gaerfyrddin?
- (a) Yr oedd yn blygeiniol.
 - (b) Yr oedd hi'n hanner nos.
 - (c) Yr oedd hi'n amser machlud.
 - (d) Yr oedd hi tua chanol dydd.
32. Pam y dygwyd Myrddin at y brenin?
- (a) am mai ef yn unig a allai gynllunio'r castell.
 - (b) am fod y duwiau wedi gorchymyn ei ladd.
 - (c) er mwyn ei aberthu a thywallt ei waed.
 - (d) er mwyn ei glywed yn ymryson a'r doethion.
33. Ystyr 'twyllwyr' yw -
- (a) pobl o groen tywyll.
 - (b) pobl sy'n methu gweld yn glir.
 - (c) pobl ddichellgar.
 - (d) pobl mewn twymyn.
34. Beth oedd ystyr y cwbl?
- (a) Nid oedd ystyr i'r frwydr.
 - (b) Byddai'r Brytaniaid yn cael yr oruchafiaeth yn y pen draw.
 - (c) Byddai'r Brytaniaid a'r Saeson yn profi'n gyfartal.
 - (d) Y Saeson fyddai'n ennill y dydd yn y diwedd.
35. Ar hyn o bryd yr oedd y Saeson -
- (a) yn gormesu'r Brytaniaid
 - (b) yn gordderchu a godinebu
 - (c) yn gorffwyllo a gwallgofi
 - (d) yn gorfoleddu oherwydd eu cryfder.

DARLLEN A DEALL

Dywedodd ffarmwr wrthyf un tro iddo gymryd seibiant un noson ar ei ffordd adref o'r dref. Yn sydyn, clywodd sŵn o'r berth yn ei ymyl; 'roedd yn sŵn digon ofnadwy i godi gwallt ei ben. Petawn i yno byddwn wedi rhedeg am fy mywyd, ond yn ffodus, fe wyddai'r ffarmwr mai llwynoges oedd yn galw. Rhywbeth rhwng ysgrechian ac udo yw ei sŵn hi, ac mae'n sŵn dychrynlyd. Cyfarthiad cwta sy gan

y llwynog.

Ai llwynog ynteu cadno fyddwch chi'n ei ddweud? Perthyn i deulu'r cwn mae'r llwynogod a'r bleiddiaid hefyd. Fel rheol mae aelodau'r teulu hwn yn hela mewn un cwmni gyda'i gilydd. Nid yw'r blaidd yn ddewr iawn ar ei ben ei hun, ond pan fo gyda'i gyfeillion mae e'n hollol ffyrnig wrth ymosod ar greaduriaid. Nid ymosod yn agored fel hyn, mewn cwmni, a wna'r llwynog fodd bynnag; yn hytrach mae'n dilyn ei ysglyfaeth yn llechwraidd ac mae kannwyll llygaid y llwynog yn cau yn y nos yn un llinell gul fel kannwyll llygaid cath, ond mae kannwyll llygaid y cwn a'r bleiddiaid yn aros yn agored a chrwn. Sylwch chi ar lygaid y gath a'r ci.

Nid yw llwynogod yn cadw eu daearau yn lân iawn. Mae hen esgyrn yn hel nes bod arogl drwg dros bob man. Ond hawdd yw newid cartref, ac fe symuda y teulu i ddaear arall. Pan dyf y cenawon mae nhw'n gadael eu cartref. Dywedir bod y fam yn mynd a nhw bob yn ddau i fynyddoedd agos i'w gwahanu oddi wrth ei gilydd.

Ym mhob cwestiwn rhwch linell o dan yr ateb sy'n disgrifio orau beth a ddigwyddodd yn y darn.

36. Ystyr 'cymryd seibiant' yw -

- (a) rhedeg a'i wynt yn ei ddwrn
- (b) oedi am ychydig
- (c) cymryd mygyn
- (d) cymryd y ffordd fyrraf

37. Ystyr 'cyfarthiad cwta' yw -

- (a) cyfarthiad hir a chwynfanllyd
- (b) cyfarthiad tawel ac ymhell i ffwrdd
- (c) cyfarthiad byr a disymwth
- (d) cyfarthiad yn dod o gwt yr ieir

38. Sut anifail yw'r blaidd?

- (a) anifail dewr bob amser
- (b) anifail llwfr, ond yn eofn gyda'i gyfeillion
- (c) anifail ofnus wrth ymosod ar ei elynion
- (d) anifail cyfrwys wrth ddilyn ei ysglyfaeth

39. Mae'r llwynog yn hela'n wahanol i'r blaidd am ei fod -

- (a) yn hela mewn cwmni mawr
- (b) yn ymosod yn agored ar greaduriaid eraill
- (c) yn hela gyda'i bartner yn unig
- (d) yn hela'n dawel ar ei ben ei hun

40. Beth yw ystyr 'ysglyfaeth'?
- (a) rhywbeth i ymosod arno a'i ddifa
 - (b) rhywbeth i'w ofni ac arswydo rhagddo
 - (c) creadur sy'n gallu gweld yn y nos
 - (d) rhywbeth sy'n gallu ysgogi arall
41. Ystyr 'llechwraidd' yw -
- (a) llachar
 - (b) llechgiaidd
 - (c) ar y llechweddau
 - (d) stwrllyd
42. Yn y nos y mae kannwyll llygaid y llwynog -
- (a) yn agored a chrwn
 - (b) yr un fath a llygaid ci
 - (c) yn llinell fain
 - (d) yn gylch agored fel llygaid blaidd
43. Paham mae'r llwynog yn gadael ei ddaear?
- (a) am ei fod wedi blino arni
 - (b) am ei fod yn aflan a sawr câs ynddi
 - (c) am ei bod wedi mynd yn rhy fach
 - (d) am fod rhywun wedi ei darganfod
44. I ble mae'r fam yn mynd a'r cenawon?
- (a) I'r mynyddoedd pell
 - (b) I dwll mewn perth
 - (c) I ddaear newydd
 - (d) I'r ucheldir gerllaw.

APPENDIX S

List of Favourite Television Programmes of First Investigation

The children were asked to name their five favourite television programmes, in order of preference. The named programmes were then allocated votes as follows :- first choice 5 votes, second choice 4 votes, third choice 3 votes, fourth choice 2 votes, and fifth choice 1 vote. The list below shows the television programmes named, together with the number of votes cast for each. The Welsh programmes named are underlined.

Starsky and Hutch	169
The Saint	135
The Professionals	119
Bionic Woman	96
Charlie's Angels	91
Blue Peter	89
Six Million Dollar Man	87
The Famous Five	85
Coronation Street	80
The Incredible Hulk	79
George and Mildred	71
Match of the Day	66
<u>Bilidowcar</u>	62
Fantasy Island	59
Crossroads	58
Multicoloured Swapshop	54
Scooby Doo	52
Tom and Jerry	46
Robin's Nest	42
Cartoons	41
James Bond	38
How the West was Won	35
Bugs Bunny	33
Jackanory	32
<u>Goglis</u>	32
<u>Pobl y Cwm.</u>	29
3,2,1	29
Batman	27
All Creatures Great and Small	27
The Sweeny	27
Captain Caveman	26
Hong Kong Phooey	24
Top of the Pops	23
<u>Glas y Dorlan</u>	22
Doctor Who	22
Crackerjack	20
The Big Match	20
The Clifton House Mystery	18
The Tomorrow People	18
Little and Large	17
Happy Days	17
<u>Teliffant</u>	17
It's a Knockout	17
Startreck	16
Animal Magic	15

<u>Miri Mawr</u>	14
Selwyn Froggit	14
Tiswas	14
<u>Wir i Chi</u>	14
Magpie	13
The Good Life	11
Playschool	11
Sport	10
The Foundation	10
The World About Us	10
Goofer and the Ghost Chasers	10
The Generation Game	10
Survival	10
Botanic Man	10
Spider Man	9
Westerns	9
Grandstand	9
Layrel and Hardy	9
<u>Cawl a Chân</u>	9
Mixed Blessings	9
Saturday Night Movies	9
Mind your Language	8
<u>Hyn o Fyd</u>	8
Basil Brush	8
A Horseman Riding By	8
Jerry Lewis Films	8
Three Little Words	7
Dallas	7
<u>Seren Wib</u>	7
Paper Lads	7
Lassie	7
Vegas	7
World of Sport	7
The Rag Trade	6
Roots	6
News	6
Mr and Mrs	5
Captain Nemo	5
Benny Hill	5
Football	5
Rent a Ghost	5
Record Breakers	5
The Sand Baggers	5
Going Straight	5
Wednesday at Eight	5
The Upchat Connection	5
<u>Sion a Sian</u>	5
Space 1999	5
Norman Wisdom	4
<u>Camau Cantamil</u>	4
Big John, Little John	4
Tarzan	4
Mash	4
Valley of the Dinosaurs	4
Lilee Langtree	4
Black Beauty	4
Newsround	4
Bless Me Father	4
Planet of the Apes	4
Sale of the Century	4
Katy	4

Catch the Pidgeon	4
Maxidog	4
Horse Jumping	4
Stars on Sunday	4
Wonder Woman	4
The Dukes of Hazard	4
Flintstones	3
Report Wales	3
Bruce Forsyth's Big Night	3
Battle of Britain	3
Master Mind	3
Saturday Bonanza	3
Jaws	3
Just William	3
Logan's Run	3
<u>Dim ond Heddiw</u>	3
It Ain't Half Hot Mum	3
Bernie	3
Star Maidens	3
Out of Town	3
Stop, Look, Listen	2
It's the Mif	2
T.V. Eye	2
<u>Y Dydd</u>	2
Max Boyce	2
Secret Seven	2
Dracula	2
The Lone Ranger	2
Tommy Cooper	2
Happy Ever After	2
Sports Lineup	2
Pink Panther	2
<u>Siandifang</u>	2
<u>Yr Wythnos</u>	1
<u>Un Tro</u>	1
<u>Pawb yn ei Fro</u>	1
Hickory House	1
Target	1
U.S.A.	1
The Space Sentinels	1
Ten On Saturday	1
The Losers	1
The Voyage of Darwin	1
Columbo	1
Lenny Lion	1

Total votes cast for English programmes - 2501 (91.4%)

Total votes cast for Welsh language television programmes - 234
(8.6%)

APPENDIX T

List of Favourite Radio Programmes of the First Investigation

The children were asked to name their five favourite radio programmes, in order of preference. The programmes named were then allocated votes as follows :- first choice 5 votes, second choice 4 votes, third choice 3 votes, fourth choice 2 votes, and fifth choice 1 vote. The list below shows the programmes named, together with the number of votes cast for each. The Welsh language radio programmes are underlined.

<u>Helo Bobol</u>	154
Top Twenty	143
News	45
The Terry Wogan Show	34
Top Ten	33
Junior Choice	30
Football	24
Weather	21
Radio 1	15
Sport	14
Wagoner's Walk	10
Stewpot	10
<u>Newyddion</u>	10
Radio 2	9
Sports Quiz	9
Football Quiz	8
Tony Blackburn	7
Morning Pop	5
Good Morning Wales	5
<u>Rhwng Gwyl a Gwaith</u>	5
<u>Cyn Naw</u>	5
David Hamilton	5
Family Scene	5
Luxembourg	5
Family Favourites	5
A.M.	5
Dave Lee Travis' Show	5
Early Morning Show	5
<u>Sosban</u>	4
Sandy Can't You See	4
Ed Stewart	4
Open House	4
The Archers	3
Noel Edmond's Breakfast Show	3
The Kid Jensen Show	2

Total votes cast for English language programmes	-	477 (72.82%)
Total votes cast for Welsh language programmes	-	178 (27.18%)

APPENDIX U

List of Favourite Television Programmes of Second Investigation

The children were asked to name their five favourite television programmes, in order of preference. The named programmes were then allocated votes as follows :- first choice 5 votes, second choice 4 votes, third choice 3 votes, fourth choice 2 votes, and fifth choice 1 vote. The list below shows the television programmes named, together with the number of votes cast for each. The Welsh programmes named are underlined.

Coronation Street	273
Grange Hill	170
Top of the Pops	149
Dallas	131
The Professionals	118
Benny Hill	92
Different Strokes	78
Blue Peter	76
Game for a Laugh	65
<u>Sêr</u>	63
Doctor Who	60
Spiderman	56
Crossroads	50
Scooby Doo	48
<u>Cam i Gam</u>	44
Black Beauty	40
Multicoloured Swapshop	40
Starsky and Hutch	40
<u>Gwen Tomos</u>	39
<u>Yr Awr Fawr</u>	37
Match of the Day	34
Life on Earth	27
Bullseye	26
Tiswas	25
Magnum	25
Hart to Hart	23
Jim Davidson Show	23
World About Us	22
Cannon and Ball	22
Blake's Seven	22
Cartoons	21
Adventure Game	20
Vice Versa	17
<u>Goglis</u>	16
Incredible Hulk	15
Kung Fu	15
Sink or Swim	15
Survival	15
The Big Match	14
The Gentle Touch	14
Not the 9 o'clock News	13
That's my Boy	13
Morecambe and Wise	12
Flamingo Road	11
News	11
<u>Pobl y Cwm</u>	11

Quincy	11
Sports	11
Astronauts	10
Fighter Pilot	10
Juliet Bravo	10
Play Your Cards Right	10
To the Manner Born	10
That's Life	10
Carry on Films	9
Grandstand	9
Tom and Jerry	9
Angels	8
Blankety Blank	8
Diamonds	8
<u>Hywel Gwynfryn</u>	8
Kelly Montieith	8
<u>Râs Sgwar</u>	8
Heidi Hi	7
The Paul Daniels Show	7
Punchlines	7
Taff Acre	7
World of Sport	7
Knott's Landing	6
Mash	6
Never the Twain	6
Rising Damp	6
Sportsnight	6
Soap	6
Buck Rogers	5
Crackerjack	5
Dick Emery	5
The Dukes of Hazard	5
Drac Pack	5
Generation Game	5
The Goodies	5
The Gaffer	5
It Ain't Half Hot Mum	5
It's a Knockout	5
John Wayne Films	5
Kinvig	5
Living in the Past	5
Only When I Laugh	5
The Pyramid Game	5
The Sooty Show	5
The Sweeney	5
Tenko	5
Will o the Wisp	5
Bergerac	4
Brideshead Revisited	4
Chips	4
<u>Cyfathrebwyr</u>	4
Emmerdale Farm	4
Fawlty Towers	4
Oliver Twist	4
Films	4
Give Us a Clue	4
Horse and Rider	4
Lloyd George	4
Revolting Women	4
The Sound of Music	4
Take Hart	4

The Vikings	4
The Waltons	4
Wildlife on One	4
Bugs Bunny	3
Cliff	3
<u>Fyny Fama</u>	3
<u>Fo a Fe</u>	3
Jaws	3
Kick up the Eighties	3
Kenny Everett	3
Points of View	3
Smuggler	3
T.V.Eye	3
Armchair Thriller	2
Barbara Woodhouse	2
<u>Bilidowcar</u>	2
Black Velvet	2
Go With Noakes	2
Happy Days	2
It Takes a Worried Man	2
Jigsaw	2
King of the Kyber Rifles	2
King Kong	2
<u>O Dro i Dro</u>	2
Strangers	2
Space Sentinels	2
<u>Sion Bili</u>	2
Starburst	2
Tomorrow's World	2
To the Earth's Core	2
Two Mules For Sister Sara	2
Westerns	2
Why Don't You?	2
Whicker's World	2
Chopper Squad	1
Dracula	1
Flame Trees of Therma	1
<u>Gari Gylifer</u>	1
<u>Glas y Dorlan</u>	1
Lassie	1
Mike Yarwood	1
Miss World	1
Nationwide	1
Playschool	1
Shmoo	1
Two Ronnies	1
Tarzan	1
Yes Minister	1
Your Life in Their Hands	1

Total number of votes cast for English programmes - 2385 (90.72%)

Total number of votes cast for Welsh programmes - 244 (9.28%)

APPENDIX V

List of Favourite Radio Programmes of the Second Investigation

The children were asked to name their five favourite radio programmes, in order of preference. The programmes named were then allocated votes as follows :- first choice 5 votes, second choice 4 votes, third choice 3 votes, fourth choice 2 votes, and fifth choice 1 vote. The list below shows the programmes named, together with the number of votes cast for each. The Welsh language radio programmes are underlined.

Top of the Pops	452
<u>Helo Bobol</u>	259
Terry Wogan	94
Junior Choice	83
<u>Ribidiyes</u>	68
Friday Rock Show	53
Radio 1	47
News	36
<u>Papur a Halen</u>	34
The Breakfast Show	26
Luxembourg	14
<u>Gari Williams</u>	14
Road Show	13
<u>Sosban</u>	13
<u>I Hela Sgwarnog</u>	13
Rockpile	12
Sport on 2	12
Tony Blackburn	12
<u>Stondin Selwyn</u>	11
<u>Post Prynhawn</u>	10
<u>Merched yn Bennaf</u>	10
Starwars	10
Jimmy Young	9
Wheels	8
Peter Powell	8
Mike Read	8
David Hamilton	8
Playhouse	7
<u>Dyfal Danc</u>	6
Noel Edmonds	5
Dave Lee Travis	5
Round Table	5
My Top Twelve	5
<u>Canllaw</u>	5
Happy Families	5
Grumbleweeds	5
Power Play	4
<u>Naw Tan Ddeg</u>	4
Talking About Music	4
Mr Rubbish	4
Jimmy Saville	4
Family Treat	4
Mike Flynn	4
All About Nature	4
The No-one Show	4

John Dunn Show	4
Golden Hour	3
Rock On	3
Drive Time	3
Heavy Half Hour	3
<u>Talwrn y Beirdd</u>	3
Dublin Top Forty	3
Chat Show	3
The Big Hour	3
Family Favourites	3
Aspel Half Hour	3
<u>Newyddion</u>	2
<u>Rhwng Gwyl a Gwaith</u>	2
Alexis' Corner	2
Listen To The Band	1
American Top Forty	1

Total votes cast for English language programmes - 1009 (68.97%)

Total votes cast for Welsh language programmes - 454 (31.03%)

APPENDIX W

The use of Discriminative Analysis to test composition of clusters

The final function of the discriminative analysis described in Chapter 8 was to test whether each individual had been placed in the "correct" cluster, using a linear combination of the discriminating variables. The list below shows the cluster into which each child was assigned, and the cluster into which each child would fit better on the evidence of the discriminative analysis.

Case	Actual Cluster	Assigned Cluster
1	1	1
2	2	2
3	2	2
4	2	2
5	2	5
6	2	2
7	3	2
8	2	2
9	2	2
10	2	2
11	3	8
12	4	4
13	5	5
14	2	2
15	2	2
16	2	2
17	2	2
18	2	2

Case	Actual Cluster	Assigned Cluster
19	2	3
20	5	7
21	6	6
22	3	2
23	7	8
24	3	3
25	7	7
26	6	5
27	7	7
28	5	1
29	8	8
30	7	7
31	2	2
32	2	5
33	6	7
34	8	8
35	6	3
36	1	1

Case	Actual Cluster	Assigned Cluster
37	7	6
38	6	6
39	6	3
40	7	7
41	5	6
42	1	1
43	7	3
44	1	1
45	6	5
46	8	8
47	2	2
48	3	3
49	2	3
50	5	5
51	6	5
52	3	2
53	8	8
54	6	6
55	8	8
56	6	7
57	1	1
58	7	7
59	5	7
60	5	8
61	6	6
62	1	1
63	7	7
64	7	7
65	3	3

Case	Actual Cluster	Assigned Cluster
66	5	5
67	8	8
68	7	6
69	7	7
70	1	1
71	1	1
72	1	1
73	4	4
74	8	8
75	1	1
76	7	1
77	1	8
78	7	7
79	8	8
80	8	8
81	3	3
82	8	6
83	6	5
84	6	6
85	7	7
86	6	6
87	2	2
88	2	3
89	5	5
90	1	1
91	3	7
92	8	8
93	5	6
94	5	1

Case	Actual Cluster	Assigned Cluster
95	4	4
96	2	5
97	3	1
98	2	6
99	2	1
100	2	2
101	1	1
102	2	2
103	2	2
104	2	5
105	5	6
106	5	5
107	5	5
108	3	3
109	4	4
110	3	3
111	2	5
112	2	2
113	3	1
114	4	4
115	8	8
116	4	4
117	8	8
118	6	6
119	6	6
120	2	2
121	6	6
122	2	3
123	3	7

Case	Actual Cluster	Assigned Cluster
124	5	5
125	1	4
126	2	2
127	2	2
128	2	3
129	6	7
130	2	1
131	3	3
132	1	3
133	3	3
134	2	2
135	4	4
136	3	3
137	2	3
138	3	3
139	7	6
140	2	4
141	1	7
142	2	2
143	2	2
144	2	2
145	8	5
146	1	1
147	2	8
148	1	1
149	2	2
150	2	2
151	2	1
152	1	2

Case	Actual Cluster	Assigned Cluster
153	3	8
154	5	3
155	6	6
156	1	8
157	5	5
158	7	7
159	6	8
160	3	3
161	5	4
162	3	7
163	6	6
164	3	3
165	2	3
166	6	6

Case	Actual Cluster	Assigned Cluster
167	1	1
168	3	3
169	2	2
170	2	3
171	7	7
172	6	6
173	8	8
174	6	6
175	6	6
176	7	5
177	7	3
178	3	2
179	3	3

Below, we see the predicted cluster membership by the discriminative analysis.

	No. of cases	Predicted Cluster							
		1	2	3	4	5	6	7	8
CLUSTER 1	21	15 71.4%	1 4.8%	1 4.8%	1 4.8%	0 0%	0 0%	1 4.8%	2 9.5%
CLUSTER 2	48	3 6.2%	29 60.4%	8 16.7%	1 2.1%	5 10.4%	1 2.1%	0 0%	1 2.1%
CLUSTER 3	25	2 8.0%	4 16%	14 56.0%	0 0%	0 0%	0 0%	3 12%	2 8%
CLUSTER 4	7	0 0%	0 0%	0 0%	7 100%	0 0%	0 0%	0 0%	0 0%
CLUSTER 5	18	2 11.1%	0 0%	1 5.6%	1 5.6%	8 44.4%	3 16.7%	2 11.1%	1 5.6%
CLUSTER 6	25	0 0%	0 0%	2 8%	0 0%	4 16%	15 60%	3 12%	1 4%
CLUSTER 7	20	1 5%	0 0%	2 10%	0 0%	1 5%	3 15%	12 60%	1 5%
CLUSTER 8	15	0 0%	0 0%	0 0%	0 0%	1 6.7%	1 6.7%	0 0%	13 86.7%