THE SOCIAL DIFFERENTIATION OF ENGLISH IN NORWICH

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This work is a study in urban dialectology, sociological linguistics, and generative phonology. It takes the form of an urban dialect survey of the city of Norwich, England, and is particularly concerned with the correlation between phonetic and phonological aspects of English, as it is spoken in Norwich, and various sociological parameters. Sociological linguistic research, it is claimed, is of value both in the obtaining of new and accurate linguistic data concerning the linguistic characteristics of the majority of the population of modern Britain, and in the solution of problems of linguistic theory. It may also be of value to sociologists and sociology.

The city of Norwich, together with its associated suburban areas, has a population of approximately 160,000. In relation to the size of its population, the city has a very large rural hinterland, and ranks high in the English urban hierarchy. This has some linguistic consequences. A random sample of sixty informants was drawn from this population, and a tape-recorded interview conducted with each of them. The interviews were based on a questionnaire structured so as to produce different contextual styles of speech, and the informants have been classified according to an index of social class characteristics.

Norwich English, although a dialect of the South-East of England, differs phonologically and phonetically in some interesting ways from the English of the Home Counties. In this work, certain of the phonological features of Norwich English are selected as phonological variables. By means of the development of index scores for these variables, a study can be made of the exact nature of the co-variation of phonological features and sociological phenomena, such as social class, social context, age, and sex. Certain conclusions are drawn from these measurements concerning the nature of the class structure, the Norwich phonological system, and stylistic variation.

In spite of the many differences that are to be found within the Norwich speech community, the vast majority of its members are distinctively speakers of Norwich English. This overall similarity is expressed by means of the development of a Norwich diasystem, which consists of a set of abstract underlying phonological elements common to all speakers, and a set of rules which generate the various types of Norwich English and relate them to each other. For several reasons, the diasystem is developed within the theoretical framework of generative phonology, rather than any other theoretical framework.

The large amount of accurate data that has been obtained during the course of the survey from informants of all age groups means that a study can also be made of linguistic changes that have occurred and are occurring within the Norwich diasystem. Certain conclusions are drawn from this study concerning the nature, causes, mechanisms and effects of phonetic and phonological change.

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SECTION A : INTRODUCTION

Chapter One: Sociological Urban Dialectology

Linguists have employed several different terms to signify that area of study which is concerned with the relationships between language and society. These different terms, moreover, have often been defined in different ways, for different purposes, by different linguists. These different terms include the following: sociolinguistics,¹ institutional linguistics,² anthropological linguistics,³ ethnelinguistics, and, perhaps, psycholinguistics. For the purposes of the present study we will subsume all these terms under the heading of sociolinguistics.

Sociolinguistics can be defined as that branch of linguistics which employs or is concerned with the methods, findings or subject matter of the social sciences. As, therefore, the social sciences are conventionally divided into the two main branches of social anthropology and sociology, so sociolinguistics can be regarded as consisting of anthropological linguistics and sociological linguistics. The work that is presented here can be considered under the heading of sociological linguistics, in this sense: what follows is a study in sociological urban dialectology. In so far as sociology is concerned with the study of complex urban societies and communities, we shall be dealing with the subject matter of sociology. Further, in the application of

sampling techniques to linguistic problems and in the handling of problems connected with the concept of social class we shall be making use of the methods and findings of sociology. The sociological aspects of this work will be most apparent in Chapters Two to Five.

We shall also be making some reference to the methods, findings and subject matter of another of the social sciences: human geography. Although linguists have long been interested in what they have termed "linguistic geography", they have most often ignored the advances that have been made in the field of theoretical geography itself. The concepts of central place⁴ and urban field,⁵ and the theories of location⁶ and diffusion⁷ are all relevant for linguistic studies. In so far as an attempt will be made here to rectify this omission, the following can also be considered to be a work in geographical linguistics.

Sociological Dialectology

It should be pointed out that sociological dialectology is not, and has not been, necessarily urban. For example, Kurath & McDavid,⁸ in their investigations into the dialects of the United States, made some attempt to obtain informants from different social class backgrounds (see Chapter Three). As, however, their methods

of securing informants cannot be considered sufficiently rigorous to satisfy the higher demands made by sociological theory in this field, their work is perhaps better described as social, rather than sociological, dialectology.

Urban Dialectology

It is also true to say that urban dialectology is by no means necessarily sociological. Many linguists have attempted to describe the speech forms of urban areas without recourse to any of the methodology of sociology. Some work of this type will be discussed in Chapter Three, and again in Chapter Nine, where it will be argued that the failure to adopt the sociological approach essential for accurate work in urban areas has unfortunate linguistic as well as sociological consequences.

Linguistic Diversity

The inadequacies in the work of these linguists stems from the fact that they have, generally speaking, chosen to ignore the fact that most if not all speech communities are more or less socially and linguistically heterogeneous. This heterogeneity is, moreover, much more

marked in urban areas than it is in other linguistic communities. For this reason the inadequacies of non-sociological urban dialectology are all the more serious.

The application of sociological techniques to linguistic material represents, historically speaking, an advance, in that it permits not only the recognition of the fact of linguistic diversity but also the development of a methodology for handling this diversity. Many nineteenth-century linguists, for instance, were totally uninterested in the heterogeneous nature of linguistic communities, and especially so since non-standard dialects were often considered to be debased forms of the standard.⁹ In their historical reconstructions of "proto"-languages by the comparative method, moreover, no recognition was given to the fact that these languages must themselves have been internally differentiated.

Since that time, the heterogeneity of speech-communities has generally been acknowledged. Many linguists, however, have contrived to avoid facing up to the fact of this heterogeneity. This practice was particularly characteristic of American linguistics in the 1950's. Hockett, for example, has stated that, in working with the comparative method to reconstruct "a single language free from dialect variation", we are making "a potentially false working assumption".¹⁰ Hockett never-

theless makes this assumption. One knows, in other words, that languages are subject to internal differentiation, but, for practical reasons, one pretends that they are not. In the synchronic treatment of modern languages, moreover, methods were devised to permit the inconvenient fact of linguistic diversity to be ignored. Great stress was laid, for example, on the fact that analyses were only relevant for one idiolect in one style at one time.¹¹ (In the last decade, on the other hand, it has been shown that, in some cases at least, the idiolect is the least stable object for linguistic study, and that it can only be viewed as coherent against the background of the linguistic community as a whole.¹²) Much of linguistic diversity was also dismissed as "free variation". Later studies have shown that most of this variation is not at all "free", but is on the contrary structured and socially determined in sociologically and linguistically interesting ways.

Since the last war, however, and particularly in the United States, there has been a steady increase in the number of works which have both recognised and attempted to cope with the fact of the non-homogeneity of language. From the point of view of urban dialectology, undoubtedly the most important of these works is Labov's study of the speech of the Lower East Side of New York City.¹³ Labov, whose work will be mentioned frequently in the course of the following chapters, has applied sociological methodology

to a linguistically heterogeneous community with results that have several important implications for linguistic theory. The following work can perhaps, therefore, be seen as part of the trend towards studies dealing with heterogeneous speech communities and attempting to deal with and draw conclusions from linguistic diversity.

The Value of Sociological Urban Dialectology

What is the value of sociological urban dialectology, and what are its aims? One of the most obvious results of this type of work is the accumulation of a whole new body of linguistic data. Labov has said, however, that the interpretation of the term sociolinguistics to signify a new interdisciplinary field dealing with the description of the relations of language and society is "an unfortunate notion, foreshadowing a long series of purely descriptive studies with little bearing on the central theoretical problems of linguistics or of sociology".¹⁴ Labov's condemnation of "purely descriptive studies" would appear, however, to be somewhat over-severe. "Purely descriptive studies" of rural dialects have long been regarded as legitimate and worthwhile linguistic pursuits. While they may have contributed not, in, directly to the solving of problems of linguistic theory, they have added to the linguist's knowledge about language, and have provided data which has subsequently been turned to solving various

linguistic problems.¹⁵ In exactly the same way, sociological urban dialectological methods can make possible descriptions of urban speech that are in themselves of value and interest. They increase the body of linguistic data available to linguists, and for this reason should not be required to have any direct bearing on theoretical problems.

At the same time, it must be recognised that one of the main aims of research of this type is to shed light on various problems and other aspects of linguistic theory. Studies which are able to do this are obviously of more value than those that are not. Sociological urban dialectology provides the linguist with a body of data that is not only large but also accurate. Some of the conclusions we shall arrive at on the basis of this kind of data in the present work - such as, perhaps, the conclusion that women use more "correct" linguistic forms than men - may appear to be rather obvious. We can claim, however, that we have presented material in an exact and rigorous way, which proves, perhaps for the first time, that (in this case) sex differentiation of this type occurs in British English, and which demonstrates the exact nature and degree of the differentiation. This, we believe, is a useful advance.

The large amounts of data that are obtained in this way can be applied to many theoretical problems, and in

this present work we shall attempt to make some comments on phonological theory, and to make some contribution to the theory of the diasystem. The fact that the data is drawn from a large, dynamic and complex community, which is characterised by many different types of social interaction and by various types of social change, also means that it is particularly useful in the study of linguistic change.

Sociological urban dialectology can also have the function - particularly in Britain, where little attention has so far been paid to this kind of work - of providing a description of the linguistic characteristics of the vast majority of the country's population. It would seem that the considerable amount of rural dialectological work that has been carried out in Britain has left the linguist singularly ignorant about the way in which most of the people in Britain speak. The aims of rural dialectology have, of course, been of a different nature. Many dialectologists have, legitimately, been concerned to record older dialect forms before they are lost for good. The result has been, however, a neglect of current speech forms which could have provided an excellent "laboratory" for the testing of linguistic hypotheses. Rural dialectologists, too, can be accused of having neglected the heterogeneity that is present even in rural speech communities.

Material from sociological urban dialect studies can also be useful for practical purposes, especially in the field of applied linguistics. Because we can now know, often for the first time, the exact nature of the linguistic characteristics of large sections of the population, it is possible to point more accurately to the sort of difficulties that can arise in the teaching of Standard English to children who have some other variety of English as their native tongue.¹⁶ It is also possible that conclusions will emerge that will be of some value in the teaching of English as a foreign language. Urban dialectology demonstrates, for example, that R.P. is very much of a minority accent, even in England. This suggests that the teacher of English should perhaps not concentrate so exclusively as is now usual on the teaching of this particular accent.

Sociological urban dialectology can also be of some value to sociology. It can shed light, for instance, on problems concerning the discreteness and continuity of social classes, on certain aspects of role and status, and on the class structure of the community generally. It can also provide material that can be used in the study of reference groups, normative pressures, and prestige patterns. (We shall have something to say in the following chapters, for example, on the nature of the class structure in modern Britain.) This kind of work

can also be of use in pointing to some of the barriers that exist in the way of social and educational advancement for many members of our society. It has been shown, for example, that linguistic differences not only arise from social inequality but also help to reinforce it.¹⁷

Mainly, however, we shall be concerned in this work with problems of interest to linguists and linguistics. The following work, which makes use of both sociological and dialectological techniques, is the first attempt that has been made to describe the speech of the urban area in question. It is also one of the first essays in British sociological urban dialectology. In the following chapters we shall first of all describe how the urban dialect survey was carried out and then attempt to illustrate, in some detail, the exact nature of the heterogeneity of the linguistic community in question. We shall then attempt to establish a theoretical framework for the description of all types of speech that occur in the urban area and, finally, describe and discuss the theoretical implications of the linguistic changes that have been and are taking place in this particular area.

SECTION B : GEOGRAPHY AND SOCIOLOGY

Chapter Two: Norwich

This work in urban dialectology and sociological linguistics takes the form of a study of the English spoken in the city of Norwich, England. More exactly, it is a study of the speech forms of the urban area associated with Norwich, since the newer suburbs, which form part of an organic whole with the older city, remain outside the administrative boundary of the County Borough.

The population of the built-up area of Norwich in 1967 was approximately 160,000, with about 118,000 actually within the city boundary.¹ This means that, at the moment,² the nearest town to Norwich which has a population exceeding that of Norwich is Greater London, which is about 120 miles away by road. In fact, Norwich, although by no means one of the largest towns in England, is, as the above information may suggest, of considerable cultural and commercial importance for the surrounding area of Norfolk and indeed for East Anglia as a whole. Like many urban centres, it has acted as a goal for in-migration from the surrounding rural areas for much of its history. This is still true of today, although much of the movement into the city is now of the commuting type.

These factors have important linguistic consequences. The speech of Norwich is clearly founded on East Norfolk rural speech, but has become increasingly differentiated

from more rural speech forms over the years. One can speculate that this differentiation has taken place, at least partly, as a result of the spreading of linguistic innovations, not gradually across country, but along the more important lines of communication from one member of the urban hierarchy³ to another. On the other hand, Norwich also exerts considerable linguistic influence on its rural hinterland,⁴ and cultural innovations of all kinds tend to spread from Norwich outwards.

It is, for example, a well-known fact amongst Norfolk people (see Chapter Eleven) that "Norwich people drop their h's". This is a linguistic fact which is striking even to the layman, as the rural accents of East Anglia, possibly alone in the South of England,⁵ consistently preserve h in their phonological systems in all styles of speech. One can therefore assume, albeit tentatively, that "h-dropping" is a linguistic feature that has spread to Norwich from the Home Counties, leaving the surrounding rural areas unaffected, at least for several generations. It now appears that "h-dropping" is spreading to country areas around Norwich amongst younger people.

It is worth noting in passing that the linguistic changes due to diffusion that we are referring to here are of the type called by Labov "linguistic changes from below",⁶ that is to say, from below the level of conscious awareness. Linguistic changes "from above" are likely to

be of a normative type tending to modification in the direction of R.P., due to the influence of R.P.-speaking prestige-groups, the educational institutions, and possibly the mass-media. (This point will be taken up again later. Dialect mixture in Norwich, and the mechanism of linguistic diffusion into and within East Anglia, will be discussed in Chapter Eleven).

The importance of Norwich to its surrounding areas suggests that it is first of all necessary to discuss the place of Norwich in its East Anglian background. This will have several purposes. It will:

- (i) give an illustration of the kind of area East Anglia is, and of the kind of people that live there;
 - (ii) clarify the city's strategic position with respect to influences spreading from Metropolitan London;
 - (iii) explain its function as a source of innovating linguistic pressure on its hinterland;
 - (iv) explain the dialect mixture that occurs in the city;
- and (v) help to explain the attitudes people have to their city and to their speech.

East Anglia

As a geographical, or indeed cultural or linguistic term, "East Anglia" (EA) can only be very imprecise. The counties of Norfolk (Nfk) and Suffolk are certainly EAn, and in many usages the term refers only to these two counties. There has always been doubt, however, as to whether or not the Fenland should be considered part of EA, and consequently some definitions have included all or part of the counties of Cambridgeshire, Huntingdonshire, Lincolnshire and Northamptonshire. Essex, which is culturally and geographically closely linked with Suffolk and Nfk, has also been included, as have even Bedfordshire and Hertfordshire.

In setting up EA as an economic planning region, the Department of Economic Affairs has recently redefined the area for its own purposes. It incorporates under this heading Nfk, Suffolk, Cambridgeshire, Huntingdonshire and the Soke of Peterborough. Much of the statistical information in this chapter concerning 1966 or later years is taken from the first publication of the East Anglia Economic Planning Council,⁷ and must therefore be taken to refer to EA in this sense.

Linguistically speaking, EA, as a relatively homogeneous dialect area, has been shrinking gradually under the impact of the spread of Home Counties speech

forms. It would seem, for instance, that it does not now make very good sense, except perhaps at the level of the very old, very rural speaker,⁸ to include Nfk and, say, Hertfordshire in the same region, as has been done previously.⁹ For this reason, "EAn", as a linguistic term, must be employed in a rather restricted sense. To avoid confusion, the following conventions will be adopted in the linguistic sections of this work:

- (a) "Nfk" linguistic forms will refer to the speech of central and eastern Nfk and north-eastern Suffolk. This area is more or less co-extensive with the Nch "city region" proposed by the EAEPC,¹⁰ but stretches further west to the edge of the Fenland, and probably includes King's Lynn.
- (b) "EAn" linguistic forms will refer to the speech of Nfk, E.Suffolk, and those parts of W.Suffolk, eastern Cambridgeshire and north-eastern Essex which remain distinctively EAn, or relatively unaffected by the speech forms of the Home Counties.

These definitions are necessarily imprecise in the absence of any thorough dialect survey of the present-day speech-habits of all sections of the communities in these areas.

Communications

Since the beginning of the Industrial Revolution, the history of EA has been one of declining economic importance, and geographical isolation, followed in more recent years by population pressure and increasing cultural and economic influence from the South-East. Both the geographical isolation and the influence of the SE are partly caused by and partly reflected in the communications networks that serve EA. EA, which lies between 40 and 120 miles distant from Greater London, is set apart from the main national centres of commerce and industry, and from the chief north-south road and rail routes leading from London. Throughout EA transport communications are poor, and most of the main road and rail routes lead to London. Nch itself, the most northerly of the four main EAn centres, suffers most from this isolation: "Norwich has become virtually the capital of East Anglia, the attractive, odd and curiously remote corner of Britain, cut off on three sides by the sea and on the fourth by British Rail. Although this is an ancient and not very funny joke, there is more than a grain of truth in its reference to the difficulties of communication with the rest of the country, and this has had a profound effect on the way in which Norwich developed over the years and will do so in the future".¹¹

Nch is in fact served by a good rail link to London.

Trains leave on the average once every hour and complete the journey in alternately two and two and a half hours. This route is, importantly, via Ipswich and Colchester. Other rail links are not good, a fact which has recently been recognised by the planners: "There must be a better service across country and to the North and Scotland - for too long all lines have led to London".¹² It is particularly important that rail links to Cambridge are significantly less satisfactory than those to Ipswich, although Cambridge itself has a good service to London. Travel west and north generally is more difficult, with fewer trains, and connections at Peterborough and Ely.

In terms of road transport the picture is somewhat different. Here again the main links are only with London, but even these are not adequate. From Nch it is necessary to travel either 32 miles south-west or 108 miles north-west before meeting a road of motorway standards (the A1). Of the main trunk roads leading from London into EA, the A1 impinges only on the western edge of the region; the A10 leads through Cambridge to King's Lynn; and the A12 through Ipswich to Great Yarmouth. Only the A11, which avoids Cambridge and leads through Newmarket, terminates in Nch. Routes from Nch to London are: A11 - A505 and on to the A1 for central and west London; A140 to Ipswich and on to the A12 to east London; and A11 direct to north-east and east-central London. All these roads, except the A140, are overloaded at peak times.¹³ Travel

to the West and North, as with the railways, is more difficult. In particular, the route to the North, through the bottleneck of King's Lynn and along the seriously inadequate A17 to Newark and the A1, is poor. (The figures shown on the traffic density map published by the EAEPD for this route¹⁴ (see Map 1) may be misleadingly high, as they refer to the month of August, when large numbers of holiday-makers from the Midlands and the North arrive in Nfk from this direction.) The planners have again recognised the problems: "One strategy problem which Nch ... faces is the difficulty of road communications with London and with the Midlands. The distances involved are exaggerated by the poor quality of the road links, which greatly extends journey times".¹⁵ Thus road and rail links from EA to the rest of the country are poor and inadequate, and those that do exist are heavily dominated by routes to London. The position concerning road transport remains true in spite of the fact that car-ownership in EA is higher than in any other part of the country, probably because of the scattered nature of the population.

It is difficult to know, without further study, exactly how figures concerning railway timetables and road networks relate to cultural and linguistic diffusion, and what implications they have for the influence of the Home Counties in EA. It has been shown, however, that isogloss bundles correlate closely with traffic network

MAP 1: Traffic Density in EA (August 1965)
Passenger Car Units.

patterns in parts of the U.S.A.¹⁶ In fact, it is tempting to identify the breaks in traffic density shown on the map for EAn trunk roads (August 1965) with possible dialect boundaries (see Map 1). Certainly, on the A11 the area of lowest density occurs in the neighbourhood of Thetford, near the county boundary, where the border of the "Nfk" speech area was tentatively set (see above). Similarly, the break on the A12 occurs south of Lowestoft, which supports the decision to include the "Nfk" region of north-east Suffolk in this area. On the A10 there is a similar drop in flow south of King's Lynn, which could again coincide with the Nfk dialect boundary. No significant drop in density is shown for the King's Lynn - Nch route, A47, but, as mentioned above, these figures may not be typical for any whole year.

The EAn urban hierarchy is dominated by the four major centres of Nch, Ipswich, Cambridge and Peterborough, and the three minor centres of King's Lynn, Great Yarmouth and Lowestoft, and Bury St. Edmunds. In one classification of the urban hierarchy of England and Wales,¹⁷ Nch is described as a "major city", Ipswich and Cambridge as "cities", and Peterborough, together with King's Lynn, Great Yarmouth, Lowestoft and Bury St. Edmunds, as a "major town or minor city". (In West European terms, Norwich has been classified, together with, for example, Aberdeen and Cardiff, as a 4th order Metropolitan centre.¹⁸ The other EAn towns are not classified.) Each of these towns acts as a centre for shopping, social services,

entertainment, and employment. (Their central position is clearly illustrated by the travel-to-work map shown in Map 2.)¹⁹ According to the urban hierarchy theory of diffusion, which both human and linguistic geographers have recognised as valid,²⁰ it can be hypothesised that linguistic innovations are likely to spread to Nch from Ipswich and Cambridge, rather than or as well as direct from London. This is particularly so in view of the fact that the main lines of communication from London to Nch, as outlined above, lie through these two towns. We can omit Peterborough as it lies outside linguistic EA and is not on a direct route from London to Nch.

(There is no a priori reason, incidentally, why linguistic innovations should not also spread to Nch from, say, the Midlands via Peterborough. However, the increasing linguistic dominance of London is a fact which the casual listener can notice in the South of England from Oxford to Dover, and even further afield. There is no reason to suppose that EA will escape this influence, particularly in view of the system of communications and the evidence of influence already observed. There is in any case no sign of any linguistic influence from other directions. See also Chapter Eleven.)

It is difficult to decide whether Cambridge or Ipswich is the more important innovation source for Nch. We have already seen that rail links are better with Ipswich,

MAP 2 : Local authority areas from which 5 percent + (Norwich, Ipswich, Peterborough, Cambridge) or 15 percent + (Lynn, Bury, Yarmouth, Lowestoft) of economically active population travel to work in the urban centre.

which is also linguistically more similar to Nch as well as geographically closer than Cambridge. (The relevant road distances are: Cambridge 62 miles, Ipswich 43 miles.) Some attempt will be made to discuss this problem at greater length in Chapter Eleven, but, for the moment, traffic density figures (Map 1) can supplement the information given above concerning the rail and road networks. The map suggests that, in terms of road transport, Cambridge is probably more closely linked with Nch than is Ipswich. (In any case, the Nch - Ipswich road, the A140, is not a trunk road.²¹) This is indicated by a much heavier traffic flow into Nch along the A11 from the direction of Cambridge than along the A140. On the other hand, it must be recognised that much of the A11 traffic is direct from London, and that although traffic along the A45 from Cambridge to Newmarket towards Nch is also heavy, much of this may be coming from the South, the S. Midlands, and the West.

Immigration

The Migration tables of the 1961 Census and the 1966 Sample Census²² give further evidence of the cultural influence of the Home Counties on EA and of the way this influence is effected. Immigrants (defined as persons who twelve months previous were living elsewhere) into the Eastern Region²³ in the year to 1960 totalled approximately

152,130 or 4.1 per cent of the population of the Region. Something over one half of these had come from London and the South-Eastern Region (77,340). The next largest influx was from the N. Midland Region (8,500). A further break-down of figures shows that in the same period Nfk received a total of 17,700 immigrants. Of these, 2,960 were in fact migrants from the County Borough of Nch. Of those coming actually from outside Nfk, nearly half were contributed by the authorities listed in Table 1.

Table 1

Immigration to Nfk, 1960.

London	630	Cambridgeshire	390
Middlesex	670	Hertfordshire	330
Essex	660	Sussex	270
Ely	570	Buckinghamshire	200
Surrey	480	Hampshire	190
Kent	440	Bedfordshire	180

Figures for Nch for the same period show a similar trend, with large numbers of immigrants from the south-eastern counties. The total number of immigrants into Nch was 4,160, of whom 1,870 were from Nfk. Of the rest, nearly half came from the areas shown in Table 2.

Table 2Immigration to Nch, 1960.

Middlesex	210	Lancashire	120
E. Suffolk	190	Essex	100
London	140	Hertfordshire	100
E. Sussex	130	Kent	100

This trend continues in the 1966 Sample Census figures, which indicate a further influx from the South-East. Of the total 1966 population of Nch (116,350), 94,860 were born in EA. Of the others, 9,340 were born in the South-Eastern Region, and only between 900 and 1,500 in each of the other six English regions.²⁴

Population

The population of EA is both the smallest and least dense of the eight English planning regions. This is, of course, one reason for the expansion of densely populated London in this direction. The percentage increase 1951 - 1966 was the largest in the country, however, and this trend is likely to accelerate in the next fifteen-year period. The 1967 population of EA was 1,611,910, of whom 576,430 (over one third of the total) were living in the north-east (Norwich) sub-division or city-region. Half of this number were living in Nch (118,610), Great Yarmouth (51,910), and Lowestoft (49,160). The Nfk

Rural Districts which contain the Nch suburbs also had large populations: Blofield and Flegg (41,130), Forehoe and Henstead (31,200), and St. Faiths and Aylsham (54,150). The region had a somewhat higher than average proportion of old people, particularly in the north-eastern sub-division. The 1961 Census shows that the age distribution of Nfk is significantly older than that of England and Wales as a whole. The population aged under five (7.4 per cent) was lower than that of England and Wales (7.8 per cent). The proportion aged over sixty-five in Nfk (13.8 per cent) was considerably more than that of England and Wales (11.9 per cent) and had risen since 1951 (12.6 per cent). The population of Nfk increased at a rate of 0.23 per cent a year between 1951 and 1961, compared with 0.44 per cent a year between 1931 and 1951. This places Nfk forty-second in a list of sixty-two administrative counties in terms of annual increase 1951 - 1961. The population of the largest EAn urban settlements (more or less continuously built-up areas) in 1966 was:

Norwich	160,000	Cambridge	105,000
Ipswich	129,000	Peterborough	81,000

An important factor in the future population is likely to be the organised London over-spill schemes which have already affected, for example, Peterborough, Ipswich and Thetford. There has as yet been no over-spill to Nch.

Social and Economic Structure

It is basic to the employment structure of EA that the region has a much higher percentage of people employed in agriculture than the country as a whole. It also has a higher proportion involved in the manufacture of food and drink; in construction; in professional and scientific services; and in public administration and defence. In all other fields, notably heavy industry, the proportion is less than that for the country as a whole. Unemployment has recently been quite close to the national level, but the Nch and Peterborough regions have had higher rates than the Ipswich and Cambridge regions. It is also noteworthy that a below-average proportion of children stay on at school beyond the statutory leaving age.

In terms of earned income per income-tax case, EA falls eight per cent below the UK average, and has the lowest average for all regions of England and Wales. Investment income, however, is relatively high. Within EA, both total net income and earned income are on average significantly lower in Nfk than elsewhere. For total net income per tax case, the relevant 1964-5 figures were:

UK	£1,003	p.a.
EA	£950	p.a.
Nfk	£913	p.a.

The 1965-66 figures for earned income show an even bigger discrepancy:

EA £974 p.a.

Nfk £908 p.a.

(The next lowest EAn area was Cambridgeshire, with £969 p.a.)

Housing

There is relatively little overcrowding in EA, but the region is below average for the country with respect to household amenities, and very much so in the rural areas. In EA, twenty per cent of all households lack a hot water tap or fixed bath, and eight per cent have no WC. In rural areas, the proportion of houses without hot water, fixed bath or WC is approximately double the national average. In a particular belt of rural land stretching from east Suffolk into north Norfolk, one third of the households have no hot water or fixed bath, and one quarter no WC. Of all households in Nfk in 1961, 38.9 per cent were owner-occupied, 2.3 per cent rented with farm or business, 9.2 per cent held by virtue of employment, and 49.6 per cent rented. Of this 49.6 per cent, 52.6 per cent were rented from a Local Authority.

Norwich

Nch is generally thought to have grown up out of a number of Anglo-Saxon settlements made around the lower-most ford of the River Wensum, near its confluence with the River Yare. By 1066 it was one of the largest towns in England, with an Anglo-Danish population of about 5,500,²⁵ and indeed at this time east Nfk was the most populous part of the country. By 1086, because of the effects of the Norman Conquest, the population had fallen to around 5,000, a large number of whom were Norman, French, Breton or Flemish. Subsequently, large numbers of Jews also arrived, but during the next 200 years many migrants were attracted from the surrounding countryside by the wealth of the city, and their influx reduced the alien proportion in the population. The Cathedral was founded in 1094, and Nch then became the administrative as well as ecclesiastical capital of the region. It was also the commercial capital of a fertile area producing wool and barley. At that time, trade routes eastward across the North Sea were as easy as those leading inland, because of the great distance from London and the swampy impassable nature of the Fens. There was a substantial immigration of Flemish weavers into the district in the 14th century, and Nch subsequently became the centre of a large cloth-making area. There was considerable Flemish cultural influence, and the shape of parts of Nch even today is not unlike that of

Flemish towns, with its large open market, and the open squares known as "plains". (This is also true of Great Yarmouth and King's Lynn.)

From the middle of the 16th century, and for two hundred years or so, Nch was probably the second largest city in England, rivalled only by Bristol and York. At the beginning of this period the weaving industry was in decline, and Queen Elizabeth attempted to revive it by encouraging new immigration from the Low Countries. This coincided with a wave of religious persecution in that area, and by 1579 there were 6,000 Flemings and Walloons, known as "Strangers", in the city's population of 16,000. The impact of these people, and their cohesion and influence as a group, can be gauged from the fact that an annual church service was held in Dutch in Nch until the 1890's, and services in French continued until 1832.²⁶ By the middle of the 18th century Nch was one of the wealthiest cities in Britain, with the large population of 38,000. During the Napoleonic Wars, however, decline set in, and the city depended, throughout the 19th century, on its function as a market town for the surrounding agricultural districts. It lacked the fuel and power resources of the North of England and was therefore unable to participate fully in the Industrial Revolution, with the result that its place in the textile industry was taken over by the towns of Yorkshire and Lancashire. During the Victorian period the city gradually emerged,

with the help of the development of the railways, as the mainly commercial and administrative centre that it is today.

The isolation which has affected Nch particularly in the last 150 years has had unfortunate economic consequences. However, as a local writer has recently observed, "it is possible for us who are living today to reflect that from an aesthetic point of view isolation had its advantages".²⁷ The centre of Nch constitutes a considerable tourist attraction, and one estimate, based on current trends, has put the likely number of tourists to visit Nch in the mid-1970's at about two million a year.²⁸ The University of East Anglia is now situated in Nch, as are also ITV and BBC TV and radio stations. In 1961 Nch was the thirty-fourth town in size in England and Wales.²⁹

Population

Since the First World War the population of Nch has maintained a fairly steady level, as Table 3 shows. The decline in population since 1931 has coincided with a large increase in the number of people living in the suburbs and suburban villages. Since 1921, the population of these areas has risen by over 300 per cent. (We have

Table 3Population of Nch CB, 1921 - 1967

<u>Year</u>	<u>Population</u>
1921	120,661
1931	126,236
1939	121,700
1951	121,236
1961	120,096
1966	116,350
1967	118,610

already noted that the actual built-up area of Nch contains about 160,000 people.) In 1961 an extra 21,500 people (equivalent to 18 per cent of the resident population) came into Nch to work each day. The increases in population of the five suburban parishes around Nch between 1951 and 1961 are shown in Table 4. During this same

Table 4Population of 5 suburban parishes, 1951 - 1961.

<u>Parish</u>	<u>1951</u>	<u>1961</u>
Thorpe St. Andrew	8,281	10,788
Costessey	4,995	7,051
Catton	2,112	2,592
Hollesdon	6,359	9,744
Sprowston	5,485	9,609

period, the largest population increases in Nfk Rural Districts were in St. Faiths and Aylsham RD (+ 8,374), Blofield and Flegg RD (+ 2,841), and Forehoe and Henstead RD (+ 2,484), all of which adjoin Nch County Borough. This represents increases of 26.5 per cent, 8.9 per cent, and 10.00 per cent respectively. The number of private dwellings in St. Faiths and Aylsham RD rose by 49.3 per cent. The importance of these areas to Nch, and their social characteristics, as opposed to those of Nch, are shown in the occupational statistics in Table 5. This

Table 5

Percentage of male work-force
in selected categories

	<u>Employers, Managers, Professional</u>	<u>Junior Non- manual, Skilled Manual</u>
England & Wales	14.1	54.8
Norwich	10.7	62.6
Blofield & Flegg RD	17.0	45.9
Forehoe & Henstead RD	18.5	46.3
St. Faiths & Aylsham RD	15.7	52.8

demonstrates that a large number of the Nch professional and middle-classes in fact live outside the city boundary, and that the social composition of the suburbs is biased towards the "top" end of the occupational scale.

The population of Nch is relatively immobile compared to that of the rest of the country. In 1961, 75.4 per cent of the population of England and Wales had lived at their present residence less than fifteen years. The comparable figure for Nch was 71.3 per cent (Nfk 76.3 per cent).

Social and Economic Character

Moser & Scott, in their study of British towns,³⁰ have placed Nch, together with, for example, Bristol, Reading, York, Great Yarmouth and Ipswich, in a group of sixteen towns which are characterised as "mainly commercial centres with some industry". This group is added to those towns which are "mainly seaside resorts" and those which are "mainly spas, professional and administrative centres", and together these form Group A "mainly resorts, administrative and commercial towns". This group of thirty-six towns differs in its social and population characteristics from Group B, sixty-five "mainly industrial towns" and Group C, fifty-four "suburban and suburban type towns". This classification is made on the basis of four main components, which are associated mainly with, respectively: social class; population growth 1931 - 1951; population change after 1951, and new housing rate; and housing conditions and overcrowding.

For a total of 157 English and Welsh towns, Moser & Scott have made a comparison based on many different variables, mainly taken from 1951 Census data. As well as being allotted a percentage or index score, each town is arranged in rank order, from 1 to 157, for each variable. That is to say that a low number (high position) indicates a relatively high number or amount of each variable concerned. Variables for which Nch was significantly above or below average for the country are listed in Table 6, together with a rank position out of 157. Compared to

Table 6³¹

<u>Variable</u>	<u>Position</u>
Population	43
Per cent population aged 65 or over	34
Illegitimate births 1950-52	26
Illegitimate births 1955-57	31
Per cent overcrowded households	123
Per cent one-person households	43
Per cent households in shared dwellings	132
New housing rate 1945-58	27
New Local Authority housing rate 1945-58	14
LA per cent of total houses built 1945-58	47
Per cent employed in finance	3
Job ratio	14
Per capita retail sales 1950	20
Per cent 1955 voting Labour or other left-wing	42
Per cent voting in contested local elections	24
Infant mortality rate 1955-57	150

other English and Welsh towns, Nch has a high population. It has a high number of old people; illegitimate births; new houses (particularly LA houses); LA houses generally; and left-wing voters. It has a very high proportion of people working in finance, which underlines the previously mentioned important commercial function on the city. (Nch has a particularly large number of people working in insurance. This is largely due to one of the city's biggest employers, the Norwich Union Insurance Societies, but it is also notable that some sixty insurance companies have branch offices in Nch.³²) It also has a very high per capita retail sales figure, which is probably due to the large size of its rural hinterland, rather than to the general affluence of the region, which, as we have seen, is not very high. (The hinterland of Nch, which has been defined as "that area in which public transport carries passengers more conveniently to Nch than to any other centre",³³ had in 1961 an estimated population of 131,000, which is larger than that of the centre (Nch County Borough) itself. This gives a combined total of a quarter of a million people who look to Nch as a commercial centre. Comparable centres have very much smaller hinterlands: Oxford (64,000); York (48,000); Plymouth (55,000). (Plymouth itself has a population almost twice that of Nch.) The 1957 Census of distribution shows that Nch is well above the national average both in its number of shops per head of population, and in turnover per shop. City

stores have a very wide delivery area, and most deliver to the whole of Nfk and parts of neighbouring counties.) Nch also has a low number of overcrowded households and shared dwellings, and a low infant mortality rate. The Job Ratio is defined as the population working in the town per hundred of the resident occupied population: the greater the net outflow of workers the smaller the ratio, and vice versa. Nch's high position indicates a relatively large daily influx of workers and a relatively small outflow.

Industry

In 1961, only one textile firm employing 275 workers remained in Nch as a reminder of its former dominance in the cloth industry.³⁴ Clothing, however, remains the largest single employment category, but 90 per cent of the workers in this field are employed in the shoe industry. Approximately 9,000 people are engaged in this trade, and Nch is the fourth largest footwear manufacturing centre in the country. The construction industry employs about 7,000 workers, while 5,700 are engaged in the production of food and drink, including chocolate, soft drinks and Colman's mustard. There is also a large brewing industry. The largest single employer in Nch is the engineering firm of Laurence, Scott and Electromotors Ltd., with about 3,000 employees, and engineering and allied trades account

for 8,500 of the labour force altogether. There is also a considerable printing industry in Nch.

Housing

Generally speaking, as we have seen above, housing conditions in Nch are good. In 1966, 53,000 people were living in council houses, 32,000 in owner-occupied houses, and 23,000 in privately rented housing. The proportion of council houses is large, around 40 per cent, whereas about 30 per cent are privately rented, and over 25 per cent owner-occupied.³⁵

Internal Differentiation

The only figures available for a discussion of the internal social and economic characteristics of the city of Nch are the 1961 Census figures concerning electoral wards. This is somewhat unfortunate, since ward boundaries are not necessarily economically or socially significant, and wards are usually larger in size than geographical neighbourhoods. However, an analysis of these figures can help to convey some picture of the changing social and geographical structure of the city, and of the characteristics of different areas.³⁶

We have already seen that the population of Nch County

Borough declined in the period 1951 - 1961. This change did not affect all areas of the city equally, as the map of population change shows (Map 3). The largest drops, of over 20 per cent, were in Mancroft (- 36.6 per cent) and Westwick (- 26.1 per cent) wards. Both these wards are in the centre of the city. Mancroft contains the city centre: the main shopping areas; the main business sections; the Castle and Cathedral and other tourist attractions; and the 'bus station. During this ten-year period, areas of 19th-century working-class terraced housing of inferior quality were cleared in the King Street and Ber Street areas in the south of the ward. Westwick is a mixed area which, in terms of neighbourhoods, includes two distinct areas associated respectively with the two subsidiary shopping centres around Magdalen Street, and around St. Benedicts Street and Dereham Road. It contains decayed inner residential areas of 19th-century terraced housing, much of it being cleared; warehouses; an industrial area around the City Railway Station (now closed) including beet-and-shoe factories; and other signs of decay³⁷ such as small workshops, builders'-merchants' yards, and cycle repairers. There are also many small corner shops. There are in addition some areas of modern and pre-war Council flats, and the area as a whole is in a state of rapid change and renovation. Both Mancroft and Westwick have a high proportion of Old Age Pensioners, 24 per cent and 26 per cent respectively (see Map 4).

A group of wards with a smaller drop in population (between 10 per cent and 20 per cent) is found mainly in the north of the city and adjoining the two central wards. They are Hellesdon³⁸ (- 18.1 per cent), Thorpe³⁸ (- 16.3 per cent), St. Stephen (- 15.4 per cent), Mousehold (- 14.7 per cent), Coslany (- 12.0 per cent) and Catten³⁸ (- 10.3 per cent). Hellesdon and Catten are two of the four outer wards which do not adjoin either Mancroft or Westwick. Hellesdon consists almost entirely of an area of pre-war Council housing, with some recent additions (since 1961 and therefore not included in these figures) of Council tower flats and maisonettes, which is known locally as the Drayton Road Estate and "Mile Cross". Overcrowding in 1961 was high for the city, although the proportion of persons living at more than one and a half persons per room is given as still only around six per cent. Catten comprises parts of the areas identified locally as New Catten, Mile Cross, and the Sprowston Road area, and is a mixed area consisting of pre-war Council houses and flats, post-war Council houses, and both pre- and post-war semi-detached middle-class houses with sizeable gardens. The other four wards consist predominantly of the pre-First World War working-class terraced housing that lies in a more or less continuous belt around the city centre. They also have, however, some more expensive older houses. Many of these are detached houses in large grounds on the main roads leading out of the city, such as Newmarket Road in St. Stephen ward. Thorpe has a number of middle-class housing areas, particularly in the districts off Thorpe Road, and Mousehold contains part of the enclave of

Household Heath, the rest of which is in Creme ward.³⁹

Both Thorpe and Household also have some Council housing.

Thorpe ward consists of those neighbourhoods known locally as the Plumstead Road Estate and Thorpe Hamlet. Coslany is made up of that central part of New Catton which is not included in Catton or Household. Household consists of the Sprovsten Road and Silver Road localities; and St. Stephen of a compact area of housing around Vauxhall Street and Rupert Street, but including parts of the statusful areas of Newmarket Road, Lime Tree Road, Unthank Road, and Christchurch Road.

Four more wards had a smaller drop still in population (less than 10 per cent). These were: Nelson (- 6.7 per cent), Heigham (- 6.6 per cent), Bowthorpe (- 5.3 per cent), and Earlham (- 5.3 per cent). These wards form a group stretching from the centre to the west in the northern half of the city. Earlham, one of the outer wards, contains the University, but the housing is almost entirely Local Authority provided (about 90 per cent), and the ward is somewhat more overcrowded even than Hellesdon. The houses are mostly post-war, and many of the families here have moved from the now cleared areas in Mancroft ward. This ward contains most of those areas known in the city as West Earlham and North Earlham. Heigham ward, as the map shows, consists of two almost entirely separated areas. The western half is a continuation of the Earlham housing estate, while the eastern half consists of the locality

around Nelson Street, off the Dereham Road, which is a continuation of the inner residential working-class belt of terraced houses. Bowthorpe contains the fringe of the Earlham Council estate in its western half together with a little semi-detached middle-class housing, and that part of the inner belt of terraces that lies between the Dereham and Earlham Roads in its eastern half. Nelson is bounded by Unthank Road, Earlham Road and Christchurch Road, and contains streets of fairly expensive large pre-First World War two- and three-storey detached and terraced houses; some working-class terraces; some pre-war semi-detached houses; and some post-war middle-class and upper middle-class housing.

Only four out of the sixteen wards in the city have had an increase in population. They are Eaton (+66.4 per cent), Town Close (+13.2 per cent) and Lakenham (+9.6 per cent), which lie together in the south and south-west of the city, and Crome (+101.2 per cent). Crome contains the large new Heartsease Council housing estate, together with a new development area of owner-occupied bungalows at its eastern end, and in the west some streets of terraced housing which form a continuation of the Thorpe Hamlet area. Town Close contains the post-war Tuckswold Council housing estate on its outer edge, and the Grove Road area of mainly large semi-detached middle-class houses nearer the city centre. Lakenham has the new Lakenham Council housing estate at its outer edge, the

pre-war Council estate in the middle, and part of the older belt of terraced houses near the city centre, off City Road and Hall Road. It also has some large detached houses in big grounds along the main roads, such as Bracondale, and both pre- and post-war Council flats. Eaton is composed of several fairly distinct areas: the Eaton Rise estate of owner-occupied post-war detached housing; the old Eaton village area, with its associated area of recent middle-class semi-detached houses; the Unthank Road - Newmarket Road - Christchurch Road area of older large middle-class and upper middle-class housing, with some pre-First World War terraces and newer semi-detached houses; the South Park Avenue and North Park Avenue post-war Council estates; and the Colman Road area of mainly pre-war Council houses with some smaller owner-occupied pre-war semi-detached houses.

Neh thus falls into three main regions of population change (see Map 3):

- (a) a northern, central and eastern region where emigration has been at a high level;
- (b) a western region, where emigration has been low;
- and (c) a southern and south-western region which has had moderate-to-large increases in population.

Only Crome ward seems to fall outside this pattern, appearing as it does to drive a wedge of high immigration areas

into the centre of the city. This is, in fact, a case of ward boundaries disguising what has actually occurred. Only the Heartsease Council housing estate, which did not exist in 1951, has had a significant increase in population. This estate occupies the rectangular area which juts out beyond the rest of the city in the east. It seems certain that the older area of Crome (left blank on the map, Map 3) has the same kind of emigration characteristics as the two wards on either side of it, Mousehold and Thorpe. (This is also likely to be true, of course, of the inner areas of Town Close and Lakenham). There is, in any case, a definite drift in population from the north, east and west of the city to the south.⁴⁰

This trend is also partly illustrated by the figures concerning the proportion of Old Age Pensioners in each ward (see Map 4), which show, as it were, that older people are being left behind in the centre and north of the city. These figures are also helpful in demonstrating the character and age of each ward. The central areas of the city, particularly those with a predominance of pre-First World War terraced housing, have the highest proportion of Old Age Pensioners, the outer areas a lower proportion, with the south-western areas of Eaton and Town Close having the lowest proportion of all (except for the two predominantly post-war Council estate wards, Earlham and Crome).

POPULATION CHANGE, 1951-61.

PERCENTAGE OLD AGE PENSIONERS.

PERCENTAGE HOUSEHOLDERS WITH 4 FACILITIES.

PERCENTAGE HOUSEHOLDS OWNER-
OCCUPIED.

PERCENTAGE PERSONS LIVING AT MORE THAN
1.5 PERSONS/ROOM.

SOCIAL CLASS INDEX - (EDUCATION + OCCUPATION)

CITY
WARREN

Further characterisation of each area can be provided by figures concerning housing and household facilities. These wards (see Map 5) with a low percentage of households possessing all four facilities (hot and cold water tap, fixed bath and WC) are in the central areas which also have a high proportion of pensioners. The south and south-west are well-provided with facilities.

A similar pattern occurs in the figures for owner-occupied houses (see Map 6): Eaton and Nelson, in the south-west, have the highest proportion of houses owned by their occupiers, generally an index of high social status. This type of pattern also emerges for those areas of the city which have a below-average index of overcrowding (defined as the percentage of persons living at more than one and a half persons to a room). These wards (see Map 7) form a broad band across the city, but again Eaton, Town Close, St. Stephen and Nelson are included in this favoured group.

Further evidence can be obtained by an analysis of the social class composition of the different wards. Maps 8 and 9 give details of the socio-economic class⁴¹ and social class⁴² composition of each ward. They show that the highest ranked four wards in each case are Eaton, Nelson, St. Stephen and Town Close. A more detailed analysis is that given by Maps 10 to 16, showing

SOCIO-ECONOMIC INDEX

PERCENTAGE OF PROFESSIONAL WORKERS

PERCENTAGE OF EMPLOYERS AND MANAGERS.

PERCENTAGE OF OTHER NON-MANUAL WORKERS

PERCENTAGE FISHMEN AND SKILLED WORKERS.

PERCENTAGE SERVICE AND SEMI-SKILLED WORKERS.

PERCENTAGE UNSKILLED WORKERS.

PERCENTAGE UNEMPLOYED.

the wards with the highest proportions of, respectively: professional workers; employers and managers; junior non-manual workers; skilled workers; semi-skilled workers; unskilled workers; and unemployed. There is a clear progression, as we move down the social scale, from the south to the north and from the west to the east of the city. Particularly striking are the first three maps (Maps 10, 11, 12), which show Eaton, Nelson and Town Close leading in their proportions of non-manual workers.

All these figures combine to present a picture of the increasing economic and social dominance of the southern and south-western part of the city in general, and Eaton ward in particular. It is perhaps significant that this area lies on and around the approach roads from London, the A11 and the A140.⁴³ This bias to the south and south-west is to a certain extent counteracted by the more prosperous suburbs outside the city boundary to the north and east, such as Therpe St. Andrew and Catten. It is worth noting, however, that the most statusful of all the city suburbs, Cringleford, lies just over the city boundary immediately adjacent to Eaton.

From this city a sample of the population was taken for the purposes of the linguistic survey.

Chapter Three: The Sample

Many previous linguistic and dialectological surveys have been based on work carried out with informants who were chosen either because they were elderly natives of the area under survey and therefore likely to be "pure" dialect speakers,¹ or simply because they were easily available. Other surveys, such as that carried out by Kurath & McDavid² in the U.S.A., have been of a more sophisticated type, but have relied basically on the same relatively haphazard methods. There are obvious and serious dangers in this type of approach, particularly when one is dealing with a large urban population, rather than with a small rural community. Typically, the urban population is heterogeneous, and both socially and geographically mobile; sociological factors are more important from the point of view of linguistic differentiation than geographical factors; and the social structure is of a complexity that makes close individual knowledge of the area impossible, and person-to-person contact as a means of selecting informants useless.

It is, of course, neither practicable nor desirable to interview the entire population of a city. That is to say that a survey of this kind must necessarily be incomplete. Obviously, a survey can only be complete if the population to be covered is small, as in a restricted rural

area, or if the resources to be employed are very large. (Even if it were possible to interview every single individual in a survey, this would serve no useful purpose, since sample survey methods make the effort unnecessary, and the vast amount of detail obtained could well lead to confusion and inaccuracies.)

On the other hand, one does want to ensure that the language one is describing is truly the language of the city, rather than that of a few hand-picked informants. (It is, of course, legitimate to rely on a few hand-picked informants if the object is, for example, to record older dialect forms before they become extinct. It is doubtful, however, if even this can be totally justified with any large, heterogeneous population.) Informants selected solely because they are available and willing to be interviewed are simply a part of the population of the city, not a representative sample, and no valid statements concerning the language of the city as a whole can be based on evidence obtained from informants selected in this way: "It is entirely wrong to make an arbitrary selection of cases, to rely on volunteers or people who happen to be at hand, and then to claim that they are a proper sample of some particular population".³

There is only one way to ensure that the results obtained in an incomplete survey of this kind can

legitimately be said to apply to the population as a whole: the section of the population which is to be studied must be selected by "accepted statistical methods".⁴ The informants, that is, must constitute a genuine representative sample of the city's population. This particular work is based on a series of interviews carried out with a sample of the population of the city of Nch, which was obtained by methods which are statistically acceptable. The sample is large enough and sufficiently scientifically devised to permit reasonably confident assertions to be made concerning the population as a whole, and small enough to permit accurate and intensive study over a limited period of time.

The Benefits of Sampling

Social scientists, geographers, botanists and others have developed a set of very sophisticated sampling techniques in the last thirty or forty years. Linguists, however, have begun to realise only comparatively recently that this set of techniques is a potentially useful tool in their own work. Many examples can be cited of linguistic work which could have benefited from this type of approach. In her study of Cockney phonology, for instance, Sivertsen⁵ made no attempt to obtain a representative sample of the population of London or even of Bethnal Green. Instead,

she simply worked with people who to her seemed suitable, and who were willing to help her. In fact, her four main informants were all women aged over sixty. She did, it is true, investigate the speech of other age-groups, men and women, but not in any systematic way. She does concede, of course, that she is using the term "Cockney" in a restricted sense, but, in view of the fact that she selected, by purely subjective criteria, four informants out of a potential eight million or so, this appears to be an understatement.⁶ It can be argued, of course, that her work is a valid and scholarly study of the speech of a small group of mainly elderly, working-class people, from a small area of Eastern London, as indeed it is. But I hope to show (see Chapter Nine) that this has important consequences for linguistic theory, in that the type of phonology employed by Sivertsen in her work is as unrealistic as the type of "sample" she was working with, and only appears to be valid because she was studying an artificially homogeneous speech community.

Similarly, in his work on the speech of San Francisco, De Camp⁷ worked with a larger group of informants selected in the same kind of way; and he himself points out some of the disadvantages of using this kind of group.⁸ A more recent study is that of Viereck⁹ on the urban speech of Gateshead. Viereck chose, by a means he does not specify, twelve informants, all men, of whom ten were aged over

seventy, out of a total population of 115,000. Viereck's purpose was not, of course, to obtain a representative sample of the population of the town, and by this means to produce a genuine description of the dialect of Gateshead as it is spoken today. His concern was rather to select speakers of what he considered to be "pure" Gateshead dialect, and to write a description of their speech. He recognises that there is in fact no such thing as "pure Gateshead dialect" now: "Wie alle Grossstadtdialekte ... ist auch der 'Dialekt' von Gateshead keine in sich geschlossene Einheit mehr",¹⁰ but the implication is that there was formerly such a thing as "pure Gateshead dialect", and that Viereck is trying to get as close to this as he can. I hope to show that he has set himself an impossible task, and that such a thing as a "Phonematische Analyse" of the dialect of Gateshead, or indeed of any other speech community, is an unrealistic and impossible concept. Many other examples could be given of this type of work.¹¹

In the last decade, however, some work has been carried out, particularly in the U.S.A., with large, usually urban populations, using statistical sampling techniques. One of the first studies of this type was the work of Labov¹² in New York City, in which he was fortunate enough to be able to use a sample constructed very scientifically for use in a previous sociological survey. Another large-scale work is that which has been

carried out in Detroit.¹³ Here a considerable amount of time and effort had to be expended on obtaining a sample. The only feasible means of access to potential informants was through the schools, which meant that the sample, although otherwise very scientifically designed, had a heavy bias towards adults who had children of school age. A similar work is that of Levine & Crockett¹⁴ also in the U.S.A.

There has as yet been very little work of this nature in Great Britain.¹⁵ However, the difficulties encountered by the research workers in Detroit in constructing their sample are totally avoidable in this country. This is because we always have available a relatively up-to-date sampling frame, for all parts of the country, in the shape of the Register of Electors. This lists every member of the population who is eligible to vote: all people aged twenty-one or over who are not aliens (or otherwise excluded). There is no comparable list in the U.S.A.

The ease with which a sample can be drawn from a large urban population by using the Register of Electors seems to have been overlooked by Housck¹⁶ in one of the few linguistic studies based on a statistically selected sample so far carried out in Britain. In his small methodological study of the speech of the city of Leeds,

Houck has used instead a type of sample more commonly employed by geographers or botanists. He first divided the city into quarter-kilometer squares. Then one household was randomly selected from within each square, and then one informant from each household. Houck tells us that the help of the Department of Geography at Leeds University in selecting the sample saved him approximately ten months' work. (Taking the sample from the Register of Electors for the Noh survey took approximately two hours). Moreover, this type of sample, in treating each area of the city equally, has the disadvantage of biasing the sample against those sections of the population who live in more densely inhabited areas of the city. Houck was aware of this danger, and was accordingly forced to take further somewhat elaborate steps to counteract it. This amount of work is, of course, of no benefit, and totally unnecessary.

Sampling Method

For the purposes of this linguistic survey of the city of Noh, a sample, probably best described as a quasi-random sample, was taken from the local Register of Electors. A random sample is a sample where every member of the population has a calculable and non-zero chance of being selected. A simple random sample is a sample where every member of the population has an equal chance of selection. The

quasi-random sample method, which is described below, is often employed where the population in question is a large one, and when the sample is to be drawn from some kind of pre-arranged list, rather than by using some form of lottery method. Strictly speaking, this method is not equivalent to simple random sampling, since the number of possible samples is much smaller, but it is "generally justified by the argument that the list" (in this case the Register of Electors) "can be regarded as arranged more or less at random, or that the feature by which it is arranged" (streets and house numbers) "is not related to the subject of the survey".¹⁷ It has one advantage for a linguistic survey, apart from the obvious advantages of speed and facility, in that there is a better chance of obtaining an overall geographical coverage of a particular area, and thus being able to investigate possible geographic variation.

The method is to divide the number of the total population of the area in question by the number of informants desired, in order to obtain the sampling fraction. A number smaller than the sampling fraction is then randomly selected, and the person with that number on the list becomes the first member of the sample group. Then the remaining members of the sample group are obtained by adding the sampling fraction number to the number of the first member selected, and then to that of the second

member, and so on, so that the selection of the first member automatically determines the selection of all the others. (All members of the population, in other words, do not have an equal chance of selection.) Thus, if the total population is 90, and the desired number of informants 9, the sampling fraction will be 10. If the first member randomly selected is number 4, then the remainder of the sample will consist of numbers 14, 24, 34, 44, 54, 64, 74, and 84, giving a total of 9 in all.

The sample for the Nch survey was not drawn from the Register of Electors for the city as a whole. It was decided instead to sample four of the city's electoral wards only. This procedure has the approval of experts in the field of survey methods: "Let us suppose that a sample of individuals is to be selected in a town with a population of 250,000. Most probably, one would decide to concentrate the interviews in a few areas, so the first step may be to pick some of the wards in the town ..."¹⁸ The advantages of this kind of approach in a survey of this kind are that it opens up the possibility of investigating geographical variation within the city, and that it makes contacting informants and conducting interviews a much less laborious and time-consuming business, as the geographical area to be covered is much smaller. The four wards were not selected at random, but were chosen so that they had, between them, social and economic characteristics that were, on average, the same as those of the city as a whole.

They were, moreover, chosen so as to represent different types of area from the point of view of social, geographical and housing characteristics (see Table 7). The four wards were: Eaton (E); Lakenham (L); Nelloedon (N); and Westwick (W) (see Chapter Two). The sampling fraction was adjusted so as to give an equal number of informants from each area.²⁰ In addition, a sample was drawn from one of the suburban parishes outside the city boundary, Thorpe St. Andrew (see Fig. 1). This was because, as we have already seen (Chapter Two), the suburban areas form an important part of the social structure of the urban area of Nch.

Each person listed in the Register of Electors also has a number, which is a useful aid in the selection of the sample. In each of the five areas, an initial sample of twenty-five persons was randomly selected from the Register. A number smaller than the adjusted sampling fraction was taken from a table of random numbers.²¹ The person whose number this was became the first member of the sample in each area, and his selection automatically determined that of the remaining twenty-four members. The initial selection thus comprised 125 names and addresses, from five different areas of the urban region. It was decided that the maximum number of informants who could be interviewed in the time available was fifty, ten from each ward. Introductory letters were therefore sent out

Fig. 1 : 4 Wards
and 1 suburb sampled

Table 7¹⁹

A Economic and Social Characteristics
of Vech and four selected Wards.

Social Class Index	Socio- Econ- omic Index	Per Cent Pens- ioners	Age Index	% Workers		
				Non- Manual	Foremen and Skilled	Semi- and Un- skilled
E. 71.50	62.00	14.00	57	50.00	33.00	17.00
L. 47.50	50.70	17.00	52	26.00	45.00	30.00
H. 40.00	45.00	18.00	50	14.00	53.00	32.00
W. 38.00	43.00	26.00	37	15.00	53.00	32.00
Mean 49.25	50.10	18.75	49	26.25	46.00	27.75
Non. 50.00	50.00	17.10	50	27.40	45.70	26.50

B Per Cent Workers

	Profess- ional	Employ- ers and Managers	Junior Non- Manual	Foremen and Skilled	Service and semi- skilled	Un- skilled
E.	11.00	15.00	24.00	33.00	10.00	7.00
L.	1.00	5.00	20.00	45.00	18.00	12.00
H.	0.00	4.00	10.00	53.00	12.00	20.00
W.	1.00	4.00	10.00	53.00	18.00	14.00
Mean	3.25	7.00	16.00	46.00	14.50	14.25
Vech	2.80	7.00	17.00	45.70	14.00	12.50

to ten people randomly selected from each group of twenty-five. The purpose of the letter was to secure the good-

will of the informant, to explain the purpose of the interview, to allay any suspicions concerning the integrity and honesty of the interviewer and the non-commercial nature of the study, and to warn the informant that he was to be called on. The letter was signed by myself, but the authenticity of the study was stressed by the fact that the letter was typewritten on University of Edinburgh notepaper, and mentioned both Professor Lyons and the University of East Anglia. It also mentioned that I was a native of Noh, which seemed to be of some help in counteracting the suspicions which some of the informants had for this kind of study.²²

Securing Interviews

A day or two after the dispatch of each letter, I called on each potential informant to secure an interview, to explain further the purpose of the interview, and to give further details of the method (such as the use of the tape-recorder). On occasions the informant was willing to have the interview conducted straight away, but more frequently it was necessary to make an appointment for some future date.²³ Some informants, of course, were less willing or more suspicious than others, and it was at this point that their reluctance had to be overcome. Often a certain amount of ingenuity had to be used in order to obtain co-operation, but more often people were very willing

to help, and showed considerable interest at the prospect of talking about "old Nfk words" and other allied topics. Some, however, wanted to be assured about the complete anonymity of the study; and the tape-recorder had often to be justified as a time-saving device.

The success-rate in securing interviews was not particularly high, for several reasons. It was decided, in the first place, not to interview anybody who had moved to Nch from outside EA in the last ten years. Strictly speaking, to obtain a realistic picture of the speech of the city, and particularly of attitudes to Nch speech, it would have been necessary to interview everybody, irrespective of their origin. It was, however, felt that, in view of the short time available and the small size of the sample, time could not be spent on informants whose linguistic behaviour was radically different from other informants. Some of the initial selection, moreover, had moved away from Nch since the compilation of the Register, and others were blind or too senile or infirm to be interviewed. Difficulties of this kind cannot be overcome in a linguistic survey as readily as they can in an ordinary social survey: people who have left Nch are no longer part of the Nch speech community; blind people cannot take part in the reading tests; and so on. In addition, as with all social surveys, some people had died; and others refused to participate, or could not be contacted.

In all such cases of failure, names of replacements were selected from among the remainder of the twenty-five in each ward. In all, to obtain the fifty informants, it was necessary to send letters to ninety-five of the original 125 people selected. Of these ninety-five, twelve were not from Nch, five had moved, three had died, and three were blind or infirm. (Those who had left their original address, but were still in Nch, were located and interviewed if possible.) Of the remaining seventy-two, fifteen refused to be interviewed, and seven were not contacted. This refusal and no-contact rate is high for a social survey. The standard approach in a social survey is to follow up a refusal with second, third and further visits, in order to secure an interview, because it is important to minimise the number of refusals, in order that the sample should remain truly representative. This is particularly so in ordinary social surveys, since, as can readily be imagined, the attitudes of people who refuse to be interviewed on, say, race relations, may well be significantly different from those of the rest of the population.

This approach, however, was not adopted in this survey, as it was thought that linguistic behaviour was unlikely to show significant differences of this type. Labov²⁴ has shown, in fact, that those informants who refused him interviews or could not be contacted, and

whose linguistic behaviour was later studied by other means, were in no way different from the other informants in their language characteristics. It was therefore decided, for the purposes of the Nch survey, that following up refusals in the usual way would be a time-consuming, unrewarding and unnecessary task. A further consideration was that, in order for an interview to be successful and as much conversation as possible to be recorded, the good-will of the informant was very necessary, and repeated attempts at persuasion were likely to jeopardise this. The number of refusals was probably also fairly high because the nature of the interview, which involved the use of a microphone and a tape-recorder, was rather more intimidating than the normal type of social survey interview.²⁵ (Reasons for refusal included: inability to afford the time; not feeling well enough to take part; failure to see the point of the study; unstated but obvious fear of the whole exercise and one gentleman who did not "believe in universities".) "No contact" means that several visits were made to the address in question, and that nobody could be found at home. This was often because of holidays, since the interviews were conducted during July. The policy of not following up refusals meant that very little time was wasted, and the fifty informants were written to, visited and interviewed in a little over three weeks.

Schoolchildren

The Register of Electors has one important defect as a sampling frame: only people aged twenty-one or over are listed. To be of any significance, however, a linguistic survey of this nature needs to study the linguistic characteristics of all age-groups. This defect was therefore put right by drawing a sample of ten schoolchildren from two of the schools in Nch. The children were all aged between ten and twenty, as there was not sufficient time available to obtain a sample of younger children as well. The schools were not selected at random; they were in fact two out of the three state-maintained grammar schools in the city. The sample was drawn from this type of school since they are the only local schools which have the entire city (but no areas outside the city) as their catchment area. This particular sample could for this reason act as a kind of control for the main sample, in the investigation of geographical variation within the city, and could possibly also shed light on the speech of those areas of the city not covered in the main sample. It might be supposed that the fact that both schools were grammar schools would bias the sample towards the higher end of the social scale. This, however, was not the case (see Chapter Four).²⁶

Characteristics of the Sample

Thus, the final sample of informants who gave inter

views on which this work is based consisted of sixty people. This sample is considerably smaller than those used both in New York City and in Detroit, but Labov has demonstrated that a sample even smaller than this is sufficient for the purposes of a linguistic survey, and concludes: "the structure of social and stylistic variation of language can be studied through samples considerably smaller than those required for the study of other forms of social behaviour".²⁷

The different indices used for classifying individually each of these sixty informants, for the purposes of correlating their linguistic behaviour with sociological factors, will be described in the next chapter. At this point, however, it will be useful briefly to illustrate the social characteristics of the sample as a whole, and to compare these with the characteristics of the population of the city as described in the Censuses of 1961 and 1966. This comparison will not, of course, constitute conclusive proof that the sample is truly representative of the city as a whole, and indeed no sample, however scientifically selected, can be free from inaccuracies. It will, however, underline the validity of using a sample for the purposes of a linguistic survey, rather than simply informants who happen to be available. It will also give some idea of the type of people who were interviewed during the course of the survey. It must be remembered,

though, that the Census figures were respectively seven and two years out of date at the time when the sample was selected, and that 20 per cent of the sample was drawn from Thorpe St. Andrew, which is not included in the Census figures.

Figures 2 to 4 show comparisons of the sample with the population of the city as a whole with respect to age-group; occupation; and educational characteristics. It can be seen that the general age-group structure of the city is reflected in the sample: both curves have the same kind of overall outline. Some groups, however, are slightly under-represented in the sample (probably, in the case of the over-sixties, because of the younger average age of those living in the more recently built areas of Thorpe). Other groups, notably the fifty to fifty-nine year-old group, are over-represented. The two curves showing occupation structure also have the same overall outline. Most of the inconsistencies here, moreover, can be accounted for by the fact that the Census data is for males only, while the sample, of course, contains both males and females. The apparent over-representation of Group V, which includes personal-service workers, is therefore probably due to the large proportion of women who work in shops. The groups listed I to VI are based on classifications used in the 1966 Sample Census, which in turn are based on the Registrar General's Classification of Occup-

Fig. 2. % persons in different age-groups in Nch. as reported in 1966 Sample Census and in Linguistic Survey Sample.

Fig. 3 % Persons in different occupational groups in Nch, as reported in 1966 Sample Census, and in Linguistic Survey Sample.

ations. Groups I and II comprise professional workers, employers, and managers; Group III other non-manual workers; Group IV foremen, skilled workers and self-employed persons; Group V semi-skilled and personal-service workers; and Group VI unskilled workers. (The Census figures also contain 2.1 per cent listed as Armed Forces or "occupation inadequately described".) The two curves showing educational status, here measured by the terminal education age of those aged over fifteen, are extremely close. The fact that there is a time-lag of eight years between the two sets of figures could well account for the apparent slight over-representation of the middle two groups, because of the steady increase in the proportion of the population who have remained longer at school.

Sociological indices employed for characterising each informant individually are described in the following chapter.

Fig. 4

% persons in different Terminal Education Age-groups in Nch. as reported in 1961 Census, and in Linguistic Survey Sample.

Chapter Four: Social Indices

One of the main purposes of this study is to investigate the nature and extent of the correlation between and co-variation of linguistic and sociological parameters in the city of Nch. This investigation, it is hoped, will illustrate the way in which a large, heterogeneous speech community functions, and produce some answers to theoretical problems, such as the status of the diasystem, and the nature of linguistic change. It will also provide a more realistic description of the speech of an urban area than some of the earlier studies briefly described in Chapter Three, in that it will be an attempt to relate language to its social background, and to show how social differences are reflected in, and how they act upon, linguistic differences.

In this chapter, we shall discuss briefly those sociological parameters which can be subsumed under the heading of "social stratification", together with the relationship between these parameters and language. Mainly, however, we shall be discussing the ways in which they can be associated with measurements of an individual's social status, in order that he can be ranked in the social scale and his linguistic behaviour compared with his social position. (The measurement of those sociological parameters associated with social context will be discussed in Chapter Five, and the measurement of linguistic parameters in Chapters Six and Seven.)

Social Stratification

Social stratification is a complicated subject, and discussions and definitions associated with this topic in sociological literature are both varied and complex. At a simple level, however, social stratification can be described as one particular form of social differentiation,¹ and has been defined as "any hierarchical ordering of social groups or strata in a society".² In Britain, as in other Western societies, social stratification takes the form of the division of society into different social classes and status groups, rather than into, say, different castes.

There is little point in attempting to evaluate or even enumerate the different approaches adopted by sociologists to the topic of social class and socio-economic class. There are very many different explanations and definitions of these terms in sociological literature. And, as is the case with some linguistic terms, it is often necessary to define, in each individual study, exactly what is meant on this occasion by "social class". A simple and not particularly controversial definition of social class is the following: "a major social group, members of which are of approximately [the] same economic position".³ An alternative definition, which could also be said to apply to the term "socio-economic class", is "a major social group, members of which are of approximately

[the] same economic position, prestige, occupational rank, power, value orientations, and characterised by interaction and class consciousness".⁴ Other sociologists introduce the concept of social evaluation, in addition to the concept of social differentiation, in order to define social class.⁵ The type of attitude that is adopted to the term "social class" in this study will emerge during the course of this chapter. But it is in any case widely accepted that social class stratification is based primarily on differences in wealth and income, and it is also true that most members of our society have some kind of idea, intuitive or otherwise, of what social class is.

Social classes, then, are not organised or sharply demarcated social groups, but are rather aggregates of people with similar economic characteristics. The differences between classes in income and wealth are expressed in different types of consumption, education, manners, dress, taste, speech and so on.⁶ The exact nature of the mechanism leading to this differential expression of wealth is not clear. Obviously, it is partly due to the fact that more expensive clothes, consumer durables and so on are available only to those able to afford them. But it also seems certain that it is partly of the same nature as the mechanism associated with the spread of dialect features across geographical areas, so that dialect boundaries often coincide with

troughs in the communications network (see Chapter Two). In other words, social barriers are as effective as geographical barriers in halting or slowing down the diffusion of fashions, ideas, values and speech forms which have originated in a particular social group, from one section of the community to another. Hence different groups have different customs, and so on. These social barriers arise, in the first place, through differential access to socially desirable types of objects and activities, such as housing and education, because of differences in wealth and income. These two aspects of the mechanism of differentiation are, of course, inter-related, in that objects and activities initially available only to the wealthier members of the community come to be thought of as socially desirable by lower social groups. This type of downward diffusion, however, is by no means the only form of diffusion process.

These differences in consumption, manners, dress and so on give rise to different status groups, which are social groups whose members see themselves as equals, with common understandings, attitudes and behaviour, and who regard outsiders as social superiors or inferiors. There is thus a hierarchy of status groups, which is related to, but not identical with, the class hierarchy.⁷ This means that in a class society the stratificational structure is very complex, since objective factors, such as income, and subjective factors, such as status evaluation associated with, for example, consumption patterns, are

inter-related and combined in a very complicated way. Moreover, in a society of this type, class boundaries and barriers are relatively fluid and flexible, and a relatively large amount of social mobility is possible, both up and down the social scale. There are also a relatively large number of anomolous individuals, and others whom it is difficult to place with any degree of assurance in a particular social class. There are those who, while objectively members of a particular class, assume, or attempt to assume, the status characteristics of another, usually higher, class. This anticipatory socialisation (when an individual takes as his reference group a status group to which he does not belong) is particularly important from a linguistic point of view.

In this kind of society, therefore, a study of the correlation of linguistic and sociological phenomena is much more complex and difficult than in, say, a caste society. The different social groups in a caste society are, relatively speaking, discrete units, there is little social mobility, and it is a relatively small distortion of the facts to discuss each caste dialect as a separate entity, in which contextual factors are the only relevant sociological parameters determining linguistic variation. This is just not possible in a class society, although some linguists (see Chapter Three) have attempted it. For a linguistic study of any large community within a class society to be in any way significant the class

continuum must be objectively measured against the linguistic continuum, and vice versa.⁸

It is, of course, an open question to what extent the "class continuum" (and correspondingly the "linguistic continuum") is, in fact, a continuum. We have already stated above that, in a class society, there is a relatively large amount of flexibility and social mobility. However, at least one fairly large barrier seems to remain. This is the gap between what are usually referred to as the "middle classes" and the "working classes", a distinction which is usually but not entirely related to the distinction between those working in respectively non-manual and manual occupations. It has been shown, for example, that, in Britain, opportunities for upward social mobility by working class people is relatively restricted,⁹ and that their access to higher education is also limited.¹⁰ It has, moreover, been shown that even the most affluent manual workers retain the values, ideas, behaviour patterns and general culture of the working class, and that there has been little "embourgeoisement" of the British working class.¹¹ This suggests that occupation is in fact the main stratifying factor in our society, and that differences in wealth and income, although obviously very closely related to occupation, may not be the factors on which social class differentiation are primarily based. This of course relates to the subjective experience of most members of our society, who know that to enquire about a person's

occupation is to enquire about his social position, and that a car-factory worker who earns £2,000 a year has less social status than a bank-clerk who earns much less. This split between "working class" and "middle class" is therefore likely to be a very important factor in a description of the linguistic characteristics of any British urban area,¹² particularly in so far as it acts as a barrier to the spreading of linguistic changes. If the social barrier between the middle and the working classes is a large or significant one, this will be reflected in the extent of the diffusion of various linguistic innovations, and in differing norms of linguistic behaviour generally.¹³

Social class and Linguistic Studies

In linguistic work it has long been realised that language is in many ways a form of social behaviour, and that social factors are as important as geographical factors in determining linguistic variation. For this reason linguists have attempted, in some previous studies, to classify their informants sociologically, in order to relate their speech to their social background. This has been done, in more or less sophisticated ways, in an attempt to avoid making subjective and therefore possibly unreliable and circular judgements of social status. In only a few studies, however, have linguists actually been

successful in achieving any kind of non-linguistic and sociologically satisfactory measurement of their informants' social class position. Among these studies are the surveys which have been carried out in New York City,¹⁴ Detroit,¹⁵ and the North Carolina Piedmont.¹⁶ Labov, for instance, classified his informants by means of a scientifically calculated index based on occupation, income and education. Shuy, Wolfram & Riley based their calculations of social status on occupation, education, and the type of neighbourhood, objectively measured, in which the informant was resident. And Levine & Crockett measured their informants' status using occupation and education as parameters.

There is a large amount of sociological literature on this topic which is both readily available and extremely useful for linguists engaged in this type of work.¹⁷ In spite of this, however, most attempted methods of measuring social class in linguistic studies, apart from the three just mentioned, have been unsatisfactory. One can cite, for example, the work of Kurath & McDavid in the U.S.A.,¹⁸ which was one of the first large-scale attempts to measure social as well as regional variation. This attempt, as described by Kurath,¹⁹ relies on a view of social class which regards class position as being more or less identical with level of educational attainment. This somewhat naïve position (together with the "sampling"

methods used in the survey) has been strongly criticised by Pickford²⁰ for ignoring the great importance of other stratifying factors in American society. This means that the classification of speech forms in the survey as "cultivated", "middle class" and "folk" can be neither objective nor consistent and is therefore of doubtful value. A similar study is that of De Camp (cf. Chapter Three)²¹ whose work is in many ways based on that of Kurath & McDavid. Here again the social classification of informants, which is if anything somewhat less sophisticated than that of Kurath & McDavid, is based only on education. De Camp divides his informants into three educational groups. They consist of people who have, respectively, only elementary education; only secondary education; and some college education. (Informants are also classified according to ethnic group.) Both these studies represent a significant advance on, for example, the work of Orton & Dieth,²² and Sivertsen,²³ who pay very little or no attention to social differentiation. They are, however, still seriously deficient.

Two smaller studies are also worth mentioning at this point for their attempts at assessing and employing social differences. Fischer, in his interesting study of social influences on the choice of a linguistic variant,²⁴ although more concerned with intra-group variation associated with social context, personality and sex, does include

some findings associated with socio-economic status. He does not, however, state which or what kind of measurement of socio-economic status he is using, which detracts from the value of these particular findings. In Britain, contrastive studies of working class and middle class speech have been carried out by Bernstein.²⁵ But in "Language and Social Class",²⁶ for instance, Bernstein makes no kind of attempt to measure objectively the social class position of his informants. Instead, he selects informants from two very widely separated social groups (public school boys and messenger boys) so that this kind of measurement is not necessary. This type of procedure is obviously quite adequate for a small, comparative study of this nature.

The Social Class Index

In order to measure objectively the social class and status characteristics of the Noh sample, an index of social class was devised, and an index score calculated for each informant. In this way, co-variation between linguistic behaviour and social status could be studied accurately, and statements concerning, for example, "working class speech" could be made with a reasonable degree of assurance and reliability.

The advantage of using an index of the kind employed

in this study, rather than some other measurement of social class, is that it provides an objective, standardised and easily calculated indicator of social class which is at the same time reliable and capable of ranking informants in a scale.²⁷ The advantage of using an index constructed specifically for this particular study lies in the fact that "there can be no such thing as a single index of socio-economic status for all purposes of social research in a modern, complex society".²⁸ It is also the case that different geographical areas may require different indices.

The index developed for the purpose of this particular work was a multiple-item index, rather than the simpler and more unreliable type of single-item index used, for instance, by De Camp.²⁹ A multiple-item index, by increasing the number of indicators of social class involved, is a much more refined and reliable means of measuring social class: "several indicators in combination increase the validity of an index".³⁰ It is also possible, with a multiple-item index, for individual indicators to be examined separately for correlations with linguistic behaviour, in order to gauge the relative importance of each one for linguistic variation. Many types of multiple-item indices for measuring social class have been devised by sociologists, and a large amount of work has been done on comparing these indices and assessing their

validity.³¹ The problems of index construction for the purposes of non-sociological work are for this reason not too complex. The six indicators used in compiling this index, moreover, have all been employed previously by sociologists in constructing social class indices, although perhaps not in exactly this combination. It was felt that a six-item index would give a finer stratification of the informants than, for instance, Labov's three-item index. This was thought to be especially necessary since social differentiation is probably much greater in New York City than in Nch, and a more sophisticated index is therefore essential in order to bring out the less obvious but equally important differences which are to be found in Nch.

The six indicators used in constructing the index were: occupation; income; education; housing; locality; and father's occupation. We have already stated that occupation is probably the most important stratifying element in British society. This assumption has the support of sociologists: "occupational position is the best single indicator of social stratificational position in contemporary American society ... this is probably also true in any industrial society".³² It therefore follows that "in contemporary industrial society, the single item most commonly used for social class indices is occupational position".³³ There is a considerable body

of work on the social grading of occupations, which simplifies the task of devising this kind of index.³⁴ In many multiple-item indices the occupation indicator has been weighted relative to the other indicators in the calculation of the final index score, since it has been thought to be of prime importance.³⁵ This was not done, however, in this particular work, since it was considered that weighting was implicitly present in the choice of the next two indicators, income and education. These two indicators are clearly closely correlated with occupation. They are also fairly obviously important stratifying factors in our society, in their own right, and have figured as such in many sociological indices. Housing and locality are less frequently used as indicators of social class, but are obviously of some significance, and by no means rare in indices devised by sociologists.³⁶ They are perhaps not so useful in wider studies, since they tend to be products of differences in the local community, and are therefore likely to vary in the nature and degree of their significance from place to place. They are, however, entirely suitable in a one-area study of this kind. Father's occupation is also clearly of some importance in assessing social class, since one is initially born into the particular social class group which is that of one's parents. This is particularly important from a linguistic point of view, since social mobility is known to have an effect

on linguistic behaviour.³⁷ It is also known that "father's occupation" and class of origin are important factors from a purely sociological point of view.³⁸ By including these last three indicators, housing, locality, and father's occupation, we hope to obtain a more precise subdivision of informants than would otherwise have been possible. We can now proceed to a description of exactly how the index is calculated.

We have already stated that the social class index is composed of six separate indicators. For each of these indicators a six-point scale was developed, and a score ranging from 0 to 5 allotted to each informant. Possible social class index scores therefore ranged from 0 to 30.

Occupation

The six-point scale developed for the calculation of scores for occupation and father's occupation is shown in Table 1. The groups used in the scale are those of the Registrar General's Classification of Occupations, 1966.³⁹ The arrangement of the groups is based on, but not identical with, the arrangement used in certain of the tables in the 1966 Sample Census.⁴⁰ The composition of the groups is as follows: Groups 3 and 4 consist of

professional workers; Groups 1, 2 and 13 of employers and managers; Groups 5 and 6 of other non-manual workers; Groups 8, 9, 12 and 14 of foremen, skilled manual workers, and own account workers; Groups 7, 10 and 15 of personal service, semi-skilled and agricultural workers; and Group 11 of unskilled workers. More detailed explanation of exactly what these terms imply can be found in the Classification.

Married women and widows were rated on their husbands' occupation, and unmarried women on their fathers'. This was done because "with the still limited employment opportunities for women - that is, especially in professional and administrative roles - occupation is not a satisfactory index of social status for women in our society".⁴¹ It also seems clear that the social class position of the bread-winner determines the social class position of the family. However, in those cases where working women had occupational status higher than that of their husband or father, the informant's own occupation was used, since it seemed probable that her higher status would in many ways be recognised as such by society as a whole, and that her linguistic behaviour would accordingly differ from that of her husband or father. School-children, like unmarried women, were ranked according to their father's occupation, both for occupation and for father's occupation. Father's occupation was scored

according to the father's present occupation, or, if he was no longer working, his last occupation.⁴²

Income

The scale for ranking informants according to their income is shown in Table 2. Women and schoolchildren were ranked as for occupation. Information concerning income was obtained by presenting the informant with a card showing the scale illustrated in Table 2, and asking him to state which of the groups A to G he came into. This was done in order to overcome the reluctance which most people feel about discussing their financial circumstances, and in fact no informant refused to give this information. There was, on the other hand, no means of knowing how true the information given was. In two cases, married women did not know how much their husbands earned. In these cases, and in the cases of the schoolchildren, who could not be expected to know the details of their father's income, a reasonable assessment was made based on knowledge of the husband or father's occupation.

Education

The education-index scale is shown in Table 3. The

educational level was in all cases that of the informant. Schoolchildren who had not yet taken any external examinations were given a score of 3, since, as grammar school pupils, they could reasonably be expected to take either O-level or C.S.E. examinations in the future.

Locality

The social status of different localities within a city can to some extent be measured objectively.⁴³ In this work, however, no attempt was made to achieve this kind of measurement. Instead, the different areas investigated in the survey were ranked subjectively - a much quicker and simpler process. This ranking was based on knowledge, acquired during many years' residence in the city, of the status significance of different neighbourhoods. It is likely that this ranking would, to a large extent, be agreed upon by most inhabitants of the city.⁴⁴ The justification for the inclusion of this indicator in the index is that the city neighbourhood in which a person lives is an important component of his social status,⁴⁵ and that neighbourhood can sometimes be the only differentiating feature between two people of otherwise equal status characteristics. The importance of locality is underlined by the well-known fact that a house in a statusful neighbourhood can command a higher price than

an equally good house elsewhere. Details of the ranking of localities are shown in Table 4.

Housing

The housing scale was based on three different parameters: house ownership; age of house; and house type. It was considered, first, that, other things being equal, an owner-occupied house is associated with higher social status than a rented house, and that a house rented from a Local Authority carries less status than one rented privately. Secondly, it was thought that, other things again being equal, the newer the house, the higher the status. The age of each house was measured as "pre-1914", "pre-1939" or "post-war", since the two major wars represent significant gaps in house-building programmes. This means that, because of changes in building styles and materials, houses fall into three main recognisable and relatively discrete groups, with associated status connotations. Thirdly, it was considered that a detached house has higher status than a semi-detached house, which in turn has higher status than a terraced house or a flat, at least in Nch. Each of these three features (ownership, age and type) can easily be ascertained and measured. The matrix combining these three parameters, from which the housing score was read, is shown in Table 3. Only

those scores which are underlined in the Table actually occurred in the sample, partly for obvious reasons.⁴⁶

The informant's scores for each of the six indicators were combined, and the total was taken as his social class index.

The social class characteristics of the sample as a whole, as measured by the index, are shown in Fig. 1. This shows the distribution of informants obtained in the sample by social class level, and demonstrates that the sample adequately represents the whole range of class differences, from the lowest to the highest. This remains true in spite of the fact that both extremes, as one would expect from their proportion in the actual population, are not so well represented as the middle ranges. The graph shows some breaks in the social class continuum, and is suggestive of how the continuum might be broken down into more or less discrete units or classes. Natural breaks which occur around clusters of informants may justify the social class divisions used in subsequent chapters. Figs. 2 and 3 show that an index based on only two or three indicators would have given a much more obscure picture of the social class differences between informants and of the clusters and breaks in the class continuum. Fig. 4, when compared to Fig. 1, shows

that the inclusion of the locality indicator has a significant effect in further stratifying the sample.

Fig. 5 shows the social class characteristics of the sample by age-group. This demonstrates that the sample of schoolchildren, although taken from grammar schools, is not biased towards the higher end of the scale (see Chapter Three). If anything, the reverse is true. It also appears that older informants tend to be, on average, of a lower social class than younger informants, as one would expect from the general social and educational characteristics of the population as a whole.

Some supplementary information is given in Fig. 6, which shows the sex distribution of the adult sample, by age-group. (Age-characteristics of the sample as a whole were given in Chapter Three).

Table 1

Index of Occupation and Father's Occupation

	<u>Index Score</u>
I Groups 3, 4.	5
II Groups 1, 2, 13.	4
III Groups 5, 6.	3
IV Groups 8, 9, 12, 14.	2
V Groups 7, 10, 15.	1
VI Group 11.	0

(General Register Office, Classification of Occupations, 1966).

Table 2Index of Income

				<u>Index Score</u>
G	£2,000 +	}	(annual salary)	5
F	£1,000 - £1,999			4
E	£999-			3
D	£20+	}	(usual weekly wage)	3
C	£15 - £19			2
B	£10 - £14			1
A	£9-			0

Table 3Index of Education

				<u>Index Score</u>
I	Some University or College Education			5
II	A-level or equivalent			4
III	O-level, C.S.E. or equivalent			3
IV	15+	}	Terminal Education Age	2
V	14			1
VI	13-			0

Table 4Index of Locality

	<u>Index Score</u>
I Eaton, except Council Estates, and N.E. Lakenham	5
II Thorpe	4
III S. Lakenham, Eaton Council Estates	3
IV Central Lakenham	2
V Hellesdon	1
VI Westwick	0

Table 5Index of Housing. Index Scores

	<u>Council Rented</u>			<u>Privately Rented</u>			<u>Owner Occupied</u>		
	<u>T/F</u>	<u>S-D</u>	<u>D</u>	<u>T/F</u>	<u>S-D</u>	<u>D</u>	<u>T/F</u>	<u>S-D</u>	<u>D</u>
Pre-1914	0	0	1	<u>0</u>	1	2	<u>1</u>	2	3
Pre-1939	<u>0</u>	<u>1</u>	2	1	<u>2</u>	3	2	<u>3</u>	<u>4</u>
Post-war	<u>1</u>	<u>2</u>	3	2	3	4	3	<u>4</u>	<u>5</u>

T = Terrace
 F = Flat
 S-D = Semi-detached
 D = Detached

Chapter Five: Social Context and the Questionnaire

The co-variation of linguistic and sociological phenomena can be thought of as taking place along two main dimensions. The two dimensions are: (a) the dimension of social differentiation, and the social class, age and sex of the individual; and (b) the dimension of social context, and the social situation in which the individual is involved in social interaction. In Chapter Four we examined the first of these dimensions of co-variation, and discussed the relationship between language and social class. We also demonstrated the methods developed for measuring social class position. In this chapter we shall briefly discuss the relationship between language and social context, and examine ways in which social context can be measured and controlled.

Linguists have always been aware that different styles of language occur in different social contexts, and some theoretical work, such as that of Halliday, McIntosh & Stevens,¹ (see below) has appeared on the subject of stylistic variation. It is still the case, however, that very little work has actually been carried out on comparing the speech of individuals in different social contexts, or on specifying the particular social contexts in which certain forms occur. In this work an attempt has been made, following Labov,² to control social context accurately and to correlate context with linguistic forms. The

purpose of this is: first, to secure accurate statements about the way in which language varies with social context; second, to discover the linguistic norms of the speech community, as they are revealed in the direction of stylistic variation, from informal to formal contexts; and third, to permit an accurate study to be made of the effects of stylistic variation on linguistic change, and of the mechanism of linguistic change as it is revealed in the interplay of stylistic variation with social class and age variation.

Style and Register

The two main dimensions of the co-variation of language and society are reflected in the linguistic terms social dialect, and style and register. Register, as defined by Halliday, McIntosh & Stevens,³ is the term used to cover varieties of a language distinguished according to use, rather than according to user. Registers, moreover, "may be distinguished according to field of discourse, mode of discourse, and style of discourse".⁴ These three features are of course in many ways closely interrelated. Style of discourse represents the second main dimension of linguistic variation, and refers to the relations among participants in a discourse, which is what we are primarily interested in here. If the term style

is employed in this sense, and not, as is often the case, in a wider sense equivalent to register,⁵ it is clear that this dimension, like the first, is capable of a scalar interpretation and treatment. The range of possible social contexts, from the most intimate to the most formal, is a cline,⁶ but one which, in the view of Halliday et al, is "unlikely ever to yield clearly defined, discrete registers".⁷ Labov, however, has demonstrated that it is in fact possible to divide up the stylistic continuum in a useful, if arbitrary and artificial way, and control the social contexts in which different styles occur. This is largely because the New York City study, like the present work, is concerned with phonology, which is more susceptible to this kind of treatment, whereas Halliday, McIntosh & Strevens are interested in the grammatical and lexical properties of different styles and registers. Registers, however, are differentiated primarily by grammar and lexis;⁸ phonology, according to these three authors, is not properly a characteristic of register at all. Labov's stylistic study of phonological features is possible largely because in English, much more so than in most other languages, choice of dialect and accent⁹ is very closely bound up with choice of register,¹⁰ (and phonology is, of course, a characteristic of dialect and accent). Phonology is therefore involved to a considerable extent in stylistic variation, and tends to vary also with

field and mode of discourse. This intimate connection between dialect and register is largely due to the very high prestige of Standard English and its associated (although of course by no means necessarily concomitant) prestige accents, and in particular in Britain to the prestige of the R.P. accent. It should be noted, however, that this connection does not necessarily imply that a speaker selects a particular dialect for a particular situation. Here again the dialect differences, and in particular the phonological differences, are likely to represent a cline, as will be demonstrated in later chapters.

This means, then, that the two main dimensions of the co-variation between language and society are closely inter-related, in that linguistic forms which are associated with higher social groups tend also to be associated with formal social contexts, since Standard English and R.P. forms are felt to be more suitable for formal registers. (This is also true to a certain extent of lower social group speech and informal social contexts.) This is an obvious fact, but one which is not capable of a simple explanation. Any explanation, however, would appear to have to take three main factors into consideration. The first of these, the social prestige and dominance of Standard English and R.P., has already been mentioned

above. Second, part of the explanation would seem to lie in the fact that formal situations are higher class situations. Formal situations normally occur when individuals who are not well acquainted, or who are playing roles of significantly different status, are involved in some form of social interaction. Members of the higher classes, because of their access to higher education, and prestigious occupations, have a wider range of social and occupational contacts. They therefore more frequently experience formal situations, and for this reason, as well as for reasons connected with their actual social prestige, tend to dominate them. The community as a whole regards formal social interaction as typically involving members of the higher classes, and reacts accordingly when in a formal situation.

This reaction, which will naturally vary greatly with the class, age, sex, personality and beliefs of the individual, will be manifested phonologically in some kind of movement towards pronunciations considered standard or correct. Lexically and grammatically it will be signalled by the adoption of a style and register considered appropriate to the occasion. Some individuals, according to their experience, background and education, will be more successful than others in this kind of response. Bernstein has shown, for example, that the elaborated code, which is more appropriate to formal

situations, is not available to children from working-class homes, and that they accordingly have difficulty in adapting to formal (particularly educational) situations.¹¹ Two critics of Bernstein's work, Robinson¹² and Regan,¹³ have shown that working-class children do, after all, have an elaborated code available. It is simply the case that they do not choose to use it, because playing a role in a formal situation is not a familiar experience for them, nor an accepted part of their culture. If they are directed to assume a role in a formal situation, then they can in fact employ an elaborated code.

This fact is closely connected with the third partial explanation for the association of formal contexts and higher class linguistic forms. Formal situations, as we have already stated, usually occur in confrontations between individuals not well known to each other, or of differing role status. In these social contexts, for psychological as well as social reasons, the individual will often choose to attempt to turn the confrontation to his advantage, and to play an impressive, or dominant, or at least non-dominated social role. "Thus, when an individual appears in the presence of others, there will usually be some reason for him to mobilize his activity so that it will convey an impression to others which it is in his interests to convey".¹⁴ (From a linguistic

point of view this is especially true of formal contexts, particularly, it seems, if the individual is not from a working-class background.) For this reason, dominant (that is to say standard, higher class) linguistic forms are selected. (Higher class forms are normally also standard forms, because of the social prestige of the higher classes, and the control they have over the educational institutions and mass communications media.) Later on in this work (see Chapters Eight and Eleven) there is a demonstration of the importance of this connection between formal context and higher class linguistic forms. The complexity of the inter-relationship, however, is also pointed out, and there is a discussion of the extent to which this connection affects and brings about linguistic change.

Social Context and the Interview

It is clear, then, that stylistic variation, including stylistic variation in phonology, is of considerable linguistic importance, particularly from the point of view of linguistic change. The problem is now one of obtaining information on this type of variation, and on the connection between social class and social context in language. Obviously, a fairly formal interview situation is unavoidable

in securing information from a large number of informants in a study of this kind. Labov has shown, however (and much of his methodology has been adopted in the Detroit survey) that the interview situation can be structured so as to ensure that information concerning different contextual styles of speech is obtained, and that all informants are placed in a series of "contexts" which are, relatively speaking, the same for each of them.¹⁵ In this way, accurate information can be obtained on stylistic variation of the type discussed above.

Formal Speech

The structuring of the interview is reflected in the structure of the questionnaire. The questionnaire used in this survey was designed specifically for work in Nch, but the assumptions that underlie its construction are the same as those upon which Labov based his New York City Questionnaire. It was assumed, for example, that the contextual style of speech elicited from the informants in the bulk of the interview would be that style of speech most appropriate to a tape-recorded interview with a stranger. This type of speech is defined as formal speech. Some informants, of course, feel more constrained and inhibited than others, and are therefore more "formal". But the position of this particular style on the style continuum

is the same, relative to the other styles, for all speakers. The formality of the context, too, is relative. There are obviously contexts which are much more formal than this particular type of interview situation, and an attempt is made in certain sections of the questionnaire to increase the formality of the situation, in order to elicit forms which are likely to occur in these contexts (see below). Formal speech is likely to be elicited in response to the questions in sections I, III, V and VIII of the questionnaire (see Appendix). Sections I, III and VIII are included, not only to elicit formal speech, but also to obtain information which is necessary for the survey. Section V is included mainly to elicit formal speech, but also to provide a suitable context for question V.4 (iii) (see below) which is designed to elicit casual speech. This section is also useful in that it provides for a comparison between attitudes to Nch English (section VIII) and attitudes towards Nch itself. Formal speech, as it is elicited in these sections, is easily recognisable as such. Since this work is concerned mainly with phonology, it is, for instance, valuable to have the formality of style signalled by the use of grammatical and lexical features such as the pronoun "one", and the passive voice.

The Reading Passage

Once we have achieved the setting up of one contextual

style within the interview, that of formal speech, it is a relatively easy task to extend the spectrum of contexts in a more formal direction. The object of this is to gain insight into styles that are more formal than formal speech as here defined; to obtain information on a wider range of stylistic variation; and to discover more precisely what are the norms of the speech community. Section IV, which consists of the Reading Passage, is designed to elicit the next most formal style in the interview, which is defined as reading style. Here we attempt, in the context of the interview, to simulate a change along the continuum of style of discourse by switching the mode of discourse.

(Reading aloud from a written text "is a special case of written rather than of spoken language".¹⁶ We have already stated that choice of dialect in Britain is closely bound up with choice of register; the expectation here is that a change of mode will produce a more formal style of pronunciation.) The informant was asked to read the passage, which includes many examples of phonological variables (see Chapter Seven), as naturally as possible, "just like you'd normally say it". The effect of this instruction is probably not very considerable,¹⁷ but the result is to standardise the style for all speakers towards the informal end of the range of possible styles in this context. The actual material and nature of the Reading Passage is also important in this respect: the passage is

written in a colloquial style on an informal topic, and as if spoken by a young man, in order to produce a performance that is as relaxed and natural as possible.

(Here we are making use of the interconnection between style of discourse and field of discourse.) The advantage of standardising in this direction is that it avoids certain characteristics of formal, slow reading style, which would make the results difficult to compare with speech.¹⁸

The Word List

The next stage in the extension of contextual style in a more formal direction is to be found in the responses elicited in Section II, the Word List, which are said to be in word list style. The informants were asked to read aloud, at a normal speed and as naturally as they could, a list of 212 lexical items.¹⁹ This means that, for three or four minutes, the informant's attention is directed at a single item at a time, and at his pronunciation of that particular item. The effect of this is to produce a style of pronunciation more formal than that of the Reading Passage, and thereby to introduce a further degree of sophistication into the examination of contextual styles. In addition to this, the list is designed to provide

information concerning all segments of Nch English, and the phonological variables in particular. The list, moreover, includes all the items in the Reading Passage which contain phonological variables. This makes comparison of individual items in different styles possible, and means that overall scores for the two tests are reasonably comparable. It is also worth noting that a test of this form ensures that a large amount of necessary phonological information can be gathered which one could not otherwise be certain of eliciting during an entirely conversational interview. (This is also true of the Reading Passage.)

The Word List test is of course an artificial one, in that informants are not likely to use their "normal everyday pronunciation" when reading out a list of single words. It should be stressed, however, that we are concerned here to produce a formal (rather than a "normal") style of pronunciation, in order to obtain information about the community's linguistic norms, and to extend the range of stylistic variation studied, and that we are not specifically interested in the pronunciation of individual items in this context, but rather in scores produced for different phonological variables. The Word List method is therefore perfectly adequate for our purposes and there is no need to adopt the more time-consuming "sentence frame" type of question employed, for instance, by Houck.²⁰

Houck believes that, by using this kind of technique, he will obtain "isolated approximations of casual speech",²¹ because the informant's attention is concentrated on obtaining the correct answer, rather than on pronunciation. This would appear, in the absence of evidence to the contrary, to be a rather vain hope, especially in an admittedly linguistic interview. The response, however obtained, is a single item pronounced in isolation (in the presence of a tape-recorder) and is therefore likely to have at least some of the phonological features characteristic of this type of unusual utterance. The only way to obtain examples of casual speech is actually to record speech. It is much more satisfactory to recognise that a list of single items will provide a style of pronunciation much more formal than casual speech and to take advantage of this fact. Houck's intention is also presumably to avoid "spelling pronunciations". It was found in the Noh survey, however, that the effects of this type of pronunciation are minimal, and at the same time interesting and informative. It must be said in favour of Houck's method that in its original use in the English Dialect Survey²² and other similar surveys it serves a definite and useful purpose. The rural dialect survey is concerned to discover what different objects and activities are actually called in different areas of the country, and there is therefore a need to avoid prejudicing the informant towards any particular variant. There is also likely to be a problem of illiteracy

in this type of survey. By extending this technique to a large urban survey, however, and by his excessive pre-occupation with "minimal pairs", Houck appears to have expended a great deal of unnecessary effort, particularly in the development of suitable sentence frames for items like "pud" and "gill". In Nch, on the other hand, a very large amount of information was obtained in a very short period of time, without irritating the informant with such questions as "A little flying creature with feathers is called a _____". A small number of mistakes occurred in the reading of the Word List, naturally enough, but since the total number of items elicited for this test in the survey was almost 13,000, the effects of mistakes was totally negligible.

The Rapid Word List

It was thought possible that differences in scores between the Reading Passage and the Word List might be partially due to speed of utterance, rather than to formality of context. This possibility was checked by the material elicited in Section VI, the Rapid Word List. Informants were asked to read a list of 44 items, and to say aloud 27 others (numerals from 1 to 20, and the days of the week) as quickly as possible, but without being incomprehensible. It was found that scores for this test were not signific-

antly different from scores for the Word List test. It was therefore considered that differences between Reading Passage and Word List scores could be accounted for solely in terms of stylistic variation, and Rapid Word List scores have therefore been treated as word list style.

The Pairs Test

The final stage in the extension of formality of context is contained in Section VII, the Pairs Test. In this test, pairs of items which are often homophonous in Nch English, but not in R.P., (or vice versa), have to be read together. In this way, a maximum amount of attention is focussed on a particular phonological variable, and the expectation is that pronunciations will be produced that are even more formal than those elicited by the Word List test. In a similar test in New York City, Labov found that by contrasting normally homophonous pairs such as dock and dark, a higher number of post-vocalic r's in dark was elicited than in other contexts.²³ (Post-vocalic r is a prestige marker in New York City English). The Nch results, however, are often more complex than this. For instance, the juxtaposition of a normally homophonous pair such as boot:boat [bust] might produce a corrected (towards R.P.) form of boat as [bout]. It might also, however, particularly with lower class speakers, produce instead a

"discorrected" form of boot as [ba:it] (see Chapter Eleven). This test has also been used to investigate the Nch vowel system more accurately, and to study the nature of phonetic differentiation within the system.

Casual Speech

The spectrum of contexts has now been extended as far as possible in the formal direction. The next problem is therefore one of extending the spectrum in the informal direction. It is obvious that, during most of the interview, the informant will be using formal speech, and will not speak to the interviewer as he would to his family or to his friends. How then do we obtain examples of this more natural and typical casual style of speech? Labov has shown that, although it is almost by definition impossible to elicit casual speech of this kind within the context of the interview, it is possible to obtain examples of spontaneous speech. Spontaneous speech is "the counterpart of casual speech which does occur in formal contexts, not in response to the formal situation, but in spite of it".²⁴ It is also possible to tape-record examples of casual speech outside the formal context of the interview. (Spontaneous and casual speech are in effect identical from the point of view of stylistic variation, and will be referred to simply as casual speech in the rest of this

work). Labov has, in addition, set up a schema for the identification of casual speech: he defines a series of contexts where casual speech may occur, and lists a series of channel cues which are characteristic of casual speech. This schema has been adopted with slight modification here.

The contexts where casual speech may occur are as follows:

- 1) Speech outside the context of the formal interview. This can occur before the interview starts, after it has finished, or during the interview in breaks, for instance, for a cup of tea.
- 2) Speech addressed to a third person.
- 3) Speech not in direct response to questions. Many speakers, particularly older informants, digressed considerably from the subject at hand, and were of course encouraged to continue with their reminiscences, stories and favourite topics. In many cases it was therefore possible to dispense altogether with Section V. (There is, incidentally, a slight danger of a bias occurring in the casual speech

material, since older informants tended to provide more examples of this type of speech. This means that speech forms characteristic of older people may be over-represented in the results calculated for casual speech).

- 4) Speech in response to questions in Section III, on EAn dialect words. Most speakers found this section amusing; humorous and nostalgic reminiscences were frequent; and the constraints of the formal interview situation were often forgotten.

- 5) Speech in response to the question "Have you ever been in a situation, recently or some time ago, where you had a good laugh, or something funny or humorous happened to you, or you saw it happen to someone else?" This question, which was adopted from Houck's Leeds questionnaire,²⁵ comes at the end of a series of questions on Nch, and on whether it is possible to enjoy oneself in the city. In this kind of context, most informants found the question quite natural and acceptable, and responded readily with an amusing incident. The in-

formant is under some compulsion to make the story seem amusing, and usually becomes involved in the story-telling; and the comedy of the situation to an extent that overrides the formal constraints of the interview. The result is casual (in fact spontaneous) speech. This question was used rather than Labov's "danger of death" question,²⁶ as most Nch people seemed to have lived rather more peaceful and uneventful lives from this point of view than the inhabitants of New York City. Labov's question was used, however, if the informant was unable to recall any amusing incident. The interviewer was able to use the "danger of death" question most often in connection with war-time experiences, a favourite topic for digressions.

The channel cues involved in the identification of casual speech are "modulations of the voice production which affect speech as a whole".²⁷ The cues are: a change in the tempo of speech; a change in the pitch range; a change in volume; and a change in the rate of breathing (including the occurrence of laughter). These changes "form socially significant signs of a shift towards a

more spontaneous or more casual style of speech".²⁸ When one or more of these channel cues occur in conjunction with one of the five contexts listed above, the utterance which contains them is considered to be casual speech.

Interviews

Of the sixty interviews, fifty were carried out by myself and ten by a second interviewer, Mr. Adrian Hannah. Both he and I have lived most of our lives in Nch, we are the same age, and attended the same school. We were, moreover, both likely to appear to informants as university students, and we both attempted to conduct all the interviews in the same fashion. There are slight phonological differences in our speech, but this seems to have been of no consequence. There appears to be no significant difference between the two sets of interviews with respect to either the degree or the nature of the stylistic variation elicited. This demonstrates the usefulness of a scientifically structured interview procedure which permits objective comparison between one interview and another. Interviews were kept as informal as possible, and most were conducted sitting in armchairs in the informant's living room, with the tape-recorder placed

discreetly on the floor. The informant's family and friends were in most cases encouraged to remain present, if the informant wished them to do so. This increased the possibility of obtaining examples of casual speech of the type mentioned under 2) above.

The Questionnaire

The structure of the questionnaire itself is also designed to put the informant at ease. (The questions themselves were not read out in the form in which they appear on the questionnaire. These were rather guides as to what information the interviewer should obtain, in as informal and conversational way as possible.) The first section of questions keeps the informant on his home ground, as it were, and allows him plenty of scope for anecdotes and descriptions of personal experiences. This section is then followed by the Word List, which, although the longest of the reading tests, is also the simplest, which gives the informant confidence for the later reading tests. Note, moreover, that there is no danger here, because of the length of the list, of the informant's attention being drawn to the phonological variables, as there was with Labov's questionnaire. The relatively relaxing Section III, which is intended

to elicit information concerning knowledge and use of local dialect words, follows the Word List, and allows the informant time to recover before the Reading Passage, Section IV. Then comes another relatively relaxing section, Section V, which contains the questions on Nch itself, and gives the informant a breathing-space before the final reading tests. The Pairs Test comes last of all the reading tests, since in this test attention is drawn, to a certain extent, to the phonological variables. The questions on Nch speech are also placed at the end, since these too are likely to draw attention to particular aspects of the informant's own speech. Finally, Sections IX and X are designed to test the extent to which informants accurately perceive their own speech, and the extent to which they hear themselves using the community's linguistic norms, even when this is not the case. They are also designed to test the extent to which informants are insecure about their own speech, in that they characterise their speech as incorrect. This information will be employed in the chapter on linguistic change (see Chapter Eleven).

**SECTION 6 : LANGUAGE, SOCIAL CLASS
AND SOCIAL CONTEXT**

Chapter Six: The Social Differentiation of a Grammatical Feature

In the last two chapters we have been discussing methods of measuring social class and social context which will permit a study to be made of the relationships that obtain between these sociological parameters and linguistic material. We shall now turn, in this and the following chapter, to a discussion of methods of measuring the linguistic material itself.

The main purpose of this work is to investigate and draw conclusions from phonological material. (The reasons for the selection of phonological rather than grammatical or lexical material will be discussed in the following chapter.) However, the investigation of the co-variation of phonological features with sociological parameters is a complex matter, and some reasonably sophisticated techniques are required for this purpose. Before we begin this investigation, it is useful at this point to give a simple, preliminary demonstration of the fact that it is indeed possible to measure linguistic material and to investigate the co-variation which it undergoes with sociological features. This will be done by taking one non-phonological and easily quantifiable linguistic feature and examining the way in which it correlates with social class, social context, and age-group.

The Present Tense Marker

The non-phonological feature which we will take for this purpose is the form of the third-person singular, non-past tense, non-continuous aspect of the verb in Norwich English, as in "he loves", "she has", "it goes". It is a characteristic of EAn dialects that this particular form for all verbs other than the copula "be"¹ is identical with the form for all other persons in the same paradigm.² That is to say that forms such as "he love", "she have", "it go" are usual. It is likely that this feature was at one time more wide-spread geographically in the South of England than it is at present,³ but it has recently gained some recognition from linguists as a typically EAn feature.⁴ Nelson Francis has stated, for instance, that the lack of the third-person singular marker is standard even for the youngest speakers in certain of the areas of Nfk which he investigated.⁵ This feature is also said to be one of the characteristics of American Negro speech.⁶

In Norwich itself this particular linguistic feature is very common. It appears to have, however, all the characteristics of a linguistic variable: it does not occur consistently in the speech of most individuals; it is not used equally by all speakers; and its incidence varies from verb to verb. This particular aspect of the hetero-

geneity of the speech community can be ascribed to the influence of the Standard Language, through the presence of Standard speakers in the community, the normative influence of the educational institutions, and possibly the mass media, and to the influence of the dialects of those areas adjoining EA which do not have this feature, through diffusion and immigration processes. The hypothesis underlying the work described in this chapter is that the proportion of verb forms without the third-person singular marker in a given amount of speech will show a direct relationship to the social class of the speaker and to the social context. Because of the increasing influence of the Standard Language it is also likely that there will be some kind of relationship with the age-group membership of the speaker.

Method

To test this hypothesis is a relatively simple task, especially when compared to the problem of investigating phonological variation. The method employed for investigating the co-variation of this linguistic variable with sociological factors is as follows. For each informant, in both formal speech (FS) and casual speech (C) styles, a count was taken of the total number of marker-less forms

used, together with the total number of possible marker-less forms, i.e. third-person singular present forms. One complication here is that several verbs, for example, come, give, see, have past tense forms that are identical with non-past forms: "You give it to me yesterday", "I see him last week". In these cases it is often not possible to distinguish between past tense forms and marker-less non-past forms in the third person. Forms of this type were therefore omitted from the calculations.

The next step was to calculate for each group of informants with a particular social class index score (index scores ranged from 3 to 26) a third-person singular present marker score. This score was calculated as the percentage of all third-person singular present tense verb forms which were marker-less.⁷ The higher the score, in other words, the higher the number of non-standard forms. The score in each case is a percentage score for each group as a whole, and not the mean of the percentage scores obtained by each individual in the group.⁸ Results were developed initially for the adult sample only, since the sample of schoolchildren was not drawn by the same method as the rest of the sample. It was therefore thought possible that results for this section of the sample would not be strictly comparable with those obtained for the majority of the informants. To avoid the possibility of

introducing a bias into the figures at this preliminary stage, figures for the under-twenties were not introduced until later.

Scores

The third-person singular present tense marker scores obtained by the adult sample are shown in Fig. 1, for CS, and Fig. 2, for FS. No informant with a social class index of 19 or over had any occurrences of marker-less forms, in either contextual style. These informants do not appear in Figs. 1 or 2. Note also that no relevant forms were recorded in CS for these informants with social class index scores of 10, 14 or 16. A comparison of Figs. 1 and 2 reveals immediately that the hypothesis is at least partly confirmed. Scores for CS are on the whole significantly higher than those for FS, with six groups of informants showing scores of over 90 per cent in CS, and only two in FS. The percentage of marker-less forms, that is to say, falls as the formality of social context increases. This linguistic variable is therefore a significant indicator of social context. The other part of the hypothesis, that this linguistic variable will show correlation with social class, is not so readily demonstrated. There is, it is true, a definite tendency for marker scores, in both styles, to

decrease as social class rises, particularly when one includes the higher class groups not shown on the graphs. This tendency, however, is not a clearly defined one, and there are several somewhat anomalous scores. It is possible to state tentatively that the linguistic variable is involved in co-variation with social class, but it is not possible to state exactly what the nature of this co-variation is. The problem is that, because of the fine social differentiation which we have been employing here, each of the twenty-one cells (or groups of informants with a particular social class index) contains a small number of individuals. The small numbers reduce the reliability of the scores and also mean that any overall social class norms are obscured. The solution is to group the informants into a smaller number of larger social class groups. In this way, overall class differentiation of the linguistic variable will be clearly illustrated, and the linguistic norms and linguistic behaviour of the different social classes will be more plainly revealed.

Social Class Groups

The next problem is therefore one of splitting up the class continuum which we have obtained by means of the social class index into larger, more discrete groups which are relatively unified in their linguistic behaviour, and

which reflect the class structure of society as a whole. There is no reason, incidentally, why a particular class grouping should be relevant for all linguistic variables, since different variables will have differing degrees of social significance, and will also be capable of reflecting breaks in the class continuum at differing points. For the purposes of the linguistic variable in question here, however, the first step is to look for clusters of scores, or for breaks in the continuum of scores which may well reflect breaks in the social class continuum itself, and to make tentative class divisions at these points.

An obvious first move in this direction is to group together all those informants with social class scores of 19 or over, who have 0 per cent marker-less forms in both FS and CS. This, the highest social class group, will be called Class I.

If we now look at Fig. 1, the CS scores, the composition of the second highest group also suggests itself. The CS scores for all the groups shown in Fig. 1 range between 70 and 100 per cent with the exception of the anomalous group with the social class index score of 11 and those groups with index scores of 15 and over. This series of groups has much lower scores, of below 40 per cent.

Fig. 1. % Marker-less forms by class groups - CS, Adults only.

Fig. 2. % Marker-less forms by class groups - FS, Adults only.

Fig. 3. % Marker-less forms by Social Class - Adults only.

There is, moreover, a large break in the continuum between the 100 per cent at index 13 and 33 per cent at 15. We will therefore set up Class II as consisting of all the informants from the four cells 15 to 19. The decision to divide at 15, rather than at 14, for which no CS scores were obtained, is supported by the FS scores (Fig. 2) which show a large drop from 60 per cent to 25 per cent between 14 and 15. FS figures also show that Class II groups have the lowest scores of all the groups (with the exception of the anomalous cell at 12), and that two of these groups have 0 per cent, including the cell at 16, which did not figure in the CS scores.

In the selection of further class groups, CS scores are not especially helpful, since they are not very significantly differentiated. We therefore turn to the FS scores (Fig. 2). Here, what stands out most clearly is the composition of the lowest social class group. Groups 3 - 6 have scores of above 80 per cent, whereas all the other groups have scores of around 70 per cent or below. There is also a significant break in the continuum of scores between 83 per cent at social class index score 6 and 64 per cent at 7. We will therefore set up the lowest class as consisting of the Groups 3 - 6.

There thus remains a so far undifferentiated central series of eight groups, 7 - 14. Within this series, there

is one really significant break in scores, between 71 per cent at 10 and 38 per cent at 11. If we divide here, we have two classes consisting of four cells each: Class III, 11 - 14, with FS scores of over 60 per cent; and Class IV, 7 - 10, with FS scores of 60 per cent or less. This is in fact the only cut which will produce such a satisfactory division. A cut between 11 and 12, for instance, where there is also a large break in scores, produces two classes of differing size with considerable overlap in scores and little significant clustering.

We have thus established five major social class groups whose composition with respect to the social class index is as shown in Table 1.

Table 1

Composition of the Five Classes

<u>Class</u>	<u>Class Index</u>
I	19+
II	15-18
III	11-14
IV	7-10
V	3-6

The relatively sophisticated and comprehensive nature of the social class index means that occupation is by itself

not especially significant with respect to social class composition. It is, however, interesting to illustrate the nature of the five above Classes by listing briefly their main occupational characteristics.⁹ Class I, for example, is a middle-class group of informants consisting mainly of professional people, including school-teachers, managers, employers, bank clerks and insurance workers. Class II is a lower middle-class group consisting almost entirely of non-manual workers and including typists, commercial travellers and office workers. Class III is an upper working-class group of foremen and skilled workers, and a few non-manual workers of low status and working-class background.¹⁰ Class IV is a working-class group consisting entirely of manual workers, while Class V is a lower working-class group consisting mainly of labourers and other unskilled workers.¹¹

Social Class Scores

It is now possible to calculate percentage scores for each of the five Classes as a whole, for both contextual styles of speech, and to investigate the exact nature of the variation exhibited by this particular linguistic feature. The Class scores are illustrated in Fig. 3. This demonstrates extremely clearly that the linguistic variable we are concerned with here is involved in a very

wide range of social class differentiation; that there is a very marked social stratification of this variable, with scores rising progressively from Class I to Class V, and with clearly defined differences in the norms for each Class; and that the variable is also involved in a considerable amount of stylistic variation.

In their everyday speech, lower working-class (LWC) (Class V) speakers use a very high percentage, almost 100 per cent, of marker-less forms. The type "she love" is clearly the norm for this class. For them, moreover, this form is not heavily stigmatised, and has little social significance, since the score for FS is only slightly lower than that for CS (87 per cent as opposed to 97 per cent). The LWC, this suggests, are relatively isolated from the normative influences operating within the speech community. "Middle-class" (MOC) (Class I) speakers, on the other hand, use no marker-less forms, in either contextual style, so that for them this linguistic variable can have no stylistic significance at all. Both upper working-class (UWC) (Class III) and "working-class" (MWC) (Class IV) speakers also use a high percentage of marker-less forms, around 80 per cent, in their everyday speech. These two Classes are mainly distinguished from each other by the much greater awareness that UWC speakers have of the social significance of this variable, so that in a more formal context they use considerably less than half (38 per

cent) the possible number of marker-less forms, whereas the MWC score stays relatively high at 64 per cent.

Lower middle-class (LMC) (Class II) speakers use hardly any marker-less forms in their FS, at 5 per cent, but a fairly considerable and much larger amount, 29 per cent, in their CS.

We can say, therefore, that there is an overall norm for the working-class (LWC, MWC and UWC) of over 70 per cent marker-less forms in everyday speech, and that, while each of the three Classes is clearly differentiated by the use of this variable in their everyday speech, the most striking difference is due to the adjustment made by the UWC in FS. The middle-class (LMC and MMC), on the other hand, use very few marker-less forms, or none at all, in FS, and a relatively small amount, less than 30 per cent, in CS. Use of marker-less forms in CS distinguishes the LMC from the MMC. The very large gap between the UWC and LMC scores of respectively 75 per cent and 29 per cent in CS supports the hypothesis developed in Chapter Four that the biggest class division in modern British society is that which exists between the working and the middle classes. Further support for the great social importance of this division is given by the fact that the two Classes which show the greatest awareness of the social significance of this linguistic variable, that is to say the two Classes which show the greatest amount of stylistic variation between FS and CS, are those two classes which have

greatest cause to be aware of this major social class division, the two "border-line" Classes, the LMC and the UWC. One can propose, as one of the mechanisms behind this phenomenon, the social need for the LMC to dissociate themselves from the working-classes, and the desire of the UWC to acquire some of the attributes of middle-class status.

Fig. 4 now shows that, if we also include the scores for those informants aged nineteen or less, no significant change in the social stratification of this variable occurs. The only change that does occur has the effect of increasing the differentiation between the UWC and the MWC, and slightly decreasing the differentiation between the MWC and LWC. We can therefore conclude that the incorporation of the sample of schoolchildren into the main sample introduces no serious bias into the figures for this linguistic variable.¹²

Age Differentiation

As we mentioned above, a further aspect of the social differentiation of language which is worth exploring here is the possible correlation of this variable with the age-group membership of speakers.¹³ Fig. 5 shows the scores for each ten-year age-group of informants in FS only. (There is not sufficient CS material to permit a similarly differentiated analysis for that contextual style.) It is

Fig. 4. % Marker-less forms by Social Class - full sample.

Fig. 5. % Marker-less forms by age-group - formal speech.

Fig. 6. % Marker-less forms by age-group - formal speech and casual speech.

clear, first of all, that the linguistic variable in question is involved in a considerable amount of age-group variation: scores for different groups range from 37 to 100 per cent. It is striking, moreover, that speakers aged seventy or over use 100 per cent marker-less forms even in FS. For people born around or before the turn of the century, the marker-less form is clearly the norm. This suggests that for the great majority of the population of Nch, the omission or inclusion of the third-person singular present tense marker has become a linguistic variable of social significance, to any great extent,¹⁴ only since the First World War, when people now aged less than seventy were still growing up. One conclusion that can be drawn from this, albeit tentatively, is that the general increase in population movement during the war, and perhaps in particular the contact which men from Nch experienced with speakers from "marker-ful" areas in the armed forces, marked the first stage in the local stigmatisation of marker-lessness.¹⁵ Speakers aged sixty to sixty-nine show the first stages of this stigmatisation in that they have a fairly considerable amount of stylistic variation, falling from a high rate of 92 per cent in CS to a FS score of 78 per cent. There is next a very sharp drop to the scores obtained by younger speakers, starting with the fifty to fifty-nine year-old group, who were, at the most, nine years old at the end of the First

World War. This group has a score of 38 per cent in FS. The drop, however, is considerably less marked for CS. This means that there has been a marked fall in the percentage of marker-less forms characteristic of everyday speech, but there has been an even more marked rise in the stigmatisation of marker-lessness. The scores obtained by all groups of speakers aged between twenty and fifty-nine are very constant, around 40 per cent for FS, and around 70 per cent for CS (see Fig. 6). This suggests that this variable is no longer involved in linguistic change in Noh and that marker-lessness, after undergoing a marked set-back around the time of the First World War, is now holding its own in Noh, and since that time has been functioning as a marker of social class and social context at a reasonably constant level for all age-groups. The continued survival of this linguistic feature is further indicated by the figures for the under-twenty age-group: 58 per cent in FS, and 80 per cent in CS. This rise in scores, however, should not be interpreted as indicating that marker-lessness is again increasing. It rather confirms its status as a stigmatised feature acting, for those members of the population aged under seventy, as a marker of social class and context. The higher scores for the under-twenties can be ascribed to their relative immunity from the normative and stigmatising influences of the speech community, and to the greater amount of group cohesion that exists amongst this age-

group. It is significant, too, that the amount of stylistic variation amongst this age-group is smaller than that amongst the twenty to fifty-nine groups, which further stresses the relative isolation of the under-twenties to normative influences.¹⁶

Added confirmation of the status of the variable as a stigmatised feature which is not in fact increasing among younger speakers can be obtained from a further breakdown of the figures. Table 2 shows the CS scores for younger speakers (forty-nine or younger) and older speakers (fifty or older) in the five Class groups.

Table 2

Per Cent Marker-less Forms by
Two Age-groups and Social Class

<u>Class</u>	<u>10-39</u>	<u>40+</u>
I MMG	0	0
II LMG	33	25
III UMG	77	43
IV MMG	87	89
V LMG	100	95

This shows that older speakers in the two groups most sensitive to this feature, the LMG and the UMG, (and particularly the latter), have lower scores than the younger speakers, but that there are no significant

differences in the other Class groups. This variable therefore has all the characteristics which Labov¹⁷ associates with a "stigmatised language feature" with no associated linguistic change in progress. According to Labov, the different class and age groups in the population will show the following amounts of this type of feature:

	Lower Class	Working Class	Lower Middle Class	Upper Middle Class
Younger	high	higher	higher	low
Older	high	lower	lower	low

In this particular case the configuration is in fact as follows (cf. Table 2):

	LWC	MWC	UWC	LMC	MMC
Younger	high	high	higher	higher	low
Older	high	high	lower	lower	low

The position, in other words, is identical with Labov's schema, if we interpret the LWC and MWC as being equivalent to his "Working Class". Labov's explanation of this configuration is that "the middle-ranking members of lower status groups, such as the upper sections of the

working class, or the lower middle class, will come into broader contact with the prestige forms, and we would expect some weakening of their use of the stigmatised form as they grew older. Thus even a static situation can produce variations from one age group to another".¹⁸ It should be noted, however, that one of the characteristics of this Noh linguistic variable is obscured by the use of a schema like Labov's. This is the linguistic change, the introduction of stigmatisation, which occurred in Noh several decades ago, and which is still reflected in our figures in the scores for speakers aged sixty or over. This linguistic variable is indeed one which has no associated linguistic change in progress, but at the same time it is one which has undergone linguistic change, and can be seen to have undergone change. This pattern, with elderly speakers having much higher scores than middle-aged speakers, is repeated several times in the case of phonological variables, and indicates both the relative immunity of older speakers to standardisation, and a sudden increase in the influence of standard forms since 1918.

Finally, Fig. 6 shows that the average Noh speaker, of whatever age-group, uses at least 70 per cent markerless forms in everyday speech, (with the youngest and oldest speakers, as we have seen, using rather more than this); and that the greatest amount of age-group differ-

entiation occurs in FS, because of the large amount of stylistic variation exhibited by the twenty to fifty-nine year-old groups. It would appear that, just as the UWC and the LMC are the classes most aware of the social significance of this variable, the middle age-group, as Labov has suggested,¹⁹ are the most aware, because of their experience and occupational contacts, of the inappropriateness of marker-less forms to formal contexts and of their general social stigmatisation.

It has thus been demonstrated that it is possible to measure linguistic material sufficiently well to permit an examination to be carried out of the social class and age variation that occurs in language. The particular linguistic variable on which an examination of this type has been carried out in this chapter has emerged as a significant marker of social class. It is also involved in stylistic variation, and is, at least subconsciously, recognised by the speech community as a stigmatised feature. The linguistic variable was also involved in linguistic change, at about the time of the First World War, when stigmatisation and the influence of the Standard Language first became apparent, but appears to be no longer involved in this type of change.

Chapter Seven: The Phonological Variables

We have already stated in preceding chapters that the main purpose of this work is to investigate and draw conclusions from the co-variation of sociological parameters with phonological material. It could, however, be argued that lexical and grammatical material might have provided more profitable objects of study for this kind of work. There are two main counter-arguments to this point of view. The first is that the speech of Nch is an urban variety of English spoken less than 110 miles from London in what is, at least linguistically, the South of England. This means that lexical and grammatical deviations from Standard English are not particularly numerous or especially great. This in turn means that the amount of grammatical and lexical variation found in Nch, although in some ways considerable, is not an especially worthwhile target for investigation, and presumably of much less linguistic interest than corresponding variation in cities, say, in the North of England. This is not to claim that a large amount of work of some interest could not be carried out in this field in Nch, but merely to stress that phonology itself offers a more useful sphere for investigation. The second argument is that phonological features cannot be consciously suppressed by informants nearly so readily as grammatical and, particularly, lexical features. Naturally, informants can attempt to alter their pronunciation during the course of a linguistic

interview, and usually do. (This alteration or distortion is itself of considerable linguistic interest.) They cannot, however, refrain from using a particular phonological unit altogether. A stigmatised lexical item, on the other hand, can quite easily be suppressed during the course of the interview.¹ Phonological units, moreover, are of much higher frequency of occurrence in speech than most grammatical and lexical features, and are for this reason alone a more suitable field of study. There is also the possibility with phonological material of relating variation in one unit to that in other units in the same system, and of measuring the degree of variation along some form of (phonetic) linear scale. These possibilities do not present themselves in the case of non-phonological material. Phonological material, in other words, is more readily quantifiable.

The linguistic variables dealt with in the rest of this work, therefore, will be phonological variables. A phonological variable can be defined as a phonological unit which is involved in co-variation with sociological parameters or with other linguistic variables. Note especially that there is no necessary connection between the term "phonological variable" and the term "phoneme". A phonological variable can rather be thought of as embracing the pronunciation of a particular segment in a particular class or group of lexical items, and may

incorporate more than one phoneme, or be employed to investigate possible phonemic contrasts. These lexical classes will be left undefined, but a few examples, together with comparisons with R.P. and some historical notes, will leave no doubt as to what items are involved.

Before we go on to list and describe the various phonological variables, it will be useful to describe briefly the most salient features of Nch, Nfk and EAn phonology generally, so that the Nch phonological variables can be seen as part of a complex but coherent system, rather than in isolation.

Norwich Phonology

The pronunciation of EAn English is clearly that of a variety of the English of the South, rather than the North, of England. This is to say, for example, that [ʌ] or some variation of this vowel occurs in items such as cup, hut, rather than [ʊ], and that a distinction is made between items from the lexical classes of put and putt. It also means that a long vowel [a:], or some variant of this, occurs before [f], [θ] and [s], as well as in items such as chance, dance, plant, rather than a short vowel [a]. EAn speech also clearly belongs to the South-East rather than to the South-West or South Central England. Post-vocalic /r/, for example, does not occur in items such as cart, port, beard, fur.²

This brief characterisation of EAn phonology leaves

it undifferentiated, as yet, from the accents of the Home Counties. EAn speech, however, and particularly that of Nfk and East Suffolk, is quite strikingly different from that of the counties nearer to London. What, then, are the differences? We can first of all give some idea of the distinctive characteristics by listing some of the points at which the phonology of Nch English differs from that of the Home Counties and from R.P. (We can subsequently outline some of the points at which Nch speech differs from that of rural EA.) The following is a short list.

1. Reflexes of ME $\bar{o}$ and ME ou are kept distinct in Nch English, as /u:/ and /au/. (Under ME ou we must include late ME ou from $\bar{o} + i$, but not, necessarily, late ME ou from OE $\bar{o} + h(t)$, where Nch generally follows R.P.) This means that, in contrast to Home Counties speech and R.P., Nch distinguishes pairs of items such as the following:

moan	:	mown
sole	:	soul
nose	:	knows
toe	:	tow

Items in the first column are pronounced with a [Ua ~ u: ~ us] vowel, those in the second column with [au ~ Eu ~ ou]. Final

unstressed open syllables generally have /u:/ whatever their source, as in billow, window, follow. The item no has /Au/ as the negative particle, /u:/ as the adverb: e.g. "No, that's no good" [nAu ðas nUu gUd].

2. Reflexes of ME $\bar{o}$ have two alternative pronunciations. Some items, such as do, loose, soon, who, have [u: ~ əu ~ əu ~ ʒu] = /u:/ in the speech of all non-R.P. speakers. Others, such as boot, moon, fool, can have either /u/ or /u:/. This means that in many varieties of Nch speech pairs such as the following are homophonous:

boot	:	boat
moon	:	moan
soup	:	soap
tomb	:	tome

3. Items such as tune, news, music, queue, which have [ju: ~ jū:] in R.P. have no palatal glide in Nch,³ and are pronounced with a vowel identical with the /u:/ described above. This means that in many varieties of Nch English pairs such as the following are homophonous:

Hugh	:	who
cute	:	coot
mute	:	moot
Bute	:	boot

Items such as sure are pronounced with /3:/, which means that pairs such as the following are homophonous:

pure	:	purrr
cure	:	cur
surely	:	Shirley

Note that /j/ is generally retained in use, owe, value⁴ (but not curlew).

4. In some varieties of Nch English, items such as boat, sole, which are listed under 1. with /u:/, are subject to shortening, to /U/. This means, for example, that items such as road and hood are perfect rhymes. This "EAn short o" would appear to be linked historically to the perhaps more widely known "New England short o", with which it seems to have many characteristics in common.⁵ Both features, for instance, appear to be recessive, and vary widely in their incidence from word to word, context to context, and speaker to speaker.⁶ Neither of them, moreover, occurs

in final open syllables, as in go. The New England short o, on the other hand, contrasts with the vowel of put, pull, whereas the EAn short o does not. The EAn shortening, moreover, also occurs, (to a limited extent only in Nch), with the /u:/ items listed under 2., such as boot, spoon. This is usual in the context — /f/, as in hoof, roof, proof, and is common in the context — /m/, as in room, broom, where /U/ alternates with /u:/ and /u:/.

It should be clear from the above that a complex system of phonological contrasts involving /u:/, /u:/, /U/, and /au/ operates in Nch English, (especially when correction towards R.P. and hyper-correction are also taken into account), which distinguishes it both from R.P. and from Home Counties speech. It should also be clear that the latter two varieties have only a three-way system of phonological contrasts at this point, compared to the four-way Nch system outlined above.

5. Items such as here and there, which are

distinguished in R.P. and Home Counties speech as /ɪə/ and /eə/ respectively, are generally not distinguished in Nch.⁸ This means that pairs such as the following are homophonous:

fear	:	fair
here	:	hair
beer	:	bare

These items are pronounced with a vowel of the type [e:~ɛ:], with the possibility of a schwa off-glide.⁹

At a lower phonetic level there are very many other differences that could be mentioned. Notable are: the hyperlength of stressed long vowels, and the corresponding reduction and disappearance of unstressed vowels: e.g. thirty-two [ˈθɜ:ɪ:zɪtʃtu]; the tendency to centralisation of short vowels; the marked nucleus-glide differentiation of the diphthongs, with second elements approaching [ɪ] and [ʊ] rather than [ɪ ~ ʊ] and [ʊ ~ ɪ], e.g. day [dɛɪ̯.ɪ]; the very front [a:] vowel in after, cart; and the unrounded nature of the vowel in hot, top.

East Anglian Phonology

The speech of Nch differs in some interesting ways from that of rural IA as a whole.¹⁰ To complete this brief

characterisation of EA phonology, we shall list some of these differences below. Information on the rural speech of EA has been taken from three main sources:¹¹ KÖkeritz's study of the Suffolk dialect, for which field-work was carried out between 1926 and 1930;¹² Lowman's records of field-work carried out in Nfk and Suffolk in 1936 for the Linguistic Atlas of the Eastern United States;¹³ and the records so far published by the Survey of English Dialects (SED) for Nfk, Suffolk and Essex,¹⁴ and the as yet unpublished field-records of work carried out for the SED by W. Nelson Francis in three Nfk localities. SED work was carried out between 1956-57 for Nfk, 1958-59 for Suffolk, and 1952-62 for Essex. Map 1 shows the various localities investigated by the various surveys. Most of the features typical of rural speech listed below are also found to a limited extent in the speech of some, mostly elderly, people in Nch.

1. Of the Nch characteristics listed above, the distinction /u:/-/au/ appears to be or have been usual throughout Nfk, in most of Suffolk, and probably also in Essex, although the phonetic nature of the distinction is not in all cases the same.

(i) KÖkeritz has [v:] (= [U:]) in
alone, coal, clothes, loaves,
soap, toe, etc., and [au ~ vu ~ ou]

in blow, crow, grow, know,
though, etc. Items such as
bought, thought, which gener-
ally have /ɔ:/ in Nch, as in
R.P., also always have /Au/ in
this dialect.¹⁵

- (ii) Lowman's records also show a
clear distinction for all three
Nfk and four Suffolk localities.
He writes, for example:¹⁶

Necton	<u>clothes</u>	ɔ.ɔ	<u>though</u>	(ɔθ)
Stiffkey	<u>clothes</u>	ɔ.ɔ	<u>growing</u>	(ɔu)
S. Walsham	<u>clothes</u>	o	<u>low</u>	lau
Ilketshall	<u>clothes</u>	ɔ.ɔ	<u>though</u>	(ɔθ)
Martlesham	<u>clothes</u>	ɔ.	<u>growing</u>	ɔu
Honington	<u>clothes</u>	ɔ.	<u>though</u>	θ
Buxhall	<u>clothes</u>	ɔ.ɔ	<u>though</u>	Au

Some localities have a closer vowel,
in some items, of the Nch /u:/ type:
e.g. go [gʊ].

- (iii) The position, twenty years later,
as portrayed by the SED material,
is less clear. In the published
material, all the Nfk localities
have an [Au] type vowel in now,
colt, or colts-foot, and /u:/ as
[ou ~ oU ~ o:U etc.] in load,

unload, over or foal. None of the Suffolk or Essex localities, however, appears to have preserved the distinction, except that some Suffolk localities have a high vowel [ɒ: ~ ɔU] in foal, as opposed to [ɔU] in all other cases. It can therefore be assumed, in the absence of further evidence, that the EAn /u:/-/ɔU/ distinction has been lost, or almost so, in Essex and in most of Suffolk,¹⁷ and now survives mainly in Nfk, including Nch. The amount of phonetic differentiation would appear to be greater in Nch than in the rural areas, since Lowman writes [o:³ ~ o⁴] and Francis [ou ~ oU] for Nch [Uu ~ y:], although some examples of higher vowels do occur. For instance, Francis writes road, and toad with [y:] in Grimston, and coal with [y:] in Lucham. Under Lucham he writes: "ME $\bar{o}$ > [ou], not as high as Cardinal [u] usually ... This is a feature of the lower-class dialect of Norwich, where ME $\bar{o}$ is commonly [y:]." Under Ashwellthorpe

he writes: "ME $\bar{o}$ > [ou] but sometimes very high [o:] or even [u:]."¹⁸

2. In rural EA, reflexes of ME $\bar{o}$, generally speaking, occur with /u:/ or /U/, and only rarely with /u:/. Forms with /U/ appear to be particularly common in Suffolk.

(1) In Kokeritz, reflexes of ME $\bar{o}$ are most commonly written with the sign [u:], which appears, from his description, to be a close rounded front or central vowel approaching [u:], with a certain amount of diphthongisation. A number of items of this type also occur with /U/, which is much more frequent than in Noh, and probably than in Nfk as a whole. Some items also occur with some type of R.P.-imitative /u:/. Kokeritz comments: "The children use [u:] ... and also a kind of hyper-correct rising diphthong [ɔu:] in moon and soon ... I have heard the St. Eng. vowel [u:] for instance in boot, do, food ..." ¹⁹ Also noteworthy are a number of items with /A/,

such as broom, roof, spoon. The shortening [u:] > [u] appears to have been much more widely applied in Suffolk than in those varieties of English from which R.P. is descended, and these forms can be accounted for by this development having occurred, in these items, before the sound-change [u] > [ʌ], (as in R.P. blood, flood, etc.). The merger of boot and boat items, as in Nch, would appear not to have taken place, as the few instances of the R.P. /u:/ in boot, contrast, if only minimally, with the [U:] in boat. The small amount of phonetic distinction, however, would suggest that the merger is imminent. This is confirmed by Lowman's records. KÖkeritz does mention, moreover, a diphthongised variant of [U:] with a first element "equivalent to short [o:]", which would make for a merger with the [öu:] diphthong of the children mentioned above. (The Nch merger, this suggests, is due to the influence of R.P. forms, in the case

of boot items, and a closer vowel than elsewhere in EA in boat items.)

Examples from Kōkeritz include:

- a) /U/ : bloom, hoof, root, tooth
- b) /u:/ : fool, loose, shoe
- c) /U ~ ʌ/ : broom, roof
- d) /u:/ ~ U/ : noon, soon, afternoon
- e) /u:/ ~ u:/ : cool, do, food, moon, school
- f) /u:/ ~ u:/ ~ U/ : shoot, boot, goose
- g) /u:/ ~ U ~ ʌ/ : spoon

- (ii) Lowman's records show a position very similar to that illustrated by Kōkeritz: /u:/, /U/, /ʌ/ and /u:/ all occur. /u:/ is written as [ʊ^u ~ (e^u)] in Nfk, [ʊ^u ~ Iu] in Suffolk. /u:/ is generally written [o.], a clear indication of at least a partial merger with boat items, which are also written in this way (see above),²⁰ although /u:/ forms are not especially common for this lexical class, and some items have [U.] which is not so frequent with boat items. The merger appears to be more frequent in Nfk than in Suffolk, and more frequent in East than in West Suffolk; /u:/ forms are most common in West Norfolk, where

they may be the result of Midlands as well as R.P. influence. Otherwise the tendency is to /u:/ in North and East Nfk, /U/ in Suffolk and South Nfk.²¹ Some items, such as two, have /u:/ throughout.

- (111) The SED records show a similar alternation between /u:/, /u:/ and /U/ forms, although /u:/ forms seem to be on the increase. For example, stool, which has only /u:/ in Kõkeritz, has only /u:/ in Suffolk and South Nfk here (see Map 2). Map 2 shows the distribution of forms for broom, root and stool. Generally speaking, /u:/ forms occur in North Nfk, /U/ in South Nfk and Suffolk, and /u:/ in West Nfk, but sporadic /u:/ forms (mostly in stool) occur in all but two of the Nfk and Suffolk localities.
- The position with respect to the boat : boot merger is not clear. Francis writes [ou ~ oU] for Nch /u:/ in boat, (occasionally [u:]), whereas boot items, when they do not have /u:/ or /U/, are written

MAP 2 : ROOT ; BROOM ; STOOL

From S.E.D.

/t:/	•
/u:/	○
/u/	x
No Response	-

[Uu ~ au ~ U: ~ u:].²² There is thus no evidence of a complete merger in Nfk. (We can expect none from the Suffolk localities, as here the /u:/-/au/ distinction appears to be lost - see above.)²³

3. (i) The absence of the palatal glide [j] in tune, music, etc. and the merger of who : Hugh etc. as /hu:/ appears to be universal in the areas studied by KÖkeritz, who states: "The Suff. dialect has levelled ME $\bar{o}$ with ME eu, the common sound being [u:]".²⁴ He points out, in addition, that this is also true of Nfk and Essex.²⁵
- (ii) The same state of affairs emerges from Lowman's records for the whole of Nfk and Suffolk. He writes, for example:

	<u>two</u>	<u>music</u>
Ne.	'y ^u	y ^u
St.	'y ^u	y ^u
S.W.	(sə'u)	(sə'u)
Il.	y ^u .u ^u	'y ^u
Ma.	'y ^u	'I ^u
Ho.	'I ^u	I ^u
Bu.	'I ^u	I ^u

(The forms from Martlesham may indicate a distinction.)²⁶

- (iii) In Francis' records we find the same picture confirmed in responses such as: knew [ne·]; huge [hju·ɔ̄].

4. We have already seen above that the EAn short ɔ̄, as it affects reflexes of ME ȝ, is more prevalent in the rural dialects of EA, and especially in Suffolk, than in Nch. This is also true, and to a larger degree, of reflexes of ME ȝ.

- (i) Kōkeritz lists, amongst others, the following items with /U/, and indicates that the vowel in these words is identical with that in pull, hood, etc.:

beast, boat, bone, choke,
cloak, clover, coach, coast,
coat, don't, folk, goat,
hole, home, hone, load,
loaf, meat, most, oak, oath,
oats, over, peach, pole,
post, road, rope, smoke,
stone, toad, whole, wholly.

- (ii) Lowman's records also show a large number of examples of the short ɔ̄, and in fact the short vowel [U ~ ʊ ~ ʊ̄]

etc. seems to be more common than the long [ɔː ~ ʊ]. Examples like stone [ston] make it clear that the short ɔ does not in all cases, (usually in Nfk), represent a merger with the vowel of pull, hood (which always have [U]) as is the case in Suffolk and present-day Nch. In the records we find the following examples:

/U/ in all localities - froze,
posts, comb, bone, oats,
whole, home.

/u:/ in all localities -
clothes, pole, oal, road,
goal.

/U ~ u:/ - boat (in one locality shown as "quick" vs. "slow"), stone, yolk,
poached, hotel, ghosts,
don't, won't, woke, wrote,
over, toad (/U/ in Suffolk,
/u:/ in Nfk).

- (iii) In so far as it is possible to estimate, the proportion of short ɔ's seems to have decreased by the 1950's. In the published SED material, for instance, comb has short [ɔ] in three Nfk localities and [U] in one Nfk and

two Suffolk localities. All the others, however, have a long vowel, except for one Suffolk locality which has [ʌ].²⁷ In the unpublished material, yolk, toad, oak, loaf, don't, all of which had the short o in the pre-war records, have only the long vowel. The long vowel also occurs in toes and spoke, while stone, road, both, broke have both variants. Whole has only [o]. In his notes, Francis mentions shortened forms at Blickling, Ludham, Ashwellthorpe and Grimston, and writes, under Pulham (S. Nfk):

"Evidence of shortened lax forms, apparently much more prevalent in the dialect 50 - 75 years ago, was rather plentiful in the speech of ... the oldest informant; thus [ʌUd, stUn, kUm, spU·k, tʌUt]"

(= road, stone, comb, spoke, throat).

"The prevalence of [ou] in the speech of younger persons seems to be a result of St. E. influence."

5. The tendency to merge /Iə/ and /eə/ appears to

be prevalent throughout EA, but not to be so fully carried out, particularly in Suffolk, as in Nch. The merger would appear to be undergoing a set-back in the South of the region.

- (i) KÖkeritz states: "while the diphthong [Iə] hardly ever occurs as a substitute for St.E. [ɛə], the use of the latter phoneme on the other hand is extended to nearly all the words pronounced with [Iə] in St.E., which consequently exhibit double pronunciations in the Suff. dialect."²⁸ There is thus a tendency to merge these two classes in this area, with a considerable amount of "phonemic overlapping".

- (ii) The following table shows some of the evidence concerning this point from Lowman's records:

	hear	here	ear	beard	queer	there	chair	where	par- ents	care- less
Ne.	ˈeə	ˈeə	ˈeə	eə	ˈeə	ˈeə	ˈiə	eə	ˈeə	eə
St.	ˈeə	ˈeə	ˈeə	ˈeə	ˈeə	ˈeə	ˈiə	eə	eə	ˈeə
S.W.	ˈeə	ˈeə	ˈeə	ˈeə	eə	ˈeə	ˈeə	ˈeə	ˈeə	eə
Il.	ˈIə	ˈeə	eə	ˈeə	eə	ˈeə	Iə	ˈeə	ˈeə	ˈeə
Ma.	Iə	Iə	ˈIə	ˈIə	eə	ˈeə	ˈeə	eə	ˈeə	ˈIə
Ho.	Iə	ˈIə	ˈeə	ˈeə	eə	ˈeə	eə	ˈeə	eə	ˈIə
Bu.	Iə	ˈIə	ˈIə	ˈIə	ˈeə	ˈeə	ˈeə	ˈeə	ˈeə	ˈIə

This suggests that the merger has been completed,²⁹ more or less, in Nfk, with S. Walsham, the nearest point to Nch, having the more open vowel characteristic of the city. The position in Suffolk is not so clear. Ilketshall is perhaps nearest to a complete merger, Buxhall and Martlesham furthest from it, but the position can be interpreted as indicating the type of situation described by Røkeritz, or as suggesting that these localities have two separate phonemes, with an incidence differing from that of R.P. Note that Martlesham also has [ˈeə ~ ˈea] with here, ear, beard, labelled as "older form".³⁰

(iii) In the unpublished SED records we find:

	<u>hear</u>	<u>year</u>	<u>clear</u>	<u>hare</u>	<u>pears</u>	<u>chair</u>
Blickling	ɛːə	ɪə	ɛːə	ɛːə	ɛːə	ɛːə
Ludham	ɛːə	ɪːə		ɛə	ɛːə	ɛː
Ashwellthorpe	ɛːə	ɪːə		ɛːə	ɛːə	ɛːə

The forms for hear and clear suggest a complete merger; the forms for year cast some doubt on this. Francis has stated that he regards

the merger as being usual at least in Ashwellthorpe.³¹

Note that the schwa off-glide is usual in the rural dialects; this is not the case, except with older speakers, in Nch.

The position concerning the above forms is further complicated in the rural dialects by the phenomena discussed under 6. and 7. below.

6. The older rural dialects of Nfk and Suffolk (but not, it seems, of Essex) retain the distinction between ME $\bar{a}$ as [e: ~ e: ~ e·ə] and ME ai as [aI ~ ai ~ eI].

- (1) Kókeritz states that the Suffolk dialect, "as spoken by elderly people, clearly distinguishes between such words as name (pronounced with [e:]) and nail (pronounced with [aI] or [eI]) which in St.E. are pronounced alike".³² He also points out that this distinction, under the influence of R.P. and "Cockney", is dying out, with younger people generalising the [aI ~ eI] or a compromise/R.P.-imitative [eI] to both groups of items.³³

- (ii) In Lowman's records we find some type of [eɪ] for all localities in eight, part, they, way, and some form of [e·ə ~ ə ~ e] in April, paper, lane, apron, bracelet, relations and make. The distinction between the two sets is clear enough. However, in five out of six examples chamber has [eɪ], and Martlesham has [eɪ ~ eɪ] alternating with [e·ə], significantly labelled "older form", in bracelet, relations, make, and apron. A further point that emerges from these records is that a great many of the [e·ə] < ME $\bar{a}$ forms represent a merger with the vowel of here, hair, discussed under 5. above. S. Walsham, for instance, has [e·ə] in both beard and April, and this tendency would also appear to be particularly common in Neeton and Stiffkey.
- (iii) The SED records show many examples of the distinction preserved, but also many more [eɪ] < ME $\bar{a}$ than in the pre-war records. In some cases a distinction appears to be preserved as [eɪ] - [eɪ], as in make, break, take -

pay, tail. Under Latham, Francis writes: "ME $\bar{a}$ = several different variants, perhaps indicative of change = [ɛ ~ o] no longer than half-long with lax high off-glide = forms with [eɪ] may show phonemic shift with reflex of ME ai, ei, which is [eɪ] or [ɛɪ]".

We can say, then, that this distinction is generally on the decline in rural EA.³⁴ The distinction can, it is true, still be heard in Nch, but this is generally in the speech of elderly people, in casual WC speech, or in humorous or facetious conversation. In these cases, the vowel of name etc. generally does not have the schwa off-glide in Nch, so that fierce, face are both [fɛ:s].

7. There are traces, quite substantial in the pre-war records, of a distinction between reflexes of ME $\bar{e}$ as [iɪ ~ i:] and ME $\bar{e}$ as [e: ~ eɪ]. Reflexes of $\bar{e}$ appear in some cases to have fallen in with reflexes of ME $\bar{a}$, and in others to have remained distinct.
 - (1) In the localities studied by Kokeritz, items of this type have either the

[e:] of name or the [i:] of R.P.

see. It is also striking that KÖkeritz records several instances of [e:] derived from ME $\bar{e}$. Thus, deep, for example, has [e: ~ i:],

- (11) Lowman writes a number of reflexes of ME $\bar{e}$ with this vowel. Thus

Neeton has beans as [b·e·ənz].

What is striking here is that this indicates a vowel that is identical with that of the classes here; there; and name, in many cases. Thus, Neeton, in addition to beans [b·e·ənz], has bairns [be·ənz], ear [·e·ə], and relations [rəl·e·ənz]. (This apparently does not apply to the areas studied by KÖkeritz, since [e:] in deep, name, without the schwa off-glide, contrast with here and there items with the off-glide [Iə ~ eə ~ əə].)

Lowman has the [e·ə] vowel in grease in four localities, including all three Nfk localities; in beast in one Nfk locality; in wheat in both Nfk localities which gave this item and in two out of three Suffolk localities, in one of which it is labelled "older form"

and occurs alongside [ˈɪj]. It also occurs in bread in Stiffkey and meat in Necton.

- (iii) Francis states that ME ē and ē̄ have fallen together in Ashwollthorpe, but that informants were aware of older forms with [e:] < ME ē̄ and occasionally used them. The older form of the dialect, he says, appears to have had a three-way contrast:

ME ā > [a: ~ e:¹ ~ e:²]

ME ai > [ɛ: ~ e:¹]

ME ē̄ > [e: ~ e:¹]

There is probably no trace of this feature in Nch, except perhaps in the tendency of some informants to pronounce St. Stephens with [e: ~ e:¹].

8. Some traces of post-vocalic /r/ are found in all three sets of rural dialect records. It is obviously very much a relic form, and tends to occur only in items which have R.P. /ɜ:/. One Nch informant, moreover, consistently had [ɹ] after [ɜ:]. It is not clear whether this, too, is a form of relic pronunciation, or a personal idiosyncrasy.

9. (1) KÖkeritz writes: "The principal modern Suff. equivalents of [L
 ěr, ěr and ůr ... are [a: ~ ʌ ~ ɜ:],
 and the circumstance that the comparatively rare [ɜ:] ... is almost exclusively recorded as an alternative pronunciation of [a:] and [ʌ] warrants the conclusion that [ɜ:] is a late importation from St.E." He shows that [a:] occurs mostly as a reflex of ěr, and [ʌ] mostly as a reflex of ěr, ůr, although this is not consistent. According to KÖkeritz, [a:] occurs with: certain, concern, earn, learn, service, but also with: bird, burn, nurse, work; [ʌ] occurs with bird, church, burst, vorse, turn etc. Under [ʌ] KÖkeritz includes the variants [ʌ ~ ɜ ~ ʌ]. The [a:], however, may equally well represent a shortening of [a:], which is also fairly frequent in items such as partner.
- (11) Lowman's records show a situation that is considerably more complex than KÖkeritz's fairly neat distribution of R.P. /ɜ:/ items over

[ʌ ~ ɜ: ~ a:]. For example, Lowman writes R.P. /ʌ/ items such as up, worry, with some form of [ʌ], but also with some form of [ɜ] or [ɐ]; R.P. /a:/ items, on the other hand, always have some form of [a:], usually [a:] itself, but occasionally modified e.g. [ʌa ~ ʌa:]. R.P. /ɜ:/ items, on the other hand, show a very wide range of variation. The following is a complete list:

	<u>thirteen</u>	<u>thirty</u>	<u>first</u>	<u>Thursday</u>	<u>furthest</u>	<u>hers</u>
No.	ʔ	ɐ	ʌ ~ ɜ: ~ a	ʔ	ʌ	ʔ
St.	ɜ ~ ɐ	ɐ	ʔ ~ ʌ	ʌ ~ ʌ	ʌ	ʔ
S.W.	ʌ	ʌ	ʌ ~ ɜ	ʌ	ʌ	ʌ
Il.	ʌ ~ ʔ	ʔ	ʔ ~ ʌ	ʔ	ʌ	ʔ
Ma.	ʌ ~ ʌ	ʌ	ʌ	ʌ	ʌ	ʌ
Ho.	ʌ	ʌ	ʌ	ʌ	ʌ	ʌ
Bu.	ʔ ~ ʔ	ʔ	ʌ	ʔ ~ ʔ ~ ʌ	ɜ	ʌ

	<u>vermin</u>	<u>learnt</u>	<u>church</u>	<u>nurse</u>	<u>sermon</u>	<u>purpose</u>
No.	ʌ	ʌ	ʔ	ʌ	ʌ	ʔ ~ ʔ
St.	ʌ	ʌ	ɜ	ʌ	ʌ	ʔ
S.W.	ʌ	ʌ	ʌ	ʔ	ʌ	ʔ
Il.	ʌ	ʌ	ʔ	ʔ	ʌ	ʔ
Ma.	ʌ	ʌ	ʌ	ʌ	ʌ	ʌ
Ho.	ʌ	ʌ	ʌ	ʌ ~ ɜ	ʌ ~ ɜ	ɜ ~ ɜ
Bu.	ʌ	ʌ	ʔ ~ ʌ	ʌ ~ ɜ	ʌ ~ ʌ	ʔ

This shows that some items, notably sermon, learnt, vermin, together with thirteen, Thursday, hers in a few

localities, probably have the same vowel as barn, basket, etc. It also shows that some items, notably furthest, together with nurse, church, thirteen, thirty in some localities, probably have the same vowel as up, mug, etc. For the most part, however, there occurs an intermediate vowel of the type [e ~ e^{*} ~ a^{*} ~ ɜ ~ a ~ ɜ^{*}] etc. (The [e] variant seems to be more prevalent in Nfk, the [a^{*} ~ a] variants, as Kökeritz's evidence suggests, in Suffolk.) This, (and other similar phenomena discussed above), poses many problems for a taxonomic phonemic type of phonology, which, together with terms like "phonemic overlapping", "variance analysis", "phonemic indeterminacy" and "compromise phoneme", will be discussed in later chapters.

(111) Francis writes in his Nfk field-notes:

<u>work</u>	[e [*] ~ a [*] ~ ɜ [*]]
<u>Thursday</u>	[e [*] ~ a [*]]
<u>third</u>	[ɜ [*] ~ ɜ [*] ~ ɜ [*]]
<u>thirty</u>	[ɜ [*] ~ ɜ [*] ~ ɜ [*]]
<u>thirteen</u>	[ɜ [*] ~ ɜ [*] ~ ɜ [*]]
<u>thirsty</u>	[e [*] ~ a [*] ~ ɜ [*]]
<u>fern</u>	[ɜ [*] ~ ɜ [*] ~ ɜ [*]]

This reveals an equally large amount

of variation. There appears to be some evidence, although less than in Lowman's records, of a merger of these items with R.P. /a:/ items: thus, Francis also writes [a: ~ ɛ:] in, for instance, darning. In spite of this he states, in the phonetic notes for Ashwellthorpe, that [ɜ ~ ə ~ ɛ ~ e] occur, short and long, in these items, and that these are all apparently allophones which are distinct from [a: ~ ɑ:] < ME ā. In Nch there are fairly frequent traces of this phenomenon, although most, especially younger speakers, have /ɜ:/, which tends to be rather open [ɜ:]. Note that WC speakers tend to have /ɜ:/ also in clerk, Derby.

10. The [a:] in cart, partner is, in the speech of a few older informants, distinct from the vowel of half, path, glass, dance which is [ɛ:]. There are traces of this in all three sets of rural records, but none or very little in Nch.
11. Just as Nch [ɛ:] in here, hair is [ɛ:ə ~ e:ə] etc. in rural areas and with older speakers,

so older rural dialects distinguish poor,
pore / paw as [oə ~ əə] / [ɔ:]. Noh gener-
 ally has [ɔ:] in all cases.

12. We have already seen that /h/ is retained throughout rural EA, including Essex, but that in Noh it is usually lost. Kokeritz states that, in the areas he investigated, only the urban areas of Southwold and Halesworth (1968 populations 2,180 and 2,440 respectively) showed any tendency to "h-dropping".
13. There is a notable tendency for front vowels to be raised in some words: e.g. head, get with [ɪ]; sat, catch with [e]. Kokeritz states that "the substitution of [ɪ] for [e] is extremely common in the Suff. dialect".³⁵
14. R.P. /kw-/ often corresponds to /k-/ or [k̟-] in Nfk and Suffolk rural dialects amongst older speakers: e.g. quarter [k̟ɔ:tə].
15. R.P. /ʃr-/ and /ɛr-/ correspond to /sr-/ and /tr-/ with older speakers: e.g. Lowman has three [tʃɪj] in Necton.
16. /l/ is usually "clear" in all positions:

e.g. hill [hɪl]. This corresponds to Nch
[hɪl ~ ɪl] etc.

17. Final -ed is often /- t/: e.g. hundred
[hʌndɪd].

The Phonological Variables

After this brief description of some features of EAn phonology, we can now proceed to an exposition and discussion of the twenty phonological variables to be used in this investigation of Nch English. The majority of segmental phonological elements in Nch English are involved in variation of some social significance. The variables involved in this study were initially selected from among these on the grounds of:

- (a) the amount of apparent social significance in the pronunciation of the segment or segments involved;
- (b) the amount of phonetic differentiation involved;

and (c) the frequency of occurrence.

This selection was made (and different values allotted to various phonetic realisations - see below) on the basis of:

- (i) native knowledge of the speech of the area;

- (ii) results obtained in a small pilot survey conducted in December 1967;

and (iii) the records made by Kùkeritz, Lowman and Francis (see above).

The consonantal phonological variables are the following: (h), (k), (ng), (p), (r) and (t).³⁶ We have already stated that, in order for this type of study to be significant, the linguistic data must be rendered quantifiable, (just as the sociological data is), and that phonological variables provide a method of achieving this aim. We can first of all illustrate how phonological variables can be used to make linguistic material susceptible to this kind of measurement and thus facilitate the study of co-variation by examining the variable (t).

This variable is concerned with the realisation of /t/ in Noh English where it occurs inter-vocally and finally, as in better, bet, but not where it occurs in stressed syllable initial position, as in tea, return, or where it occurs in the context /n ____/, as in went, wanted. It is a well-known fact that, in many varieties of English, /t/ is realised as a glottal stop in items like better and bet, particularly but by no means exclusively in urban areas. It is not so widely recognised that a second type of glottalised pronunciation, [tʔ], also occurs. Map 3 indicates those areas of England where these two types of pronunciation are found at the level of conservative rural dialects. It will be seen that Nfk is clearly one of the areas in question.³⁷ In most phonetic environments, glottalisation of the precise types described above is a feature of sub-standard (in

England, non-R.P.) type of pronunciation. It was therefore assumed that, in Nch, there would be a correlation of the following type between the social class of the speaker, the social context, and the amount of glottalisation:

- (a) Style FORMAL, class HIGH : glottalisation
LOW.
- (b) Style INFORMAL, class LOW : glottalisation
HIGH.

In investigations concerning the realisations of (t), four phonetically distinct types were distinguished:

- [t^h] (aspirated)
- [t] (unaspirated)
- [tʔ] (glottalised)
- [ʔ] (glottal stop)

On the basis of the assumptions concerning class and style discussed above, these types were then allotted values as follows:

- (t)-1 [t^h t]
- (t)-2 [tʔ]
- (t)-3 [ʔ]

Using these values for the phonological variable (t), each informant can be assigned a (t) index for each contextual style which is obtained by means of the questionnaire. The index, which indicates the extent to which each informant deviates from an idealised R.P. type of pronunciation, is computed in the following way. Each

MAP 3

• = [ʔ] in WATER

x = [tʔ] in WATER

From S.E.D.

MAP 4

• = /h/ in HAMMER

S.E.D. I. 7. 13.

occurrence of the variable in each style is recorded, its value on the above scale noted, and the average score for the style calculated. For example, in VL style, an informant I may have the following types of (t):

3 instances of (t)-1	$3 \times 1 = 3$
3 instances of (t)-2	$3 \times 2 = 6$
6 instances of (t)-3	$6 \times 3 = 18$
<u>Total: 12</u>	<u>27</u>
Average score: $\frac{27}{12} = 2.25$	

From this average score, an index is obtained by subtracting 1 and multiplying by 100. This gives I an index for this style of 125.

This method of computing indices gives a score of 000 for consistent use of (t)-1 and 200 for consistent use of (t)-3. The score of 125 in this case indicates a norm³⁸ for this contextual style nearer to (t)-2 than to (t)-3. (Since, in the case of this variable, medial (t) scores, as in better, may well differ significantly from final (t) scores, as in bet, scores for the two types are also computed separately.)

It is this method of computing indices for individuals, and, subsequently, for groups, which renders the phono-

logical material quantifiable, and which therefore makes this kind of study possible. Much more reliable and significant conclusions can be drawn from the information that informant I has a (t) index of 125 in WL style and an index of, say, 230 in CS than from an impressionistic statement to the effect that the informant uses a higher number of glottal stops in CS than in WL style.

Some phonetic difficulties arise in connection with this variable, in that it is not always possible to determine whether, for example, a final unreleased voiceless stop is glottalised or not. It is difficult, too, to know how to classify ejective [t']. Doubtful cases such as these are omitted from the index calculations.

The Variables (p) and (k)

The variables (p) and (k) are concerned with the pronunciation of /p/ and /k/ respectively in items such as tape, taper; bake, baker. Indices for these two variables are calculated in the same way as for (t), (as are, indeed, indices for all the variables). The values allotted to (p) and (k) correspond to those allotted to (t):

(p)-1	[p ^h p]	(k)-1	[k ^h k]
(p)-2	[p2]	(k)-2	[k2]
(p)-3	[2]	(k)-3	[2]

Note that [p2, t2, k2] imply a pronunciation with simultaneous oral and glottal closure, the oral closure being released inaudibly before the glottal closure. This pronunciation is not identical to that of pre-glottalised stops which occur, for instance, in some types of R.P., where the glottal closure is released before the oral closure.

Since the value scales for (p), (t) and (k) are, in effect, identical in their treatment of glottalisation, these variables can be investigated with respect to their co-variation with each other, as well as with sociological parameters.

The Variable (h)

This variable is the initial consonant of happy, home, etc., and is well-known as a linguistic variable throughout England. In most parts of England, and particularly in urban areas, (h) indices are likely to be in direct and straightforward relation to the education and social class of the speaker. In Nch, however, the position is likely to be more complex. This is because

Neh is surrounded by what is, at least amongst older speakers, an h-pronouncing area even at the level of rural dialects, as Map 4 shows. This suggests that older people in Neh as well as immigrants from the surrounding rural areas are likely to have lower (= more "R.P.-like") (h)-indices than younger people. The value scale for (h) is:

(h)-1	[h]
(h)-2	[Ø]

An index score of (h) 000 therefore indicates a consistent "h-ful" pronunciation. Note that weak forms of items like have, him, which are normally [əv], [əm] etc. in most varieties of English are excluded from the calculations of index scores for (h).

The Variable (ng)

The variable (ng) is the final consonant in walking, running, etc., which is a well-known variable in many parts of the English speaking world.³⁹ The usual non-R.P. pronunciation of the -ing suffix in Neh, and throughout EA, is [ən ~ n] rather than [ɪn]. The value scale is:

(ng)-1	[ŋ]
(ng)-2	[n]

The variable is therefore concerned with the proportion of [n] to [ŋ] found in this suffix in a given body of speech material.

The Variable (r)

The variable (r) is concerned with the phenomenon known as the "intrusive r", and the index measures the proportion of intrusive r's that occur to the possible number of such r's. By "intrusive r" is meant a pronunciation with /r/ where this is not historically "justified", i.e. where the r is not descended from Early Modern English r, and does not occur in the spelling. Intrusive r's occur only where /a:, o:, ɜ:, ɪə, eə, Uə, ə/ or their Nch equivalents occur immediately before another vowel.⁴⁰ Examples from the Nch linguistic interviews include: idea of [vɪdeɪ:ɪəv], law of [lɔ:ɪəv], lot of old ['lɔ:ɪəv], out to eat [aʊtə'eɪt]. The value scale is:

(r)-1 [ɹ]

(r)-2 [ɹ]

in the above specified contexts.

The remaining fourteen phonological variables are concerned with the pronunciation of vowels. They are:

(a), (ā), (a:), (au), (e), (er), (ɛr), (ī), (ir), (o), (ou), (ō), (ū), (yu). The method of handling these variables will necessarily be somewhat more complex than that used in dealing with the variables already described. In the case of the consonantal variables we are dealing simply with the presence or absence of a particular consonant, or with variant pronunciations that are auditorily quite distinct. The index value scales, that is to say, are well motivated. In the case of the vocalic variables, on the other hand, there are no, or very few, auditorily distinct variants. The range of pronunciation of any given vocalic variable is likely, on the contrary, to take the form of a certain undifferentiated area within the vowel trapezium. This means that each variable has a series of infinitely graded realisations that can fall at any point along the appropriate phonetic continuum, which can only be divided up for the purposes of the index value scale in a manner that is rather arbitrary. It also means that there will be, as it were, border-line pronunciations, to which the transcriber will have difficulty in allotting a particular value.

The solution to this problem is to divide up the continuum using Cardinal Vowels and other points of reference as a guide, and to base the number of values for each scale on the amount of phonetic differentiation involved and the number of different types that the transcriber

can perceive without difficulty. Each instance of a variable then has to be allotted a particular value, according to which idealised pronunciation-type it approaches most closely. It is not important, for the purposes of this study, that the continuum is divided up in a relatively arbitrary fashion, since the division is the same for all informants, which is all we require to make the results strictly comparable. (It may, however, obscure details that might be important for other purposes.) It is also, for reasons of comparability, important that the transcriber be consistent in his allocation of border-line cases to particular values. In the present study it is felt with some confidence that this consistency has been achieved. Moreover, any mistakes that do occur are likely to be insignificant in view of the large amount of material involved. We can illustrate the above points by taking as an example the variable (a).

The Variable (a)

The variable (a) is the vowel in bad, cap, matter etc. In Lowman's records we find the following phonetic types in items of this kind: [a ~ ɛa ~ 'a ~ 'a ~ 'a. ~ 'a.^o ~ a^r ~ e ~ e. ~ 'e^d]. Francis' transcriptions are similar, and include the variant [ɛ]. The different Noh variants are mainly differentiated by length, height,

an insuperable problem, and the results are felt in all cases to be as accurate and, more important, as consistent as possible.

In the above value scale, (a)-1 represents the typical short [æ] sound of most varieties of R.P.; (a)-2 represents a sound, typical of many varieties of Nch English, which, although identical or similar in quality, is longer, allowing for phonetic context, than the R.P. vowel.⁴³ Variants (a)-3 to (a)-5 indicate closer and more diphthongised varieties of this vowel.⁴⁴ Index scores, which can in this case range from 000 to 400, are calculated in the same way as the consonantal index scores.

The Variable (ā)

The variable (ā) is the vowel sound in items such as name, nail, day, acre. In his records, Lowman writes items of this kind, where they do not have the monophthongal [e:] -type pronunciation, with: ['eɪ̯ ~ 'æ̯ɪ̯ ~ æ̯ɪ̯ ~ 'æ̯ɪ̯ ~ 'æ̯ɪ̯] etc. Francis has similar transcriptions. It can be seen that there is variation in the quality of both elements of the diphthong, as well as in the quantity of the first element. The value scale for Nch reflects these facts. The different types are:

- (ā)-1 [eɪ̯ ~ eɪ̯]
 (ā)-2 [æ̯ɪ̯ ~ æ̯ɪ̯]

(ā)-3 [æi]
 (ā)-4 [æ:1 ~ æ̃:1 ~ æ̃:1]

To permit investigation of the extent of the survival of the name / nail distinction described above, we also add:

(ā)-5 [ɛ: ~ ɛ̃: ~ ɛ̃:²]

to indicate monophthongal reflexes of ME ā. This type does not enter into (ā) index calculations unless otherwise stated. (ā)-1 is intended to indicate an R.P. type of pronunciation, (ā)-2 a very common NC Nch pronunciation with a more open first element, (ā)-4 the most "extreme" Nch pronunciation with a more open first element and a closer second element, and (ā)-3 a pronunciation intermediate between these two.

The Variable (a:)

The variable (a:) is concerned with the quality of the vowel in after, cart, path, which varies in Nch from (a:)-1 = R.P.-type [ɑ:], through (a:)-2 [ɑ̃: ~ ɑ̃:] to (a:)-3, a very front [a: ~ ɑ̃:]. cf. Lowman's [ɑ-]. The variant (a:)-4 was used to record those items, such as Derby, clerk, which have /ɜ:/ rather than /ɑ:/. It is not included in calculations for this variable in the present work.

The Variable (au)

The variable (au) is the vowel in out, cloud, louder. This vowel may vary somewhat according to phonetic environment. This factor is not taken into account in index calculations, since the large amount of material obtained means that the possibility of a bias being introduced into the results is very small. KÖkeritz, Lowman and Francis vary quite considerably in their transcriptions of this vowel. KÖkeritz has [cū] with occasional variants [eū] and [aU]. Lowman writes [ə(u' ~ əu ~ :au)] etc. most frequently except in Buxhall and Honington, where [ɔ'eu] etc. is most frequent, but both types occur throughout the area. Other variants are [a.U ~ əU ~ əU' ~ :a.U]. This vowel would therefore appear to vary widely both within EA and within each locality. Francis writes [ɛU ~ əu ~ əu' ~ :a.U] etc. in the SED Nfk records, and Ellis writes [cU ~ :U.] etc. in the Suffolk records. The many different types of Nch pronunciation would appear to represent various degrees of compromise between these and R.P. forms. The value scale for (au) is:

- (au)-1 [aU ~ əU]
- (au)-2 [əU ~ əU' ~ əU' ~ :əU]
- (au)-3 [aU ~ əU ~ əU ~ :əU]
- (au)-4 [aU ~ əU ~ :əU]

(au)-2 and (au)-3 are differentiated by the height of the second element of the diphthong, and (au)-3 and (au)-4

by the height of the first element.

The Variable (e)

The variable (e) is the vowel in tell, bell, well, healthy, where /e/ occurs in the context — /l/; and better, metal, where /e/ occurs in the context: [bilabial C] — [ɫ] [V] #, i.e. in stressed penultimate syllables after a bilabial consonant and before /t/ where /t/ is [ɫ] — (not before [t] or [tɫ]). The value scale is as follows:

(e)-1	[e	ɛ]		
(e)-2	[e̠	ɛ̠]		
(e)-3	[e̠̠		ɛ̠̠	ɛ̠̠]

The centralisation of /e/ may also occur in some other contexts, such as — { /v/ , but the details are not clear. Kōkeritz observed a similar tendency in Suffolk in the 1920's and 1930's, where it appears to have taken the form of opening to [e] or [ɛ], and to have occurred in a wider range of environments. He also observed better, for instance, with [ɛ]. Lowman, too, writes twelve [tw ɛlv] in Necton, S. Walsham, Ilketshall and Honington. Francis writes [ɛ̠] in this item. In Nch, the extreme centralisation to [ɛ̠̠] etc. would seem, as a wide-spread feature, to be a recent development (see Chapter Eleven).

The Variables (er) and (ɛr)

The variables (er) and (ɛr) are concerned with the nature of the vowel in items of the classes here and hair respectively. The index value scales are:

(er)-1	(ɛr)-1	[Iə]
(er)-2a	(ɛr)-2a	[eɪ ~ ɛɪ]
(er)-2b	(ɛr)-2b	[əə ~ ɛə]
(er)-3a	(ɛr)-3a	[ɛɪ ~ ɛɪ]
(er)-3b	(ɛr)-3b	[ɛə ~ ɛə]

The common scale means that the amount of differentiation, if any, between the two lexical classes can be measured, and that cases of hypercorrection can be noted. By means of the sub-division 2a-2b, 3a-3b, calculations can be made concerning the schwa off-glide. One can investigate, for example, its frequency of occurrence, and study whether or not it is used to differentiate the two sets of items.

The Variable (ɪ)

The variable (ɪ) is the diphthong in ride, right, rhyme, riper. Comments under (au) concerning vowel quality are also applicable to this variable. Kōkeritz has this diphthong as [ɔɪ ~ ʊɪ ~ ʌɪ] with [əɪ ~ ʒɪ] as variants. Lowman writes [ɛɪ ~ ʊɪ ~ ʌɪ] etc., and Francis [ɛɪ ~ ʌɪ ~ ʌɪ]. The index value scale is:

- (I)-1 [aI ~ ǣI]
 (I)-2 [eI ~ ǣI]
 (I)-3 [eɪ ~ ǣɪ]
 (I)-4 [oɪ ~ ʌɪ]

(I)-2, 3 and 4 are differentiated in the same way as the corresponding values of (au). In this way co-variation, if any, between these two variables can be investigated.

The Variable (ir)

This variable is the vowel in items such as bird, further, fern, i.e. reflexes of ME ēr, ūr and īr, as discussed above. The scale is as follows:

- (ir)-1 [ɜ:]
 (ir)-2 [e:]
 (ir)-3 [a: ~ ʌ]

The Variable (o)

The variable (o) deals with the degree of rounding or unrounding of the vowel in top, cod, box. The unrounding of this vowel appears to be a feature only of Nfk speech within EA. Lowman writes [ɪa ~ ɔ] etc., and Francis [a: ~ a: ~ ɔ].⁴⁵ The value scale for Nch is:

- (o)-1 [ɔ]
 (o)-2 [a ~ ǣ ~ ʌ]

In addition to these two types, we have (o)-3 [ɔ:], which is not, in this work, incorporated in results developed for (o). (o)-3 accounts for those items such as off, frost, cloth, dog which can have /ɔ:/ rather than /ɒ/.

The Variables (ou), (ō) and (ū)

These three variables are the vowels in know, boat and boot items respectively, as discussed above. The common index scale for all three variables means that the amount and nature of the phonetic differentiation of these three lexical sets can be investigated, and hypercorrect pronunciations closely studied. Note that (ū)-4 is not equivalent to (ou)-4 or (ō)-4, but that (ū)-5 is identical with (ou)-4 and (ō)-4. The index value scales are:

(ou)-1	(ō)-1	(ū)-1	[Au ~ ou ~ vu]
(ou)-2	(ō)-2	(ū)-2	[əU ~ əʊ]
(ou)-3	(ō)-3	(ū)-3	[u: ~ ʊ: ~ Uu]
(ou)-4	(ō)-4	(ū)-5	[U ~ ʌ]
		(ū)-4	[u: ~ ʊu ~ ʒu]

(ou)-1, (ō)-1, (ū)-1 represent EAn /Au/; (ou)-2, (ō)-2, (ū)-2 represent R.P. /ou/; (ou)-3, (ō)-3, (ū)-3 represent EAn /u:/; (ū)-4 represents EAn /ʌ/; and (ou)-4, (ō)-4, (ū)-5 represent /U/.

The Variable (yu)

The variable (yu) is the vowel in Hugh, tune, music, and is concerned with the presence or absence of the glide [j]. The scale is:

(yu)-1 [ju: ~ ju:]
 (yu)-2 [u: ~ ʒu]

Note that for all variables, the lowest score 000 represents a consistent idealised R.P. pronunciation; highest scores, ranging from 100 to 400, represent consistent use of the most extreme form of Nch pronunciation.

Index Value Scales of the Phonological Variables

<u>Value</u>	1	2	3	4	5
<u>Variable</u>					
(a)	æ	æ:	æ: ^h	ɛ:	ɛ: ^h
(ā)	eɪ	æɪ	æɪ	æ:ɪ	əɪ
(a:)	a:	ɛ:	a:	ɜ:	
(au)	aʊ	æʊ	æʊ	ɜʊ	
(ə)	ɛ	ɛ	ʌ		
(er)	ɪə	ə:(ə)	ɛ:(ə)		
(ɛr)	ɪə	ə:(ə)	ɛ:(ə)		
(h)	h	-			
(ī)	aɪ	eɪ	eɪ	oɪ	
(ir)	ɜ:	e:	a:		
(k)	k	k ²	ɪ		
(ng)	ŋ	n			
(o)	ɒ	ɑ	o:		
(ou)	ʌʊ	əʊ	u:	ʊ	
(ō)	ʌʊ	əʊ	u:	ʊ	
(p)	p	p ²	ɪ		
(r)	-	ɹ			
(t)	t	t ²	ɪ		
(ū)	ʌʊ	əʊ	u:	u:	ʊ
(yu)	ju:	u:			

Chapter Eight: The Co-Variation of the Phonological Variables with Sociological Parameters

We have stated that one of the chief aims of this work is to investigate the co-variation of phonological and sociological variables. In previous chapters we have developed methods for measuring both types of variable, and this investigation can now, therefore, be carried out: a study can be made of the exact nature of the correlation between phonological and sociological phenomena.

In order to make this kind of measurement of correlation, a record was first taken of each occurrence of all the variables in the four contextual styles for each informant. Index scores for each informant in each style could then be developed, and, subsequently, the mean index score for each social group calculated. By means of these scores we shall be able: (i) to investigate the nature of the correlation between realisations of phonological variables and social class, social context, and sex; (ii) to discover which variables are subject to social class differentiation and which to stylistic variation; and (iii) to find out which variables are most important in signalling the social context of some linguistic interaction, or the social class of a speaker.

The methods we are using of calculating and portray-

ing individual and group phonological indices were initially developed by Labov.¹ In some respects, however, the present work represents a development of Labov's techniques, in that use is made of phonological indices for investigating problems of phonemic contrast, and for studying aspects of what is usually termed "phonological space". (For reasons that will be given later the term "phonetic space" will be preferred in this work.) Some variables are also investigated in this work which do not produce evidence of social and stylistic differentiation that is so clear-cut or conclusive as that discussed by Labov. This increase in complexity means that it is possible to gain some additional insight into the linguistic behaviour of different social groups, and to learn more about the mechanisms of stylistic variation and linguistic change.

We can begin by taking as an example the phonological variable (ng), the pronunciation of the suffix -ing. This is well-known as a variable in many different types of English,² and seems likely to provide a good example of social class and stylistic differentiation. We can tell, by means of information developed for this variable, whether the Nch questionnaire has or has not been successful in eliciting different contextual styles, and whether the social class index has or has not been successful in distinguishing between groups of informants who have significantly different phonological characteristics.

The Variable (ng)

Table I shows the average (ng) index scores for the five social classes established in Chapter Six, in each of the four contextual styles: Word List Style (WLS), Reading Passage Style (RPS), Formal Speech (FS),

Table I(ng) Index Scores by Class and Style

<u>Class</u>	<u>Style:</u>	<u>WLS</u>	<u>RPS</u>	<u>FS</u>	<u>CS</u>
I MMC		000	000	003	031
II LMC		000	010	013	042
III UWC		005	015	074	087
IV MWC		023	044	088	095
V LWC		029	066	098	100

and Casual Speech (CS). Table I demonstrates that:

- (i) the Neh questionnaire has in fact been successful in eliciting four hierarchically ordered and discrete contextual styles, since, for each class, the scores rise consistently from WLS to CS;
- (ii) the social class index has provided a successful basis for the establishment of discrete

social classes as these classes are reflected in their linguistic behaviour, since, for each style, the scores rise consistently from MMC to LWC;

(iii) the method of calculating index scores for phonological variables is a successful one and is likely to be useful in the study of Nch English;

and (iv) the phonological variable (ng) is involved in a considerable amount of social class and contextual variation, with scores ranging over the whole scale from 000 to 100.

The information given in Table I is more clearly portrayed in the diagram Fig. 1. Index scores, from 000 representing consistent use of [n], to 100 representing consistent use of [ŋ], are plotted along the ordinate. The four contextual styles, from WLS, the most formal, to CS, the most informal, are shown along the abscissa. The lines on the graph connect scores obtained by each of the five social classes in the four contextual styles.

The stylistic variation of this variable is portrayed in the consistent downward slope of the lines from right to left across the graph, representing an increase in [ŋ] endings as we move from everyday speech to more

formal styles. The variable (ng), it can be seen, is a very good indicator of social context, with scores ranging, as we have already noted, from 000 (MMC and LMC in WLS; MMC in RPS) to 100 (LWC in CS). Note that stylistic variation is greatest in the case of the UWC, whose range is from 005 to 087, and whose line on the graph consequently has the steepest gradient. We have already discussed (see Chapter Six) the greater awareness the UWC and LMC have of the social significance of linguistic variables, because of the "border-line" nature of their social class position. The linguistic insecurity revealed here in the large amount of UWC stylistic variation for (ng) is clearly part of the same tendency.

The social class differentiation of (ng) is, of course, shown on the graph by the clear separation of the lines connecting the scores for each class, and by the hierarchical ordering of these lines, LWC - MMC. The amount of differentiation can be gauged from the spatial separation of the lines on the graph. Thus the greatest amount of differentiation occurs in FS, where the two MC groups appear to have the ability to control (ng) forms to a level nearer that of the more formal styles, whereas the three WC groups have scores which more closely approach their CS level. Note that in CS, which we can assume to be reasonably representative of normal, everyday speech in familiar social

environments, the three WC groups show only a small amount of differentiation one from the other, 087 - 100. This is also true of the two MC groups, 031 - 042. There is, on the other hand, a very significant difference between the (ng) level of the WC as a whole and that of the MC. This underlines once again the importance of this particular social division in the social structure.

We have shown, then, that the proportion of [n] to [ŋ] suffixes that occurs in speech is a function of the social class of the speaker and of the social context in which he is speaking. Moreover, although (ng) quite clearly differentiates between all five social groups, it is most important in distinguishing MC from WC speakers. UWC speakers have the greatest amount of stylistic variation, and MMC speakers the smallest, although it is instructive to note that even this class uses an average of 31 per cent forms with [n] in CS.

Sex Differentiation of (ng)

Fischer, in his study of this variable in an American locality,³ found that males used a higher percentage of [n] forms than females. Generally speaking, this is also the case in Noh, as Table II shows. In

Fig.1. Variable (ng) by Class and Style

Fig.2. Variable (o) by Class and Style.

Fig.3. Variable (a:) by Class and Style

Table II

(ng) Indices by Class, Style and Sex

<u>Style:</u>		<u>WLS</u>	<u>RPS</u>	<u>FS</u>	<u>CS</u>
<u>Class</u>					
MMC	M	000	000	004	031
	F	000	000	000	000
LMC	M	000	020	027	017
	F	000	000	003	067
UWC	M	000	013	031	095
	F	011	013	068	077
MWC	M	024	043	091	097
	F	020	046	031	038
LWC	M	066	100	100	100
	F	017	054	097	100

seventeen cases out of twenty, male scores are greater than or equal to corresponding female scores. We can therefore say that a high (ng) index is typical of male speakers as well as of WC speakers.

This link between the linguistic characteristics of WC speakers and male speakers is a common one. Almost all the Nch variables have the same kind of pattern as that shown in Table II, with women having lower

index scores than men. This is a fact which is not, on the face of it, particularly surprising, but one that is at the same time in need of some explanation. There would appear to be two interconnected explanatory factors:

1. Women in our society are more status-conscious than men, generally speaking, and are therefore more aware of the social significance of linguistic variables. There are probably three main reasons for this:

- (i) The social position of women in our society is less secure than that of men, and, generally speaking, subordinate to that of men. It is therefore more necessary for women to secure and signal their social status linguistically and in other ways, and they are therefore more aware of the importance of this type of signal.

- (ii) It is very often the mother of a family who transmits social characteristics of the status-

signalling type to children,
both consciously and unconsciously. For this reason, mothers are more aware of the social significance of these characteristics.

(iii) Men in our society can be rated socially by their occupation, their earning power, and perhaps by their other abilities: in other words, by what they do. For the most part, however, this is not possible for women, who have generally to be rated on how they appear. Since they cannot be rated socially by their occupation, by what other people know about what they do in life, other signals of status, including speech, are correspondingly more important. This last point is perhaps the most important.

2. The second, related, factor is that WC speech, like many other aspects of 'C culture, has, in our society, connotations of masculinity, since it is associated with the roughness

and toughness supposedly characteristic of WC life, which are, to a certain extent, considered to be desirable masculine attributes. They are not, on the other hand, considered to be desirable feminine characteristics. On the contrary, refinement and sophistication are much preferred.

This discussion is of course necessarily at a rather simple level, but it is clear that we have reflected in these phonological indices part of the value system of our culture as a whole. From the point of view of linguistic theory, this means that, as far as linguistic change "from below" is concerned, we can expect men to be in the vanguard. Changes "from above", on the other hand, are more likely to be led by women.⁴ The type of sex differentiation shown in Table II is, in any case, usual. Only a reversal of this pattern, or a large increase in the normal type of male / female differentiation can be considered to be significantly unusual in any way.

The Variable (o)

Indices for this variable measure the degree of lip-

rounding in the pronunciation of the vowel in the lexical set top, fog, lorry, etc. Evidence was given in Chapter Seven to suggest that the vowel typical of Nfk rural accents is an unrounded [a ~ a₁]. In Nch we would therefore expect there to be class and style variation of (o) ranging from Nfk [a] to R.P. [ɒ]. Fig. 2 shows that this is in fact the case. The pattern illustrated in this graph is very similar to the one shown in Fig. 1. As in the case of (ng), there is a large amount of class differentiation, with the biggest division again being that between the MC and the WC. The UWC and MWC have very similar scores in all styles. This indicates that unrounded vowels are a predominantly WC feature, but that the LWC is distinguished from the MWC and UWC by a particularly high rate of unrounding. It is a characteristic of the LWC, as we shall have occasion to note again, that it is relatively isolated from normative and innovating tendencies. It is therefore not surprising that this variable appears to be currently involved in linguistic change, with rounded vowels increasing. This topic will be investigated further in Chapter Eleven.

Stylistic variation is also very evident in the case of this variable. This can be seen once again in the fall in scores from right to left across the graph. This fall is quite consistent, except in the case of the LMC, which has a small rise from 006 to 008 between FS

and RPS. The LMC also has the sharpest fall in scores between CS and FS, from 032 to 007. (We have already noted that the MC has the ability, or is sufficiently strongly motivated, to control FS towards RPS level, whereas the WC has the greatest fall in scores between FS and RPS.) MEC speakers have only a very small number of unrounded vowels, and their speech must be considered to be characterised by more or less consistent use of [ʊ]. Most Nch speakers, however, can be said to increase the amount and/or frequency of lip-rounding of this vowel as the formality of style increases.

Sex Differentiation of (o)

It is interesting to compare the sex differentiation of (o) with that of (nɛ). Figures for (o) are given in Table III. The most striking fact shown here is that, although MC men once again have higher scores than women, for the WC this pattern is more or less completely reversed. In ten cases out of twelve, women have higher scores than men. This is the only case of such a complete reversal of the pattern of sex differentiation among all the Nch variables.

This reversal of the pattern cannot be explained as the result of a current "linguistic

change from above", with women in the vanguard, since changes of this type generally involve the socially downward diffusion of prestige features.

Table III

(c) Indices by Class, Style and Sex

<u>Style:</u>		<u>WLS</u>	<u>PPS</u>	<u>FS</u>	<u>CS</u>
<u>Class</u>					
MMC	M	000	000	001	003
	F	000	000	000	000
LMC	M	004	014	011	055
	F	000	002	001	003
UWC	M	011	019	044	060
	F	023	027	068	077
MWC	M	029	026	064	078
	F	025	045	071	066
LWC	M	014	050	080	069
	F	037	062	083	090

There are clearly no overt pressures which would lead to an increase in the use of this particular non-prestige form, and the MC women have in any case lower index scores than men. The reversal must therefore be regarded as the result of a "change from below", with MC men, typically, in

the vanguard. This change must be ascribed either to some kind of internal systematic pressure, for which there is no evidence, or to the diffusion of linguistic influences from [ɐ]-pronouncing areas such as Suffolk, and more especially Ipevich. (Lowman records [bɔg] for bog in the three Nfk localities, and [bɔg] in the four Suffolk localities. The symbol [ɔ] approximates to the IPA alphabet [ɑ].) If this is the case, we have here an interesting example of a change "from below" due to external influence led by WC men, and a possible change "from above" due to R.P. influence led by WC women, working in the same direction. In any case it is clear that a high proportion of unrounded vowels in top, fog, etc., is most typical of WC women in Nch. (See further discussion in Chapter Eleven.)

The Variable (a:)

Indices for this variable measure the vowel quality in items of the lexical set cart, path, etc. Scores range from 000 for consistent use of [a:] to 200 for consistent use of [a:]. Fig. 3 shows the class and style differentiation of (a:) in the Nch sample.

The WC and (a:)

It is immediately apparent from Fig. 3 that the two lowest WC groups, the LWC and HWC, use a very high number of very front vowels in everyday speech - almost 100 per cent. The UWC also has a CS speech index which is only slightly lower. For the WC as a whole, moreover, there is only a small amount of stylistic variation of (a:), especially in the case of the LWC. We can interpret this as indicating that, although WC speech is characterised by a pronunciation of this variable that is significantly different from that of the NC, little attention is directed towards this difference within the Noh speech community. This interpretation is supported by the fact that (a:) was not the subject of overt comment or criticism in any of the discussions of Noh English recorded during the interviews.

It is interesting to speculate as to why some variables, although subject to marked class differentiation, are subject to little or no stylistic variation, while others are involved in a great deal of this type of variation. (It is of course true that there is a small amount

of regular stylistic variation of (a:), but the relative insignificance of this can be gauged from a comparison of Fig. 3 with Figs. 1 and 2.) We initially considered (see Chapter Five) that stylistic variation was a function of class differentiation: members of lower class groups attempt to reproduce forms more characteristic of higher social groups in more formal contexts. Now, then, is it that for some variables speakers are relatively unaware of the social implications of the forms they use?

There would appear to be two explanations:

1. Speakers are more aware of the social significance of forms which are overtly stigmatised: (i) forms which are the object of humour or ridicule, such as (h)-2, and (ii) forms which are actively discouraged by the educational institutions, such as (t)-3.
2. Speakers are more aware of the social significance of forms which are currently involved in linguistic change, or, perhaps, for which an already completed linguistic change is still re-

flected in differential age-group behaviour. The fact that conflicting forms can be heard within the same social group means that attention is directed to these differences.

Forms which do not come into one of these two categories will be much less likely to be involved in stylistic variation. The variable (ng) would appear to come into the first category, the variable (o) into the second. The variable (a:), on the other hand, is subject neither to overt stigmatisation nor to linguistic change in Nch. We could speculate further and at some length as to why some variables are more liable to overt criticism than others. One of the principal reasons, however, would seem to be orthographical: (t)-3, (h)-2 and (ng)-2 can be characterised as "dropping your t's, h's and g's" respectively.

The MC and (a:)

MC scores for (a:) are considerably lower than WC scores, and, once again, the WC/MC division seems from the graph to be the most im-

portant. There is, however, a significant difference between LMC and MMC scores in all styles except CS. It is also interesting to note that there is stylistic variation of some significance in the MMC scores. These speakers are aware of the social significance of (a:). This can be ascribed to their greater familiarity with R.P. forms.

On the basis of these scores we can state that the typical WC pronunciation of (a:) is [a:], the LMC pronunciation [ä:] and the MMC pronunciation [ä:].

The Variable (ir)

This variable is the vowel of bird, hurt, fern, etc. We saw in Chapter Seven that the typical rural EAn pronunciation of (ir) was markedly different from the R.P. pronunciation: forms with [ɜ: ~ a: ~ ʌ] were usual. Fig. 4 shows that this type of pronunciation is now very much of a relic form in Nch, since the highest score of all is 082 out of a possible high of 200. Non-R.P. forms, moreover, are more or less entirely confined to the two lowest social class groups. The two MC groups have 000 throughout, and the UWC has a high of only 003. Note too that even the LWC uses only 10 per cent non-R.P. forms in WLS.

We can conclude, then, that (1r)-2 and (1r)-3 are heavily stigmatised in Nch, and are in the process of dying out in favour of R.P. (1r)-1. Only the LWC uses more than 25 per cent non-R.P. forms in any style, an indication of the social class barriers to the diffusion of normative and innovating influences as they affect this relatively isolated group. (The lack of stylistic variation between CS and FS is quite typical of the LWC, cf. Figs. 1, 2 and 3.) We shall see in Chapter Eleven that only speakers aged forty or over have any trace of non-R.P. forms, but that these predominate among the over-sixties.

The Variable (au)

Index scores for this variable measure the vowel quality of the two elements of the diphthong in out, down, etc. Scores for the different social classes in the different contextual styles are shown in Fig. 5. Class differentiation is quite marked, with the largest distinction again being between the WC as a whole and the MC. Of the three WC groups, the UWC and MWC exhibit similar characteristics, and are both quite widely differentiated from the LWC. The norm for the LWC is the apparently old-fashioned close or centralised [ɔu ~ ɜu] also found in the rural areas of EA. The other WC groups have a norm intermediate between this

Fig. 4. Variable (ir) by Class and Style.

Fig. 5. Variable (au) by Class and Style.

Fig. 6. LMC (au) by Sex and Style; MMC.

(au)-4 and (au)-3. The LMC is characterised in CS by the [aw] forms of (au)-3, while the MMC has (au)-2 [aw]. It is significant that no group consistently uses the forms [aU ~ uU] typical of N.P.

Stylistic Variation and (au)

A striking feature of this variable is that there is little or no evidence of stylistic variation, except in the case of the LMC, which has a sharp drop in scores between CS and PS. This variable in fact confirms the discovery made in connection with (a:) that there is no necessary connection between class differentiation and style differentiation. Some variables are characterised by class differentiation only. We also hypothesized in connection with (a:) that variables which are subject to stylistic variation are either overtly stigmatised or involved in linguistic change. It is certainly the case that no overt stigmatisation is directed towards the pronunciation of (au). There does, on the other hand, appear to be some form of linguistic change associated with this variable. This change, however, most probably comes into the same category as the change affecting the

third-person singular verb marker (see Chapter Six). It is, in other words, a change that has already been carried through, but whose effects can still be observed within the speech community. We must therefore adjust our supposition concerning variables subject to stylistic variation to include in the second category only those variables currently involved in linguistic change.

It is also noteworthy that even the MMC makes no attempt to approach an R.P.-type pronunciation, even in WLS. This fact could be linked to the fairly wide variation in the pronunciation of (au) that occurs in R.P.⁵

Further Problems with (au)

Two things remain to be explained with respect to (au).

1. There are unusual slight but uniform fluctuations in the scores of the three EC groups, with the pattern, from CS to WLS, being down - up - down. The uniformity of the behaviour of the three groups means that purely

random variation can be ruled out as an explanation for this pattern. The fluctuations must be explained in the following way. The falls in scores between CS and FS and between RPS and WLS are the result of a small amount of normal stylistic variation. The rise in scores between FS and RPS can be explained by reference to comments made concerning (au) in Chapter Seven. It was stated there that the pronunciation of this variable is dependent to a small extent on the phonetic environment. There seems, for example, to be a greater tendency to use centralised variants before voiceless consonants than before voiced consonants. It could be, therefore, that the proportions of different types of phonetic environment in the WL and the RP of the questionnaire do not correspond to the proportions produced in speech, with the result that a bias occurs in these two styles. This suggests that it is only the WC which has different vowels in voiced and voiceless contexts.

2. We must also attempt to explain the sharp

fall in the scores of the LMC between CS and FS, for a variable which otherwise exhibits very little stylistic variation. Some help on this point can be gained from the information portrayed in Fig. 6. This shows the scores for LMC male and female informants separately, together with the combined LMC scores and the MMC scores. Quite clearly, the large fall in LMC scores between CS and FS is almost entirely due to the female LMC informants. (There is of course nothing unusual in the fact that the male informants have higher scores than the female informants.) The explanation for the fall in scores is therefore that LMC women, because of their consciousness of the social significance of this variable, which is due both to their sex and their social class position, are alone in the speech community in attempting to reproduce (au) forms more typical of a higher class group, in formal styles. While the rest of the community does not have its attention directed towards (au), the border-line social class position of the LMC and the relative social insecurity of women forces this particular sub-group

to be more aware of the importance of this variable.

Some further conclusions and problems arise from Fig. 6. For the phonological variable (au) there appear to be four norms:

- (i) a LWC norm of 260 - 230
- (ii) a MWC and UWC norm of 220 - 250
- (iii) a LMC norm of 160 - 200
- and (iv) a MNC norm of 100 - 110

Female members of the LMC, however, use the LMC norm only in CS. In more formal styles they seem to switch over completely to the MNC norm. This is evident from the very close approximation of the female LMC line to the MNC line in Fig. 6.

This raises the possibility that some variables may not be characterised, as we assumed in Chapter Seven, by continuous variation over a certain phonetic range according to class and context, with "norms" being more or less fictitious statistical approximations. It suggests rather that they may, on the other hand, be characterised by relatively discrete class-group behaviour, and by norms that are, again relatively speaking, genuinely phonetically discrete. This would mean that speakers would be able to switch from one norm

to another, rather as the LMC women appear to have done in the case of (au), instead of shifting gradually through phonetic space with stylistic context. If this is the case, this would in turn suggest that it may be legitimate to talk about different class varieties as discrete entities or constructs, and that discrete social groups may use discrete linguistic varieties which signal their social status in the community.⁶

If there are discrete class variants of the variable (au), we would expect the intra-style variation of this variable for each informant to be relatively small compared to that of other variables. This would be because variation would take place over a smaller, more restricted, discrete phonetic area. We have, at the moment, no means of judging whether or not this is the case, since the index scores are merely measures of central tendency for an individual or group. We require, on the other hand, some kind of measure of dispersion, so that we can decide whether the range of the phonetic area involved in each style for each class is smaller in the case of (au) than for other variables.

In obtaining our measure of dispersion,

We wish to avoid the possibility of a class bias in our investigations. We shall therefore examine (au) scores for one class only, the MWC, which is the largest class in the sample, with 22 members. We will, moreover, examine scores in FS only, since this is the contextual style for which we have most information. We also wish to be able to compare results for (au) with results for other variables that are strictly comparable. The variable (au) has four variants, (au)-1 to (au)-4. We shall therefore compare results for (au) with results for ($\bar{a}$) and ($\bar{i}$), which are the only two variables which also have four variants (if we exclude the phonemically distinct ($\bar{a}$)-5 = [e:]) and which do not involve any kind of phonemic in addition to phonetic variation. (This rules out ($\bar{o}$) and (a:), for example.)

The most usual statistical method for measuring the dispersion of scores is the standard deviation. A simpler, and for present purposes equally adequate measure is the mean deviation. The mean deviation is a measure of the homogeneity of a group or of the dispersion of scores which is based on the deviation of each individual score from a measure of central

tendency, the mean. "The mean deviation is defined as the arithmetic mean of the absolute differences of each score from the mean."⁷

Thus, if we wish to calculate the mean deviation for an informant for the variable ($\bar{a}$) in FS, we look first at the number of instances he has of each variant of this variable. If he has the following number of instances:

$\frac{(\bar{a})-1}{0}$	$\frac{(\bar{a})-2}{2}$	$\frac{(\bar{a})-3}{4}$	$\frac{(\bar{a})-4}{4}$
-------------------------	-------------------------	-------------------------	-------------------------

we first calculate his average score as follows:

	0 x 1	=	0
	2 x 2	=	4
	4 x 3	=	12
	4 x 4	=	16
	<hr/>		<hr/>
Total:	10		32

$$\text{Mean} = \frac{32}{10} = 3.2$$

We then calculate the sum of the absolute differences of each instance of the variable from the mean:

$$\begin{array}{rclcl}
 2 \times (\bar{a})-2 & = & 2 \times 1.2 & = & 2.4 \\
 4 \times (\bar{a})-3 & = & 4 \times 0.2 & = & 0.8 \\
 4 \times (\bar{a})-4 & = & 4 \times 0.8 & = & \underline{3.2} \\
 \text{Total:} & & & & 6.4
 \end{array}$$

We finally calculate the mean deviation by dividing this total by the number of cases:

$$\frac{6.4}{10} = \underline{\underline{0.64}}$$

which is the average amount by which each case differs from the mean.

Note that an informant who uses only one variant of a variable will have a mean deviation of 0.00. On the other hand, an informant who has an extremely wide range of dispersion, say:

$$\begin{array}{cccc}
 \underline{(\bar{a})-1} & \underline{(\bar{a})-2} & \underline{(\bar{a})-3} & \underline{(\bar{a})-4} \\
 5 & 5 & 5 & 5
 \end{array}$$

(a most unlikely event, and one for which there is no parallel in the scores for the Nch variables) will have a mean deviation of only 1.00.

We can therefore expect our mean deviation scores in this case to lie somewhere between the two extremes of 0.00 and 1.00.

The range of the individual mean deviations of the 22 informants for each of the three variables in FS is as follows:

(au)	0.000	-	0.575
($\bar{a}$)	0.143	-	0.554
(I)	0.156	-	0.636

This, however, tells us very little. It is more informative to compare the mean mean deviations for the group as a whole for the three variables. The figures are:

(au)	0.3543
($\bar{a}$)	0.4243
(I)	0.3980

The evidence is not conclusive, but it does suggest that, particularly when we bear in mind the very small range over which these scores are likely to fall, the Nch informants use a significantly smaller range of variation in the case of (au) than in the case of ($\bar{a}$)

and (I). Realisations of (au) are more likely to be confined to a smaller area of the phonetic continuum than realisations of ($\bar{a}$) and (I), for each informant. Thus we can state that (au) is characterised by a small amount of intra-style variation as well as by a small amount of inter-style variation. This, however, does not imply that the norm for the MWC in FS is anything other than a statistical construct. Neither does it imply that the area of the phonetic continuum used by this class in this style is a relatively discrete one, particularly since the mean deviations were calculated separately for each informant. All we have demonstrated is that individual informants vary less from a personal norm in a given style in the case of (au) than for other variables. This indicates that discrete norms for (au) are perhaps a possibility, but it is more probably the case that the small amount of variation is simply a function of the lack of stylistic variation for this variable as a whole: the less inter-style variation, the less intra-style variation.

We can pursue this discussion further by raising it above the level of the individual informant. To do this we will calculate the average amount by which the (au) FS indices for

each informant deviate from the overall class mean, rather than from his own average. This will tell us more exactly if the different social classes have less internal variation of (au) than of other variables, and if there are therefore more likely or not to be discrete class norms and varieties.

The average MWC scores for FS are ($\bar{a}$) 194, ($\bar{I}$) 194, (au) 229. The range of absolute differences from these mean scores for the 22 informants are as follows:

(au) $\pm$	2 - 69
($\bar{a}$) $\pm$	1 - 155
($\bar{I}$) $\pm$	0 - 150

This again is not particularly informative, although it does suggest that there is less variation in the case of (au). We therefore calculate the mean deviation scores for each of the three variables for MWC FS. The results are:

(au)	28.2
($\bar{a}$)	36.8
($\bar{I}$)	34.5

Again the evidence is not conclusive, but it does show that individuals' average scores differ less from the class-group mean for (au) than for the two other comparable variables. (au) is therefore also characterised by a relatively smaller amount of intra-class variation. Each class, we can state, is relatively homogeneous in its linguistic behaviour with respect to this variable.

The main conclusion to be drawn from the above investigations of intra-style and intra-class variation is that the differentiation of (au) mean deviation scores from those of ($\bar{a}$) and ($\bar{I}$) is not great enough to suggest that there are discrete class norms for this variable. This conclusion is supported and indeed confirmed by an examination of the range of (au) scores obtained by individual informants, in speech, from the different classes:

	<u>FS</u>	<u>CS</u>
MMC	<u>000-214</u>	<u>000-243</u>
LMC	<u>033-300</u>	<u>200-200</u>
UWC	<u>157-260</u>	<u>150-300</u>
MWC	<u>160-293</u>	<u>181-300</u>
LWC	<u>218-288</u>	<u>250-300</u>

This shows that only the MMC has any significant non-overlapping areas of the phonetic continuum, as it were, to itself: 000 - 033 in FS, and 000 - 150 in CS. All other areas of the phonetic continuum are shared by more than one class. There are therefore, at least for (au) in Noh English, no discrete class norms. This also suggests that talk of discrete class or other varieties, even as artificial constructs, is without validity.

The above discussion, however, is by no means without value, since we are able to draw the following conclusions:

- (i) Some linguistic variables do not participate in stylistic (inter-style) variation.
- (ii) Those variables which are not involved in inter-style variation will also exhibit a relatively small amount of intra-style variation.
- (iii) Those variables which are not involved in inter-style variation will also exhibit a relatively small amount of intra-class variation.

- (iv) Inter-class variation is independent of inter-style variation.
- (v) Some variables, particularly those not subject to inter-style variation, may be characterised by social class norms which, although not discrete, overlap to a smaller extent than others, particularly those subject to a large amount of inter-style variation. The smaller amount of overlapping is due to the fact that individual informants deviate less from personal and social class norms for variables of the type (au) than for the type ($\bar{a}$), ($\bar{i}$).

Finally, it still remains to be explained why, if there are no discrete class norms (or varieties), LMC women appear to switch from one such class norm to another between CS and FS in the case of (au). The fact is that the close approximation of LMC female scores to overall MMC scores is largely fortuitous. It is frequently the case with the Noh phonological variables that the men of a particular class have scores close to those of the women of the next highest class, while women have scores close to those of the men of the next lowest class. Sex differentiation is less marked in the

MMC than in other classes, and for that reason LMC female scores often approach those of the MMC as a whole, although not usually so closely as in the case of (au).

The Variable ($\bar{o}$)

This variable deals with the vowel of road, home, go etc.

Stylistic Differentiation of ($\bar{o}$)

Class and style differentiation of this variable are shown in Fig. 7. There is very little evidence of style differentiation, except, as in the case of (au), in the speech of the LMC, which has a marked fall in scores from CS to WLS. Thus, while other classes make little attempt to correct their pronunciation towards R.P.-type forms in more formal contexts, LMC speakers, because of their greater contact with R.P. speakers in the MMC and their rather tenuous social class position, are more aware of the social significance of different variants, and do make a correction.

Class Differentiation of ($\bar{o}$)

As far as class differentiation of ($\bar{o}$) is concerned, note that an index of 100 would be given for consistent use of R.P.-type / $\bar{e}U$ / and 200 for consistent use of Nch / $u:$ /. Scores over 200 indicate some (fairly considerable) use of EAn short $\bar{o}$, as in home [hUm] etc. We can see, therefore, that it is only the WC for whom the "short $\bar{o}$ " is to any great extent a characteristic feature. This is particularly true of the LWC and MWC. Note also that the UWC has a slight tendency to use R.P.-type forms in WLS, but that neither the LMC nor MMC consistently achieves the R.P. norm.

Monophthongs vs. Diphthongs

We noted in Chapter Seven that rural Nfk speakers had an [qu] type of vowel in lexical items of this set, whereas Nch speakers tended to have [u: ~ u:]. The diphthongised form is, however, also used in Nch and appears to be available to most speakers. Fig. 8 illustrates how the alternative diphthongised form is involved in the approximation to R.P. that takes place in more formal styles, and illustrates that there is in fact a certain amount of

Fig. 7 Variable ($\bar{o}$) by Class and Style.

Fig. 8 ($\bar{o}$)-3. % Monophthongs by Class and Style.

Hellesdon, Lakenham and Westwick:
Fig. 9 $\bar{o}$ -3. % Monophthongs by Style.

stylistic variation of this variable which is hidden in Fig. 7. Fig. 8 shows what percentage of ($\bar{u}$)-3 forms in each style for each class is monophthongal [$u:$ ~ $u:$] as opposed to the more typically rural alternative [qu ~ Uu]. (The scores for the MMC must be regarded with caution, particularly in CS, since only a relatively small number of ($\bar{u}$)-3 were recorded for this class.) It can be seen that there is quite clearly a tendency to increase the number of diphthongised vowels in more formal styles, and that, generally speaking, the higher classes have the highest number of diphthongs. The LNC, on the other hand, uses only 10 per cent diphthongised forms in CS. It is therefore demonstrated that R.P. influence is effected through the transfer, in more formal styles, to the rural, and possibly older form [qu], which is phonetically somewhat closer to the R.P. form.

It was also observed during the course of the interviews that there seemed to be more signs of some internal geographical variation of this feature within the city than of any other. In order to investigate this point we must of course compare the index scores of informants from different parts of the city. To avoid the

possibility of introducing social class bias into these investigations we will base the comparison on the scores of one class only, and we shall once again select the largest class, the MWC, for this purpose. Unfortunately, we shall have to leave two of the five Nch areas studied in the survey out of consideration because of the small numbers of members of the MWC living in these areas. We can, however, make a valid comparison of the scores from the other three areas, the electoral wards Hellesdon, Lakenham and Westwick (see Chapter Two). Fig. 9 gives the average scores obtained by MWC informants in the four contextual styles in these three areas. It shows quite clearly that the in part newer and more peripheral area of Lakenham has fewer diphthongised forms than the older or more central areas of Westwick and Hellesdon. Parts of Lakenham, however, are in fact considerably older than Hellesdon, and so the differentiation cannot be ascribed solely, if at all, to the area-age factor. It is not clear, in fact, how we should explain this difference. The answer may lie in factors involved with dialect mixture and immigration. (Dialect mixture will be briefly discussed in Chapter Eleven.)

The East Anglian short o and (ō)

Fig. 10 shows in more detail the social distribution of the EAn short o. It gives the percentage of (ō) which were (ō)-4 in each style for each class.

There is obviously evidence of class differentiation in the use of this variant, together with a certain amount of stylistic variation. Note, however, that even the LWC uses no more than 42 per cent forms with short o. This suggests that the short o is something of a relic form in Nch. (This is confirmed by material presented in Chapter Eleven.) This point becomes still clearer if it is realised that the 42 per cent is composed of a relatively small number of common lexical items. Details are given below in Table IV, which shows the number of instances of (ō)-4 recorded in the Nch survey per word.

In addition to these items, aerodrome, comb, alone and combed were recorded with (ō)-4 in the WL and the RP. It can be seen from Table IV that don't, only, suppose and home account for the vast majority of short o forms

in the material recorded here: 80 per cent in the FS material and 72 per cent in the CS material, (including supposed, homework). Note that aerodrome, Hippodrome and roller-drome are almost universally pronounced with (ō)-4 in Nch, but are not of especially frequent occurrence.

Table IV shows further that phonetic environment is not the only factor which determines the presence or absence of [U] in a given word, although the word-final consonants are all alveolars or nasals, with the exception of [v], [θ] and [k]. Other factors are sentence stress, speed of utterance, and social connotation: short o is more likely to occur in lightly stressed words, in rapid speech, and in words most current in popular speech or within the family. (These are all factors mentioned by Avis in connection with the New England short o.)

Table IVNumber of Occurrences of (5)-4

	<u>FS</u>	<u>CS</u>
<u>don't</u>	156	44
<u>only</u>	51	8
<u>suppose</u>	28	9
<u>home</u>	22	11
<u>Road</u>	8	0
<u>won't</u>	8	6
<u>both</u>	7	6
<u>broke</u>	4	2
<u>supposed</u>	4	3
<u>whole</u>	4	1
<u>Holme</u>	4	0
<u>over</u>	4	0
<u>Holmes</u>	2	0
<u>bloke</u>	2	2
<u>post</u>	2	0
<u>stone</u>	2	1
<u>going to</u>	1	4
<u>homework</u>	1	1
<u>most</u>	1	1
<u>spoke</u>	1	0
<u>photo</u>	1	0
<u>notice</u>	1	0
<u>coats</u>	1	0
<u>road</u>	1	1
<u>roads</u>	1	0
<u>blokes</u>	1	0
<u>rollerdrome</u>	1	0
<u>Close</u>	1	0
<u>drove</u>	0	1
<u>Hippodrome</u>	0	1
<u>woke</u>	0	3

Fig.10. Variable ($\bar{o}$), $\%(\bar{o})-4$ by Class and Style.

Fig.11. Variable (ou) by Class and Style.

The Variable (ou)

This variable is the vowel in know, old, throw, etc. As this variable and the preceding one, (ō), are not distinguished in R.P. or in many other accents of English, it is interesting to compare the two in Nch English. The index scale for (ou) is the same as for (ō), so that a score of 100 would be given for a consistent R.P.-type pronunciation, and 000 for a consistent pronunciation of EAn [Au]. Fig. 11 shows that for this variable there is clear differentiation between the MMC and the LMC, and between the LMC and the WC. Within the WC, however, differentiation is minimal. This class as a whole is more or less consistent in its use of Nch /Au/. MMC speakers use, on average, a vowel with a first element rather more open than that of R.P., while the LMC use a vowel closer to that of the Nch WC than to R.P.

There is also a very small amount of stylistic variation of (ou), at least amongst the WC. In this case the class lines slope from left to right across the graph, since lower scores indicate vowels further removed from the R.P. norm, because we are here using the same index scale as for (ō). The wide fluctuation in the scores of the MMC suggests random variation over a relatively large phonetic area [eU ~ ɔU], and reflects the large amount of variation there is in R.P. in the pronunciation of this vowel.⁹

Differentiation of (ou) and ($\bar{o}$)

We can now use the combined index scale to measure the amount of differentiation made by different classes in different styles between ($\bar{o}$) and (ou) items. Figs. 12, 13 and 14 portray graphically the average amount of phonetic space differentiating the two sets of items for the MMC, LMC and UWC respectively. (Graphs for the MWC and LWC would be very similar to that for the UWC.) Fig. 12 shows that the MMC is close to actually merging the two sets of items, as in R.P., but does not in fact, on average, do so.

The graph of Fig. 12 poses an interesting question for phonological theory. The distinction between ($\bar{o}$) and (ou) is quite clearly preserved. Is, however, the amount of distinction shown here, (at its smallest 31 index points as compared to around 200 for the WC), consistent with the type of distinction normally considered to be phonemic? The amount of phonetic distinction is in fact so small as to suggest that a linguist unfamiliar with EAn phonology might not notice the differentiation. There is also, of course, a very large amount of what is usually termed "phonemic overlapping", much larger than the amount mentioned by Labov, for instance, in his discussion of

Fig.12. (ou) and ($\bar{o}$) by Style: nmc

Fig.13. (ou) and ($\bar{o}$) by Style: LMC

Fig.14. (ou) and ($\bar{o}$) by Style: uwc

variance analysis.¹⁰ In taxonomic phonemic studies, this type of phenomenon is usually described as being the result of a linguistic change in progress: an imminent phoneme merger. There is in this case, however, no sign whatsoever of any linguistic change. The above is the normal state of affairs in MMC Nch English. The most satisfactory explanation for this phenomenon is therefore that there are, in all varieties of Nch English, two distinct underlying abstract systematic phonemes which are realised at the systematic phonetic level, in the speech of the MMC, in two areas of the phonetic continuum that almost entirely overlap. Alternatively, it is possible that the two areas overlap entirely, and that the one phonemic unit is more frequently realised in one portion of the area and the other in another.¹¹

Fig. 13 shows that the LMC realisations of the two phonemes are phonetically much more distinct than those of the MMC, and that the amount of differentiating phonetic space increases as the formality of style decreases. The downward dip of the (ou) line between RPS and WLS can be regarded as the result of pressures operating in phonetic space, with

the opening of the first element of the ($\bar{o}$) vowels in imitation of R.P. leading to a less R.P.-like pronunciation of (ou) items in WLS in order to preserve the distinction. This process, which is presumably unconscious, explains the unusual shape of the LMC line in Fig. 11.

Fig. 14 shows that the UWC makes a large and consistent distinction in phonetic space between the two sets, and has an (ou) norm of around [au] and an ($\bar{o}$) norm approaching [u:]. Ferguson,¹² and Weinreich, Labov & Herzog¹³ have noted that socially less prestigious linguistic systems tend to have fewer contrastive distinctions than more statusful types. In so far as we have shown in this particular case that a more statusful type has a smaller amount of distinction than less statusful types, this is a counter-example.

The Variables (k), (p) and (t)

These three variables are the amount of glottalisation in the pronunciation of the three voiceless stops in syllable-final position. The class and style differentiation of (k), (p) and (t) are shown in Figs. 16, 17 and 18 respectively.

Fig. 15. Variable (k) by Class and Style.

Fig. 16 Variable (p) by Class and Style.

Fig. 17. Variable (t) by Class and Style.

Co-variation of (p) and (k)

A quick glance will show that all three variables have a very similar pattern of class differentiation and, more particularly, of style differentiation. This suggests that it may be worthwhile investigating the degree and nature of the co-variation of certain phonological variables with each other. It is, of course, not surprising that (k), (p) and (t) should exhibit similar characteristics, because of their phonetic similarity. At the same time, however, there is no a priori reason for assuming that this should be the case, and the fact that they do behave similarly is of some interest. We can examine the co-variation of the two marked¹⁴ phonological variables of the three with each other in the following way. Fig. 18 is a scattergram which shows (p) and (k) scores for all informants in WLS, with each dot representing one informant. It can be seen immediately that there is a very good correlation of (p) and (k) scores for a large majority of the informants. Those informants who have high (p) scores tend to have a similar (k) score, and vice versa. This suggests that it would be possible to set up instead of (k), (p) and (t) one variable of

glottalisation, which could be treated on its own as an indicator of social class and social context. (WLS was selected for the purposes of this demonstration since many of the informants have (k) and (p) index scores of 100 in FS and CS, which makes results for these two styles less interesting, and there is more material for (k) and (p) available in WLS than in RPS.)

Differentiation of (k), (p), and (t)

For (k) (Fig. 15) there is little class differentiation in CS, except that the MMC has significantly lower scores than the other classes. The two lowest WC groups, moreover, appear to be indistinguishable in their behaviour with respect to this variable in all contextual styles.

The picture for (p) is very similar, with all four lowest classes being virtually indistinguishable by this feature in everyday speech, and only the MMC having notably different characteristics. In other contextual styles, the scores for the three WC groups are also very similar.

Fig. 18. (p) and (k) scores for each informant: WLS.

Fig. 19. Variable (h) by Class and Style.

The picture for (t) is also similar to that for (k), except that the LMC remains separated from the WC even in CS. It is interesting to note that the WC has almost 100 per cent "extreme" forms, (t)-3, in CS, just as it does for (k) and (p), where glottalisation is not so complete.

Word-final and word-internal glottalisation

Index scores show that glottalisation is more frequent in the case of word-final (p), (t) and (k) than it is word-internally. A comparison of (t) indices for a random sample of ten of the sixty informants gives the average scores shown in Table V.

Table V

Sample of ten Informants: Average Scores

<u>Word-internal and word-final (t) by style</u>				
<u>(t)</u>	<u>WLS</u>	<u>RPS</u>	<u>FS</u>	<u>CS</u>
Word-internal	029	052	113	134
Word-final	028	089	151	161

We can therefore state that glottalisation of voiceless stops is inversely proportional

to social class and social context, and is more frequent word-finally than word-internally.

The Variable (h)

Fig. 19 shows that this variable has a pattern of class and style variation similar to that of (t), but with a relatively smaller amount of stylistic variation. It also shows that the LWC and MWC are indistinguishable with respect to their use of this variable.

We saw in Chapter Seven that rural EA is an "h-pronouncing" region, and commented that Nch appeared to be an island of "h-lessness" within the region. It is therefore interesting to see that (h) in Nch exhibits all the characteristics of a normal phonological variable, since this indicates that "h-lessness" is well established in Nch and has been for many years. At the same time, however, it should be noted that the LWC and MWC use approximately 40 per cent "h-ful" forms even in CS. This is probably a much higher percentage than would be found in many other urban areas in England, and indicates that Nch's "h-lessness" is only relative.

Diffusion Processes

We speculated in Chapter Two that h-dropping

in Nch is the result of diffusion processes which involve the spread of linguistic innovations from one member of the urban hierarchy to another, rather than in waves across the countryside. If this is so, it would appear to be the case that linguistic changes of this type spread from the WC of one urban area to the WC of another, since the Nch MC has only a small percentage of h-less forms. This fact, however, could be due simply to the counter-influences of R.P. and education. This point will be taken up again later, in Chapter Eleven.

Rural-Urban Dichotomy

It is informative at this point to compare the scores for (h) of informants born and brought up in rural districts with those of informants who were born and have remained in the city. Table VI shows the average (h) scores for rural-born informants compared to the average (h) scores for their social class as a whole, by contextual style. No MMC scores are included, since none of this group was rural-born.

Table VI shows that informants born and

Table VI(h) Indices: Rural Born vs. Total Informants

<u>Style:</u>		<u>WLS</u>	<u>RPS</u>	<u>FS</u>	<u>CS</u>
<u>Class</u>					
LMC	Tot:	000	005	004	014
	RB	000	000	002	012
UWC	Tot:	001	007	024	040
	RB	000	000	007	012
MWC	Tot:	004	012	043	059
	RB	000	004	023	050
LWC	Tot:	005	013	041	061
		000	008	000	000

brought up in rural areas have consistently lower (h) scores than city-born informants. This is particularly true of the UWC and the LWC. This means that the rural-urban dichotomy is still a linguistically valid one in the area around Nch. As far as (h) is concerned, it is not a distinction which is valid only at the level of the conservative rural dialects of the elderly.

The Variable (e)

This variable is the vowel of tell, well, better, etc. (see Chapter Seven). Fig. 20 shows that the pattern of class differentiation is an unusual one. Here we have a case where the UWC has an index score which is significantly higher than that of the MWC in CS, and where both the UWC and MWC have scores that are significantly higher than those of the LNC in all contextual styles. Thus, for the WC as a whole, the whole pattern of class differentiation is completely reversed. Note, too, that in CS the LNC score approaches those of the LMC and MMC very closely. How can this be explained?

We have already noted that the LWC, as a relatively underprivileged group, is isolated from innovating tendencies. Since we find that in this case the LWC is differentiated from the UWC and MWC in an unusual way, we can hypothesize that high scores for this variable (that is, a large amount of centralisation) represent an innovation in Nch. The phonological variable (e) is involved in linguistic change, in that centralisation of this vowel is increasing. In the vanguard of this change, we can hypothesize further, are the upper members of the WC. The LWC and LMC are also participating in the change, but at a lower level, and the MMC are not participating at all, or very little.

This hypothesis is confirmed by the pattern of

Fig. 20. Variable (e) by Class and Style.

Fig. 21. Variable (e) by Style and Age.

differentiation shown In Fig. 21. This gives scores for (e) for each contextual style by age-group. We can see, first of all, the stylistic variation of (e) in the clear separation of the lines connecting the scores for each contextual style. The main point, however, is that this graph shows that there is a very marked amount of age differentiation of (e). Younger people have much higher (e) scores than older people. This is particularly clear in the case of informants aged ten to twenty-nine, but there is a clear general increase in scores for (e) across the graph from right to left. Centralisation of (e) is more prevalent among younger speakers, and is becoming increasingly so.

The full implications of the study of linguistic change in "apparent time", the relatively higher scores of the over-sixties, and the role of the UWC and MWC in linguistic change will be discussed in Chapter Eleven.

The Variable (a)

This variable is the vowel in bat, bad, carry, etc. Fig. 22 shows that there is an overall tendency to a regular kind of class and style differentiation. On the other hand, however, there is a considerable amount of overlap in the scores of the WC, and stylistic differentiation between RPS and WLS is, for four of the

five social classes, in the "wrong" direction. One explanation for this can perhaps be adduced from the fact that the overlapping of different social class scores is largely due to the LWC. We have already noted that this class is to a certain extent isolated from innovating tendencies. It is therefore possible that the overlapping of scores is due to some kind of linguistic change in Nch English which index scores for this variable may have obscured.

In fact information from the rural dialect surveys discussed in Chapter Seven leads us to suppose that two somewhat conflicting diachronic tendencies are at work here. The Nch (a) index has the following variants:

- (a)-3 = [æ:⁶] etc.
- (a)-4 = [ɛ ~ ɛ:] etc.
- (a)-5 = [ɛ:⁰] etc.

Now Kōkeritz¹⁵ states that his informants used vowels of the quality [æ ~ ɛ: ~ ɛ ~ ɛ:] for this variable. He considers that [ɛ] forms may be partly due to "Cockney" influence. However, the fact that the Suffolk children had only [æ ~ ɛ:] suggests rather that [ɛ ~ ɛ:] is the older EAn form, and that it is in the process, at the time when Kōkeritz is writing, of being replaced by R.P.-type [æ]. This hypothesis is partly confirmed by Forby's¹⁶ statement (and he is writing around 1830) that

bad, man, etc., are often pronounced "bed", "men", etc. in Nfk, especially in the region of King's Lynn. We can therefore hypothesize further that older Nch speakers will tend to have a higher number of (a)-4 [ɛ ~ e:] forms, and that middle-aged speakers will tend to have the newer R.P.-like forms of (a)-1 or (a)-2. This in turn will mean that the diphthongised (a)-3 and (a)-5 forms must occur in predominantly the speech of younger informants. If this is the case, then, within the WC, age-group differences will be more important than class differentiation, and the overlapping shown in Fig. 22 will occur.

This hypothesis is confirmed by the facts shown in Table VII, which demonstrate that the older EAn form of [ɛ ~ e:] is more commonly retained in the speech of older Nch people, but that the more typical modern Nch pronunciation is [e: ~ e], which in the speech of many, particularly the young, is diphthongised to [e:^h ~ e:^h ~ e:^e]. This suggests further that for some, particularly older or LWC speakers, (a)-4 represents a more formal pronunciation than (a)-3. For them, [ɛ] functions just as the more modern [e] does for younger speakers. Diphthongisation and vowel height must therefore be regarded as independent variables which cannot successfully be incorporated into a single index, as we have tried to do here. Table VII gives the percentage of each particular variant of (a) used by each age-group in FS and CS combined.

Fig.22. Variable (a) by Class and Style.

Fig.23. Variable (a) by Class and Style.

Table VII

Percentage of (a) Variants

<u>Age-group</u>	<u>Per cent</u>					<u>Total</u>
	<u>(a)-1</u>	<u>(a)-2</u>	<u>(a)-3</u>	<u>(a)-4</u>	<u>(a)-5</u>	
10-19	5	40	44	6	4	99
20-29	26	31	26	10	6	99
30-39	22	45	25	5	5	102
40-49	21	37	14	12	14	98
50-59	32	35	25	8	0	100
60-69	26	34	27	8	4	99
70+	18	28	26	25	3	100

It shows that both the 10-19 and 70+ age-groups use a small percentage of (a)-1, but for different reasons: the 10-19 group uses instead a high percentage of diphthongised (a)-3, whereas the 70+ group uses a high percentage of (a)-4 [e ~ e:]. We can see that (a)-4 is employed to a large extent only by the 70+ group, and is therefore clearly dying out. It has largely been replaced by the more R.P.-like (a)-1, but this too is clearly ceding ground to (a)-2 [e:], which is the most common Nch variant at the moment. (The demise of (a)-1 is most clearly indicated by the very low score, 5 per cent, among the 10-19 group.) Even (a)-2, however, would appear to be ceding ground to the diphthongised forms, (a)-3 and (a)-5, which between them are the most common form of (a) for speakers aged 29 and under. We can therefore postulate a diachronic progression: [e > e > e: > e: (> e:)].

The increase in diphthongisation is more clearly revealed in Table VIII, which shows the percentage of total monophthongal and total diphthongal pronunciations of each age-group. The scores that stand out as exceptional are the 51 per cent only total monophthongs and the 48 per cent total diphthongs of the 10-19 group.

Table VIII

(a): Monophthongs and Diphthongs

<u>Age-group</u>	<u>Per cent</u>	
	<u>Total Monophthongs</u>	<u>Total Diphthongs</u>
10-19	51	48
20-29	67	32
30-39	72	30
40-49	70	28
50-59	75	25
60-69	68	31
70+	71	29

All groups thus show some usage of all (a) variants, but no group except the 70+ group has above 12 per cent (a)-4. All groups use at least 68 per cent total monophthongs, except the under-thirties. No group uses more than 31 per cent total diphthongs, except, again, the under-thirties. Further implications of this linguistic change will be discussed in Chapter Eleven, as will a

further (a) variant, centralised [ə̞], which appears to occur in contexts similar to (e).

The Variable (ā)

This variable is the vowel in name, nail, plate, etc. Fig. 23 shows that (ā) is subject to both class and style differentiation, although the stylistic variation is not especially great and the UWC and MWC scores are more or less undifferentiated except in WLS. The LWC has scores substantially higher than the other two WC groups, but this may be due to the fact that Fig. 23 shows scores including (ā)-5 (=e:/). LWC [eɪ]-type diphthongs, in other words, may have a first element very little more open than the MWC and UWC. Scores for (ā) without (ā)-5 will be discussed in Chapter Eleven.

For the moment we can say that there is a norm for LWC speakers in CS between [eɪ] and [e̞ɪ]; for the MMC and UMC of [eɪ]; for the LMC between [eɪ] and [eɪ̞]; and for the MMC of [eɪ̞]. Surprisingly enough the MMC approaches [eɪ̞] or [e̞ɪ̞] only in WLS.

The Variable (ī)

This variable is the pronunciation of the vowel in right, ride, rye, etc. Fig. 24 shows that (ī) differ-

entiates between the social classes in the usual way, except that the MWC has higher scores than the LWC in three of the four contextual styles. We have suggested before that this kind of overlapping pattern is a sign of a linguistic change in progress, and this therefore could be the case here.

The index scale for (I) is as follows:

(I)-1	=	[aI]
(I)-2	=	[eI]
(I)-3	=	[ɛI]
(I)-4	=	[ɔI]

Many of the rural dialect records indicate that the older EAn form for this variable is [ɛI] = (a)-3. As (a)-1 and -2 represent R.P.-influenced forms, it may therefore be the case that [ɔI] is a fairly new development in Nch, with the MWC again being instrumental in introducing the change. We can in any case see from Fig. 24 that the MWC is the only class which has an index score of over 200, which indicates a fairly consistent use of some (I)-4 forms. We can investigate this possibility further by studying a more detailed breakdown of figures for this variable.

Sex Distribution of (I)-4

Table IX shows numbers of male and female

informants who use any (I)-4, together with a breakdown of those who use more than certain percentages of (I)-4 as opposed to other (I) variants. It shows that over half the informants in the sample use some (I)-4, but that only eight of these are women. No woman, moreover, uses more than 20 per cent (I)-4. The sex differentiation of this feature is therefore very marked indeed, and indicates that (I)-4 is a characteristically male form.

Table IX

Informants using (I)-4

	<u>Number</u>	<u>50 per cent +</u>	<u>20 per cent +</u>	<u>10 per cent +</u>	<u>5 per cent +</u>
Male	27	6	12	16	24
Female	8	0	0	3	6
Total	35	6	12	19	30

Class Distribution of (I)-4

Table X shows that use of (I)-4 is also very much a MWC characteristic, since 95 per cent of this class use some (I)-4, and 50 per cent of the MWC use 10 per cent or more (I)-4 compared, say, to only 37 per cent amongst the LWC. (Note

Table X.
Percentage informants of
each class using (i)-4.

Per- cent.	Any (i)-4.	50per- cent+.	20per- cent+.	10per- cent+.	5 per- cent+.
MMC	17	17	17	17	17
LMC	25	12	12	12	12
UWC	37	0	12	19	37
MWC	95	18	36	50	82
LWC	62	0	0	37	50

that the MMC 17 per cent and LMC 12 per cent scores represent one informant each only. These two informants are both men who have been socially mobile in an upward direction.)

Age Distribution of (I)-4

Table XI shows that there is in fact some evidence of linguistic change for this variable, since a higher percentage of younger people, aged thirty-nine or less, have (I)-4 forms than older people aged over forty. This is particularly noticeable in the case of those informants using 10 per cent (I)-4 or more.

Table XI

Percentage of Informants
in Two Age-groups using (I)-4

<u>Age</u>	<u>Any (I)-4</u>	<u>50 per cent +</u>	<u>20 per cent +</u>	<u>10 per cent +</u>	<u>5 per cent +</u>
10-39	61	11	18	43	61
40+	56	9	12	22	41

We can therefore state that (I)-4 is characteristic of male speakers, of the MMC, and, possibly, of younger speakers. If a linguistic change is in

progress, it is being led by younger, male members of the MWC. Once again, this point will be discussed in greater detail in Chapter Eleven.

The Variables (er) and (ɛr)

These variables are the vowels in here, fear, idea, etc., and there, chair, care, etc., respectively. The patterns of stylistic variation for (er) and (ɛr) are given in Figs. 25 and 26.

Class and Style Differentiation of (er) and (ɛr)

Fig. 25 shows that there is a significant amount of stylistic variation in the realisation of (er), but that, especially in CS, there is little significant differentiation between the four lowest social classes, and especially the WC groups. The fact that in CS the UWC and LMC have scores higher than the MWC and LWC suggests that a linguistic change may be in progress here, although the differences in scores are very small (see Chapters Seven and Eleven). The scores indicate that in CS even the MMC uses a vowel more open than [eə ~ e:], while the norm for the other classes in this style is around [ɛ: ~ ɐ:].

Fig. 25. Variable (er) by Class and Style.

Fig. 26 Variable (Er) by Class and Style

Fig. 26 shows that there is, on the other hand, no stylistic variation of (er). Social consciousness, and probably therefore linguistic change, is concentrated on (er). Note once again the proximity of the three WC scores.

Differentiation of (er) and (ɛr)

Because the same index is used for both variables, (it is for this reason that MMC scores appear at the top of Fig. 26, around the R.P. norm of 200), we can use scores for these variables to investigate the nature and extent of the phonetic distinction between items of the fear and fair sets, as it is made by different groups of Nch speakers. This is exemplified in Fig. 27. Fig. 27 shows the scores for MMC speakers for both (er) and (ɛr), by contextual style. The index scores shown along the ordinate have been reversed so that 000 is given at the top of the graph and 200 at the bottom. This has been done in order to symbolise "phonetic space", so that scores for more open vowels occur at the bottom of the graph, as on the conventional vowel trapezium, and close vowels at the top. Fig. 27 shows quite clearly that the MMC makes a definite distinction between the two lexical sets, but that

the amount of phonetic space employed to effect this distinction decreases in the more informal styles. Thus even the MMC is involved in the Nch tendency to merge (er) and (ɛr), the distinction in CS being on average only that between [ɛ] and [e]-type vowels.

Fig. 28 shows that the LMC makes a certain amount of distinction, but much smaller than one would normally associate with a phonemic distinction, between (er) and (ɛr) in formal styles. In CS, however, the merger is more or less complete. That is to say that in normal, everyday speech LMC speakers do not distinguish between (er) and (ɛr) items, but are able to do so in more formal styles, including even FS. This of course argues very persuasively for a theory of phonology which distinguishes between a surface phonetic level and a deep phonological level, and in which it is possible for two distinct underlying phonological units to have one identical surface realisation.¹⁷

Fig. 29 shows a similar picture for the UWC, but with an even smaller amount of distinction of (er) and (ɛr), and a complete merger in CS. The more open vowel for (ɛr) items in FS can be interpreted as the result of pressures

Fig. 27 (er) and (Er) by Style: MMC

Fig. 28 (er) and (Er) by Style: LMC.

Fig. 29 (er) and (Er) by Style: UWC

operating in phonetic space, with more open (er) vowels resulting in more open vowels for (ɛr) as well, in order, presumably, to preserve the distinction. Where the distinction is not made, in CS, (ɛr) vowels can revert to their "natural" level again.

Fig. 30 shows the same sort of picture once again for the MNC, but with the distinction only minimally preserved. There is again a complete merger in CS. Note that (ɛr) vowels are again more open in PS, but revert to the natural level in CS.

Finally, Fig. 31 shows that LWC speakers distinguish the two sets of items only in WLS, and perhaps RPS, and then minimally.

Forms with Schwa

It must now be remembered that the (er) and (ɛr) indices we have been discussing are concerned only with vowel height. They are not capable, in other words, of distinguishing between [e:] and [eə], or [ɛ:] and [ɛə]. In order to confirm that a merger of (er) and (ɛr) items has taken place in everyday speech in Nch, we must supplement these indices by figures measuring the amount

Fig. 30 (ϵ_r) and (ϵ_r) by Style : MWC.

Fig. 31. (ϵ_r) and (ϵ_r) by Style: LWC

of schwa used in the two sets of items. If it can be shown that there is a significant difference in the percentage of schwa for the two sets, then it may be the case that an (er) / (ɛr) distinction is being preserved as, for example, [ɛ:] / [ɛə]. However, Figs. 32 and 33, which give the percentage of schwa forms for (er) and (ɛr), show that in CS no social class uses more than 13 per cent schwa for either variable. This means that schwa is not used to preserve the distinction, since it is mainly in CS that the merger in any case occurs. This is more plainly revealed in the figures given in Table XII.

Table XII

Per Cent Schwa in (er) and (ɛr) Items by Class in CS

	<u>(er)</u>	<u>(ɛr)</u>
MMC	0	0
LMC	12	11
UWC	2	0
MWC	3	7
LWC	10	13

It can be seen from Figs. 32 and 33, however, that schwa is much more commonly used with (er) items

than with (ɛr) items in contextual styles other than CS, and this fact must be taken into consideration when interpreting the amount of distinction between (er) and (ɛr) shown in Figs. 25 to 29.

Stylistic Variation of Schwa Forms

It is clear from Figs. 32 and 33 that there is some considerable variation in the percentage of schwa forms used. We must therefore revise our previous statement, and say that there is some stylistic variation associated with (ɛr), since [ɛ:] tends to be replaced by [ə] in more formal styles.

Linguistic Change and Schwa Forms

It should be noted that in almost all styles, for both variables, the UWC and MWC use fewer schwa forms than the other classes, including the LWC. In CS this is also true of MMC speakers, as Table XII shows. This can be interpreted as indicating that the MMC, UWC and MWC are leading the LWC and LMC - in both cases the two groups using most schwa forms in CS -

in what is most probably a linguistic change (see Chapter Eleven). If this is the case, it is a linguistic change that is being introduced into Nch English in two different ways:

1. from R.P. into MMC speech, with the LMC as yet not so fully affected;
- and 2. from the WC accents of the areas surrounding Nch, or EA as a whole, with the UWC and MWC being at the moment the two groups the most influenced. There are thus certain parallels with the introduction of rounded (o) vowels described above.

The MMC phenomenon - note especially the big MMC stylistic variation of (er) from WLS 97 per cent schwa forms to CS 0 per cent - cannot be entirely due to R.P. influence, since the schwa-less type does not seem to occur in R.P. in the case of (er) items.¹⁸

We can conclude, therefore, that (er) and (ɜr) are not distinguished in Nch, except by the MMC, in everyday speech. Most Nch speakers, however, can make the distinction in more formal contexts. We must therefore postulate that there are still two separate underlying phonemes in the Nch inventory.

The Variable ($\bar{u}$)

This variable is the vowel in boot, spoon, roof, etc.

Stylistic Differentiation of ($\bar{u}$)

Fig. 34 shows that there is a significant amount of stylistic variation of this variable, with a vowel on average closer to [u:] being more common in WLS, and one nearer to [u:] in CS. This in fact means that in CS there is a higher percentage of items pronounced with /u:/ as opposed to /u:/. It does not so much indicate a gradual shift of vowel quality in phonetic space, (although this does also happen, and several intermediate forms were recorded). Speakers generally switch from an [u:] -type vowel to an [u:] -type vowel with increasing frequency as the formality of stylistic context increases.

Class Differentiation of ($\bar{u}$)

There is on the other hand little or no social class differentiation of ($\bar{u}$), except that the MMC is quite clearly differentiated

from the other classes in CS. One explanation for the apparently irregular behaviour of the MMC in this style is that R.P.-type speakers do not have the Nch phonemic distinction /u:/ : /ʊ/, but instead have a whole range of vowels [u: - ʊ] as free variants, or as contextually determined allophones. (ū) is the only Nch variable which is not involved in class differentiation.

The East Anglian short ʊ and (ū)

Fig. 35 deals with the other alternative pronunciation of (ū), namely /U/. It shows the percentage of EAn short ʊ's in (ū) items by class and style. (Note that (ū)-5 [U] is not included in the index scores of Fig. 34.) It can be seen that there is a certain amount of class differentiation of this feature, although this is very small. (Age differentiation is more significant - see Chapter Eleven.) What stylistic variation there is, moreover, appears to be, with the exception of the LWC shift between CS and FS (which should probably be interpreted as a genuine stylistic shift of the normal type), in the wrong direction. This, however, is quite easily explained: short ʊ in

Fig. 34. Variable ($\bar{u}$) by Class and Style.

Fig. 35. Variable ($\bar{u}$): % ($\bar{u}$)-5 by Class and Style.

Fig. 36. ($\bar{u}$)-3 % Monophthongs by Class and Style.

(ū) items occurs in Nch most often in the case of a relatively small number of lexical items which are well represented in the WL, less well in the RP, and which occur even less frequently in speech. The best illustration of class differentiation, therefore, can be obtained from the WLS figures, where all informants pronounced the same (relatively large number) of (ū) items. This shows that the MC is significantly distinct from the WC in its use of short o forms.

Items subject to Shift: CS and FS Material

The extent of the stylistic shifting of /u:/ to /ʊ:/ in Nch, and vice versa, can be gauged from the following list, which cites all the (ū) items recorded in the interviews in CS and FS.

Item with /u:/, /ʊ:/ and /U/:

room

Items with /u:/ and /ʊ:/:

school, move, to, fool, boot, improve,
afternoon, mood, smooth

Items with /u:/ only:

pool, wound, group, approve, troop,
food

Items with /u:/ only:

too, two, do, lose, you, through,
who, shoe, soon, Waterloo, root

Items with /U/ only:

proof, Tombland

In addition, the following items were recorded in the interviews only with /u:/, but can frequently be heard in Nch with /u:/ :

saloon, scooter, hoop, Doonican,
goose, scoop, croupier, honeymoon.
Tombland is also pronounced with
/u:/ and /u:/.

WLS and RPS Material

Of the above items, the following also occur in the WL and the RP:

room, proof, boot (WL only)

and good, too, do, you, who, soon, school,
move, fool (WL and RP).

The much larger amount of material obtained in these two styles shows that proof also occurs with /u:/ and /u:/, that food also has /u:/, and that too, who and soon can also occur with /u:/. The full list of items occurring in either the WL, or the WL and the RP, is as follows: fool, cool, school, food, move, spoon, roof, soup, soon, too (in the WL and the RP), and hoof, proof, room, broom, boot (WL only). (You, who and do also occur, but are overwhelmingly although not entirely pronounced with /u:/, and will not be discussed further.)

The very large amount of variation that occurs in this variable in Nch can be gauged from the fact that, although only ten of these items occur in both the WL and the RP, as many as 48 informants had at least one case of stylistic shift; there was at least one item that had a pronunciation in RPS different from that in WLS. This differentiation cannot in most cases properly be termed stylistic variation, since there is no clear tendency to shift in a particular direction. In the case of cool, for

example, twelve (= 20 per cent) of the informants had a pronunciation in RPS different from that in WLS. In six of these cases, the informant switched from WLS /u:/ to RPS /u:/, and in the other six cases the opposite switch occurred. Furthermore, although altogether only twenty-five instances of (ū)-items occur in the RP and WL combined, only two groups of informants, one consisting of three, the other of two, were identical to each other in their usage of /u:/, /u:/ and /U/ with respect to (ū) items in these two styles. Further discussion of this distribution will be made in Chapters Ten and Eleven.

Monophthongs vs. Diphthongs

For the variable (ō), we obtained some information on the proportions of monophthongal to diphthongal types of pronunciation, which was portrayed in Fig. 8. This has also been done for (ū), and Fig. 36 shows the percentage of (ū)-3 which were monophthongal [u: ~ ʊ:] as opposed to diphthongal [ɤU ~ Uu]. There is little evidence of stylistic variation here, but there is a certain amount of class differentiation. It is, however, significant that the

highest number of monophthongs occurs in CS (100 per cent for all but one class group) where one would expect the fewest R.P.-type pronunciations. The explanation for this is, of course, that the merger of ($\bar{o}$) and ($\bar{u}$) items means that the least R.P.-like pronunciation of ($\bar{o}$), i.e. the most monophthongal, also affects ($\bar{u}$) items.

Differentiation of ($\bar{o}$) and ($\bar{u}$)

The nature and extent of this ($\bar{o}$) / ($\bar{u}$) merger is illustrated in Table XIII, which shows the amount of distinction made between the two lexical sets by members of the different social classes in different contextual styles. The amount of this distinction is calculated by subtracting ($\bar{o}$) index scores from ($\bar{u}$) index scores. This procedure, however, cannot be followed when both the ($\bar{o}$) and ($\bar{u}$) scores are over 200, since this implies the usage of some ($\bar{o}$)-4 and some ($\bar{u}$)-4. It will be remembered that although the rest of the index scales for ($\bar{o}$) and ($\bar{u}$) are identical, they diverge at this point, and ($\bar{o}$)-4 = [U] and ($\bar{u}$)-4 = [u:], so that the use of ($\bar{u}$)-4 and ($\bar{o}$)-4 implies a differentiation. In these

cases, therefore, we must subtract 200 from each score, and sum the results. Thus for example:

$$(\bar{u}) 185 : (\bar{o}) 145 = \underline{040}$$

but $(\bar{u}) 285 : (\bar{o}) 245 = \underline{130}$

The figures shown in Table XIII can, of course, represent only a rough guide as to the extent of the merger of ($\bar{o}$) and ($\bar{u}$), since some lexical items, such as do, who, you, only very rarely have /u:/ as opposed to /u:/, so that ($\bar{o}$) and ($\bar{u}$) scores are never likely to be identical. The table shows, however, that in FS and CS, where the figures are most reliable since the proportions of ($\bar{o}$) and ($\bar{u}$) items most closely reflect those of normal speech, the biggest differentiation occurs in the two most extreme class groups, the MMC and the LWC (and also, in CS, the LMC). In the case of the MC, the large differentiation is due to an R.P.-type /eU/ : /u:/ distinction, while in the case of the LWC it is due to a maintenance of the distinction by usage of more ($\bar{u}$)-4 and ($\bar{o}$)-4 forms. The LMC and MMC also have a fairly high differentiation rate. It is the UWC which has the greatest amount of merged forms, more particularly in WLS, and which

Table XIIIDifference in Index Points between ($\bar{o}$) and ($\bar{u}$) Scores

<u>Style:</u>	<u>WLS</u>	<u>RPS</u>	<u>FS</u>	<u>CS</u>
<u>Class</u>				
HMC	127	124	131	142
LMC	115	119	098	126
UWC	039	049	070	089
MWC	049	063	101	109
LWC	048	069	117	120

can be said to be in the vanguard of this merger as a linguistic change, because of its reluctance to use ($\bar{u}$)-4 and ($\bar{o}$)-4 forms and its inability or unwillingness to use ($\bar{o}$)-1 or ($\bar{o}$)-2 forms. The general increase of differentiation as the formality of style decreases is attributable to an increase in the number of ($\bar{u}$)-4 forms.

The Variable (yu)

This variable is the presence or absence of the glide [j] in the lexical set tune, music, queue, etc. Fig. 37 shows that there is definite class differentiation of this variable, although the LWC and MWC are undifferentiated, and the UWC has an index considerably lower than the LMC

Fig. 37. Variable (yu) by Class and Style.

in CS. The stylistic variation is slight, and must probably be disregarded, because the pronunciation of the [j] glide, where it does occur, depends for its frequency on the phonetic context and on the actual lexical item itself. This means that while WLS and RPS scores are comparable, since they include the same items, FS and CS scores are not. This perhaps explains the otherwise strange overlapping of WNC and LMC scores in CS. Note that there is reliable evidence of stylistic differentiation between RPS and WLS, and that the LWC, LMC and MNC groups use 100 per cent [j]-less forms in CS.

The Variable (r)

This variable is the use or non-use of intrusive /r/. During the course of this work it was discovered that full indices could not usefully be developed for this variable, since almost all informants used 100 per cent intrusive /r/ in speech. Figures were obtained, however, for WLS and RPS, and are given below in Table XIV. This shows that the WNC, MNC, and LMC use most intrusive /r/'s, with the LWC at almost the same level. Nothing can be deduced with respect to stylistic differentiation, since WLS examples involve only word-internal intrusive /r/, as in drawing, sawing. Figures for RPS also need some further discussion; what is clear from a close study of the details is that all members of all classes, with a very few

Table XIV(r) Indices

	<u>WLS</u>	<u>RPS</u>
MMC	050	029
LMC	087	038
UWC	084	040
MWC	092	034
LWC	081	032

exceptions in the MMC, use intrusive /r/ automatically and always. The difference in the proportion of intrusive /r/'s is not due to the failure of the higher class groups to use intrusive /r/ where it would normally occur, but to the tendency of the lower class groups to establish more contexts for the insertion of an intrusive /r/. Thus, in the phrase out to eat, the lower class groups have to as [tə], and consequently have an intrusive /r/, whereas the higher class groups have an unreduced vowel in to, and no intrusive /r/. What we are comparing, in other words, is for the most part the reduction of unstressed vowels to schwa. This applies to all styles except WLS. Table XV shows the number of intrusive /r/'s recorded per informant by social class in FS and CS. It can be seen that vowel reduction leading to intrusive /r/ is a function of low social class.

Table XVNo. of Intrusive /r/'s per Informant by Class

	<u>FS</u>	<u>CS</u>
MMC	0.333	0.000
LNC	0.125	0.000
UNC	0.562	0.187
MNC	1.091	0.318
LNC	1.500	0.750

Conclusion

This concludes our analysis of the Nch phonological variables as far as social class and stylistic differentiation are concerned. The following information concerning the variables has emerged:

- A. 1) The VC is undifferentiated for (ɛr), (ou) and (t).
- 2) The LNC and MNC are undifferentiated for (a:), (h), (ī), (ō) and (yu).
- 3) The MNC and UNC are undifferentiated for (a), (ā) and (e).

- 4) The UWC, LMC and MMC are undifferentiated for (ɪr).
- B. The following variables are involved in linguistic change: (a), (ā), (e), (er), (ɛr), (ī), (ir), (o), (ō), and (ū).
- C. All the variables are involved in style and class differentiation except:
- 1) (ū), which is involved only in stylistic variation; and
 - 2) (a:), (au), (ī) and (ɛr), which are involved only in class variation.
- D. The following variables are the best indicators of stylistic context: (ā), (er), (k), (ng), (o), (p) and (t).
- E. The following variables are the best indicators of social class: (ā), (a:), (au), (ng) and (o).

SECTION D : THE ELASTICITY

Chapter Nine: The Theory of the Diasystem

The heterogeneity of the Nch speech community has been illustrated in some detail in Chapter Eight. We have also described and discussed some of the ways in which different groups of Nch speakers are distinguished from each other linguistically. We have shown that different social class, sex and age groups have pronunciations of the phonological variables that differentiate them from other groups, and that most speakers have variant realisations of many of the variables in different social contexts.

The fact remains, however, that in spite of these significant differences, all the informants investigated in the course of this study were distinctively speakers of the same variety of English: Nch English. This chapter and the next will in part be taken up with a discussion of Nch English that will be as concerned with the similarities to be found within the Nch speech community as with the differences. As in Chapters Seven and Eight, this discussion will be limited to phonetic and phonological features of Nch English.

The Nch Speech Community

It must of course be recognised that Nch English is not an isolated, distinct or discrete linguistic

variety. Geographically, it merges into the other varieties of Nfk, EAn and Southern British English. Socially, it merges with the non-localised varieties of R.P. and Standard English. It is not, however, unreasonable to regard Nch as if it were a distinct variety. We have already shown, for example, that there is some evidence of the existence of a linguistic rural-urban dichotomy in the areas surrounding Nch. There are, moreover, many linguistic characteristics which are peculiar to the urban area of Nch. Speakers of Nch English, that is to say, belong to a particular speech community which has very many common linguistic features. Many of these features are not shared by any other speech community.

In this and the following chapter we shall be attempting to establish a common framework that will, in some sense, incorporate all types of Nch English. We hope to show that these different types are derived from a single underlying framework that is the same for the whole community. We shall call this underlying framework, (together with the rules which produce the different types and relate them to each other), the Nch diasystem. We believe that this diasystem can be most meaningfully constructed within the theoretical framework of generative phonology. By this means we can draw on the great insights into the nature of the linguistic competence of

the native speaker which are provided by the theory of transformational generative grammar. The diasystem, in other words, should provide a model of the linguistic competence of the individual as a native speaker of Nch English and as a member of the Nch speech community.

We shall also attempt to show that a taxonomic phonemic diasystem is an unilluminating construct, and that it is impossible to devise such a diasystem for an urban area like Nch.

The Reality of the Diasystem

There are two main justifications for attempting to establish this kind of diasystem. The first is that a model of this nature provides a common basis for the description, comparison and typology of mutually comprehensible dialects. The second is that there is some sense in which members of, in this case, the Nch speech community can be said to have internalised this diasystem, in that they are able to draw upon it in their variable speech production, and to use it in the comprehension and social interpretation of utterances produced by other speakers.¹ We therefore believe that there is a need to establish and investigate some kind of model of this internalised diasystem.² The diasystem, it appears, can be said in some way to exist, and must therefore be described in order correctly and fully to describe the

linguistic competence of the native Nch speaker.

There seems to be in principle no reason why a diasystem of this type should not be expanded to include all mutually intelligible varieties of English. We shall here, however, confine ourselves to the Nch material.

A New York City Diasystem

If we accept that, in order to describe correctly all the possibilities inherent in a particular urban speech variety, it is necessary to set up this type of diasystem, then it is clear that this is one point where criticism can be levelled at Labov's major work in urban dialectology.³ In his work on New York City English, Labov fails to discuss explicitly the common underlying structure of New York City speech. In the main he illustrates and discusses only the differences within the community, (although he does hint at a common underlying framework in his discussion of the fact that the New York City speech community has a set of shared linguistic norms). This failure is particularly evident in his treatment of New York City vowels. Labov analyses these as comprising a series of discrete social class and ethnic group vowel systems. He explains, for example, that the merger or non-merger of the lexical sets of

here and hair is evident only from variance analysis. There is, in other words, only a statistical tendency in the speech of some individuals to pronounce items from these lexical sets with identical vowels: the distinction between the two sets, and between speakers who have the merger and those who do not, is a more - or - less distinction, rather than an either - or distinction. Labov nevertheless considers it legitimate to set up two separate and distinct vowel systems: the one completely without the merger, and the other completely with. This gross distortion of the facts is of course the result of an attempt to force speech material from a heterogeneous speech community into the taxonomic phonemic straitjacket.

The Taxonomic Phonemic Diasystem

The term diasystem was first used by Uriel Weinreich in his article "Is a Structural Dialectology Possible?"⁴ This article is in the main an attempt to bring about a rapprochement between the methods of structural linguistics and dialectology. In the course of this article, Weinreich develops two important points. The first is the introduction of the concept of the diasystem itself. The second is his insistence that dialectologists should compare forms from different dialects not just as "the same" or "different", but as constituent parts of their

own systems. In other words, at the phonological level, phonetic similarity should take second place to phonemic similarity and the overall comparison of phonemic systems. Weinreich's diasystem is therefore a combined system based on phonemic correspondences. It illustrates the importance for dialect comparison of the similarities to be found in the systems of different dialects: "a diasystem can be constructed by the linguistic analyst out of any two systems which have partial similarities".

The two systems of the varieties under study can be compared with respect to (a) their phoneme inventories, and (b) their phoneme "distribution". It should be noted at this point that there is a certain amount of confusion in the literature concerning the term distribution. Weinreich, for example, uses it to signify the distribution of phonemes over lexical items or "lexical correspondences". Other linguists, such as De Camp,⁵ use the term to refer to permitted phoneme sequences in a dialect. The two are of course inter-related. For example, in some dialects of English, /o/ is not permitted before /r/, with the result that certain lexical items have /o/ in these dialects corresponding to /o/ in others. To avoid confusion, we shall restrict the term distribution to the latter sense, and discuss the former under the heading of incidence.

To exemplify, we can say that a comparison of the

vowel systems of two dialects, A and B, with respect to their phoneme inventories, might yield a (partial) diasystem of the following type:

$$A, B // \frac{A / i \sim e \sim \varepsilon /}{B / i \sim e \sim \varepsilon \sim \varepsilon /} \approx a \approx o \approx u //$$

Differences of incidence, however, "cannot be directly inferred from a comparison of the differences in inventory, although the two ordinarily stand in a definite historical relationship".⁶ It is the stress on "partial similarities" underlined by the notation $// \approx a \approx o \approx u //$ which quite clearly differentiates the diasystem from the so-called "overall system" proposed by Trager and Smith.⁷ The overall system is merely a sum of all the phonemic distinctions made in certain English dialects, with each dialect having in its own phonemic system only a subset of the maximal set of phonemes. It has little value except as an aid to "broad transcription".

It is interesting to note, with reference to the claim made above for the "reality" of the diasystem, that Weinreich himself does not regard the diasystem as a mere artificial construct: "A diasystem is experienced in a very real way by bilingual (including 'bidialectal') speakers, and corresponds to what students of language contact have called 'merged system'".

Criticisms of the Taxonomic Phonemic Diasystem

There are several very important drawbacks to Weinreich's theory of the diasystem. These stem very largely from the theory of taxonomic phonemics itself, and mean that the establishment of a taxonomic phonemic diasystem (particularly for the different types of one urban variety) is at best unrevealing and very difficult, and at worst impossible.

1. The first, relatively minor drawback is that the type of diasystem proposed by Weinreich is totally uninteresting for the comparison of dialects which have identical phonemic systems. These dialects may be phonetically very different and be quite dissimilar with respect to incidence, but these facts will not be evident from the diasystem itself. A solution to the problem of phonetic differentiation was proposed by Cochrane,⁸ who suggested that a diasystem should be established at two levels, the diaphonemic and the diaphonic. The diaphonic level of analysis would compare the physical realisations of otherwise identical phonemes. (The problem of incidence is dealt with under 2. below.)

2. It is clear from the hypothetical diasystem illustrated above that the two common diaphonemes

//a ≈ o// have much in common with the unit described by Daniel Jones as the "diaphone". Jones says: "It is convenient to have a name for a family of sounds consisting of the sound used by one speaker in a particular set of words (said in isolation) together with corresponding though different sounds used in them by other speakers of the same language. Such a family may be termed a 'diaphone'."⁹

The phrase that we need to discuss here is "in a particular set of words". Weinreich states, as we have already seen, that the incidence of phonemes in a particular dialect cannot be inferred from the diasystem. But it is obvious that, before a diaphone can be established, the particular set of words in which it occurs must be taken into consideration. What then must we do about lexical correspondences, the incidence of phonemes in cognate lexical items? Obviously, two dialects may have identical phoneme inventories, and yet be very different because of incidence. And even if inventories are not identical, some indication of lexical correspondences must be given in order adequately to represent the relationship between the two dialects in question.

One attempt at a solution to this problem is provided by Cochrane.¹⁰ He proposes that the degree

of relatedness of two varieties can be indicated by taking lexical correspondences into consideration in the following way. If every instance of a phoneme A /P/ corresponds in the cognate morpheme to an instance of the phoneme B /P/, this is termed a "reliable simple correspondence" and indicates a close relationship, at this level, between the two varieties. If, on the other hand, instances of a phoneme A /P/ correspond to instances of phonemes B /P, P', P''... / so that the particular B phoneme is contextually predictable, this is a fully reliable complex correspondence. Where this type of correspondence is not contextually predictable, the degree of reliability of the correspondence must be indicated, Cochrane says, by some kind of count. If A /P/ corresponds to B /P/ and B /P' / in the ratio of four to one, this can be represented as:

$$\begin{array}{r} A /P/ = \frac{4B /P/}{1B /P' /} \end{array}$$

and the correspondence is "80 per cent reliable". Exactly how or why this is to be done Cochrane does not say. It does of course indicate to some extent the degree of relatedness of two dialects, but it tells us nothing at all about the nature of the relationship. Neither does it indicate which particular phonemes occur where, or why. The most important drawback, however, is that Cochrane has first of all to establish the diasystemic

inventory, and only subsequently can he begin to investigate lexical correspondences. Clearly, however, lexical correspondences must be taken into account before the diasystem can be satisfactorily established. If this were not done, then it would be possible to set up a diasystem containing two totally unrelated languages which just happened to have identical phonemic systems. The same also applies, however, to comparisons of closely related dialects of the same language. For example, the fact that London English and some types of North Country English have vowels of the type [a] does not mean that we can establish a valid diasystem for the two varieties containing the diaphonemic element L, NC // $\approx$ a//, since this vowel occurs in London in items of the lexical set but, hut, and in the lexical set bat, hat in the North. To treat // $\approx$ a// as a valid common element would give a totally false impression of the similarity of the two dialects. Similarly, a comparison of two particular Nch idiolects within the Weinreich framework would lead to a partial diasystem of the following type:

$$1, 2 // \frac{1 / i: \sim e: \sim \epsilon: / \approx \epsilon i \approx \Lambda i \approx \epsilon i}{2 / i: \sim \epsilon: /} //$$

This, however, merely states that where idiolect 1 has three long front vowels, idiolect 2 has only two. This is of no particular interest, and, as Weinreich says,

nothing concerning incidence can be inferred from this diasystemic inventory. Moreover, it is not even the case here, as Weinreich suggests, that incidence and inventory can be seen to stand in a definite historical relationship. Items with 1 /e:/ do not correspond to cognate items with either 2 /i:/ or 2 /ɛ:/, but rather to 1, 2 //eɪ//. A diasystem of the following type would therefore be much more significant and realistic:

$$1, 2 \begin{array}{l} // \\ \frac{1 /e:/ \sim eɪ/}{2 /eɪ/} \end{array} \approx i: \approx \epsilon: \approx \Delta i \approx eɪ //$$

We must, therefore, take lexical correspondences into account when establishing the diasystem. It can also be shown, however, that absurdity can equally well result when lexical correspondences are taken into account. For example, Moulton,¹¹ in his study of Swiss German dialects, develops a method for taking lexical correspondences into account and for stating them more explicitly than, for instance, Cochrane does. This method revolves around the fact that a study of the historical development of modern Swiss German vowel systems permits the diagramming of these systems together with the historical sources of each vowel. Moulton says: "This at the same time gives an indication of the lexical correspondences from one [modern] system to another".

If we portray the Middle High German short vowel system thus:

<u>MHG</u>		
i ₁	ü ₁	u ₁
e ₂	ö ₂	o ₂
ë ₃		
ä ₄		a ₄

we can show the historical sources for the short vowels of a particular modern Swiss German dialect in the following way:

i ₁	ü ₁	u ₁
e _{1,2}	ö _{1,2}	o _{1,2}
ë _{3,4}	ö ₂	o ₂
	a ₄	

This type of diagram permits a diachronic comparison of the evolution of modern systems, as well as a synchronic comparison of different modern systems and the lexical correspondences that obtain between them.

In the case of two particular Swiss German dialects, Moulton shows that the diasystem which results from this type of approach is as follows:

$$\text{LU,AP} \left\| \frac{\text{LU} / i_1 \sim e_1 \sim \epsilon_2 \sim \epsilon_{3,4} /}{\text{AP} / i_{o,1} \sim e_{1,2} \sim \epsilon_3 \sim \epsilon_4 /} \right\| \approx a_4 \approx \left\| \frac{/ \circ_2 \sim o_2 \sim \tilde{o}_2 \dots /}{/ \circ_2 \sim o_{1,2} \sim \tilde{o}_2 \dots /} \right\|$$

This indicates that the two systems have only one completely shared diaphoneme in common. The absurdity lies in the fact that these two dialects are spoken only fifty miles apart and are completely mutually intelligible.

Even by using this system, moreover, only a rough indication of lexical correspondences can be given, as Moulton admits: "Since / α_2 / and / $\bar{\alpha}_2$ / are listed here for both [dialects], these would seem at first glance to constitute the fully shared diaphonemes // $\alpha_2 \bar{\alpha}_2$ //. This is not the case, however. Whereas all the lexical items identified by the subscript /2/ belong to LU / $\alpha_2 \bar{\alpha}_2$ /, only part of them belong to AP / $\alpha_2 \bar{\alpha}_2$ /, the rest belonging to AP / $\alpha_{1,2} \bar{\alpha}_{1,2}$ /."

Moulton concludes that, "if in constructing a diasystem of two or more varieties of a language we disregard lexical correspondences, then we are treating these varieties as if they were totally unrelated to one another". (And in the case of these two Swiss German dialects, Weinreich's method produces a system totally devoid of interest which over-emphasises the similarity of the two dialects: LU, AP //1 $\approx$ e $\approx$ ϵ $\approx$ e $\approx$ a $\approx$ a $\approx$ $\bar{\text{a}}$ $\approx$ $\bar{\text{a}}$...//.) Alternatively, "if ... we treat them as related and hence take lexical correspondences into consideration, then the usefulness of the diasystem in dialectology becomes questionable". In the words of Pulgram,¹² "a diasystem ...

that takes into account certain conditions which historical linguists, dialectologists, and the speakers will regard as indispensable, and that then shows so little agreement between closely related dialects as to make them seem foreign to one another, distorts the facts no less than does [a] diasystem ... which makes the dialects appear identical".

It should also be pointed out that Moulton's system shares with Weinreich's the defect that it fails to show exactly which lexical items have a particular phoneme. It also fails to show the degree to which a phoneme is descended from one historical source as compared to another.

It seems clear then that, while the problem of phonetic differentiation within the taxonomic phonemic diasystem can be overcome, the problem of incidence cannot. Both taking lexical correspondences into consideration and omitting them altogether result in gross distortions of the facts. There therefore seems to be little merit in Pulgram's suggestion that a diasystem should consist of a combination of both types of approach.

3. The third major drawback is that the taxonomic (autonomous) phoneme is not a suitable unit for dialect study or dialect comparison. This is already clear from the points discussed under 1. and 2. above, but there are

also particular theoretical arguments for this claim.

The unsuitability of the taxonomic phoneme for dialect study is simply one particular aspect of its general unsuitability for linguistic theory as a whole. This is, however, more striking in the case of dialectology than, perhaps, in any other field. The fact is that the taxonomic phoneme is not fitted for application to heterogeneous speech communities or to any kind of speech variation. The taxonomic phoneme must, strictly speaking, be set up for one particular idiolect in one particular style, or, at the most, for one particular dialect. The phoneme is therefore only a meaningful unit within its own system, and cannot legitimately be compared to members of other systems. Since different dialects have different phonemic systems, the phonemes from these dialects are simply not comparable. Even apparently similar units in two different systems cannot be considered to be the same, since they can only be defined in terms of the relationships they have with other members of the same system. It makes very little sense to compare the /a/ phoneme of a dialect which has only one low vowel to the /a/ phoneme of another which has, say, both /a/ and /a/. The fact that the linguist has chosen to use the symbol /a/ in both cases is of no relevance. As Pulgram has said, "there is no such thing as comparative phonemics".¹³

"Structural dialectology", and, in particular, the use of the taxonomic phoneme within dialectology, would therefore appear to be impossible. This is, of course, the strict structuralist view which Weinreich was presumably trying to overcome. However, in view of the failures that we are able to point to in Weinreich's theory, this view would seem to be the correct one.

4. As an extension and elaboration of the points made under 3., we can show that the most striking failure of Weinreich's inventory (and distribution) taxonomic phonemic diasystemic model is provided by urban dialectology. This is because linguistic variation and the heterogeneity of speech communities cannot be ignored in the study of the speech forms of urban areas, (although some linguists have made valiant attempts to do so).¹⁴

(1) Because he is working within the taxonomic phonemic theoretical framework, Weinreich's diasystem inevitably involves the comparison of two dialects as discrete systems. This has no unfortunate results if the two dialects are quite widely different, as in the case of Cochrane's¹⁵ comparison of Yorkshire and Australian dialects (although the usefulness of such a comparison is open to question). It is, on the other hand, extremely unhelpful in the treatment of closely related dialects,

and in particular for dealing with the type of situation that obtains in Nch and other large urban areas. Here, the different types of speech variation must be regarded as representing clines. The setting up of discrete varieties is therefore a gross distortion of the facts. For this reason, it is not possible to divide Nch English into several discrete types and allot each of these types a separate line in the diasystem. At the same time, there is too much variation and differentiation, as we have shown in Chapter Eight, to permit us to dispense with some kind of diasystem altogether, and to regard Nch English as one single type.

(11) The taxonomic phonemic approach is also unable to handle the wide range of variation that occurs in urban areas within groups and, more particularly, within the speech of individuals. Attempts to fit this kind of variation into a taxonomic framework can lead to some absurd results. Consider for example Sivertsen's work on London English.¹⁶ Sivertsen manages to avoid most of the pitfalls in the way of the taxonomic urban dialectologist by eliminating a major factor contributing to the speech community's heterogeneity: she uses only

a very small unrepresentative sample of speakers. She is still, however, faced with problems like the following. There is a series of stylistic alternations in London English of the type: better ['betə] ['be2ə], where [t] and [2] are both considered to be allophones of the taxonomic phoneme /t/. There is also, however, another series of alternations involving the replacement by [2] of the taxonomic phonemes and phoneme clusters: /k/, /kt/, /p/, /pt/, /g/ and /d/. Because of her unwillingness to recognise that London English is not a single discrete system and her reluctance to abandon the strict principles of taxonomic phonemics, Sivertsen is forced to adopt absurd and counterintuitive phonemic representations like the following:

<u>big</u>	/bít/	<u>directly</u>	/drétli2/
<u>garden</u>	/gáhtən/	<u>couple</u>	/káta1/
<u>reckon</u>	/réta2/	<u>kept</u>	/két/ 17

According to this interpretation, stylistic variation is a question of incidence, rather than of variant (and overlapping) realisations of common underlying units.

(iii) Further examples of similar difficulties

with the taxonomic approach can be found in De Camp's work on San Francisco English.¹⁸ De Camp is at pains to stress, more than once, that "rigid structuralist procedure" must be abandoned in order satisfactorily to handle the urban speech material. The large amount of variation he finds in San Franciscan speech also leads him to postulate the existence of two separate taxonomic phonemic systems, not just within the community, but within the speech of individuals. He is, in addition, led to discuss features which do not fit into these systems as compromise pronunciations.

De Camp states that low front vowel phones in the area of [a] were recorded frequently for some informants and more rarely for others in the lexical set of calve, rather, pass, aunt, but that no single informant used low vowels in all the items in this set.

"Rigid structuralist procedure would require recognition of 3 separate phonemes, /a/, /a/ and /a/." But, De Camp says, [ant] and [kaf] for aunt and calf are "inter-dialectal loan words and, like many foreign loan words, are at variance with the phonology of the borrowing dialect". Fries & Pike¹⁹ have shown that two or more differing phonemic systems can

coexist in the speech of one individual. Therefore, "for some San Franciscans one must recognise the coexistence of San Francisco and other phonemic systems, in this case Eastern New England ..."

In our view, aunt and calf, however pronounced, can hardly be said to be loan words. (Loan pronunciations might be a more appropriate term.) This type of phenomenon, moreover, can be handled quite easily within a generative phonological framework, as we shall attempt to show in the next chapter. This is also true of De Camp's "compromise" phones, particularly when, as in this case, the compromise phone is identical with one of the phonemes in the secondary (New England) co-existent phonemic system. (De Camp explains [a] in aunt as an "inter-dialectal" borrowing, but [a] in Nevada and rather as a "compromise articulation" between /æ/ and /a/.) It is clearly, on the other hand, a difficult matter to fit this kind of material into any taxonomic framework, however much we relax "rigid structuralist procedure".

A further argument in favour of using the generative phonological approach is

provided by De Camp's difficulty in handling phoneme distribution and incidence in San Francisco. "Some informants are also inconsistent in the distribution of phonemes. Again rigid structuralist procedure demands a clearcut decision: Does /o/, for example, ever occur before /r/ or does it not?" The answer, of course, is that it does sometimes, but De Camp has no satisfactory way of stating this.

He also points out that the hoarse: horse distinction has a "psychological reality" for some speakers, in that they insist that such pairs are not comparable to pairs such as sale: sail, but do not themselves make any distinction. De Camp has no adequate way of explaining this, but it would seem that there are two distinct underlying representations for these two items, and that the two systematic vowel phonemes in question have optionally identical realisations before /r/. This fact can be adequately expressed only within the theoretical framework of generative phonology.

(iv) The impossibility of using the taxonomic phoneme in urban dialect study is further

underlined by a brief examination of the type of approach that would have to be adopted in setting up this type of diasystem for Nch.

The first problem we are faced with is which of the contextual styles to take as basic. We have seen, for example, that some groups of Nch speakers do not distinguish fear: fair in CS, but do make the distinction in WLS. Now taxonomic phonemes are usually established on the basis, amongst other things, of minimal pairs. These can only be elicited in a style of the WLS type. If we were to do this for Nch English we would be able to set up two distinct taxonomic phonemes /Iə/ and /ɛə/, but we would fail completely to characterise the normal everyday speech of many Nch people. We could partly resolve this problem by setting up a partial stylistic diasystem like the following:

$$1, 2 \quad \begin{array}{c} \parallel \\ \frac{1 \text{ /Iə} \sim \text{ɛə/}}{2 \text{ /ɛ:/}} \\ \parallel \end{array}$$

This, however, entirely obscures the fact that the distinction fear: fair in Nch is a more - or - less distinction, rather than an all - or - none distinction. It implies that some speakers

simply have the distinction, and that others simply do not. Or, if we regard the diasystem as purely stylistic, that a speaker switches over from one discrete system which has the distinction to another that does not. It is entirely incapable of indicating the nature of the stylistic variation that was illustrated in Chapter Eight.

A second problem occurs in the case of phonological variables like (ir). It is clear from the material presented in Chapters Seven and Eight that a linguist working in a taxonomic phonemic framework would have to regard realisations of (ir) variously as instances of /3:/, /a:/, /A/ and /x/. It is also clear that there would be many doubtful cases and "compromise" pronunciations. Variation in the pronunciation of this vowel would have to be regarded as a case of multivariate phoneme incidence in "cognates".

A third major problem is that if we wished to set up a taxonomic phonemic diasystem for Nch English, we would have to account for the fact that only some Nch speakers make the following distinctions, and no speaker makes all of them:

<u>fear</u> : <u>fair</u>	<u>boot</u> : <u>Bute</u>	<u>hat</u> : <u>hurt</u>
<u>name</u> : <u>nail</u>	<u>boat</u> : <u>foot</u>	<u>heart</u> : <u>hut</u>
<u>face</u> : <u>fierce</u>	<u>boot</u> : <u>foot</u>	<u>our</u> : <u>are</u>
<u>pure</u> : <u>purr</u>	<u>pore</u> : <u>poor</u>	<u>fire</u> : <u>far</u>
<u>dew</u> : <u>do</u>	<u>pore</u> : <u>paw</u>	<u>box</u> : <u>barks</u>
<u>so</u> : <u>sew</u>	<u>heart</u> : <u>hurt</u>	<u>player</u> : <u>plan</u>
<u>boot</u> : <u>boat</u>	<u>hut</u> : <u>hurt</u>	<u>mower</u> : <u>mob</u>

(Each lexical item stands for a lexical set.)

There are also some speakers who do not distinguish the vowels of the following pairs:

fired : cod player : half
back : bake

There is, moreover, a certain tendency to merge the vowels of hid and head, and of set and sat. In addition to this, many younger speakers have a series of long pure vowels, which older speakers have only in part, of the following type:

[ɛ:] ear, air, skier, see it
 [æ:] player, play it
 [a:] are
 [ɜ:] bird, pure, brewer, knew it
 [ɔ:] poor, pore, paw, going, employer, go it,
enjoy it

[ɒ:] lower, know it

[a:] fire, higher, our, allowance, try it,
allow it

We therefore have a maximal set of Nch vowel phonemes: /I ~ ɛ ~ æ ~ U ~ ʌ ~ ɒ ~ i: ~ eɪ ~ ʌɪ ~ oɪ ~ ʊɪ ~ uɪ ~ əu ~ ou ~ ɛ: ~ eɪ ~ a: ~ ɔ: ~ ɔɪ ~ ɒ: ~ a: ~ ɛ: ~ Iə ~ eə ~ uə ~ əə/.

No single speaker has all these "phonemes", so they clearly constitute a Trager-Smith type of "overall system", which can tell us nothing about the various inter-relationships between the different phonemes.

Even if we attempt to set up a diasystem which does not take lexical correspondences into account, the number of different discrete systems we would have to establish in order to incorporate all these contrasts would be very large. Of the above twenty-six phonemes, only the following ten constitute the "common core"²⁰ of Nch English: /I ~ ɛ ~ æ ~ U ~ ʌ ~ i: ~ ʌɪ ~ oɪ ~ əu ~ a:/ . It is certain, however, that we must make some attempt to indicate lexical correspondences and to illustrate the relationships that obtain between phonemes. It is an important fact, for example, that /Iə/ and /eə/ can only occur where /ɛ:/ does not occur. The

diasystem, in addition to the above "common core", will therefore have to contain the following diasystemic blocks:

- A. 1 /e ~ e₁ ~ r₁ ~ e₁ ~ I₂ ~ e₂/
2 /e ~ e₁ ~ e₁ ~ e₁ ~ e₁/
3 /e ~ e₁ ~ e₁ ~ I₂ ~ e₂/
4 /e ~ e₁ ~ e₁ ~ e₁/
5 /e ~ e₁ ~ e₁ ~ I₂ ~ e₂/
6 /e ~ e₁ ~ e₁ ~ e₁/
7 /e ~ e₁ ~ I₂ ~ e₂/
8 /e ~ e₁ ~ e₁/
- B. (i) /U ~ u₁ ~ u₁ ~ ou/
(ii) /U ~ u₁ ~ ou/
(iii) /U ~ u₁ ~ u₁/
(iv) /U ~ u₁ ~ ou/
- C. (p) /o₁ ~ o₂ ~ u₂/
(q) /o₁ ~ u₂/
(r) /o₁ ~ o₂/
(s) /o₁/
- D. I /A ~ ʒ₁ ~ a₁ ~ a₁ ~ v ~ v₁/
II /A ~ a₁ ~ a₁ ~ v ~ v₁/
III /A ~ ʒ₁ ~ a₁ ~ v ~ v₁/
IV /A ~ ʒ₁ ~ a₁ ~ a₁ ~ v/
V /A ~ a₁ ~ v ~ v₁/
VI /A ~ a₁ ~ a₁ ~ v/
VII /A ~ ʒ₁ ~ a₁ ~ v/
VIII /A ~ a₁ ~ v/
IX /A ~ ʒ₁ ~ a₁/
X /A ~ a₁ ~ a₁/

(This, of course, can only be done if we are prepared to pretend that there are discrete varieties of Nch English.) A diasystem of this type is absurd for several reasons:

- 1) Even the very large, complex and unwieldy diasystem that would result from the conflation of these blocks and the common core would not be correct. This is because we have not indicated above the alternation of /ə/ with /ʌ/, /a:/ and /ɜ:/ in items such as church, first. This means that to obtain the "correct" diasystem we will have to merge Block A with Block D. This will lead to an even larger, more unwieldy and more unrealistic diasystem.
- 2) There is no way at all of indicating lexical correspondences exactly. If we were to attempt to do this by constructing the type of diasystem proposed by Moulton, even more complications would arise. In Block B, for example, we would have to distinguish between /U ~ u: ~ u: ~ ɔu/ where /U/ includes an short ɔ items

and the same system where it does not.

- 3) The different "systems" indicated in the different lines of the above diasystem are not, (as we have already seen), distinct systems or varieties employed by different speakers or groups of speakers. They are merely an indication of the contrastive possibilities open to Noh speakers. The above system would appear to indicate that speakers could switch from one system or partial system to another at will. However, this is not at all consonant with the facts of linguistic variation demonstrated in Chapter Eight. The separate systems are in fact totally artificial constructs of no validity. They cannot be "discovered" in the speech of any individual. There is no correspondence between any particular line in one of the above blocks and any other line in any of the other blocks.

When we add to the above drawbacks the fact that a diasystem of this type is totally incapable of indicating or expressing the class and style differentiation illustrated in Chapter Eight, it is clear that the taxonomic phonemic diasystem

must be rejected for the purposes of describing Nch English and the linguistic competence of the native Nch speaker.

The Generative Phonological Diasystem

We have already indicated that a theory of phonology which permits a distinction between a deep systematic phonemic level and a surface systematic phonetic level is much more suitable for the description of many of the Nch phonological variables. The facts of linguistic variation suggest, for example, that all Nch speakers have different systematic phonemic representations of the lexical sets of fear : fair, but that these are frequently realised at the systematic phonetic level with identical articulations, particularly in CS.

Dialectological work that has already been carried out within the generative phonological framework confirms that the generative phonological model is particularly suitable and valid for this type of work. Keyser,²¹ for example, has shown that some of the American dialect data recorded by Kurath & McDavid²² involving dialectal differentiation is the result of differential rule ordering. Both the dialects in question have the same set of relevant phonological rules, but the fact that the rules are ordered differently results in surface outputs that are significantly distinct. Saporta²³ has

also shown that different dialects may have the same underlying systematic phonemes but be differentiated by rule ordering, rule addition, or by rule simplification.

In a major study that is more relevant to the present material, Vasiliu²⁴ has demonstrated that Daco-Rumanian dialects can be derived from a common set of phonological entries in the lexicon by rules which are differently ordered for different dialects or which apply only to a subset of the dialects. The generative model, Vasiliu shows, also allows for an accurate typology of dialects which adequately describes the relationships between them and which cannot be made on the basis of the taxonomic inventory and distribution model.²⁵ Thus, for example, Muntenian Daco-Rumanian dialects are distinguished from Moldavian dialects in that, although both types have the following morpheme structure rules:

- 1) After /š', ž'/ only /e, i/ occur and not /ə, ɪ/.
- 2) After /š, ž/, /e, i/ become /ə, ɪ/.
- 3) /š', ž'/ become /š, ž/.

Muntenian dialects have the rule order 1 - 2 - 3 - Q (where Q represents a further unspecified block of rules) and Moldavian dialects have the rule order 1 - Q - 2 - 3. The Moldavian dialects can be further sub-divided into

two types, X and Y. The type X dialects have the morpheme structure rule 4) which other Moldavian dialects do not have:

$$4) \begin{bmatrix} /t/ \\ /d/ \\ /n/ \end{bmatrix} \longrightarrow \begin{bmatrix} /t'/ \\ /d'/ \\ /n'/ \end{bmatrix} \quad / \text{ --- front vowel}$$

Type X dialects themselves can now be split up into two further sub-types. Sub-type I has the two phonological rules 5) and 6):

$$5) \begin{bmatrix} + \text{ Obstr} \\ + \text{ Stop} \\ - \text{ Acute} \\ + \text{ Sharp} \end{bmatrix} \longrightarrow \begin{bmatrix} + \text{ Acute} \\ + \text{ Strid} \end{bmatrix}$$

$$6) \begin{bmatrix} + \text{ Obstr} \\ + \text{ Stop} \\ - \text{ Strid} \\ - \text{ Nasal} \\ + \text{ Sharp} \end{bmatrix} \longrightarrow \begin{bmatrix} - \text{ Acute} \end{bmatrix}$$

In dialect A of sub-type I the two rules appear in exactly this form. In dialect B of sub-type I they occur in the conflated form of 5a):

$$5a) \begin{bmatrix} + & \text{Obstr} \\ - & \text{Nasal} \\ + & \text{Sharp} \end{bmatrix} \longrightarrow \begin{bmatrix} + & \text{Acute} \\ + & \text{Strid} \end{bmatrix}$$

so that instead of operating consecutively they "apply simultaneously". Sub-type II, on the other hand, which consists only of dialect C, has neither 5) nor 6), but a different rule 7):

$$7) \begin{bmatrix} /t'/ \\ /d'/ \end{bmatrix} \longrightarrow \begin{bmatrix} /č/ \\ /ǵ/ \end{bmatrix}$$

The presence or absence of the above rules therefore gives us the following typological classification of Daco-Rumanian dialects:

A taxonomic phonemic approach, on the other hand, is unable to provide this type of classification and is

incapable of expressing the true relationships that obtain between the different dialects. Dialects A and C, for example, have the same taxonomic phoneme inventory and distribution. They are, in other words, identical. Dialect B lacks the taxonomic phonemes /k'/ and /g'/ which are present in both A and C, and must therefore be considered to be different. The resulting classification is:

It is only if we compare A and C with another dialect, for example the literary standard, that we realise that they are not identical - that their phoneme incidence is different. A comparison of inventories and distributions fails to reveal that A and B are more closely related than A and C, and is incapable of expressing the hierarchical nature of the inter-relationships which the generative typology produces. This can only be done by means of a "correspondence table" established with reference to another dialect, and this is in fact "nothing but a non-formal statement of [the above] rules".

Further examples of the way in which a generative

phonological approach to dialectology can be much more interesting, revealing and intuitively correct than the taxonomic approach are given by King.²⁶ Drawing on an example from Lamb,²⁷ King states that in one dialect of Monachi, there is an alternation between [m] and [w̃] such that the former never occurs after vowels and the latter only after vowels, e.g.:

[miyawai]	" <u>will go</u> "
[tãwiyawaina]	" <u>our future going</u> "

In another dialect of the same language the equivalent alternation is between [m] and [w]. In addition there is in both dialects a phone [w] which does not alternate with [m] but rather contrasts with it. Using the generative phonological approach we can simply state that there are two underlying systematic phonemes that are the same for both dialects: /m/ and /w/. For the first dialect there is a rule:

1) /m/ → [w̃] / v_____

For the second dialect there is a rule:

2a) /m/ → [w] / v_____

or, alternatively, as King has it, a rule which states that glides are non nasal:

$$2b) \begin{bmatrix} - & \text{voo} \\ - & \text{cons} \end{bmatrix} \longrightarrow [- \text{nasal}]$$

This results in the same output:

$$\begin{array}{ll} 1) & /m/ \longrightarrow [\tilde{w}] / v_ \\ 2b) & [\tilde{w}] \longrightarrow [w] \end{array}$$

According to King's interpretation, the difference between the two dialects lies solely in the fact that dialect II has an additional rule. The result in dialect II is that in certain contexts the two separate underlying phonemes have the identical realisation [w].

The relevant part of a taxonomic phonemic diasystem for these two dialects would be $//m \approx w//$ "which reveals exactly nothing of the way in which the dialects differ".²⁸ In dialect I, the [m]: [w̃] alternation must be considered to be allophonic, whereas in dialect II the alternation is morphophonemic. The two dialects therefore differ, according to this approach, at two different levels. "This example demonstrates that meaningful dialect comparison does not necessarily emerge from comparing the phonemic inventories of two dialects, for in this case the phonemic inventories ... are identical, and whatever differences there are arise via rules that state realisations of phonemes. ... To gain any insight into dialect differences we must concern ourselves with the grammars of languages, not their vowel or

consonant systems ... The study of dialect differences is the study of how the grammars of dialects differ."²⁹

O'Neil,³⁰ in his work on the dialects of Faroese, provides further exemplification of this type of approach in dialectology. O'Neil's method is characterised by the fact that he takes one particular dialect as basic, and derives all others from this basic dialect by various sets of rules. (This type of approach can also be found in Klima's³¹ study of syntactic differentiation.) O'Neil states that: "We begin by presenting the matrix description of Southern Streymoy Faroese because the other dialects can be most simply presented in the form of rules that show in what ways they depart from the Tórshavn system". This method has been criticised by Thomas,³² who has shown that it cannot work in the case of certain Welsh dialects, since one dialect has to be taken as basic for one part of the system, and another for other parts. Thomas shows that North Welsh is in many ways more conservative than South Welsh and is for this reason well suited to provide a basic form from which South Welsh can be derived by additional rules. However, the following set of correspondences (together with others) has to be taken into consideration:

North Welsh

South Welsh

/soɪn/

"mention"

/soɪn/

/suɪ/

"zoo"

/zuɪ/

Here there is no way at all of predicting which North Welsh /s/ forms will correspond to South Welsh /s/ and which to /z/. The only possible way of relating the two dialects is in this case to take the South Welsh forms as basic. The different dialect forms can then be generated in the following way:

1) $\begin{bmatrix} s \\ z \end{bmatrix} \longrightarrow \begin{bmatrix} s \\ z \end{bmatrix}$ NW, SW /so:z/

SW /zu:t/

2) $z \longrightarrow s$ NW /su:t/

As it is therefore impossible to take either North Welsh or South Welsh as basic, Thomas, like Vasiliu, generates both dialects from one underlying source that is the same in both cases. Since this common underlying source is not in its entirety characteristic of any actually occurring dialect, it must be considered to be abstract. "The generative device is clearly most powerful in comparative statement when it has an arsenal of abstract underlying forms, from which all dialect forms are derived through a set of ordered rules."

We have seen that one of the most important failures of the taxonomic phonemic diasystem is its inability to handle problems of incidence. Thomas points out that the generative statement is able "to formalise the type of dialect difference which is not covered by an inventory-

distribution statement - the incidence of a phoneme in parallel lexical sets: where two dialects share the same phoneme inventory, but select different phonemes in specific sets of words". The following dialect differences in Welsh, for instance:

<u>D1</u>	<u>D3</u>	<u>D2</u>	
ko:ɬd	kused	koid	" <u>trees</u> "
ma:ɬn	main	main	" <u>stone</u> "
	so:n	so:n	" <u>mention</u> "
	pu:er	pu:er	" <u>power</u> "

can be generated by the following set of rules acting on common abstract underlying phonemes:

- 1) $\begin{bmatrix} O\mathfrak{E} \\ A\mathfrak{E} \end{bmatrix} \longrightarrow \begin{bmatrix} /[\text{o:}\mathfrak{t}] D_1 / D_2, D_3 \\ /[\text{a:}\mathfrak{t}] D_1 / D_2, D_3 \end{bmatrix} \quad \begin{array}{l} \text{ko:}\mathfrak{t}\text{d} \\ \text{ma:}\mathfrak{t}\text{n} \end{array} \quad \begin{array}{l} D_1 \\ D_1 \end{array}$
- 2) $\text{o:}\mathfrak{t} \longrightarrow [\text{u:}\mathfrak{t}] D_3 \quad \text{kused} D_3$
- 3) $V_1:\mathfrak{t} \longrightarrow [V_1:\mathfrak{t}] D_2, D_3 \quad \begin{array}{l} \text{koid} \\ \text{main} \end{array} \quad \begin{array}{l} D_2 \\ D_2, D_3 \end{array}$

The generative phonological diasystem is therefore in many ways much more powerful and realistic than the taxonomic phonemic diasystem.

In the following chapter we shall attempt to establish a generative phonological diasystem for Nch. The work already performed in this field within the framework of generative grammar shows conclusively that an approach of this kind is to a very great extent more suitable for this sort of work. In contrast, the taxonomic phonemic diasystem is an unwieldy and even impossible device, particularly for the treatment of the speech varieties of urban areas. A generative phonological diasystem for Nch English will more accurately model the linguistic competence of the Nch speaker, and will provide a more realistic description of English as it is spoken in the city of Nch.

Chapter Ten: The Norwich Diasystem

This chapter is an attempt to present the abstract phonological system and the phonological rules which underlie all forms of Nch English. This underlying system, together with the rules which generate the different types of Nch English and relate them to each other, constitute the Nch diasystem.

Our attempt to develop the Nch diasystem is set within a generative phonological framework, for reasons given in the previous chapter, and involves the recognition of four phonological and phonetic levels:

- 1) The physical-phonetic level
- 2) The articulatory systematic phonetic level
- 3) The auditory systematic phonetic level
- 4) The systematic phonemic level

In this chapter we shall be dealing mainly with 2) and 4), and shall make some reference to 3). We shall also be introducing an additional articulatory phonetic level, which we shall call the performance phonetic level.

Distinctive Features

For several reasons, we shall not be working within

the distinctive feature framework most frequently associated with generative phonology. It has been shown, notably by Fudge,¹ that this type of approach has many drawbacks and inadequacies. There are, moreover, many arguments for introducing features at the systematic phonemic level which are not quasi-phonetic or phonetically orientated, as are the more usual distinctive features associated with, for example, Jakobson, Chomsky and Halle, but are instead completely abstract. Some of these arguments are presented, very briefly, below.

Arguments Against Distinctive Features

1) Fudge has demonstrated² that the facts of Tswana phonology can be handled by means of the distinctive feature approach only in a way that is quite clearly arbitrary. There are several alternative ways of allocating distinctive features, and each of the alternatives is equally unmotivated. In addition, all the alternatives fail to reveal the underlying structure of the language, and may even obscure it. Difficulties such as this, which have parallels in other languages, do not arise, Fudge claims, in the abstract feature framework proposed by him.

Fudge's findings concerning Tswana coincide quite

well with the type of picture that emerges from the discussion of classificatory distinctive features made by Harms.³ In particular, the two conflicting analyses of Finnish vowels presented there stress the arbitrary nature of the distinctive feature approach. Other factors, such as the lack of agreement as to the number, type and identity of the distinctive features that a linguistic theory requires, underline the difficulties that occur in much of the work in this approach.

2) Fudge claims that, if a distinctive feature approach is adopted, there is certain to be a conflict between auditory and articulatory requirements: "any criticism of auditory features on the grounds of under-specification in the articulatory field is matched by an exactly corresponding criticism of articulatory features on the grounds of over-specification for recognitional purposes".⁴ For example, the dental allophone [ɲ] in tenth has to be distinguished from the [n] in tent in articulatory terms, because there is no auditory feature which can distinguish the one from the other. On the other hand, the (articulatory) distinction between dental and alveolar is for recognition purposes totally redundant in English, (except for fricatives). We therefore prefer features which are neither articulatory nor auditory, but are neutral with respect to the two. These features are therefore abstract.

3) It is an important fact that identical artic-

ulations must often be regarded as realisations of different under-lying abstract elements. We have already seen from the Nch material that even where, for instance, the lexical sets of fear and fair are not distinguished, they are best regarded as having different under-lying representations. In the distinctive feature framework, this can have the undesirable effect - since phonemic and phonetic elements are treated as formally indistinguishable - of implying that one systematic phonemic element has become another, rather than that the two have identical realisations.

Fudge gives an example of this from Mandarin Chinese. In this language, the effects of tone-sandhi mean that Tone 2 + Tone 3 has a realisation that is identical with that of Tone 3 + Tone 3. When distinctive feature notation like

$$[- \text{High}] \longrightarrow [+ \text{High}]$$

is employed to handle this phenomenon, the implication is that Tone 2 has changed into Tone 3.

4) It is also the case that "morphophonemic considerations often lead us to make groupings which are definitely counter-phonetic, and which cannot be handled in distinctive feature terms".⁵ There are, for example, very good reasons for regarding Hungarian short [v] as a

vowel that, although phonetically rounded, belongs to the phonological subsystem that consists of vowels that are phonetically unrounded. This is because it functions in vowel harmony alternations as an "unrounded" vowel. There are many other examples from other languages.

5) The advantage of employing an abstract systematic phonemic level of this type in the development of a diasystem is plain. "It enables us to generalise the phonological description beyond the limits of one speaker without having to postulate a whole series of vague abstractions à la Daniel Jones⁶... Just as a whole set of feature-bundles can be made to correspond with one string of morphological elements (e.g. a set of varying pronunciations of the word came may all be assigned to {come} + {past} on the morphological level), so that whole set can be made to correspond with one string of systematic phonemic element bundles (e.g. the varying pronunciations of came may all be assigned to the sequence /kām/)."⁷ We thereby avoid situations such as that described by Chomsky & Halle,⁸ where, for example, the

+ back
+ round

 systematic phonemic vowel /u/ has to be converted to a phonetic vowel that is neither "back" nor "round" in most dialects of English, but must be kept "back" and "round" in some dialects.

The usefulness of this type of approach is illustrated in the work of Tay.⁹ Tay's diasystemic study of Hokkien Chinese is greatly facilitated by the employment of

abstract features.

The Abstractness of Features

According to the approach outlined above, the systematic phonemic elements are as abstract as the syntactic and morphological elements. They are, of course, closely connected with the stream of speech, but actual articulations are of secondary importance at the systematic phonemic level. (Actual articulations also vary considerably from speaker to speaker, of course.)

The Phonological Component

Fudge has stated that in this type of approach the phonological component should be independent of the syntactic component.¹⁰ The grammatical model, that is to say, is not of the type that has been characterised as "monolithic". This is clearly a debatable topic, but as it is not one that is central to the present study we will adopt this formulation without further comment.

The first section of the phonological component consists of a syllable generator.¹¹ (Fudge's syllable generator is an extension of the syllable grammar developed by Cheng¹² in his study of Mandarin Chinese phonology.) The function of the phonological syllable, once generated,

is to provide a basis for the application of distinctive prosodic features and to account for constraints on possible phoneme sequences.¹³

The English syllable generator has the following rules:

Syllable	→	Onset + Rhyme (+ Termination)
Onset	→	1 + 2
Rhyme	→	Peak + Coda
Peak	→	3
Coda	→	4 + 5
Termination	→	6

1, 2, 3, 4, 5 and 6 are places in English syllable structure. Place 6 is used only in word-final syllables. The syllable structure produced by these rules is illustrated in Fig. 1.

A different systematic phonemic system can be shown to operate in each of the syllable structure places. To demonstrate that the members of these systems are abstract and non-phonetic, they are tabulated as in Tables 1 to 3, with the phonetic symbols acting as purely mnemonic devices standing for the complexes of abstract features represented by the letters and numbers, A, a, 1, etc.

A full justification, based on etymological and orphological considerations, for these arrangements,

Figure 1: English Syllable Structure

including the counter-phonetic position of /s/, /z/ and /r/, has been given by Fudge.¹⁴ (For example, /k/ : /s/ alternations of the type opaque : opacity are partly responsible for the position of /s/ at places 1 and 5.)

Table 1: Phonemic System at Place 1

	A	B	C	D
a	p	t	č	k
1 b	b	d	j	g
c	sp	st		sk
a	f	θ	š	s
2 b	v	ð		z
3	w	l	y	r
4	m	n		
	← h →			

Table 2: Phonemic System at Place 2

	A	B	C	D
3	w	l		r
4	m	n		

Table 3: Phonemic System at Place 4

	A	B	C	D
3		l		r
4		← N →		

Table 4: Phonemic System at Place 5

	A	B	C	D
a	p	t	ç	k
1 b	b	d	j	g
c	ap	st		sk
a	f	ø	ä	s
2 b	v	ð		z
3		l		r
4	m	n		

Table 5: Phonemic System at Place 6

	A	B	C	D
1 a/b		T		
c		st		
2		e		S

Place 6 "may be occupied by one of the members of the system operating there, or by a string of two (exceptionally three) of these members. Thus boxes is represented as /b.o.kSS/ (one phonological syllable although two phonetic syllables), and sixths as /s.i.kSəS/, where the symbol . indicates the selection of zero".¹⁵

Co-occurrence restriction rules which govern constraints on phoneme sequences are of the form:

$$2(B_3) \implies \sim 1(B)$$

This indicates that tl-, dl-, stl-, @l- etc., are not permitted initial clusters in English.

The above systems, and the co-occurrence restriction rules, would appear to be very similar for all types of English, and we shall not discuss them further.

The Phonemic System at Place 3

It is probable that the whole of the above schema is intended to be diasystemic. Fudge states, for example, that "the inclusion of post-vocalic r (places 4 and 5) must not be taken as implying that the scheme does not apply to 'r-less' dialects: D₃ is an abstract element which in some dialects (notably R.P.) may often have no realisation of its own, but which will, so to speak,

contribute to the realisation of the preceding vowel",¹⁶ It is quite clear, however, that the system proposed by Fudge for syllable structure Place 3 - the vowel system - is not adequate for Nch English. Fudge's Place 3 system is shown in Table 6.

Table 6: Phonemic System at Place 3

	x		ɾ		z	
	ɿ	β	ɿ	β	ɿ	β
I	i	ʌ	ī	ā	au	oi
II	e	u	ē	ū		
III	a	o	ā	ō	a:	o:

This system does not permit us to generate the distinction made in many types of Nch English between the lexical sets of nail and name. For this purpose we clearly need an extra systematic phoneme in addition to //ā//. (Systematic phonemic elements in the Nch diasystem will be symbolised by enclosure in double slants.) It is also clearly impossible to produce the Nch distinction of the lexical sets of nose and knows from the above system. We therefore need a further systematic phoneme in addition to //ō//. Note that it is also impossible to generate the wheat : week distinction made by a few older EAn speakers, if we should wish to do this.

The solution to this problem is to amend Fudge's vowel system to that shown in Table 7. This is the system that will be produced at Place 3 in syllable structure by the syllable generator of the Nch diasystem. These vowels are the abstract elements that underlie phonetic vowels in all types of Nch English.

Table 7: The Nch Phonemic System at Place 3

		α	X	β	α	Y	β	Z
I		i		u	$\bar{i}$		$\bar{u}$	$\updownarrow$ oi
a					$\bar{e}$		$\bar{\Lambda}$	
II	b	e		Λ	$\bar{e}$		au	
a					$\bar{a}$		$\bar{o}$	$\updownarrow$
III	b	a		o	ai		ou	

The addition of the elements mnemonically represented as //ē//, //ai// and //ou// permits the production of the Nch distinctions just mentioned. The element //ē// will be realised as /e:/ in wheat; //ā// as /ɛ:/ in name; //ai// as /æi/ in nail; //ō// as /Uu/ in nose; and //ou// as /ɒu/ in knows. The transfer of //u// and //ū// in Table 7 to the places occupied by //Λ// and //Ā// in Table 6, and vice versa, and the inclusion of //au// under Y vowels instead of under Z vowels, makes the system more symmetrical. More importantly, it means that morphological alternations of the type profound / profundity

can be handled as well as those of the type produce / production. It also has the effect of indicating the peripheral nature of the phonological element //oi// in the English vowel system since, as we have now omitted a: and ɔ:, //oi// is the only remaining 2 vowel. The elements a: and ɔ: have been omitted since they do not occur in many types of English, and can usually be produced at the phonetic level from various combinations of phonemic elements, for example:

$$//o// + //r// \longrightarrow /ɔ:/$$

Morphological Alternations

Morphological alternations can be handled most satisfactorily within a framework of this type by rules of the form:

$$Y \longrightarrow X / \text{ ______ } \text{ (in certain contexts).}$$

This rule will produce alternations of the type: divine / divinity; serene / serenity; opaque / opacity. This rule exemplifies one of the advantages of the use of abstract features. The above arrangement of the systematic phonemic vowel system means that the vowels which alternate most frequently differ by only one feature - X as opposed to Y. Comparable rules that have been developed within the distinctive feature framework are

relatively complex and cumbersome.¹⁷

Note that the two Y phonemes //au// and //ā// correspond to the single X vowel //ʌ//. This means that the distinction of //au// and //ā// is neutralised under this kind of alternation. In the same way, //ō// and //ou// must be made to correspond to the single X vowel //o// in order to handle alternations of the type //ou// → //o// : know / knowledge as well as those of the type //ō// → //o// : provoke / provocative. This is also true of //aɪ// → //a// and //ā// → //a// alternations, where neutralisation also takes place: explain / explanatory : profane / profanity. (This would presumably also apply to the neutralisation of //ē// and //ē//, as in clean / cleanliness : serene / serenity.)

The vowel system shown in Table 7 will be called the Nch Diasystemic Phonological Vowel System.

Diasystemic Inventory Rules

The Nch phonological vowel system shown in Table 7 is characterised as diasystemic because, as it underlies all forms of Nch English, some of its units are redundant for many Nch speakers as far as speech production is concerned.

We shall now, therefore, develop a set of rules

which will relate this diasystemic vowel system to the particular phonological vowel systems used by speakers of various Nch accent types in their speech production. For example, as we have already seen, many Nch speakers do not distinguish the vowels in the lexical sets of name and nail. We therefore require, for these speakers, the diasystemic rule, rule 1:

$$1) \quad //Y \propto III \quad \left. \begin{array}{l} (a) \\ (b) \end{array} \right\} // \longrightarrow //Y \propto III//$$

$$\text{That is} \quad \left. \begin{array}{l} //ā// \\ //aī// \end{array} \right\} \longrightarrow //aī//$$

(Note that the choice of symbol to the right of the arrow in the second formulation is totally arbitrary, since all the units involved are abstract.) Rule 1 is a diasystemic inventory rule.

One justification for the development of this type of rule is that it permits all types of Nch English to be derived from the same underlying system without any redundancy for individual speakers. A further justification is that one must assume that this type of rule is used by speakers who do not themselves make a particular distinction in the interpretation of utterances in which the distinction is made.

We can illustrate this point in the following way.

Fig. 2: The Act of Communication

Fudge has proposed the model of the act of linguistic communication illustrated in Fig. 2, which "shows the steps involved in inducing the hearer to select the same phonological element E as the speaker has selected".¹⁸ In the case of Tone 1 in Mandarin Chinese, for example, the following takes place:

E : Mandarin Tone 1

A : Vocal cords tense, vibrating at frequency which is high, and remains constant throughout the syllable

F : Fundamental frequency of sound wave constant and high

P : High level pitch

E : Mandarin Tone 1

In the case of this particular Nch distinction, however, it would seem that selection of //ā// on the part of the speaker can induce selection of //ai// on the part of a hearer who does not have the //ā// : //ai// distinction. This is made possible because the hearer has internalised the diasystemic inventory rule, rule 1. This assumption is partially justified by the fact that many speakers appear to be able, in some way, to reverse the direction of application of the rule. In other words, speakers who normally never make this distinction are able to do so, without error, if they wish to for humorous or other similar purposes.

As far as other diasystemic inventory rules are concerned, it is a fact that all speakers who have the wheat : week distinction also have the name : nail distinction, although the reverse does not apply. Similarly, speakers who do not have the name : nail distinction, do not have the wheat : week distinction either. We can therefore postulate additional diasystemic inventory rules as follows.

$$\begin{array}{l}
 2) \quad //Y \propto II \quad \left\{ \begin{array}{c} a \\ b \end{array} \right\} // \longrightarrow //Y \propto II// \\
 \text{That is} \quad \left\{ \begin{array}{c} //ē// \\ //ē// \end{array} \right\} \longrightarrow //ē//
 \end{array}$$

This rule applies to older speakers, except for the very oldest who preserve this distinction. For younger speakers, who do not have either of the two above distinctions, the more general rule, rule 3, applies.

$$3) \quad //Y \propto \begin{bmatrix} \text{II} \\ \text{III} \end{bmatrix} \begin{Bmatrix} a \\ b \end{Bmatrix} // \longrightarrow //Y \propto \begin{bmatrix} \text{II} \\ \text{III} \end{bmatrix} //$$

That is

$$\left. \begin{array}{l} // \bar{e} // \\ // \bar{e} // \end{array} \right\} \longrightarrow // \bar{e} //$$

and

$$\left. \begin{array}{l} // \bar{a} // \\ // a i // \end{array} \right\} \longrightarrow // a i //$$

As, however, a and b occur only under II and III, rule 3 is better expressed in the more general, simpler form of rule 3a.

$$3a) //Y \propto \begin{Bmatrix} a \\ b \end{Bmatrix} // \longrightarrow //Y \propto //$$

This rule then applies vacuously to $//Y \propto \text{I} // = // \text{I} //$ as well.

It has been suggested that rule simplification plays an important part in the process of linguistic change.¹⁹ The increase in generality of application of this diastemic inventory rule, as expressed above in the switch from rule 2, which older speakers have, to rule 3a for younger speakers, would appear to provide a very good

sets, since they make little phonetic distinction between items of the two types (see Chapter Eight). The apparent merger is, however, by no means total.

Table 8: Nch Phonological Vowel System

	X		Y		Z
	ℓ	β	ℓ	β	
I	i	u	ĩ	ũ	↕
a				̃	
II	e	ʌ	e	au	oi
b				õ	
III	a	o	ai	ou	↕
b					

Table 9: Nch Phonological Vowel System

	X		Y		Z
	ℓ	β	ℓ	β	
I	i	u	ĩ	ũ	↕
a				̃	
II	e	ʌ	e	au	oi
b				õ	
III	a	o	ai	ou	↕
b					

This can be demonstrated most clearly by results obtained in the Pairs Test. All those speakers who, during the course of the interviews, made little or no distinction between items of the type nose : knows could always be

induced to make this distinction by presenting them with a pair of this type to be read side by side. The same did not apply to pairs of the type days : daze (except in the case of some older speakers), even in those cases where the distinction could be made for humorous purposes. Where an apparent merger of nose and knows items does occur, therefore, this is the result of a lower level rule dealing with the realisation of two distinct phonemes, and not of a diasystemic inventory rule.

Lexical Entries

It would appear to be at this point in the phonological component that the link-up with the lexicon must occur, so that items can be listed in the lexicon in terms of the phonological systems shown in Tables 7, 8 and 9.

For speakers who have the nail : name distinction, name will be listed as:

//B4.Y<IIIB.A4.//

or:

//n.ä.m.//

together, of course, with the necessary syntactic and semantic information. For speakers who do not make the distinction, the lexical entry will be:

$$//B\hat{4}.Y \propto III.\hat{A}\hat{4}./$$

or:

$$//n.a1.m./$$

The fact that lexical entries are made in terms of a particular phonological system rather than the diasystemic phonological system means that the diasystemic inventory rules must be allowed to operate before the lexicon stage is reached for recognition purposes as well as for production. We must therefore postulate a model of the type illustrated in Fig. 3.

Fig. 3: The Place of the Diasystemic Inventory Rules

If this is the correct interpretation of the situation, then the second stage of the phonological component must come into operation after lexical items have been inserted in the correct slots and all the syntactic rules have been run through. The rules in this second section of the phonological component that are of diasystemic interest are rules which we shall call diasystemic incidence rules.

Diasystemic Incidence Rules

As we have seen in previous chapters, there is a large amount of variation in Nch English of the type that is usually described as resulting from differences in phoneme incidence. The two main sources of this variation are the following:

- 1) Vowels which are reflexes of ME $\bar{o}$ are subject to shortening in Nch English from [u:] to [U] in closed syllables - the EAn short o. The item road, for example, can be pronounced either [ru:d] or [rUd].
- 2) Items such as boot, soon, hoof, in which the vowels result from ME $\bar{o}$, can be pronounced in Nch English either with an [u:]-type vowel, with the [u:]

vowel also found in road, or with the short [U] of road, hood.

Now it could be claimed that these alternations in pronunciation are simply the result of a series of alternative forms in the Lexicon. The item road, for instance, might be listed both as //r.ō.d.// and as //r.u.d.//. This, however, would suggest that the various alternative pronunciations were entirely unmotivated, and would fail to reveal the underlying regularity that these alternations affect whole lexical sets in exactly the same way. It would suggest, in other words, that the fact that alternations like [ruɪd] / [rUd], [stu:n] / [stUn] etc. are identical is entirely accidental. We propose, on the other hand, that there is a significant generalisation to be made here. That is to say that the relationships that obtain between the systematic phonemic elements //ō//, //ū// and //u//, as exemplified in the above alternative pronunciations, are not simply accidental relationships of alternation among phonemes. They are, rather, subject to rule, and ought to be accounted for in a phonological grammar. There is a definite and constant relationship between the pronunciations of these sets of lexical items, and the amount of variation is so large (and determined) that it cannot be handled satisfactorily simply by listing alternative forms in the lexicon.

The type of rule proposed by Thomas²⁰ to handle features of this type in Welsh, as illustrated in Chapter Nine, is relatively complex compared to the form of the rules required in Noh English. For example, to handle the alternations associated with the lexical set of road, we must assume the following. The item road is listed in the lexicon as //r.ō.d.//. We take the //ō// form rather than the alternative //u// form as basic, since rules of morphological alternation must have Y ("long") vowels to operate on if they are to produce the correct output. If, for example, we listed provoke with //u// rather than //ō//, the item provocative would not have the correct phonetic form. It is also true that the variant [ru:d] is the more common, particularly in more formal styles. Historically, too, the long vowel is the original one.

We then require the diasystemic incidence rule, rule 4.

$$4) \quad //Y\beta IIIa// \longrightarrow //X\beta I//$$

That is, //ō// $\longrightarrow$ //u//. This eventually produces the output [rUd].

To handle the alternation of items such as boot, we assume that we have lexical entries of the type //b.ū.t.//. This is partly because [bu:t] appears to be the older EAn form, and partly because we have already

allotted $//\bar{o}//$ to road-type items. (The phoneme $//\bar{u}//$, too, must be allotted to items of the type wood, put.)

We then require the diasystemic incidence rule,
rule 5.

$$5) \quad //Y\beta I// \longrightarrow //Y\beta IIIa//$$

That is, $//\bar{u}// \longrightarrow //\bar{o}//$. This eventually produces the output [bust]. If, however, these two rules are re-ordered, so that rule 5 precedes rule 4, then these two rules between them will also produce the output [bUt]. Thus:

A.

$$\begin{array}{rcll} & & //r.\bar{o}.d.// & //b.\bar{u}.t.// \\ 4) & //\bar{o}// \longrightarrow & //u// & : //r.u.d.// \quad //b.\bar{u}.t.// \\ 5) & //\bar{u}// \longrightarrow & //\bar{o}// & : //r.u.d.// \quad //b.\bar{o}.t.// \end{array}$$

Output: [rUd], [bust]

B.

$$\begin{array}{rcll} 5) & //\bar{u}// \longrightarrow & //\bar{o}// & : //r.\bar{o}.d.// \quad //b.\bar{o}.t.// \\ 4) & //\bar{o}// \longrightarrow & //u// & : //r.u.d.// \quad //b.u.t.// \end{array}$$

Output: [rUd], [bUt]

It should now be noted that there are alternative ways of handling this type of alternation which do not require diasystemic incidence rules. One method would be to allow for the possibility of // $\bar{o}$ // having a continuous range of realisation, at the phonetic level, from [u:] through to [U]. This scheme, however, fails to reveal the fact that a genuine switch in pronunciation occurs. Many of the Noh informants, for instance, recognised that there are two distinct pronunciations of items like road, and not a graded series. Comments such as "sometimes I say [hUm] and sometimes I say [huim]" were common in the interviews. It is also true, on the other hand, that intermediate pronunciations do occur. This is because the phonetic realisation ranges of // $\bar{o}$ // and //u// overlap. It should also be noted that it is much less plausible to permit // $\bar{u}$ // to have a phonetic realisation range stretching from [u:] through [u:] to [U].

Another alternative would be to regard the switch from [u:] to [U] not as the result of a systematic phonemic level rule but as a consequence of a lower level phonetic rule shortening the vowel in rapid speech. The counter-argument to this is that [U] frequently occurs in citation forms, such as in the responses to the WL test of the Noh questionnaire.

The diasystemic inventory rules that we have developed for the Noh diasystem will therefore handle the

distribution of systematic phonemes over lexical items, and reflect the structured nature of the relationships that hold between them. The rules must be optional, since speakers fluctuate considerably in their usage, particularly according to social context. If diasystemic incidence rules become obligatory in certain environments or in the case of particular lexical items, this results in the rewriting of entries in the Lexicon. If, for some speakers, they become obligatory throughout the vocabulary, they will then be re-interpreted as diasystemic inventory rules. And if they become generalised to the whole speech community, then they can of course lead to the complete loss of systematic phonemes from the diasystem.

We can, for example, imagine that at an earlier stage of Nch English there was a diasystemic incidence rule:

$$//\bar{e}// \longrightarrow //\bar{e}//$$

which permitted items of the type wheat to be realised optionally as /wIit/ or as /we:t/, in the speech of younger members of the community. As this rule became obligatory for certain speakers, it then became a diasystemic inventory rule, because the $//\bar{e}// : //\bar{e}//$ distinction was redundant in the phonological systems of these speakers. This is the current situation in Nch,

as presented above. But the number of speakers remaining who use this distinction in their speech production is so small that the rule will soon apply obligatorily to all Nch accents, with the result that the phoneme $//\bar{a}//$ (and the rule itself) will drop out of the diasystem altogether.

The diasystemic inventory rule, rule 3, described above, provides a similar example. That section of the rule presented as:

$$\left. \begin{array}{l} //\bar{a}// \\ //a\bar{i}// \end{array} \right\} \longrightarrow //a\bar{i}//$$

was discussed as an inventory rule. It is clear, however, that in the speech of some older informants, this rule is a diasystemic incidence rule:

$$//\bar{a}// \longrightarrow //a\bar{i}//.$$

These speakers, in other words, can choose, in normal everyday speech, to pronounce words like name either with $[a:]$ or with $[a\bar{i}]$. (These speakers will include among their ranks those who produced the $//\bar{a}// : //a\bar{i}//$ distinction only, or mainly, in the Pairs Test in the interviews).

Further Problems with Diasystemic Incidence Rules

There are some complications that arise concerning the two diasystemic incidence rules, rules 4 and 5. We have seen in Chapter Eight, for instance, that they are applied to some lexical items much more frequently than to others. Some items, such as do and lose, moreover, must be marked [-rule 5] in the Lexicon, as they are pronounced only with [u:]. (They cannot be listed in the Lexicon with the //Λ// vowel of tune, music, since they never receive the [j] glide which does occur in the lexical set of tune.) Rules 4 and 5 are also restricted to certain phonological contexts for some speakers. And, in addition to this, the application of rules 4 and 5 is to a certain extent dependent on the social class of the speaker and the social context. This point was illustrated in Chapter Eight in our discussion of the variables (ō) and (ū).

We will discuss the last-mentioned complication first. A useful method for handling rules containing variables of social class, social context, and other sociological parameters, has been developed by Weinreich, Labov & Herzog.²¹ For example, post-vocalic /r/ in New York City is a variable: the omission or inclusion of /r/ in post-vocalic position varies with social class, social context and age-group. The relevant phonological rule is therefore formulated in this way:

$$\begin{array}{l} /r/ \longrightarrow g[r] / ______ \left\{ \begin{array}{l} c \\ \neq \end{array} \right. \\ g[r] = f(\text{Style, Class, Age}) \end{array}$$

The expression $g[r]$ "is the linguistic variable defined by the rule", usually denoted (r) . "The category $/r/$ is rewritten as the variable (r) in final and preconsonantal position, equivalent to the frequency of the constricted consonant $[r]$, a function of style, class, and age level of the speaker."²²

We can therefore indicate that the Nch diasystemic rules are not only optional but dependent on sociological factors by the following type of notation:

$$\begin{array}{l} 4) \quad g//\bar{o}// \longrightarrow //u// \\ g(\text{rule 4}) = f(\text{Style, Class, Age, Sex}). \end{array}$$

Rule 5 can be rewritten in a similar way:

$$\begin{array}{l} 5) \quad g//\bar{u}// \longrightarrow //\bar{o}// \\ g(\text{rule 5}) = f(\text{Style, Class, Age}). \end{array}$$

The value of g in each case can be deduced from the material presented in Chapter Eight. In a slightly different formulation of the same New York City rule, Labov gives an example of the sort of values g can have. The rule here appears in the form:

$$(r) = X [r]$$

$$X = f (\text{Style, Class, Age})$$

"The function f is a linear function, and it is established by showing that small changes in any of the independent variables [Style, Class or Age] produce corresponding changes in the value of X ." And then:

"The proposal is also seen as one means of showing the structure which relates competence to performance. Thus the competence of a speaker is given by the general rules

$$(r) \longrightarrow X [r] \quad X \longrightarrow f (S, C, A)$$

This may mean that in actual performance, the speaker never uses $[r]$ in the relevant positions, so that his performance may be

$$f (S^1, C^j, A^k) = 0$$

or $f (S^1, C^j, A^k) = 50^{23}$

A second complication in the treatment of diastemic incidence rules is that for many speakers application of rule 5 plus rule 4 for $//\bar{u}//$ items only occurs in certain contexts. Some speakers, for example, have $[U] < //\bar{u}//$ only in roof, hoof, proof; others have $[U]$ only in this lexical set and the lexical set of room, bloom, broom. The fact that there is no set of

comparable phonological restrictions on the application of rule 4 to $//\tilde{o}//$ items means that we need a third diasystemic incidence rule, rule 6.

$$6) \quad g //Y\beta I// \longrightarrow //X\beta I//$$

$$g \text{ (rule 6)} = f \text{ (Style, Class, Age)}$$

That is, $//\tilde{u}// \longrightarrow //u//$. The addition of this rule means that the three incidence rules can form an unordered set within the diasystem, since it is no longer necessary to run $//\tilde{u}//$ items through rule 3 and then rule 4 to produce outputs with [U]. This can be regarded as a simplification.

For speakers who have [U] only in hoof, roof, proof, rule 6 has the form

$$//Y\beta I// \longrightarrow //X\beta I// \text{---} //A_{2a}//$$

For those who also have [U] in room, broom the rule must read

$$//Y\beta I// \longrightarrow //X\beta I// \text{---} //A \begin{Bmatrix} 2a \\ 4 \end{Bmatrix} //$$

A further complication that arises concerning incidence rules is that, as we saw in Chapter, Eight, some items are much more likely to be subject to rules 4, 5 and 6 than others of a similar phonological composition. For

instance, spoon is much more frequently realized with [U] than is moon. We have seen that items like do and lose must be marked [- rule 5]. It is therefore also possible that we may have to mark some items [+ rule 5] and others [+ rule 5]. This is a very speculative proposal, but it would appear to be difficult to build in indications of which items are most likely to be affected unless we do something of this kind. Another possibility would be to allow the value of g in these rules to depend on some semantic features. Items connected with everyday or family life, for example, appear to be much more likely to be run through rules 4 and 6 than other items. There is no way, however, to indicate which //ū// items are more likely to be susceptible to rule 5 and which to rule 6, (except that items /— f are more likely to have rule 6 than rule 5).

An Additional Incidence Rule

Rules 4, 5 and 6 are the most important of the Nch diasystemic incidence rules. Rule 7, the final incidence rule that we shall discuss that is concerned with vowel phonemes, applies to the unstressed word-final vowel in items such as city, moneyed, likely. Items of this type are listed in the Lexicon with final //i//, which gives as output the /I/ or /ə/ characteristic of older speakers. For younger speakers, the diasystemic incidence rule,

rule 8, applies.

8) //I// → //ē//

This gives as output the /Ii/ vowel in these items more characteristic of younger speakers. Items of this type will be listed in the Lexicon with final //i// rather than //ē// because of alternations of the type likely / likelihood, where many younger speakers alternate /Ii/ ~ /I/.

Phonetic vs. Phonemic Rules

One apparent weakness of the above diasystemic incidence rules is that they appear to be better motivated or more explicable at the phonetic than at the systematic phonemic level. Rules of the type

[u:]	→	[u:]
[u:]	→	[U]
[I]	→	[i:]

appear to be much more reasonable, and much easier to explain (in phonetic terms) than rules of the type

//ū//	→	//ō//
//ō//	→	//u//
//i//	→	//ē//

Would it not, therefore, be better to consider that these rules should apply at the systematic phonetic rather than the systematic phonemic level? We have already given the counter-argument to this above in the case of $//\bar{o}// \longrightarrow //u//$. In the case of $//\bar{u}// \longrightarrow //\bar{o}//$ there is one very clear reason why this treatment is not possible: phonetic [u:] is a realisation not only of $//\bar{u}//$ but also of $//\bar{A}//$. Items including realisations of $//\bar{A}//$, however, do not have alternative forms with [U] or [u:]. Diasystemic incidence rules at this level, therefore, would have to take the systematic phonemic source of [u:] into consideration.

It is not surprising, however, that phonetic factors should have repercussions at higher phonological levels. Schane has shown, for example, that it is very common for changes at the phonetic level to lead to changes at the phonological level.²⁴ We can, moreover, provide an additional example from Nch English. In the speech of a large percentage of the Nch informants who were aged under twenty, items like this, there, then were pronounced with initial [v], and items like thistle, thing with [f]. In the case of informants who never produce [e] or [ɔ] we can assume a diasystemic inventory rule:

$$9) \quad \left. \begin{array}{l} //B2// \\ //A2// \end{array} \right\} \longrightarrow //A2//$$

since they clearly do not have //θ// or //ð// in their phonological systems. For other speakers who sometimes produce [θ] or [ð] we can assume the diasystemic incidence rule, rule 10.

10) //B2// → //A2//.

That is,
$$\begin{array}{ccc} //θ// & \longrightarrow & //t// \\ //ð// & & //v// \end{array}$$

This allows them to produce [vɪs], [fɪŋ] optionally. The causes leading to these rules - the failure of young speakers to produce distinctions made by older speakers - are clearly, at least to a certain extent, articulatory phonetic in origin. They have not acquired the articulatory feature distinction: dental: labio-dental.

Diasystemic incidence rules and the phonological rules of morphological alternation are mutation rules, which deal only with elements at the one (systematic phonemic) level. Note, incidentally, that the diasystemic incidence rules must be ordered after the rules dealing with morphological alternation. If this is not done, stems like //prə...v.ō.k.// will be liable to "shortening" of //ō// to //u//, and produce the item provocative as * /p^hrəvúk'ət'iv/. Other rules of this type include many of the rules discussed by Chomsky & Halle,²⁵ including those relating to stress. The other

rules in this stage of the phonological component are of little interest to us here, since they are the same for all types of Nch English and indeed very many other types of English.

Phonological Realisation Rules

One characteristic of the approach adopted by Fudge is that there is a strict separation of the systematic phonemic and systematic phonetic levels. This avoids the ambiguities and uncertainties that result from an approach like that described by Chomsky,²⁶ where there are many intermediate levels of no systematic status at all. Mutation rules apply at or within a particular level, with the product of the rule or process being "an element of the same stratum as the input to the process".²⁷ Rules which relate one level to a lower level are realisation rules.

In our development of the Nch diasystem we can now move on to a discussion of the rules that realise elements from the systematic phonemic level, (after they have been run through the phonological mutation rules), at the systematic phonetic level. These rules convert the abstract underlying phonemes into potentially concrete systematic phonetic elements.

The problem we now have to face is twofold: what

form are these phonological realisation rules to take; and what exact status is the systematic phonetic level to have? According to Fudge's early formulation, phonological realisation rules are of the following form:

//A// → Front of tongue highest

//2// → Tongue low

for the realisation of vowel phonemes, and

//B// → Velar place of articulation

for the realisation of consonant phonemes.²⁸ A later formulation has realisation rules of the form:

//A// → Labiality 2 / — //2//

for the realisation of consonant phonemes.²⁹ (Fudge gives no examples of realisation rules as they apply to vowels according to this later type of approach.)

In these rules, the symbols //A//, //B//, //2//, etc., refer to the abstract features of the systematic phonemic level. Features of the type: Labiality 2, are derived from Ladefoged's attempt to establish a set of universal phonetic categories.³⁰

The disadvantages associated with rules of this

type are that they (i) tie the abstract phonemic system to the concrete in a way that can be very inhibiting, and may lead the linguist to take phonetic factors into consideration to too great an extent in the setting up of a phonemic system; and (ii) that they often appear to attempt to produce generalisations where there are none to be made. For example, Fudge sets up the "Latin" phonological subsystem for English consonants as portrayed in Table 10.³¹ For very good reasons associated with patterning and morphological alternation, the elements mnemonically represented as k, g, s, j and r are presented in the same column in this table - they all share the abstract features //D~//. This arrangement has many advantages at the systematic phonemic level, and enables us to handle rules at this level in a very simple and convenient way. Fudge, however, attempts to

Table 10: The "Latin" Subsystem

		A	B	D	
				α	β
1	a	p	t	k	qu
	b	b	d	g	gu
2	a	f	s	s	
	b	v	z	j	
3			l	r	
4		m	n		

there is little point in setting up a realisation rule that pretends that we do. Natural classes at the phonemic level can only be indicated by means of phonetically based features such as those used by linguists working within the distinctive feature approach.

Similar disadvantages occur, with this approach, in the realisation of vowel phonemes. For the realisation of Hungarian vowels, for instance, Fudge³² has rules like the following:

B →	{	Front of tongue highest /___ 1a
	{	Middle of tongue highest /___ 2a(11)
	{	Back of tongue highest

We can obtain no generalisations because there are none to be made at precisely those points where the phonemic system is counter-phonetic and where the abstract nature of the system is most clearly emphasised. It would therefore appear to be more suitable to permit phonological realisation rules to apply individually to systematic phonemes. This is the approach we shall adopt here.

The Status of the Systematic Phonetic Level

The function of the systematic phonetic level has been defined as to "indicate the way the physical system of articulation is to perform".³³ Typically, the systematic phonetic level forms the output stage of the phono-

logical component of a generative grammar. Now any examination of a large amount of casual urban speech material makes it very clear that there is a very big disparity between the outputs of phonological components as they are usually presented, and what speakers actually say. That is to say that the output falls by a very long way to indicate the way in which the physical system of articulation is to perform. This disparity is usually dismissed with the argument that it must be assumed to be the result of "performance phenomena". There are reasons, however, for arguing that a phonological grammar should be able to produce as its output something which closely approaches what people actually say, or should at least allow for various different possibilities of performance. There are obviously many things which affect performance that cannot be handled by a grammar of this type - like a mouthful of food or a cold in the head. But on the other hand many of the so-called performance phenomena can be shown to be structured, determined, and subject to rule, albeit perhaps of a statistical probability type, in just the same way as higher-level linguistic features. It is also the case that these so-called performance phenomena vary geographically and socially. They are not the same, for instance, in London speech as they are in Nch, and even within Nch itself they vary quite considerably from social class to social class. For this reason alone, a Nch phonological grammar ought to incorporate them. As an example, consider the

following perfectly normal Nch utterances transcribed from the tape-recorded interviews.

A. [2ʔə ʒə ɹɹ ˈɡwān]

That's just how it go on

B. [wə ʒ fm ˈgɔw ɹɹ ɹ ɹɹɹɹɹ nɹɹɹ]

Well, if I'm going out on a Saturday night

C. [nɹ ɹ ɹɹ ɹ ɹɹ ɹɹ ɹɹɹɹɹ]

No, I haven't been down there lately

These utterances are quite typical of casual speech. They are also quite distinctively Nch utterances, even as they stand on paper with no indication of prosodic features, and for that reason the Nch diasystem should be able to produce them as output. They do not, of course, much resemble the outputs that are usually associated with phonological grammars.

It is therefore clear that if the systematic phonetic level is to indicate how the articulatory system is to perform, it can only do so very imprecisely. There is therefore little virtue in having narrowly articulatory outputs of the type developed by Ladefoged and Fudge at this stage, since the outputs do not correspond to actual articulations.

The systematic phonetic level in the Nch diasystem,

therefore, will not deal with actual articulations or pronunciations, but with potential or ideal pronunciations. Units at this level will represent unambiguously idealised pronunciation types. The level will therefore be an extrinsic allophonic level, since intrinsic allophones result from actual overlapping articulations.

Phonological realisation rules in the Nch diasystem will be of the form:

$$//\text{Y}\beta\text{IIIIa}// \longrightarrow /u:/,$$

where /u:/ is an extrinsic allophone indicating the approximate region of the phonetic continuum where this idealised but phonetically determined unit is to be realised. It represents, in other words, the phonetic "area" to be "aimed at". (Note that systematic phonetic elements are enclosed by single slants, phonemic elements by double slants.)

Ladefoged's articulatory features will be reserved for the realisation of the extrinsic allophones at the lowest phonetic level, which we shall call the performance phonetic level. It will be at this lowest level that intrinsic allophones will be produced and other "performance phenomena" will be handled. At this level we will be able to indicate much more precisely how the articulatory system is to perform. There will, however, be two

major alterations in the way in which these features are treated by Ladefoged and Fudge.

- 1) The Ladefoged features will be totally specified for each segment. If a parameter is relevant for Moh English, its value must always be given, where possible, if the physical system of articulation is to receive exact instructions. Much of the information would of course be redundant at higher levels.

- 2) Only consonants will be specified in terms of Ladefoged's features. These are by no means sufficiently specific for vowels, and Ladefoged's approach is in any case phonological-contrastive rather than strictly phonetic. In other words, if there are three distinctive vowel heights in a particular language, Ladefoged's parameter auditory height : 1, 2, 3, will be perfectly adequate if we wish simply to indicate which vowel it is. If, however, we wish to indicate how the articulatory system is to perform in order to obtain precisely the right pronunciation, then it is certainly not adequate. This is particularly evident in the construction of a diasystem where it is necessary to indicate slight differences in pronunciation. The outputs of

realisation rules applying to vowels at the performance phonetic level will therefore be given in terms of IPA alphabet symbols which will indicate as exactly as possible the vowel quality to be produced. This level will form the output of the diasysemic phonological grammar, and will be a linguist's attempt to produce and reproduce as closely as possible what speakers actually say.

As an exemplification, we can give the following series of four rules which will convert an abstract systematic phonemic element into one of its possible realisations.

Phonological
Realisation Rule:

//A2b// $\longrightarrow$ /v/

Phonetic Mutation
Rule:

/v/ $\longrightarrow$ /f/ / — /t/

Phonetic Realisation
Rule:

/f/ $\longrightarrow$	Labiality	2
	Glottal con-	
	striction	9
	Nasality	0
	Stricture	2
	Affrication	0
	Glottal timing	3
	Laterality	0
	Lip rounding	0
	Secondary	
	articulation	0

That is, /f/ $\longrightarrow$ [f]

Performance Mutation Rule:

Labiality	2		2	
Glottal con- striction	9		5	
Nasality	0		0.3	
Stricture	2	→	3	in
Affrication	0		0	/
Glottal timing	3		2	certain
Laterality	0		0	contexts
Lip rounding	0		0	
Secondary articulation	0		0	

That is, $[f] \longrightarrow [\tilde{p}]$. Performance mutation rules produce intrinsic allophones and alter pronunciations in rapid casual speech to produce the type of utterance shown above (A, B and C).³⁴

Phonological Realisation Rules in the Nch Diasystem

We can now return to a discussion of the phonological realisation rules, (which convert systematic phonemes into systematic phonetic elements), in the Nch diasystem. We will begin with an examination of the realisation rules for the consonantal systematic phonemes - members of systems at places 1, 2, 4, 5 and 6 in syllable structure.

We are first of all faced with the following problem: should the phonological realisation rules take form A or form B?

A.

$$11) //A1a// \longrightarrow \begin{cases} (/p^h/ & / \text{---} \text{---} / \\ (/p/ & / \text{---} \text{---} / \\ (/p'/ & / \text{---} \text{---} / \end{cases}$$

B.

$$//A1a// \longrightarrow \begin{cases} (/p^h/ & / \text{---} \text{---} / \\ g(/p/ \sim /p_2/ \sim /2/) & / \text{---} \text{---} / \\ g(/p'/ \sim /p_2/ \sim /2/ \sim /b/) \end{cases}$$

$g = f$ (Style, Class)

Clearly, features such as lateral or nasal release of [p] before laterals and nasals must be produced at the lower performance phonetic level, since they are due to overlapping articulations. It is also clear that $/p^h/$, $/p'/$ and $/p/$ are extrinsic allophones which belong at the systematic phonetic level. But what is the status of p_2 , b and 2 ?

The solution we prefer to adopt here is that these are not extrinsic allophones, but are variant realisations of the extrinsic allophones $/p'/$ and $/p/$ at the lowest phonetic level. This means that we are able to confine our study of the "phonological" variables discussed in Chapters Seven and Eight to the purely phonetic level. This is clearly where they belong, since it is actual articulations which we were comparing in the figures presented in Chapter Eight. It is, moreover, the case that [b] and [2] resulting from $/p'/$ and $/p/$ occur only in casual or rapid speech, and it is the performance

phonetic level which is designed to handle features of this type. The glottal stop also occurs automatically before heavily stressed initial vowels, in which case it can hardly be said to be an extrinsic allophone. The low-level nature of this feature is therefore best emphasized by confining the glottal stop to the performance level. Perhaps the most important reason, however, is that this arrangement permits us to handle mutation rules at the systematic phonetic level in a much more simple way. We can, for example, have an assimilation rule of the type

$$/t/ \longrightarrow /p/ \text{ / } ______ /p^h/$$

instead of

$$\begin{bmatrix} /t/ \\ /t_2/ \\ /2/ \end{bmatrix} \longrightarrow \begin{bmatrix} /p/ \\ /p_2/ \\ /2/ \end{bmatrix} \text{ / } ______ /p^h/$$

We will therefore have phonological realisation rules of type A, and produce [p₂], [b], [2] etc., by means of phonetic realisation rules or performance mutation rules.

The other consonant phonological realisation rules include the following:

$$12) //A1b// \longrightarrow \begin{cases} (/ \text{ ob} / \text{ / } ______ / \\ (/ \text{ b} / \text{ / } ______ / \\ (/ \text{ b} / \end{cases}$$

result in a new systematic phonetic element /ŋ/:

$//N// + //g// \longrightarrow /ŋ/$, for example.

Note that these rules apply to all Noh speakers. Diasystemic differences at this level result only from differential application of the diasystemic inventory and incidence rules and from the phonetic mutation rules (see below). They can also result from some of the vowel phonological realisation rules:

Phonological Realisation Rules for Vowel Phonemes

Phonological realisation rules for the vowels are as follows:

18)	$//X\sim I//$	$\longrightarrow$	/I/	as in <u>bid</u>
19)	$//X\sim II//$	$\longrightarrow$	/ɛ/	as in <u>bed</u>
20)	$//X\sim III//$	$\longrightarrow$	/ə/	as in <u>bad</u>
21)	$//X\beta I//$	$\longrightarrow$	/U/	as in <u>put</u>
22)	$//X\beta II//$	$\longrightarrow$	/ɔ/	as in <u>bud</u>
23)	$//X\beta III//$	$\longrightarrow$	/o/	as in <u>pod</u>
24)	$//Y\sim I//$	$\longrightarrow$	/ɔɪ/	as in <u>buy</u>
25)	$//Y\sim IIa//$	$\longrightarrow$	/iɪ/	as in <u>bee</u>
26)	$//Y\sim IIb//$	$\longrightarrow$	/eɪ/	as in <u>wheat</u>
27)	$//Y\sim IIIa//$	$\longrightarrow$	/ɛɪ/ ~ /eɪ/	as in <u>name</u>
28)	$//Y\sim IIIb//$	$\longrightarrow$	/eɪ/	as in <u>nail</u>
29)	$//Y\beta I//$	$\longrightarrow$	/ʊə/	as in <u>soon</u>
30)	$//Y\beta IIa//$	$\longrightarrow$	/ʊə/ ~ /jʊə/	as in <u>tune</u>
31)	$//Y\beta IIb//$	$\longrightarrow$	/əə/	as in <u>now</u>

- 32) //YβIIIIa// → /Uu/ as in go
 33) //YβIIIIb// → /vu/ as in know
 34) //Z// → /U1/ as in boy

Note that rules 29 and 30 mean that //ā// and //ū// can have identical realisations at the systematic phonetic level. The two alternative outputs to rule 30 account for variations like: tune /tjʷan/ ~ /tʷan/, which occur in the speech of some, particularly more educated people. It is possible, however, that this feature may instead - or in addition - be due to a diastemic incidence rule:

$$//\bar{a}// \longrightarrow //y\bar{a}//.$$

There is also a lower level rule:

$$/u\bar{a}/ \longrightarrow [j\bar{u}\bar{a}]$$

or

$$/u\bar{a}/ \longrightarrow /j/ + /u\bar{a}/$$

which produces hypercorrect forms such as

$$\underline{\text{soon}} /sju\bar{a}n/.$$

Systematic phonetic vowel elements in addition to those already discussed result in part from combinations of systematic phonemes. Fudge³⁵ has pointed out that one of the advantages of having both mutation and realisation rules in a phonological grammar is that the necessity for

rule ordering is diminished. Together with Fudge and Lamb,³⁶ we regard this as a desirable simplification. For this reason we will generate these additional systematic phonetic elements by rules of the type

$$//a// + //l// \longrightarrow /a:/ \text{---} \begin{cases} //f// \\ //m// \end{cases}$$

rather than by ordered pairs of rules of the type

$$//a// \longrightarrow /a:/ \text{---} //l// \text{---} \begin{cases} //f// \\ //m// \end{cases}$$

$$//l// \longrightarrow \emptyset$$

The full set of rules for the production of /a:/, (apart from the combination //a// + //r//, which will be discussed shortly), is as follows.

$$35) //a// + //l// \longrightarrow \varepsilon/a:/ \sim /a:/ \text{---} \begin{cases} //f// \\ //m// \end{cases}$$

$$36) //a// \longrightarrow \varepsilon/a:/ \sim /a:/ \left(\begin{array}{l} \text{---} //f// \\ //o// \\ //s// \\ //nt// \\ //n\check{o}// \\ //ns// \end{array} \right. \begin{array}{l} \text{in} \\ \text{certain} \\ \text{positions.} \end{array}$$

$\varepsilon = f$ (Age)

Similar rules can be developed to produce the systematic phonetic element /ɔ:/.

Note that we cannot treat the combination //a// + //r// in the same way as //a// + //l//, since //r// at places 4 and 5 is in fact realised in many types of English, including (vestigially) EAn English, in combinations of this type. Some provision must therefore be made for the realisation of the //r// at the systematic phonetic level.

A Problem of Noh Phonology

Before we can consider exactly how we should treat post-vocalic r, we must consider a major problem of Noh phonology. The following (A and B) are two sets of typical Noh pronunciations, in systematic phonetic terms.

A.	<u>third</u>	/θɜ:ɹd/		
	<u>fern</u>	/fɜ:n/	<u>fur</u>	/fɜ:/
	<u>far</u>	/fa:/	<u>for</u>	/fɔ:/

The vowels here are historically products of short vowels plus r.

B.	<u>fire</u>	/fa:/	<u>tour</u>	/t ^h ɔ:/
	<u>fear</u>	/fɛ:/	<u>pure</u>	/p ^h ɜ:/

fair /fɛ:/ store /stɔ:/
 tower /t^hɔ:/
 employer /ɛmplɔ:/

These are historically products of long vowels plus r.

Consider now the following list of Nch pronunciations.

C. trying /t^hraɪn/ booming /ɔbɔɪn/
 seeing /sɛɪn/ knew it /nɪt/
 going /ˈgɔɪn/
 saying /sɛɪn/ knowing /nɔɪn/
 allowing /əlaɪn/
 employing /ɛmplɔɪn/

With the exception of saying (and with the addition of knowing) these vowels are identical with those produced historically from forms with r. These forms here, however, have no historical r. They are produced from the same underlying vowels, but in conjunction with the reduced vowel schwa, (in the above cases resulting from unstressed //ɪ//). We can be quite certain of this because, whereas younger speakers generally have /ˈgɔɪn/, older speakers often have /ˈgɔɪən/. We have also shown already, in Chapter Eight, that "schwa retention" in items of the type fear and fair is a function of social class, style, and age in Nch.

Clearly, if we solve this problem by having two

types of rule, one to produce these vowels from forms with r and another for forms with schwa, an important generalisation will be lost. We know, both from synchronic and historical evidence, that post-vocalic r developed to schwa before disappearing, in those cases where it has disappeared. These vowels therefore result, in both cases, from the same kind of process. We have here, that is to say, an opportunity of illustrating that a historical sound change is reflected in a synchronic phonological rule. For example, just as the vowel /ɪ/ in here, presumably /hɪr/, has developed to /e:/ in conjunction with the schwa descended from r, to produce /he:/, so the vowel /ɪ/ in see develops, in modern Nch English, to /e:/ in conjunction with the schwa resulting from unstressed //i//, to produce alternations of the type: /sɪ/ - /se: n/.

If we were to have two sets of rules, moreover, they would have to be of two different types. Post-vocalic //r// occurs only at the systematic phonemic level in most types of Nch English, so the rule handling forms with r would have to be a phonological realisation rule. Schwa, on the other hand, occurs only at the systematic phonetic level, as a realisation of unstressed phonemic vowels. The rule to handle forms with schwa would therefore have to be a phonetic mutation rule.

Phonetic Mutation Rules

The solution to this problem is as follows. First of all we require the phonological realisation rule, rule 37.

$$37) //r// \longrightarrow /ə/ \text{ --- } \frac{14}{6}$$

(This rule must of course have the form $//r// \longrightarrow /r/$ for those members of the speech community who have post-vocalic r.) The $/ə/$ element which forms the output of this rule is of course identical with the schwa produced by other realisation rules acting on unstressed vowels. Subsequent rules to generate the above vowels must for this reason operate at the systematic phonetic level. They will therefore be termed phonetic mutation rules, and will deal only with elements at this level.

We next have a set of obligatory phonetic mutation rules:

$$\begin{array}{lcl} 38) & /I/ & \} \\ 39) & /e/ & \} \quad + /ə/ \longrightarrow e/3:/ \sim /a:/ \\ 40) & /o/ & \} \end{array}$$

$$g = f \text{ (Age, Class)}$$

$$41) /e/ + /ə/ \longrightarrow /a:/$$

$$42) /o/ + /ə/ \longrightarrow /ɔ:/$$

This produces the required vowels in third, fern, fur, far

and for. These are, incidentally, the only rules required for the oldest Noh speakers, who retain /ə/ and have no vowel mutation in items like fire = /fəɪə/.

For other speakers, we need the following set of phonetic mutation rules, which are optional (except for rule 49):

43) /ʊə/ + /ə/ → g /ɔɪ/ ~ /ɔɪə/

44) /ʊu/ } + /ə/ → g /ɔɪ/ ~ /ɔɪ /
45) /ʊɪ/ }

46) /vɪ/ } + /ə/ → g /aɪ/ ~ /aɪ /
47) /və/ }

48) /ɪɪ/ + /ə/ → g /eɪ/ ~ /eɪə/ ~ /ɛɪ/ ~ /ɛɪə/

49) /eɪ/ + /ə/ → g /ɛɪ/ ~ /ɛɪə/

50) /aɪ/ + /ə/ → g /ɛɪ/ ~ /aɪ/ ~ /aɪə/

51) /və/ + /ə/ → g /vɪ/ ~ /vɪə/ ~ /oɪ/ ~ /oɪə/

The value of g is a function of Class, Style and Age.

Note that an alternative formulation would be to restrict rules 43 to 51 to outputs with /ə/, and then to have an optional rule:

g /ə/ → ø

Rule 43 handles forms like pure, brewer, knew it; rule 44

forms such as store, going, go it; rule 45 enjoying, employ it; rule 46 fire, higher, try it; rule 47 tower, allow it; rule 48 pier, seeing, see it; rule 49 there; rule 50 player, say it; and rule 51 knowing, mow it.

Note that in the case of tour, poor, pronounced with /ɔ:/, it is necessary for the diasystemic inventory rule //u/ → //o/ to have applied in order to produce the required /ɔ:/ from /Uu/ + /ə/. Failure to do this produces /ʒ:/, which can in fact be heard in tour. It is much more common, however, in items like booming, which can be /bɔ:n/ as well as /bo:n/.

Note also that these optional rules are applied more frequently morph-internally (as in fire) than word-internally (as in higher), and more frequently word-internally than across word boundaries (as in try it).

The Problem of Intrusive r

Now that we have written out post-vocalic r at the systematic phonetic level, by realising //r/ in this position as /ə/, we are faced with the problem of how to generate intrusive and linking r in forms like law and order and lore and language.

One solution would be to amend the above phonetic mutation rules in the following kind of way:

$$/ʊə/ + /ə/ \longrightarrow \begin{cases} /ɜ:/ & \text{C} \\ /ɜ:r/ & \text{V} \end{cases}$$

This is to some extent an unfortunate arrangement, in that systematic phonemic $//r//$ is written out by phonological realisation rules, only to be written in again by this mutation rule. This, however, is necessary, since the above rule writes in $/r/$ even where $/ə/$ is not derived from $//r//$ - intrusive r. It is also possible, moreover, to deduce the relationship between this particular rule and the phonological realisation rule, rule 37, from the form of the two rules:

$$\begin{aligned} //r// &\longrightarrow /ə/ \\ /ə/ &\longrightarrow /r/ \end{aligned}$$

There is, in other words, an indication, if rather an obscure one, that only accents without post-vocalic $/r/$ have intrusive $/r/$.

An alternative and in some ways more attractive solution is to have rules of the type:

$$/ʊə/ \longrightarrow /ɜ:/ \text{ / } ______ /ə/$$

thus producing the $/ɜ:ə/$ -type forms of older speakers. We would then have the optional rule:

$$/ə/ \longrightarrow \left\{ \begin{array}{l} \emptyset / \text{---} \{ \begin{array}{l} \text{r} \\ \text{c} \end{array} \\ (/r/ / \text{---} \text{v} \end{array} \right.$$

(This would be obligatory for forms from short vowels.)

For schwa-retainers, this rule would have the form:

$$/ə/ \longrightarrow /r/ \text{---} \text{v}.$$

This has the advantage of expressing the relationship between the *//r//* realisation rule and the intrusive */r/* rule rather more clearly. But it has the disadvantage that it requires a degree of ordering. It also fails to permit forms with */ɜ:ər-/*, which do occur.

So far we have been considering how to produce linking and intrusive *r* only as it concerns forms produced from vowel plus schwa, whatever its origin, as in far off */faɪr ɒf/* (from */æ/ + /ə/* where */ə/ < //r//*) or in he have often said */heɪr ɒfən seɪd/* (from */i:/ + /ə/*, where */ə/ < //ə//*). A further problem we have to consider, however, is how to handle items like law and pa, after which intrusive */r/* also occurs.

In the case of law, saw, we can have lexical entries of the type:

law *//l.əw..//*

(this involves adding *//w//* to the place 4 system) or:

law //l.v...//.

We then have phonological realisation rules of the type:

//a// + //v// → /və/

or //v// → /və/ / ~~##~~

This, by the compulsory mutation rule, rule 42, would give /ɔ:/, and /ɔ:r/ before a vowel, by one of the above versions of the intrusive /r/ rule.

In the case of pa, however, we already have a phonological realisation rule, rule 36, which produces /a:/ from underlying //a// in items of this type. If we are to seek a solution comparable to that for law, we must amend this rule to read:

//a// → /ə/

which would produce the required output via rule 41 and the intrusive /r/ rule. This last, however, is particularly counter-intuitive and indeed unnecessary. This rule writes in /ə/ where there is no motivation for so doing either in the lexical entry, or in actual speech, simply to produce intrusive /r/ at the right place. A much more acceptable solution is to revert to the original rule, part of rule 36:

$$//a// \longrightarrow /a:/ \text{ / } \underline{\hspace{1cm}} \text{ /}$$

This suggests that we should also spell law as //l.aw.// in the Lexicon, and apply the realisation rule, rule 52.

$$52) //a// + //w// \longrightarrow /a:/.$$

If we accept this interpretation, then it forces on us the final and most simple solution to the linking and intrusive /r/ problem. It is, however, a solution which makes it impossible to show that only "r-less" accents have intrusive /r/, - or at least this information will have to be read from the form of three rules.

The solution is as follows. We allow the phonetic mutation rules 38 to 51 to produce the systematic phonetic vowels: /ɜ:/, /a:/, /ɔ:/, /ɑ:/, /e:/, /ɛ:/, /ɪ:/, /ɯ:/ and /v:/. Some of these, of course, also result from other sources, such as //a// + //l//, //a// + //w//, and so on. We finally apply the optional phonetic mutation rule, rule 53, which produces linking and intrusive /r/. Note that rule 53 must be ordered after the other relevant rules.

$$53) \phi \longrightarrow /r/ \quad \left\{ \begin{array}{l} /ɜ:/ \\ /e:/ \\ /ɛ:/ \\ /ɪ:/ \\ /ɯ:/ \\ /a:/ \\ /ɔ:/ \\ /v:/ \\ /ɑ:/ \\ /ɒ/ \end{array} \right\} \text{ / } \underline{\hspace{1cm}} \text{ /v/}$$

In the case of schwa-retainers, we can either include forms like /ɛ:ə/ in the above rule, or rely on the schwa to take the form through the rule. If we adopt the latter formulation, which seems preferable, we must also have an optional schwa-deletion rule for speakers who alternate:

$$/\epsilon:ə/ \rightarrow /ɛ:r/.$$

Note that we must also build in the restriction on intrusive /r/ discussed in Chapter Seven - that it does not occur in the environment

$$/r/ \rightarrow /V_1/ \text{ — } /V/$$

(where /V₁/ represents the intrusive -/r/-inducing vowels shown in rule 53).

Rule 53 stresses the automatic and low-level nature of the /r/-insertion process. Speakers who do not have linking and intrusive /r/, obviously, do not have rule 53. Speakers, on the other hand, who have linking /r/ but do not have intrusive /r/ (a very small group) cannot be handled in terms of these rules. The only way to treat this phenomenon is to mark items like law, idea, growing [- rule 53] in their lexical entries for these speakers. This has the favourable result of stressing the somewhat artificial nature of this type of speech,

Speakers of this type, it seems, rely heavily on spelling in order to achieve the correct /r/-less result in items of this type.

Of the above systematic phonetic elements, /ɛ:/, /æ:/, /ɔ:/ and /ɑ:/ result only from phonetic mutation rules.³⁷ This is in many cases also true of the element /e:/, which, however, can also be a realisation of //ē// and of //ā//. But in most cases /e:/ is an alternative form to /ɛ:/ in items of the set fear. For example, the lexical entries for fear and fair are:

//f.ē.r.//

//f.ai.r.//

At the systematic phonetic level this results in:

/fɛɪə/

/faiə/

The relevant phonetic mutation rule for fear (48) is optional, that for fair (49) obligatory. This means that we can have the following contrasts:

/fɛɪə/

/fɛɪə/

or

/fɛɪə/

/fɛɪ/

If rule 48 selects /e:/, we have the contrasts:

	/fɛ:ə/		/fɛ:ə/
or	/fɛ:/		/fɛ:/

If, however, rule 48 selects /ɛ:/, the result is:

	/fɛ:ə/		/fɛ:ə/
or	/fɛ:/		/fɛ:/

The consequence of this is the variation portrayed in the discussion of (er) and (ɛr) in Chapter Eight (from which information concerning the values of ϵ in rules 48 and 49 can also be obtained).

At least one other phonetic mutation rule has the effect of resulting in a new consonantal systematic phonetic element.

$$54) /z/ + \left\{ \begin{array}{l} /I/ \\ /j/ \end{array} \right\} \longrightarrow /ʒ/ \text{ / } ______ \text{ v}$$

(This rule is paralleled by rule 55:

$$55) /s/ + \left\{ \begin{array}{l} /I/ \\ /j/ \end{array} \right\} \longrightarrow /ʃ/ \text{ / } ______ \text{ v.})$$

For example, pleasure will be derived from the lexical entry:

//plē.z.// plus the suffix //y.ā.r.//.

This will give //ple.ə - y.ã.r.// by the rule of morphological alternation. This will result in the systematic phonetic representation: /p^hlɛɹjəə/. Phonetic mutation rules will delete one of the final schwas, and rule 54 will give us:

/p^hlɛɹjə/

Rules 54 and 55 are obligatory.

Other Phonetic Mutation Rules

A. The following phonetic mutation rules of assimilation are optional:

56) /n/ → /m/ _____ /m/
as in ten minutes /t^hɛmɪnɪts/

57) /t/ → /p/ _____ /p^h/
as in outpost /əʊp^hʊst/

58) /z/ → /ʒ/ _____ /ʒ/

59) /m/ → /ŋ/ _____ /ŋ/.

There are of course many others.

B. Also at this level we must have rules of glide insertion, which to a certain extent parallel the intrusive /r/ rule.

$$60) \quad \emptyset \longrightarrow /w/ \quad / \left\{ \begin{array}{l} /Uu/ \\ /vu/ \\ /Ua/ \\ /wa/ \end{array} \right\} \longrightarrow /v/$$

From the input go on /gUu vɔ/, for example, this gives the output /gUu wɔn/.

$$61) \quad \emptyset \longrightarrow /j/ \quad / \left\{ \begin{array}{l} /Uɪ/ \\ /vɪ/ \\ /Iɪ/ \\ /æɪ/ \end{array} \right\} \longrightarrow /v/$$

This will give the output /vɪ jæm/ from the input /vɪ æm/ I am. We will see these particular phonetic mutation rules in operation later in this chapter.

C. The final phonetic mutation rule that we shall discuss is the rule of resyllabification. This optionally takes syllable-final consonants and transposes them to syllable-initial position in a following word beginning with a vowel. This rule can be formulated:

$$62) \quad /C/ + /-/ \longrightarrow /-/ + /C/ \text{ — } \neq /v/$$

where /-/ represents phonetic syllable boundary.³⁸

Table 12: Sub-System C(i)

	C		
e:	ɜ:	ə:	
a:			

Table 13: Sub-System C(ii)

	C			
e:		ə:	<u>face</u>	<u>paw</u>
e:ə		ə:ə	<u>fierce</u>	<u>pore</u>
	a:		{ <u>farce</u> <u>first</u>	

system. This symmetry is by no means entirely a linguist's artificial construct. Indices for the variables discussed in Chapter Eight, for example, show that there is a close correlation in scores between (i) and (au). There is therefore justification for tabulating /ɔi/ and /əu/ as parallel elements. There is also considerable symmetry in the development of A and B vowels in conjunction with the D vowel to produce C vowels. Thus the four highest A vowels: /I/, /e/, /U/ and /ɔ/ all become /ɜ:/ in combination with /ə/. The two parallel vowels /ɔi/ and /əu/ both become /a:/; while /Ii/ and /ɔi/ can both become

/ɛ:/ and /Uu/ and /vu/ can both become /ɛ:/ . Note, too, that Ba vowels trigger off the /j/-insertion rule, Eb vowels the /w/-insertion rule, and C and D vowels the /r/-insertion rule. This suggests that it might be possible to express phonetic mutation rules 43 to 51 in a simpler, more general form (see Chapter Eleven).

Phonetic Space

One of the drawbacks of Fudge's scheme, (and one of which he is aware), is that his phonological system does not allow for the possibility of indicating or explaining how innovating structural pressures can lead to sound change. There is no system in which forces of this kind can be played out.

Fudge sets up, as an alternative to the vowel system shown in Table 6, the system given here in Table 14. Fudge states "although Table 6 is the one we adopt, it must be admitted that the relationships of Table [14] do exert an influence on the phonological system - sound changes set up phonetic structural pressure in an innovating direction, while morphological relationships which persist through a sound-change tend to pull in the direction of conserving the old phonemic system. There is therefore a struggle, and the implication of our approach is that this struggle is one between present-day phonetics

Table 14: Alternative Phonemic Vowel System

X		Y		W	
α	β	α	β	α	β
i	u	i:		yu:	u:
e	o	ei	oi		o:
a	ʌ	ai		au	ou

and present-day morphology: we do not need to bring in diachronic considerations at the basic theoretical level. On the other hand, dissimilarities between phonemic patterning and phonetic patterning will normally reflect sound change in some way: the position of [ʌ] as the realisation of /XIβ/ (Table 6) is a case in point - it reflects the sound change [u] → [ʌ], but without implying that Modern English [ʌ] is a high back rounded vowel, even at an underlying level. Chomsky & Halle's approach implies exactly this, with the further implication that the 'struggle' mentioned above is between present-day phonetics and the phonetics of a past stage of the language; it thus lacks descriptive adequacy - can we expect the (untrained) native speaker to know anything at all about the past history of his language?"³⁹

While Fudge's criticisms of Chomsky & Halle are clearly well-founded, it is plain that by rejecting Table 14, Fudge loses the possibility of explaining past

sound changes of the type he describes and of predicting and allowing for future sound changes. All one is able to do with his scheme is to deduce what past sound changes have occurred. Sound changes of this type, however, must have some kind of system within which to operate - we must have some means of indicating how structural pressures can cause sound change.

Fudge's mistake would appear to be his attempt, in the scheme presented in Table 14, to handle this type of phenomenon at the systematic phonemic level. It is certain - Fudge admits as much by implication himself - that structural pressures of this type take place at the phonetic level; because the phonemic level is abstract, sound change has only a very indirect effect on the phonemic system. This is why we have throughout preferred the term "phonetic space" to the more usual "phonological space". This view is also shared by Kiparsky: "real enough tendencies towards phonological symmetry exist, but ... they have nothing to do with the autonomous phonemic level for which they are often claimed. Rather they are probably brought about by simplificatory phonological changes such as rule simplification and rule reordering, and the symmetry they result in is phonetic rather than phonemic symmetry."⁴⁰

What Kiparsky does not say is that these tendencies towards phonetic symmetry, and structural pressures at

this level generally, may well be found to be one cause of phonological changes such as rule simplification and rule reordering. What is even more likely is that purely phonetic changes and dialect differences which may be of little phonological interest but of considerable diastematic importance are the result of this type of pressure.

Justification for this belief is provided by the work of Martinet⁴¹ and of other linguists such as Moulton.⁴² Martinet has shown that the concept of "phonological" space is a very useful one in the study of linguistic change, and that terms such as "holes in the system" and "drag chain" are certainly not without value in this field.

Martinet himself does not overemphasise the importance of this particular cause of sound change: "On ne se lassera pas de répéter que personne n'a jamais prétendu que les facteurs phonologiques internes soient les seuls, ni même nécessairement les plus décisifs",⁴³ but some of his claims can be substantiated by reference to the Noh material.

1) "Une opposition phonologique qui sert à maintenir distincts des centaines de mots parmi les plus fréquents et les plus utiles n'opposera-t-elle pas une résistance plus efficace à l'élimination que celle qui ne rend service que dans un très petit nombre de cas?"⁴⁴

One of the Noh mergers we have dealt with in this work is that between items of the sets fear and fair. Fry⁴⁵ has shown that /e/ and /ɪə/ are respectively seventeenth and eighteenth out of a total of twenty R.P. vowels in their degree of frequency, and that they between them account for only 0.55 per cent of all R.P. segments. . . . By way of comparison, /ɪ/ and /ə/ between them account for 19.07 per cent.

2) "Nous avons ... indiqué ... comment les nécessités physiologiques peuvent contrecarrer l'intégration phonologique ... Il y aura, entre [e] et [u] une plus petite différence d'ouverture qu'entre [e] et [i], bien que l'angle maxillaire soit le même dans les deux cas."⁴⁶ In other words, "the physiological asymmetry of the vocal tract interferes with the achievement of permanent symmetry (for example, in the matter of distinctive degrees of height in vowel phonemes, there is more latitude for keeping the front vowels apart than for the back vowels)."⁴⁷ Martinet himself gives as an example the fronting of /u/ in Azores Portuguese, which releases more space for the maintenance of the contrast between the remaining back vowels, /o/, /ɔ/ and /a/.

As far as the Noh material is concerned, in the case of the short (A) vowels the fact that there is less space for the realisation of the back vowels /U/, /ɔ/ and /ɒ/ has led to the fronting and lengthening of /ɒ/ in the

speech of many individuals to the extent that there is no contrast between /a:/ and /ɒ/ - in the Pairs Test items such as barks and box are not distinguished in spite of the fact that they are placed side by side. This results in the less symmetrical but (physiologically) more comfortable system of Table 15.

Table 15: Sub-System A (1)

	A	
I		U
e		ɔ
ə		

Other tendencies are at work, however, which are moving in the direction of reconstituting the phonetic symmetry of the system: many younger speakers lengthen the vowel /e/ so that there is no contrast between /e/ and /a:/. Forms such as sat and say it are not distinguished. This of course results in the once more symmetrical system of Table 16. Other manifestations of pressures operating in phonetic space were illustrated in the figures given in Chapter Eight, notably in the case of the variables (er) and (ɛr).

Table 16: Sub-System A (11)

	A	
	I	U
	e	o

The deficiencies of Fudge's scheme with respect to phonetic space are made good in the Noh diasystem by the phonetic vowel system or inventory shown in Table 11. It is this systematic phonetic vowel system which demonstrates how and why structural pressures of this kind can occur. This system is, of course, in conflict with the systematic phonemic vowel system shown in Table 6. But events at the phonetic level are important from the point of view of phonemic change, since, through time, they can affect lexical entries and the systematic phonemic system itself (cf. the remarks made concerning //e// and //ø// above). It is possible, for example, that the loss of the diasystemic element //ē// in Noh is the result of pressures at the phonetic level, (a consequence of the proliferation of long front vowels, /i:/, /e:/, /ɛ:/, /æ:/, /a:/), leading to a merger of /e:/ and /i:/, - together with the fact that there are no important morphological alternations which require //ē// to be distinguished from //ē//. This proliferation of front vowels may also have led to the merging of fear and fair items, of course, particularly since all C vowels have

been squashed, as it were, towards the bottom end of the vowel trapezium, as can be seen from Table 11. Note that whereas previous Noh generations may not have had /e:/ and /ɛ:/ in here and player respectively, they probably did have these vowels in items of the type wheat or face and half respectively.

Note, furthermore, that work in this field provides an additional challenge to the distinctive feature approach. Labov, for example, has provided a number of examples of sound changes resulting from changes in phonetic space, and has, more importantly, proved the importance of this by demonstrating that variables vary not only with sociological parameters but also with each other. Labov writes: "For some types of co-variation noted in phonology, a generative phonology in the image of Halle's distinctive feature theory provides a simpler description than traditional phonemics. The great number of sound shifts which involve front-back symmetry will appear as simpler, more general rules in distinctive feature terminology. On the other hand, co-variation between items moving along different dimensions of phonological space cannot be accounted for in the present form of generative grammars, since the features are concerned as independent. Thus Moulton's study of the distributions of allophones of Swiss German / $\bar{a}$ / demonstrated co-variation with other vowels in the system in the front and back series. Since there is no reason to expect a correlation between compact-diffuse and grave-

acute variation, this is an inexplicable fact in terms of distinctive feature theory. Any theory which dissolves the geometry of articulatory space will have difficulty with this phenomenon. In New York City, a complex set of ... co-variants has provided empirical verification for the existence of relations in phonological space. Co-variation of /eh/ and /ah/, of /eh/ and /aw/, or of /eh/ and /ay/ ... are not easily described in the present form of [generative phonological] theory."⁴⁸

Phonetic Realisation Rules

The function of phonetic realisation rules has already been discussed above. They convert extrinsic allophones into intrinsic allophones, ideal pronunciations into actual pronunciations. Obvious rules of this type are:

/k ^h /	→	[k ^h]	/	_____	/I1/
/a/	→	[a ^h]	/	_____	/e/
/o/	→	[o ^h]	/	_____	/voiceless C/
/3:/	→	[p:]			

We have already stated above that rules of this type should in fact be formulated in terms of the framework developed by Ladefoged, as far as consonants are concerned, except that all relevant parameters for a

particular language should be totally specified for each segment. The phonetic realisation rule for /k^h/ above should therefore read:

/k ^h / →	Articulatory place	4.4	/____/11/
	Glottal constriction	9	
	Nasality	0	
	Stricture	1	
	Affrication	0	
	Glottal timing	5	
	Laterality	0	
	Lip rounding	0	
	Secondary articulation	0	

Other realisations of /k^h/ will depend on the following vowel and other items constituting the phonetic environment. For example, the full phonetic realisation rule for /k^h/ would also have to include:

/k ^h / →	Articulatory place	5.7	/____/01/
	Glottal constriction	9	
	Nasality	0	
	Stricture	1	
	Affrication	0	
	Glottal timing	5	
	Laterality	0	
	Lip rounding	0.5	
	Secondary articulation	0	

Rules of this type can also be made more general so as to, in this case, apply to /g/ as well, for example.

It is at this point that we are able to produce the different variants of the phonological variables, [p2], [b], [2], and so on, that we discussed above. For example, we have the diasystemic phonetic realisation rule, rule 63.

63)

$/t/ \longrightarrow g$	A.p.	2	~	A.p.	2	~	A.p.	0
	G.c.	9		G.c.	1		G.c.	1
	Nas.	0		Nas.	0		Nas.	0
	Strict.	1		Strict.	1		Strict.	1
	Affric.	0		Affric.	0		Affric.	0
	G.t.	3		G.t.	3		G.t.	3
	Lat.	0		Lat.	0		Lat.	0
	L.r.	0		L.r.	0		L.r.	0
	S.a.	0		S.a.	0		S.a.	0

That is, $/t/ \longrightarrow g \quad [t] \sim [t2] \sim [2]$
 $g = f(\text{Style, Class, Age}).$

This rule specifies that the variable (t) is the realisation of, in this case, the systematic phonetic element /t/ at the performance phonetic level, and that the realisation of /t/ will be [t], [t2] or [2] according to the factors specified. This rule is a diasystemic rule which applies to the whole speech community. We can assume that all speakers have this rule as part of their linguistic competence. Performance, however, will vary widely from speaker to speaker. Rules of this type are presumably also applied in a reverse direction in the social

interpretation of utterances made by other speakers. There will be similar diasytemic rules for (p) and (k). The rules will also be somewhat more complex than presented above because intrinsic allophonic features such as lip-rounding must also be indicated. We must also build in a restriction on the selection of the variant [ɜ]. The following Nch pronunciations, for example, must be taken into consideration:

get it [ˈgɛtɜɪɪ] but not * [ˈgɛɜɪɪ]
not at all [nɔːtɜtˈɜɪɪ] but not * [nɔːtɜɜtˈɜɪɪ]
isn't it [ɪntˈɜɪɪ] but not * [ɪnɜɪɪ]
put it [pʰɔtˈɜɪɪ] but not * [pʰɜɜtˈɜɪɪ]
about it [bɜtˈɜɪɪ] but not * [bɜɜtˈɜɪɪ]
get her to
come [gɛɜtɜtˈɜ kʰɜɪɪ] but not * [gɛɜɜtɜtˈɜ kʰɜɪɪ]

The following, however, do occur:

won't have to go to [wɔɜtɜɜtɜgɔɜɜɜ]
don't ought to [dɔɜtɜɜtɜɜɜɜ]
something to eat [sɜɜfnɜtɜɜɜɜɜɜ]
went into [wɛɜɜɜɜɜɜɜɜ]

The restriction is, therefore, that a glottal stop cannot occur both before and after /ɜ/ or unstressed /ɪ/. (The went into example shows that this is possible in the case of stressed /ɪ/.) Note too that in the phrase get her to

come, with /ʒ:/ rather than /ǝ/ in her, two glottal stops are possible. The restriction also appears to force the first of the /t/ or /t'/ consonants to be realised as [t], [t'] or [t₂], rather than [₂], except where the second /t'/ is in initial position, as in get her to come and not at all. (The form at all is pronounced /ə-t'ə:l/ rather than /ət-ə:l/).

We must therefore modify rule 63 to read:

$$/t/ \longrightarrow \left\{ \begin{array}{l} [t] \sim [t_2] \\ [t] \sim [t_2] \sim [₂] \end{array} \right. / \left\{ \begin{array}{l} \text{---} \left\{ \begin{array}{l} /ə/ \\ /ǝ/ \end{array} \right\} /t/ \\ /t/ \left\{ \begin{array}{l} /ə/ \\ /ǝ/ \end{array} \right\} /-/- \text{---} \end{array} \right.$$

Symbols like [t₂] are of course short-hand devices representing complexes of Ladefoged-type features as shown above.

This, then, is the form that phonetic realisation rules will take for consonants. We have already indicated above that the realisation rules for vowels will have to be of a different form. This is not without justification in the literature. It has been shown, for example, that kinesthetic and tactile feedback are much

more important for the production of consonants than the production of vowels. Auditory feedback, on the other hand, is more important for vowel production. Ladefoged writes, for example: "When auditory feedback was absent many vowel sounds were considerably affected both in length and in quality". This is a further argument against the use of distinctive features, since the same features are used both for vowels and consonants at the phonetic as well as the phonemic level. Chomsky & Halle⁵⁰ point out, as a justification for this, (as does Ladefoged⁵¹ himself in his development of phonetic parameters), that there are many parallels between consonant production and vowel production. Ohman, on the other hand, has shown that vowels and consonants appear to be produced by two different types of mechanism, with consonants being in some sense superimposed on a continuous stream of vowels.⁵² If there are two different types of production mechanism, then we have every justification for postulating that phonetic realisation rules for vowels are of a somewhat different type from those for consonants.

We are now, therefore, faced with the problem of the exact form these rules are to take. We will, as we have already indicated above, allow the output of these rules to take the form of phonetic symbols indicating as precisely as possible the area of the vowel trapezium where the vowel is to be realised - the vowel quality

the speaker aims at, as it is affected by overlapping articulations, and controls for auditorily. One alternative is, therefore, to have rules of the form:

$$/e/ \longrightarrow [e] \sim [ɛ]$$

This, however, suggests that there are certain discrete pronunciation types open to speakers, which, as we have seen in Chapter Seven and elsewhere, is not the case. We shall therefore adopt a set of realisation rules of the following type:

$$/e/ \longrightarrow [e-ɛ-ɛ-ɛ]$$

where the forms within the square brackets signify not different possible pronunciation types but the complete phonetic area over which the realisation can range. (Note that we have to do this for vowels, but that it would also be possible for consonants, since, although it is easier to discriminate auditorily between different consonantal variants, these are in many cases also simply areas of different phonetic continua.)

The full set of vowel phonetic realisation rules for the Nch diasystem is as follows.

$$64) \quad /I/ \longrightarrow \varepsilon \quad \left\{ \begin{array}{l} [ɪ-ɛ-ɛ] / \text{---} /z/ \\ [ɪ^r-ɛ-ɛ] \end{array} \right.$$

$\varepsilon = f$ (Style, Class, Age).

$$72) /U1/ \longrightarrow g [\overset{0}{p}1-\overset{0}{p}]$$

$$g = f \text{ (Class, Age).}$$

$$73) /o1/ \longrightarrow g [\overset{0}{a}\overset{0}{p}-\overset{0}{a}\overset{0}{p}-\overset{0}{v}\overset{0}{p}-\overset{0}{v}1-\overset{0}{o}1]$$

$$g = f \text{ (Style, Class, Age, Sex, /ou/).}$$

$$74) /u/ \longrightarrow g [u:-\overset{0}{u}u-\overset{0}{u}u-\overset{0}{u}]$$

$$g = f \text{ (Class).}$$

$$75) /ou/ \longrightarrow g [\overset{0}{a}\overset{0}{o}-\overset{0}{a}\overset{0}{o}-\overset{0}{r}\overset{0}{u}-\overset{0}{u}]$$

$$g = f \text{ (Class, Age, /o1/).}$$

$$76) /Uu/ \longrightarrow g [u:-\overset{0}{u}:-\overset{0}{o}u-\overset{0}{o}]$$

$$g = f \text{ (Style, Class).}$$

$$77) /ou/ \longrightarrow g [\overset{0}{a}u-\overset{0}{a}u-\overset{0}{v}u-\overset{0}{a}u-\overset{0}{o}]$$

$$g = f \text{ (Class, Age).}$$

$$78) /e1/ \longrightarrow [\overset{0}{e}1-\overset{0}{e}1-\overset{0}{e}1-\overset{0}{e}1]$$

$$79) /e1/ \longrightarrow [\overset{0}{e}1-\overset{0}{e}1-\overset{0}{e}1-\overset{0}{e}1]$$

$$80) /e1/ \longrightarrow [\overset{0}{e}1-\overset{0}{e}1-\overset{0}{e}1-\overset{0}{e}1]$$

$$81) /a1/ \longrightarrow g [\overset{0}{a}1-\overset{0}{a}1]$$

$$g = f \text{ (Class)}$$

82) /ə:/ → [əː - əˑː]

83) /ɒ:/ → [ɒː - ɒˑː - ɒˑˑː]

84) /a:/ → [aː - aˑː]

85) /ɜ:/ → [ɜː - aː]

These rules are in some cases somewhat simplified (although they give a good idea of the form phonetic realisation rules in the Noh diasystem must take). We will also need, for example, rules to lengthen vowels before voiced consonants.

Note that these rules allow for the possibility of the following pairs of systematic phonetic vowels not to be distinguished at the performance phonetic level:

/ə/ : /eː/
 /ɒ/ : /ɒː/
 /aː/ : /aˑː/
 /ə/ : /eˑː/
 /ɒ/ : /aˑː/
 /ɜː/ : /aˑː/ etc.

Other cases of overlapping realisations include /ə:/ and /ɛ:/, /ɒ:/ and /ɒː/, /ə/ and /ɛ:/, and /ɪ/ and /ɛ:/.

Note finally that all realisations of A, C and D vowels have voiceless counterparts which are realisations of /h/.

Performance Mutation Rules

We have reached a stage in our Nch diastemic phonological grammar that is probably much more detailed than that normally achieved by the phonological components of generative grammars. We have the stated aim, however, of generating an output which approaches much more closely what different Nch speakers actually say. The level we have so far reached is adequate for fairly slow, careful Nch speech. It is not adequate for rapid, casual speech. To produce forms of the type illustrated in the three Nch utterances quoted earlier on, and to handle casual rapid speech in general, we will now develop a set of rules which will be relevant only for this type of speech. These rules, which will incidentally demonstrate that at least some performance phenomena are subject to rule, will of course be optional. Since they will apply to and produce elements at the performance phonetic level, we shall call these rules performance mutation rules.

It is preferable to have this type of phenomenon handled at this lowest level, because it is then a

relatively simple matter to derive casual speech from careful speech. It is not desirable to handle performance phenomena of this type by phonetic realisation rules such as:

$$/tnt/ \longrightarrow [t^h_2]$$

because this complicates the realisation rules and means that, in addition to the rules producing intrinsic allophones, there will have to be several alternative rules, with the one we have just postulated as only one of the alternatives. In this particular case, for example, the omission of [n] in items like plenty occurs only where /t/ is [t], so the above rule would have to be presented in just that form, if a complication of levels is not to arise. We will therefore have instead rules of this type:

$$[n] \longrightarrow \emptyset \quad [t^h] \longrightarrow [t]$$

The true form of this phonetic mutation rule is the following:

86)

A.p.	2		A.p.	0
G.o.	3		G.o.	1
Nas.	1		Nas.	0
Strict.	1		Strict.	1
Affric.	0	→	Affric.	0
G. t.	1		G.t.	3
Lat.	0		Lat.	0
L.r.	0		L.r.	0
S.a.	0		S.a.	0

This stresses the very low level nature of this type of phenomenon. It might be thought that the rather cumbersome formula representing the realisation of the systematic phonetic vowel /ɛ/ within the square brackets could be more simply expressed at the higher level. However, the virtue of this formulation can be judged from the fact that in the speech of many Nch people, this rule applies in the more general environment:

[ɛ-ɛ-ɛ-ɛ] ——— [ɪ]

That is, the rule applies to items such as didn't and mint as well as to plenty etc. In this way, we can indicate that a rule of this kind applies, not to a systematic phonetic element, but to a phonetic area. The justification for this arrangement is provided by the fact that speakers who use the higher variant [ɪ] of /ɪ/ do not have this rule in the case of didn't and

mint items. The rule, therefore, quite clearly does not apply to /I/, but to the particular phonetic area indicated in the rule. The development /Int/ $\longrightarrow$ /It/ can only take place, (a) where /t/ = [2], and (b) where /I/ has a quality more open than [i].

It must be conceded that this case is not conclusive, since the [i] realisation of /I/ is found mostly in the speech of older informants. It could therefore be assumed that the above facts are simply the result of older speakers having rule 86 in a form slightly different from that of younger speakers.

Performance mutation rules are a very complex problem, and a great deal of work remains to be done on this subject. Some of the more important of these rules in the Nch diasystem, however, have been developed, in a rather tentative way. These are presented below. Note that shorthand forms such as [n] are sometimes used where this does not obscure the true nature of the rule.

87)

A.p.	2		A.p.	1		A.p.	2
G.c.	5		G.c.	5		G.c.	5
Nas.	1		Nas.	0		Nas.	0
Strict.	1		Strict.	2		Strict.	3
Affric.	0	+	Affric.	0	$\longrightarrow$	Affric.	0
G.t.	1		G.t.	1		G.t.	1
Lat.	0		Lat.	0		Lat.	1
L.r.	0		L.r.	0		L.r.	0
S.a.	0		S.a.	0		S.a.	3

$$91) [\overset{\text{h}}{\underset{\text{h}}{\text{e}}}-\underset{\text{h}}{\text{e}}-\underset{\text{h}}{\text{e}}] \longrightarrow [\text{e}]$$

$$92) [\text{e}] \longrightarrow [\overset{\text{h}}{\text{e}}-\underset{\text{h}}{\text{e}}-\overset{\text{h}}{\text{e}}]$$

$$93) [\overset{\text{h}}{\underset{\text{h}}{\text{e}}}-\underset{\text{h}}{\text{e}}] \longrightarrow [\overset{\text{h}}{\underset{\text{h}}{\text{e}}}-\underset{\text{h}}{\text{e}}]$$

$$94) [\underset{\text{h}}{\text{e}}-\overset{\text{h}}{\text{e}}-\overset{\text{h}}{\text{e}}] \longrightarrow [\overset{\text{h}}{\text{e}}-\overset{\text{h}}{\text{e}}]$$

$$95) [\text{e}-\text{e}] \longrightarrow [\overset{\text{h}}{\text{e}}]$$

These rules centralise and open short vowels in rapid speech. Note, too, that rule 92 applies not to /e/ but only to [e].

$$96) [\text{ɜ}:-\text{a}:] \longrightarrow [\text{e}-\underset{\text{h}}{\text{e}}-\text{a}]$$

This rule shortens the vowel in bird, first, etc., and produces the typical EAn short forms with the wide range of phonetic distribution discussed and described by Kokeritz and Lowman, and in Chapter Seven (the variable (ɪr)). Note, however, that as it applies to a phonetic area rather than to a systematic phonetic element it has the effect of optionally shortening all [a:] -type forms, not only those derived from //ɪ//, //e// and //ʌ// + //r//. This is a desirable effect, since pronunciations such as partner [p^hɜ^h2na] were recorded during the survey. We have, moreover, seen that

/v/, too, can have a realisation in the region of /a:/. It is therefore satisfying for our thesis concerning the input to these rules to note that forms such as bob [b₀ʌ₀b₀], job [d₃p₀b₀] (rhyming with hub) were frequently recorded during the survey. The input is therefore, once again, a phonetic area rather than a systematic phonetic element: [a:] → [ʌ] whatever its origin.

97) [ʊa-a-u-u] → [ʊ-a-u-u]

This rule deletes the glide from all diphthongs that result from systematic phonetic B(b) vowels.

98) [Stricture 1] → [Stricture 2]

99) [Stricture 2] → [Stricture 3]

These rules convert stops into fricatives, and stops and fricatives into approximants. They account for Nch pronunciations such as:

he paid [ʰeɪ̯p̰eɪ̯d̰]

100) [Glottal timing 3] → [Glottal timing 2~1]

This converts voiceless segments into segments that are partially or completely voiced. It accounts for Nch

pronunciations such as:

he called [hɛˈkɔːld]

101) [ə-ə] → ∅

102) [ɪ] → ∅ / ____ tʃ

103) [ɪ] → ∅ / ____ tʃ

104) [ɪ] → ∅ / ____ [s]

105) [voiceless vowel] → ∅

These rules all delete sounds as indicated. Note that rule 105 must also have a corresponding phonetic realisation rule:

/h/ → ∅

to account for speakers who "drop their h's" even in careful speech.

106) [Vowel] → [̃] ____ [Nasalisation 1]

This rule nasalises vowels which precede nasal consonants.

107) $\beta \longrightarrow [2] / \text{---} \text{#} \text{v}$

This rule introduces a glottal stop before initial vowels in stressed syllables, as in:

awful [2ɔːfɪ]

Many other performance mutation rules are of course required, in particular to delete vowels and consonants in certain contexts and to shorten long vowels.

We are now in a position to demonstrate how our three Nch utterances, A, B and C, can be generated by the Nch diasystem.

A. That's just how it go on

We can assume that the systematic phonemic underlying form for this would be something approaching the following:

Systematic Phonemic Level

//ð.a.tʃ + j.ʌ.st. + h.au... + ..i.t. + g.ō... + ..e.n.//

There are no diasystemic incidence rules that apply in this case, and, subsequent to the phonological rules of stress, boundary deletion etc., the phonological

realisation rules convert this into the systematic phonetic representation:

Systematic Phonetic Level

/ɔ̌nts ɔ̌st hæu ət ˈgʊu vɔn/

Phonetic mutation rules now apply, in this case the rules of glide insertion and resyllabification, 60 and 62, to produce the following:

/ɔ̌nts ɔ̌st hæu ət ˈgʊu wɔn/

The next set of rules to be run through are the phonetic realisation rules, which convert this to the level of actual articulations. The result is something like the following:

Performance Phonetic Level

[ɔ̌nts ɔ̌st hæu ət ˈgʊu wɔn]

This represents a possible slow, careful type of Nch pronunciation. Now the final set of performance mutation rules come into play.

- 1) Rule 88 deletes the initial [ɔ̥] in that's.
- 2) Rule 104 deletes the glottal stop before [s] in that's.
- 3) Rule 98 converts [d̥ɔ̥] into [ɔ̥].
- 4) Rule 97 converts [ɛ̥a] and [əu] into [ɛ̥] and [ə] respectively.
- 5) Rule 92 centralises and lowers the vowels of that's and how to [ɪ̥] and [ɐ] respectively.
- 6) Rule 101 deletes [ə] in it and in go.
- 7) Rule 106 nasalises the vowel of on.
- 8) Rule 105 deletes the [ɔ̥] < /h/.
- 9) Finally, rule 107 inserts the initial glottal stop.

The result is the required output:

[2nd 300 p2 °gwān].

B. Well, if I'm going out on a Saturday night

Systematic Phonemic Level

//w.e.l. + ..i.f. + ..I.m. + g.ō...-...iNg. + ..au.t.
+ ...o.n. + ...a... + s.a...-t.e.r-d.ō... + n.I.t.//

Systematic Phonetic Level

/wɛl If əm ˈgʊən aʊt ənd sət'ə dli naɪt/

The phonetic mutation rules convert this to:

/wɛl I fəm ˈgʊwən aʊt ənd sət'ə dli naɪt/

Performance Phonetic Level

[wɛl ɪ fəm ˈgʊwən aʊt ənd sət'ə dli naɪt]

- 1) Rule 102 deletes the [ɪ] in well.
- 2) Rule 101 deletes [ə] in I'm, going, a,
and Saturday.
- 3) Rule 97 deletes the [u] in going and the
[ə] in out.

- 4) Rule 106 nasalises the vowels in on and going.
- 5) Rule 103 deletes the [n]'s in on and going.
- 6) Rule 89 nasalises the [ə] in Saturday.

This produces the required output:

[wə ɪ fm ˈgɔw əz ð sɛzdeɪ nɛɪz]

except that we need an additional rule to delete the [d] in Saturday. The exact environment for the operation of this rule is not yet clear.

C. No I haven't been down there lately

Systematic Phonemic Level

//n.ou... + ..ī... + ..ɪnt. + b.ē.n. + d.au.n. + ø.ā.r. +
l.ā.t-1.1...//

The diasystemic incidence rule, rule 8, changes the final //ɪ// to //ē//.

Systematic Phonetic Level

/nəu ə Int bən ,daun ,ðeɪə laɪtli/

The phonetic mutation rules then produce:

/nəu ə Int bən ,daun ,ðeɪ: laɪtli/

Performance Phonetic Level

[nəu ə ɛn2 bən ,daun ,ðeɪ: laɪtli]

- 1) Rule 97 deletes the [u] in no and the [ə] in down.
- 2) Rule 86 deletes the [n] in haven't.
- 3) Rule 87 produces [ɪ] from [n] and [ð].
- 4) Rule 106 nasalises the vowel in down.
- 5) Rule 101 deletes [ə] in been.
- 6) Rule 103 deletes the [n]'s in been and down.

We also require a rule to shorten the vowel in there. We now have the correct output:

[nəu ə ɛɪ2 b ,dɔ̃ ɪe- laɪtli]

We have finally, therefore, reached the stage where we are, in theory at least, able to generate all types of Nch English, including casual, rapid, WC speech, from the same underlying system. One of the obstacles in the way of achieving this in practice is the complexity of the phonetic realisation rules and the performance mutation rules. In the next section we shall be making a few suggestions on how to attempt to simplify this problem.

The large amount of variety to be found in Nch English is the result of the numbers of optional rules, at all levels, and the socially determined rules with variable outputs, which constitute the Nch diasystem. We have been able to present only a part of this diasystem above. Note that all Nch speakers have, in principle, access to the entire diasystem. In their actual speech production, however, optional rules are either employed or rejected, with the result that any given speaker only reflects part of the diasystem in his performance.

Articulatory Settings

Finally in this chapter we shall briefly discuss a topic which should be of some assistance in formulating and simplifying the phonetic realisation rules and performance mutation rules.

It is a striking fact that the speech of many Noh informants whose individual segments are otherwise quite or perhaps very similar actually sounds very different. This difference is due to the use by very many (particularly younger) WC speakers of what several informants referred to during the course of the interviews as "a Noh voice". In those cases where there are slight differences in the pronunciation of individual segments, moreover, these often seem to be due to the same overall difference in the mode of articulation. Both these types of difference can be described as differences of setting.⁵³

Setting has been described by Laver⁵⁴ as one of the components of voice quality. (The other main component is the "anatomical and physiological foundation of a speaker's vocal equipment".) Settings are "long-term muscular adjustments ... once acquired idiosyncratically, or by social imitation, and now unconscious, of the speaker's larynx and supralaryngeal vocal tract".⁵⁵ Settings can therefore be divided into two types:

A. Settings of the larynx.

B. Settings of the supralaryngeal vocal tract.

Type A settings can be divided into three groups:

- A. (a) phonation types
- (b) pitch ranges
- (c) loudness ranges

There are also four sub-groups of type B settings:

- B. (a) longitudinal modifications
- (b) latitudinal modifications
- (c) tension modifications
- (d) nasalisation

This classification of setting components enables us to analyse and describe reasonably accurately the distinctive setting employed by Nch WC speakers. This type of setting distinguishes Nch WC speakers not only from MC speakers but also from FAn rural speakers and, of course, from speakers of most other types of English. It also characterises some otherwise MC speakers as having come from a WC background.

The setting typical of Nch WC speech can be described in the following way.

Settings of the Larynx

Phonation Types: There is a tendency for Nch WC speakers to employ the phonation type which has been characterised as "creaky voice".⁵⁶ There is no corresponding tendency in the speech of MC informants.

Pitch Ranges: The pitch range used by both male and female Nch WC speakers tends to be high rather than medium or deep.

Loudness Ranges: The loudness range selected by Nch WC speakers tends to be loud rather than medium or soft.

Settings of the Supralaryngeal Vocal Tract

Longitudinal Modifications: One of the more obvious components of the Nch WC setting is what has been termed "raised larynx voice".⁵⁷ This results from the vertical displacement of the larynx in an upward direction from the neutral position.

Latitudinal Modifications: Latitudinal modifications of the supralaryngeal vocal tract include "settings of the tongue that result in a constrictive or expansive tendency somewhere in the oral cavity".⁵⁸ The Nch WC "raised larynx voice" is often accompanied by a modification of this type, in that the centre of gravity of the tongue is fronted and probably also lowered from the neutral position. The effects of this modification are most noticeable in the case of vowels in the mid and open front vowel region. These tend to be more front and more open in WC speech than in MC speech - see, for example, the index scores for (a₁) and (ã) in Chapter Eight.

Tension Modifications: Nch WC speech is generally produced with a large amount of muscular tension throughout the vocal tract.

Nasality: An auditory quality which can be loosely labelled as nasality is a frequent component of the Nch WC setting, and is particularly noticeable in association with the pronunciation of low front vowels (see performance mutation rule, rule 89). We shall see below that nasality may well be an inadequate term for this feature.

The combined effect of these components of the setting is to produce a type of speech that is somewhat harsh and metallic. Many of the MC informants in the survey considered this type of voice quality to be particularly unpleasant.

Most of the various components of this setting would appear to have little or no effect on the articulation of individual segments. This is evident from the fact that "MC segments" can be superimposed on the WC raised larynx voice (and WC segments on the MC neutral larynx voice). The features of nasalisation and vowel fronting and lowering, on the other hand, could be considered to have a more significant effect on individual segments. This, however, is entirely due to the fact that they appear to affect only certain vowel segments: front and low vowels. It is not in fact possible to divorce consideration of any of the components from a consideration of the setting as a whole, since there are good reasons

for believing that all the components are anatomically and physiologically linked in some way. The nasalisation and vowel fronting and lowering, in other words, cannot be considered to be properties of those particular segments where their effects are auditorily the most marked. They must be considered as integral features of the overall setting.

The general connectedness of the different components of the setting can be described, somewhat tentatively, in the following way. It would seem to be the case that the component of tension modification is the most important and fundamental component in the production of this particular type of setting. It is not simply tension modifications of the supralaryngeal vocal tract that we must consider, however, but modifications of the vocal tract as a whole. We must also take into consideration muscular tension and effort at the sub-glottal level. The facts suggest, for instance, that the Noh WC setting is characterised by a relatively high degree of effort and muscular tension throughout the speech production apparatus. Thus, the three laryngeal components of the Noh WC setting - with the possible exception of phonation type - appear to be controlled by this single overall tendency to high muscular tension. The high degree of tension, for example, produces the high pitch range typical of this kind of setting, since increased vocal cord tension leads to a higher frequency of vibration.

The amplitude of vibration of the vocal cords, and thus the high loudness range typical of Nch WC speech, can also be ascribed to relatively high sub-glottal pressure resulting from increased muscular effort. The physiological causes of creaky voice, however, are open to question, although there is a possibility that it is at least partly due to muscular tension.

The same overall tendency also controls the four supra-laryngeal components. For example, high muscular tension in certain supra-laryngeal muscles leads to the longitudinal modification of the raised larynx, and thus to "raised-larynx voice". The raising of the larynx, in turn, may well have the effect of facilitating the fronting and possibly also the lowering of the centre of gravity of the tongue, which leads to the fronting (and lowering) of vowels described above. This fronting of the tongue can, in its turn, lead to a tendency to lower the velum, because "some of the depressor-relaxer muscles of the velum ... have their point of origin in the tongue".⁵⁹ This is most marked in the case of low front vowels, and results in the nasalisation already described. The high muscular tension is, of course, also present as a tension modification of the muscular walls of the supra-laryngeal vocal tract - which is one factor contributing to the metallic nature of this type of speech. It is also possible that the feature we have called nasality is due, at least in part, to resonance features associated with

the high muscular tension of the walls of the pharynx. The term "nasalisation" employed above is for this reason probably not adequate.

In view of the fact that all the components of the setting appear to be so closely inter-connected, it would seem legitimate to reinterpret rule 89 as a setting rule, of a rather different type from the performance mutation rules which delete segments and handle certain assimilations. The nasalisation associated with low front vowels will then be seen not simply as an unmotivated phenomenon to be found in casual VC speech, but as part of an overall articulatory process. Note, too, that not only rule 89 is involved here. For example, rules 90 - 95, which centralise and open short vowels, can also be accounted for, at least in part, by a setting where the centre of gravity of the tongue is optionally lowered in casual speech as a correlation of the raising of the larynx. It would clearly be an advantage if we could replace these six performance mutation rules by one setting rule. There is therefore some justification for proposing a set of setting rules of the following type:

103) Vocal Organs $\longrightarrow$ g (Setting 1 ~ Setting 2)

g = f (Class)

109) Setting 2 $\longrightarrow$ High Muscular Tension

110)

High
Muscular
Tension

{ High Pitch Range
{ High Loudness Range
{ Tense Vocal Tract
{ Raised Larynx

111) Tongue → Fronted and Lowered / Raised Larynx

112) Velum → Lowered / Tongue Fronted

(Rules 111 and 112, at least, are optional since, for example, the fronting of the tongue that is facilitated by the raising of the larynx is not physiologically inevitable; it is possible for muscular adjustments to be made so that the centre of gravity of the tongue is not fronted.) The rules produce:

- (a) The high pitch, loudness, metallic quality and raised larynx typical of Nch WC speakers;
- (b) The fronting and lowering of vowels in phonetic space;
- (c) Blade rather than tongue-tip articulation of alveolar consonants;
- (d) The nasalisation of low front vowels.

These rules indicate that the components of the Nch WC setting are initially dependent on the relatively high muscular tension in the vocal tract. They also suggest that some inter-connected sound changes occurring ostensibly as the result of pressures in phonetic space may in fact be due to changes in the setting. Note, for instance, that the above rules account not only for the fronting, lowering and nasalisation of certain vowels - which do not occur to a very marked extent in the speech of older informants - but also for the fronting of /v/ from [a¹·] to [a²·], which we have discussed above as a sound change. We can hypothesise that the fact that many young and middle-aged speakers have a front vowel in the lexical set of box is due in part to the fronting of the centre of gravity of the tongue. It is also possible that other Nch sound changes, such as the [ɜ:] vowel in items of the lexical set of fear, are due to the lowering of the centre of gravity of the tongue, although this is more doubtful. It is instructive, on this point, to compare the pronunciation of older Nch speakers with that of younger speakers. (The categories "older" and "younger" represent only certain statistical tendencies associated with different age-groups, of course.) Consider the following:

	<u>Older</u>	<u>Younger</u>
<u>hyam</u>	[h ₁ ɪm]	[ɛm]
<u>better</u>	[betʔə]	[b ₁ ɛʔə]
<u>hammer</u>	[hɛ ¹ ·mə]	[ɛ̃mə]

Changes of this type can be dealt with much more easily if they are regarded as the result of a single change in setting, than if each change is regarded as an individual event.

If we incorporate synchronic rules of this type into the Noh diasystem, moreover, the statement of both the phonetic realisation and performance mutation rules can be much simplified. We can, for example, replace a phonetic realisation rule of the type:

$$\begin{aligned} /I/ &\longrightarrow G [i^{\text{h}} - \bar{o}] \\ G &= f(\text{Class, Age}) \end{aligned}$$

by the rule:

$$/I/ \longrightarrow [i^{\text{h}}]$$

and allow the setting rules to produce the more open vowel where appropriate.

Another advantage of setting rules is that they can relate different types of Noh English to each other in the diasystem in a much more generalised and significant way than a series of individual rules. Different social types of Noh English may be characterised by the presence or absence of, say, rule III, rather than by a whole series of rules. This is an important point, since it is

clear that perhaps the single most socially significant feature of linguistic differentiation in Noh is the type of voice quality produced by the particular type of setting employed by a speaker. It is in any case this feature which most clearly distinguishes WC from MC speakers. This point, of course, did not emerge at all from our atomistic analysis of the co-variation of linguistic and sociological phenomena in Chapter Eight.

Setting rules can be regarded as ancillary to the phonetic realisation rules, and must come into play either before or simultaneously with these rules. If we in fact place the setting rules before the phonetic realisation rules, this will permit us to realise systematic phonetic elements according to an already established type of setting. The outputs of the phonetic realisation rules will then have been filtered through the setting rules to produce the particular output required in each case. Exactly how this is to be done in our model is not clear,⁶⁰ but we might propose a mechanism such as the following:

Note, however, that if we are to allow setting rules to play any part in sound changes of the "phoneme merger"

type, we must allow for the filtering effect of the setting to be skewed in some way, so that, say, back vowels can be more affected by fronting of the centre of gravity of the tongue than front vowels.

Summary of Rule Types

Syllable Generator Rule

Rhyme $\longrightarrow$ Peak + Coda

Co-occurrence Restriction Rule

2 (B3) $\implies$ $\sim$ 1 (B)

Diasystemic Inventory Rule

//Y $\propto$ III $\begin{Bmatrix} a \\ b \end{Bmatrix}$ // $\longrightarrow$ //Y $\propto$ III//

Phonological Mutation Rule

//Y// $\longrightarrow$ //X//

Diasystemic Incidence Rule

//Y β IIIIa// $\longrightarrow$ //X β I//

Phonological Realisation Rule

//A2b// $\longrightarrow$ /v/

Phonetic Mutation Rule

/wa/ + /ə/ $\longrightarrow$ /ɜ:/

Phonetic Realisation Rule

/e/ → [e̞ - e̝ - e̜ - e̟]

Performance Mutation Rule

[ð] → ø / # _____

Articulatory Setting Rule

Velum → Lowered / _____
Tongue Fronted

SECTION E : LINGUISTIC CHANGE

Chapter Eleven: Linguistic Change in Norwich

The large amount of data obtained in a sociological urban dialect survey of the type carried out in Nch can be used to shed light on a number of problems of linguistic theory. For example, we have already been able to draw certain conclusions from our material concerning phonological theory and the nature of the dia-system. In this final chapter we shall be considering problems connected with the theory of linguistic change. We shall discuss certain aspects of phonological and phonetic change in Nch, and EA generally, and shall then move on to a study of what conclusions can be drawn from these changes.

The Study of Linguistic Change in "Apparent Time"

When the Nch survey was carried out, in the summer of 1968, the oldest informant in the sample was aged eighty-nine, the youngest eleven. We are therefore able to compare the speech of people who were growing up in the last two decades of the nineteenth century with that of people who were still growing up in the 1960's. This opens up the interesting possibility of investigating linguistic change, not by a series of studies at different periods of time, but now - as it is reflected in the speech of different age-groups in the present-day Nch speech community. Labov claims that "by studying the differences between the linguistic behaviour of successive age levels

in our sample, we can make inferences about linguistic change", and describes this technique as the study of linguistic change in "apparent time".¹

We have already seen, in the case of the variable (e) in Chapter Eight, that it is possible to plot the co-variation of phonological variables against the age-group as well as the social class of the speaker. Fig. 21 in Chapter Eight shows very strikingly that (e) has undergone and is undergoing linguistic change. In spite of this possibility, it would of course be preferable to make our study of linguistic change in real time, rather than in apparent time, either by comparing the results of a survey with those obtained in earlier surveys, or by conducting another survey of the same type after a period of a number of years. In this particular case the first alternative is not open to us, because no previous survey of Noh English has been carried out, while the second alternative, although possible, is of no assistance in our present analysis of linguistic change.

The disadvantages of a study of change in apparent time are that one must take into consideration, first, the fact that older speakers may well have changed certain aspects of their linguistic behaviour during their lifetime, and, secondly, the fact that systematic changes of the type known as age-grading may occur in the community: differences between older and younger speakers may be

repeated in each generation. These disadvantages can, however, be overcome. First, changes made by speakers during the course of their life-times will generally be minimal in CS, and so the study of linguistic change can be concentrated on this particular style. Secondly, the exact nature of these changes, (if any), together with the possibility of age-grading, can be investigated and controlled for by reference to historical records. Indeed, if the study is to be accurate, this must be done. In this particular case we are able to check the results of our analysis of change in apparent time by referring to the rural dialect records made by Kókeritz, Lowman and Nelson Francis. The two types of material are not strictly comparable, of course, as they were obtained by entirely different methods. The earlier records, moreover, are rural EAn rather than urban Nch. They can, however, help to confirm that apparent changes in Nch English are not due to age-grading, and can act as a general control.

Phonetic and Phonological Change in Nch

We have already discussed certain aspects of phonetic and phonological change in Nch and EA, especially in Chapters Seven, Eight and Ten. Particular changes that we have mentioned include the following:

1. The apparent decrease in frequency of the EAn short o in items of the type boat.

2. The loss of the /ʊn/ : /ʌn/ distinction between the lexical sets of nose and knows in Essex and Suffolk, although apparently not in Nfk.
3. The increase in the use of /ʊn/ rather than /ʊə/ or /U/ in items of the lexical set of boot.
4. The merger of the vowels of the lexical sets of here and there.
5. The loss of final [ə] in items of the lexical sets of here, there, poor, pore.
6. The merger of the vowels of the lexical sets of name and nail.
7. The loss of older EAn realisations of (ir): [ɐ], [a:], [ʌ], [ə], which are being replaced by [ɜ:] in items of the type church, first.
8. The spread of h-dropping to Nch but not to the surrounding rural areas.
9. The phonetic change of the variable (e), as portrayed in Fig. 21 in Chapter Eight, from [ɛ] to [ʌ].

- 10) The phonetic change of the variable
(a) from [ɛ] through [æ] and [aɪ] to
[a:ə].
- 11) The phonetic change of the variable
(ī), with an increase in the frequency
of the variant (ī)-4 = [ɔɪ].
- 12) The phonetic change of the variable
(e) from [æ] to [ʊ], or from [æ] to [a].

The EAn Short ɔ

In this chapter we shall discuss these changes in rather more detail. We shall examine the causes which led to the changes, and the mechanisms by means of which they have become, or are becoming, spread through and established in the community. We can begin by analysing more exactly the form that the loss of the EAn short ɔ is taking in Nch.

Material presented in Chapter Seven suggested that the short ɔ was losing ground in rural EA. As far as we were able to judge, there appeared to be a lower percentage of short ɔ forms in the SED records made by Francis and Ellis than in the pre-war records made by Lowman and Kōkeritz. We also saw, in Chapter Eight,

that even the Noh LWC uses no more than 42 per cent of the possible total of forms with short o in CS, and that this 42 per cent consists to a large extent of a relatively small number of lexical items of high frequency. We can expect that the loss of the short o, if such it is, will be more marked in the city of Noh than in surrounding rural districts, so that information concerning the current position in Noh will be suggestive for future trends in the whole of EA.

The extent to which the EA short o is or has been involved in linguistic change in Noh can be investigated, in apparent time, by calculating the average index scores for the variable (o) obtained by each age-group in the Noh sample. This information is portrayed in Fig. 1, which shows the distribution of (o) in apparent time. As in Fig. 21 in Chapter Eight, average index scores (ranging from 000 to 300) are shown along the ordinate, and the different age-groups (ranging from the ten to nineteen year-old group to the seventy year-old-and-over group) along the abscissa. The lines on the graph connect average scores for each of the age-groups in each of the four contextual styles. The slope of the lines across the graph from right to left will indicate the direction in which the linguistic change, if any, is progressing.

It is clear from Fig. 1, first of all, that we do not obtain the clear overall drop in (o) scores from right to

left across the graph that we might have expected from our supposition that short o is decreasing in frequency. Certainly, speakers in the two oldest age-groups have higher scores, generally speaking, than younger speakers, particularly in CS (on which we are concentrating). There is also a general fall in scores, indicating fewer ($\bar{o}$)-4, from the oldest group down to the forty to forty-nine group. There is, however, a marked rise in scores from this level to the scores of the younger age-groups. How does this fit in with the supposition that ($\bar{o}$)-4 forms are decreasing in frequency - and does it indicate that short o forms are again on the increase?

In order to solve this problem we must compare the pattern shown in Fig. 1 with Fig. 2. Fig. 2 shows the age differentiation of the variable (ng). There is no reason to suppose that there is any linguistic change currently associated with (ng) in Nch. General observation and comparisons with the rural dialect records suggest that (ng) is a stable marker of social class and stylistic context in Nch, and that it is fairly constant throughout all age-groups. CS and FS (ng) scores show a symmetrical pattern of age differentiation, with a steady fall from seventy-plus scores to forty to forty-nine scores, and then a mirror-image rise from forty to forty-nine scores to ten to nineteen scores. Comparison with other variables which are not involved in linguistic change in Nch suggests that this is the normal or neutral

Fig. 1. Variable ($\bar{e}$) by Style and Age.

Fig. 2. Variable (η_g) by Style and Age.

Fig. 3 % ($\bar{e}$)-4 by Style and Age.

form of age differentiation pattern. All variables not undergoing linguistic change have a very similar symmetrical pattern of differentiation.

This means that the rise in scores for younger informants shown for ($\bar{o}$) in Fig. 1 is typical of the Nch phonological variables as a whole, and is therefore not indicative of any change. The significant deviation from the neutral (ng)-type pattern lies in the fact that speakers over sixty have higher scores than the typical pattern would lead one to expect. We can therefore say that there is a linguistic change associated with ($\bar{o}$) in Nch, in that older informants have higher ($\bar{o}$) index scores than younger informants. This suggests that younger people use fewer ($\bar{o}$)-4 (short o) forms than older people.

Before we discuss ($\bar{o}$) scores further, it is interesting to speculate as to why what we have called the "neutral" age differentiation pattern, which characterises variables like (ng) that are not involved in change, has the form that it does. It would appear to be partly a result of the fact that age and social class are not independent variables in British society. Because of a general increase in educational opportunities and the standard of living during the course of this century, younger people in Britain tend, on average, to be of higher social class than older people (see Fig. 5 in Chapter Four). This partially explains why the seventy-

plus group has higher scores than, for example, the forty to forty-nine group. It is also partly a result of two further related tendencies. Older people, on average, have had less education than younger people and have been less subject, for a smaller proportion of their lives, to the standardising pressures of R.P. The fall in scores from the seventy-plus group to the forty to forty-nine group is therefore also due to the general increase in the influence of R.P. in the Noh community because of education, improved communications, and immigration. The corresponding rise in scores from the forty to forty-nine group to the ten to nineteen group can be explained in a similar way. The older speakers are, the longer they have been subject to standardising pressures, and the more they are aware of the social importance of various linguistic forms. They are also of course more practised in producing standardised forms. We have already noted Labov's comment that certain speakers "will come into broader contact with the prestige forms, and we would expect some weakening of their use of the stigmatised form as they grew older. Thus even a static situation can produce variations from one age-group to another".² This is precisely the situation here: we have a pattern of variation from age-group to age-group, but no linguistic change. In this case, however, the pattern of variation associated with a static situation is the result of two different patterns overlaid on one another: scores decrease because of (a) increased educational opportunities etc., and (b) increased contact with prestige forms.

That there are in fact two conflicting patterns here is confirmed by the pattern of age differentiation of (ng) for WLS and RPS, shown in Fig. 2. WLS and RPS are formal reading styles where the influence of the educational institutions in stigmatising (ng)-2 forms will be most marked. For this reason, in these two styles, pattern (a) completely obliterates pattern (b): there is a general decline in scores from right to left across the graph, from the oldest group to the youngest. In this sense there has been a change associated with (ng): younger speakers have a much wider range of stylistic variation than older speakers.

To return to our discussion of ($\bar{o}$) scores, Fig. 1 gives us some reason to suppose that there has been a decline in the percentage of ($\bar{o}$)-4 forms used in Nch, and that the short o is a recessive feature in Nch English. The evidence is not conclusive, however, since the variable ($\bar{o}$) measures all types of pronunciation of items of the lexical set of boat. The decrease in scores could therefore equally well be due to an increase in, say, ($\bar{o}$)-2 forms. We can therefore confirm our hypothesis concerning the loss of ($\bar{o}$)-4 forms by the material presented in Fig. 3. Fig. 3 shows the percentage of possible ($\bar{o}$)-4 pronunciations that were ($\bar{o}$)-4, on average, for each age-group in the four contextual styles. The pattern of age differentiation is similar to that shown in Fig. 1, but the fall in scores from right to left across the graph

is rather more pronounced. There is a fall from a high maximum of 45 per cent for the sixty to sixty-nine group in CS, to a low maximum of 12 per cent for the thirty to thirty-nine group in FS. Once again, the twenty to twenty-nine and ten to nineteen groups have higher scores than the thirty to thirty-nine group.

We can confidently assert, therefore, that the EAn short q has decreased in frequency in Nch, and that ($\bar{o}$)-4 is more common in the speech of older informants than in the speech of younger informants. The decline, however, is not extreme, and the evidence suggests that after an initial drop in frequency around the time of the First World War, (illustrated on the graph by the sharp drop in scores between the sixty to sixty-nine group and the fifty to fifty-nine group), ($\bar{o}$)-4 has maintained a fairly constant level of between 10 and 20 per cent in Nch English. There is no real evidence, that is to say, that ($\bar{o}$)-4 is dying out, merely that it has declined. The diasystemic incidence rule:

// $\bar{o}$ // $\longrightarrow$ //U//

is therefore still present in the grammars of even the youngest speakers in the Nch sample.

The variant ($\bar{o}$)-4, then, has decreased in its frequency of occurrence in Nch English. Why has this

happened? What was the cause of this linguistic change? What was the mechanism by means of which it became accepted in the speech community, and which ensured that this change, rather than some other (or none at all) took place - and at this time, rather than at some other?

It seems clear that the main reason for the change lies in a prior-existing linguistic difference (whose origin it is not our task to discuss): neither the prestige accent, R.P., nor the accents of any of the areas surrounding EA have the short o. This is the initial cause. The mechanisms which subsequently effected the spread of long o forms into Noh are the processes of innovation diffusion, by means of which new forms are transmitted from one area to another, and the social pressures, within the community itself, for the adoption of more R.P.-like forms, particularly in the educational institutions. The reason for the change occurring at this particular time, rather than at any other, must be assumed to be the increase in geographical mobility that took place during and since the First World War, and the increase in educational opportunity that occurred around the same time.

It is also possible that there is a further linguistic cause. Forby indicates that in the 1830's, when he was writing, the EAN short o was common. He states that the letter o "has also in some words the common short sound of the diphthong oo (in "foot")",³ and cites as examples

bone, stone, whole. He also indicates that the letter u is pronounced [ʌ] in items of the type full, pull, bush. (Lowman and Kōkeritz also record items such as roof and soot with [ʌ].) This means that pairs such as coke : cook, foal : full, loke : look, must have been distinguished by vowels of the type [U] : [ʌ] rather than by [ou] : [U]. It is therefore possible that, as Nfk [ʌ] in full was replaced by [U], there was some pressure to replace [U] in items of the type foal, in order to preserve the lexical distinction. This may, at least, have encouraged the change from /U/ to /Uu/.

The Merger of /Uu/ and /ou/

We stated in Chapter Seven that the older EAn distinction between items of the types nose and knows is apparently being lost in EA generally, but not, as yet, in Nfk. Kōkeritz gives evidence which suggests that it had died out in Essex by the 1930's, although it was at that time still typical of Suffolk speech. The published SED material suggests that it had died out in most of Suffolk by the 1950's. In Chapter Eight, however, we stated categorically that there was no evidence of any linguistic change concerning this distinction in Nch. This statement now requires some modification. Fig. 4 is an age differentiation diagram for the variable (ou), which is the pronunciation of the vowel of the lexical set of know, old, low. Comparison with Fig. 1 shows that

there is no general tendency for ($\bar{o}$) and (ou) to be merged in Nch English, even in the speech of young informants. Fig. 4 does show, however, that (ou) is subject to stylistic variation in the speech of informants of all age-groups except those aged seventy or over. This means that (ou) is not a variable for the eldest age-group in the Nch sample. The introduction of (ou) as a variable, (with vowels more closely approaching those of ($\bar{o}$) in formal styles), therefore represents a linguistic change in Nch. The situation described in Chapter Eight, where MMC speakers make a consistent but small distinction between (ou) and ($\bar{o}$), must therefore be of fairly recent origin.

Shevelov⁴ has suggested that the prediction of future linguistic changes is a useful and insightful topic for study. Can we predict that this change, the merger of ($\bar{o}$) and (ou), will take place in Nch at some future date? There is no linguistic change currently associated with this distinction in Nch, but the fact that (ou) has become a variable during the course of this century suggests that this is certainly possible. There are three other factors which also help to suggest that a change is likely:

- 1) Nch MC speakers make less distinction between (ou) and ($\bar{o}$) than WC speakers: their realisations of /vu/ and /Uu/ are

Fig. 4 Variable ($\bar{c}_u$) by Style and Age

Fig. 5 Variable ($\bar{u}$) by Style and Age

Fig. 6 % ($\bar{u}$)s by Style and Age

phonetically closer. This means that prestige may well become associated with a phonetically small amount of distinction, and that the distinction may therefore become increasingly small.

- 2) Neither the prestige accent, nor the accents of those areas adjoining and surrounding Nfk, make any distinction between the lexical sets of nose and knows. It is therefore likely that the diffusion processes which have already been responsible for the loss of the distinction in Essex and Suffolk will continue the spread of the merger into Nfk. It is also likely that in-migration and London overspill projects will hasten this process.
- 3) The phonological vowel systems presented in Chapter Ten suggest further that this merger may take place in Nch. We saw there that the diasystemic inventory rule, rule 2:

$$\begin{matrix} a) \\ b) \end{matrix} \longrightarrow \emptyset / \frac{\quad}{Y \propto II}$$

has become generalised in the speech of younger people to rule 3a:

$$3a) \quad \left. \begin{array}{l} a) \\ b) \end{array} \right\} \longrightarrow \emptyset / \frac{\quad}{Y\alpha}$$

We have also seen that the systematic phoneme $//Y\alpha I Ib// = //\bar{e}//$ is likely to disappear very soon from the Nch diasystem. When this occurs the relevant diasystemic inventory rule will then be:

$$3b) \quad \left. \begin{array}{l} a) \\ b) \end{array} \right\} \longrightarrow \emptyset / \frac{\quad}{Y\alpha III}$$

It would therefore not be surprising if this rule, in turn, became generalised to:

$$3c) \quad \left. \begin{array}{l} a) \\ b) \end{array} \right\} \longrightarrow \emptyset / \frac{\quad}{YIII}$$

That is:

$$\left. \begin{array}{l} //\bar{a}// \\ //aI// \end{array} \right\} \longrightarrow //aI//$$

and

$$\left. \begin{array}{l} //\bar{o}// \\ //ou// \end{array} \right\} \longrightarrow //ou//$$

The Replacement of /ʊə/ and /U/ by /Uu/

We saw in Chapter Seven that the alternation of /ʊə/, /Uu/ and /U/ in items of the lexical set of boot is probably the result, at least in part, of a linguistic change. In older rural speech, /ʊə/ was most common in Nfk, and /U/ in Suffolk. Forms with /Uu/ represent an introduction from R.P. or from Midland accents. The result is the diasystemic incidence rules discussed in Chapter Ten.

We can now analyse ($\bar{u}$) scores obtained by the Nch informants to see if there is any trace of this change in Nch itself. If /Uu/ is, generally speaking, supplanting /ʊə/ and /U/ in items of this type in Nch English, we would expect scores for younger speakers to be lower than these for older speakers. Fig. 5, which is an age differentiation diagram for ($\bar{u}$), shows that this is in fact not entirely the case. There is a slight but clear tendency for scores to increase with decreasing age, in VLS and RPS. That is to say that only the pattern associated with increasing contact with prestige forms occurs, and not the pattern associated with increased educational opportunity (see above). This is because ($\bar{u}$) is the only Nch variable which is subject to stylistic variation and not to class differentiation. The higher social class of younger people is therefore of no consequence with respect to this variable. (Note that this is further confirmation for our "two overlaid patterns" hypothesis.)

The scores for CS and FS are difficult to interpret, but one possibility is that they represent something approaching the neutral pattern, but with the drop in scores from 300 at thirty to thirty-nine in CS, to 281 at ten to nineteen, indicating a recent decrease in the frequency of ($\bar{u}$)-4 and ($\bar{u}$)-5. The evidence is inconclusive, but perhaps the most reasonable conclusion is that a major change involving this variable, if there was one, must have taken place before the turn of the century, and therefore does not appear in the age differentiation diagram of Fig. 5. Fig. 6 shows, on the other hand, that there is some kind of change currently associated with ($\bar{u}$) in Nch: the ten to nineteen group has a significantly lower percentage of ($\bar{u}$)-5 short o forms in WLS (where all informants read the same lexical items) than the other age-groups. This, together with the drop in scores for the two youngest age-groups in Fig. 5, suggests that /Uu/ forms, perhaps after an initial increase some 80 to 100 years ago, due to the replacement of / $\bar{u}$ / forms, are now beginning to replace /U/ forms, as well, in the speech of the young.

We can ascribe any increase in /Uu/ forms to the influence of non-EAn accents. It is not clear, however, if we can include R.P. amongst these accents, since many R.P. speakers, including those in the Nch sample, use a vowel that is phonetically intermediate between Nch /Uu/ and / $\bar{u}$ /, and indeed generally more nearly approaches / $\bar{u}$ /, (except before / $\dot{t}$ /). It is more probable that this

change is the result of the influence both of Midland accents and of older types of R.P. (Gimson writes: "Considerable centralisation, [ʊ], appears increasingly to be a feature of certain types of R.P., especially in the London region".⁵) In any case, /ʊə/ appears to have become an unacceptable pronunciation in many words for several MC Noh speakers, who produced it only in the Pairs Test, to differentiate pairs such as boot : boat, which are normally homophonous in their speech.

The Merger of (er) and (ɜr)

It was suggested in Chapter Seven that the phonetic merger of (er) and (ɜr) was a completed linguistic change in Nfk. It was not clear, however, if the merger had not yet been fully carried out in Suffolk, or if it was undergoing a setback there, under the influence of Home Counties speech. Evidence presented in Table 1 gives the current situation, with respect to the merger, in Noh. Table 1 shows the difference in index points between average index scores for (er) and (ɜr) by contextual style and age-group. The difference is calculated by subtracting each average (er) score from the corresponding (ɜr) score. The symbol = indicates no difference, or an (er) score slightly in excess of the (ɜr) score: a complete merger. The figures in Table 1 therefore relate to the amount of phonetic space used to differentiate the two sets of items.

**Table 1: Difference in Index Points
between (er) and (ɜr) Scores.**

<u>Age Group:</u>	<u>10-19</u>	<u>20-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50-59</u>	<u>60-69</u>	<u>70+</u>
CS	-	-	-	-	17	-	35
FS	-	26	56	20	-	9	43
RPS	4	3	49	51	53	33	33
WLS	28	43	61	76	68	36	54

There is no complete progression of scores from younger to older, but the figures do suggest that the merger is still on the increase in Nch, and is particularly marked in the speech of younger people.

We have already suggested two possible causes of this linguistic change. They are:

1. The small functional load carried by the distinction between (er) and (ɜr) in English.
2. The proliferation of long front vowels in phonetic space in EAn English (which may have exerted some pressure towards a reduction in the number of these vowels).

There is, however, a possible additional cause. Many commentators have discussed a linguistic change that has taken place in R.P. and in other accents of

English, including those of the Home Counties. Gimson writes: *" /ə/ now rarely exists in R.P., having been levelled with /ɜ:/, e.g. in sore, saw" and "the leveling of earlier /ʊə/, /ə/ and /ɜ:/ is now common, e.g. in poor, pore, paw".*⁶ We have also already observed that there is a tendency in R.P. for /ɜə/ to be realised as [ɜ:]. We can therefore postulate that R.P. is in the process of changing from System 1 in Table 2 to System 2.

Table 2: R.P. Vowel Systems

<u>System 1</u>		<u>System 2</u>
/ɪə/	/ʊə/	/ɪə/
/eə/	/ə/	
	/ɜ:/	/ɜ:/ /ɜ:/

The series of parallel changes that led to this shift are the following:

$$\begin{aligned} /ʊə/ &> /ə/ > /ɜ:/ \\ /eə/ &> /ɜ:/ \end{aligned}$$

or, in the symbolisation we have been using for the Nch systematic phonetic vowel system:

$$\begin{aligned} /Uuə/ &> /ɜuə/ > /ɜ:/ \\ /eə/ &> /ɜ:/ \end{aligned}$$

Now, the oldest Nch informant, who was eighty-nine at the time of the survey, (and thirteen years older than the next oldest informant), had the following types of pronunciation in lexical items of this kind:

<u>here</u>	[hiɪ ^h ə]	/hiɪə/
<u>there</u>	[ðɛɪ ^h ə]	/ðɛɪə/
<u>poor</u>	[p ^h u ^w ə]	/p ^h uə/
<u>pore</u>	[p ^h ɔ ^w ə]	/p ^h ɔɪə/
<u>paw</u>	[p ^h ɔɪ]	/p ^h ɔɪ/

The points to note here are:

- (a) there is no evidence of the merger of (er) and (ɛr), which helps to confirm our analysis that this merger is increasing in Nch;
- (b) the phonetic mutation rules which lower certain vowels before schwa in the Nch diasystem do not apply in this informant's speech (including the rule /ɛɪ/ ↓ /ə/ → /ɛɪə/, which we described as obligatory in Chapter Ten).
- (c) the rule deleting final schwa in these contexts does not apply to the speech of this informant.

Because these forms occur in the speech of our oldest informant, we can assume that the speech forms typical of younger Nch speakers must be the result of the following types of change:

1. /aɪə/ > /eɪə/
2. /Uuə/ > /əɪə/
3. /Iɪə/ > /eɪə/
4. /əɪə/ > /əɪ/
5. /eɪə/ > /eɪ/

(This also means that the relevant phonetic mutation rules in the Nch diasystem are synchronic reflexes of diachronic changes.) Thus, parallel to the series of R.P. changes:

$$\begin{aligned} /Uuə/ &> /əɪə/ > /əɪ/ \\ /eɪə/ &> /eɪ/ \end{aligned}$$

there is a series of Nch English changes:

$$\begin{aligned} /Uuə/ &> /əɪə/ > /əɪ/ \\ /Iɪə/ &> /eɪə/ > /eɪ/ \end{aligned}$$

That is to say that the same change occurs in Nch English, but in a more generalised form than in R.P. This point is further underlined if one compares other Nch changes of this type:

/eɪə/ > /eɪ/
 /Uɪə/ > /ɔɪ/
 /vɪə/ > /aɪ/
 /ʊə/ > /ɔɪ/
 /əʊə/ > /aɪ/
 /əʊə/ > /ɔɪ/

with changes in R.P. and London English:

/vɪə/ > /aɪ/
 /əʊə/ > /aɪ/

King has written that rule simplification in the transmission of rules from one generation to another - in diachronic change, in other words, - also occurs, at least to a certain extent, in spatial change, and "in particular in the spread of a rule throughout a geographic (or socially defined) area". He states further: "Borrowed rules are common in the bilingual situation and in the vicinity of a prestige dialect. We hypothesize that in borrowing, in general, rules are simplified rather than complicated. That is, a rule is borrowed with the same or greater generality ..."⁷ The material we have just presented supports King's hypothesis. A rule that, in London English and R.P., involves the lowering of back vowels before schwa and the loss of schwa, also occurs in Nch. But in Nch English it involves both back vowels and front vowels. More generally, the rule that, in R.P. and in London English, involves the monophthongisation of certain diphthongs before schwa

in Nch English involves all diphthongs. It would therefore seem to be the case that a rule that is present both in London English and in R.P. has been transmitted, as the result of spatial and social diffusion processes, into Nch English in a more general, simplified form.

This general development also accounts for the loss of schwa in items of the lexical sets of here, there, pore etc. It is a change which has occurred in many types of British English, and which has spread to Nch English, probably from the Home Counties, in the form of a phonetic mutation rule. Historically, it represents the final stage in the weakening and loss of post-vocalic /r/ in certain types of English.

The loss of schwa in here and there items in Nch is illustrated in Figs. 8 and 9 respectively. They show the percentage of (er) and (ɛr) forms that were pronounced with final schwa in each of the contextual styles by the different age-groups. Fig. 8 shows that there is a big drop generally in schwa-usage in the speech of the under-thirties, and that speakers under fifty use hardly any schwa at all in CS. The pattern for (ɛr) shows a more general and gradual decline in schwa usage which suggests that the loss of schwa with this variable began earlier than with (er), but that the change has taken place at a slightly slower rate. In the case of (ɛr), it is speakers aged under forty who use no schwa in everyday speech.

Fig. 7 Variable (er) by Style and Age.

Fig. 8 % (er) + [a] by Style and Age.

Fig. 9 % (er) + [a] by Style and Age.

The Merger of the Vowels of name and nail

We saw in Chapter Seven that older rural speakers in EA consistently distinguish between items of the lexical set of name, which are pronounced with /e:/, and items of the lexical set of nail, which are pronounced with /aɪ/. The post-war SED records, however, suggest that this distinction is being lost: some Nfk speakers substitute /aɪ/ for /e:/, or pronounce /e:/ as [eɪ], in some words. (Köckeritz also remarks that the distinction appears to be dying out in the speech of younger people.) We have stated that the distinction is now only infrequently preserved in Nch itself.

The extent of the loss of this distinction in Nch can be gauged from the following material. Fig. 10 shows the style and age differentiation of (ā) in Nch. There appears to be a very slight decrease in scores from right to left across the graph, but this is minimal, and does not indicate convincingly a decline in the use of (ā)-5, the older EAn variant /e:/. Index scores for (ā), however, measure both the systematic phonetic differentiation between /e:/ and /aɪ/ and the performance phonetic differentiation of /aɪ/ itself. Fig. 11 shows style and age differentiation of (ā) without (ā)-5 forms. A comparison of Figs. 10 and 11 shows that the two patterns are distinct only for those speakers aged over forty. From this we can deduce that only these speakers make any distinction between the two sets of items. (Fig. 11

Fig. 10 Variable (a) by Style and Age.

Fig. 11 Variable (a) by Style and Age (without (a)-5).

also shows that scores for ($\bar{a}$) are increasing through time, if we omit /e:/ from our calculations. In other words, the more extreme forms of the diphthong, [$\bar{e}i$], are on the increase in the speech of younger Nch people.) The lower scores for the older informants in Fig. 11 also suggest that the merger of /e:/ and /ei/ has not resulted simply from a replacement of /e:/ by /ei/, but also from a tendency for /e:/ to be diphthongised to [$\bar{e}i$].

A closer examination of the details of /e:/ : /ei/ differentiation in the Nch sample shows that only eleven out of the sixty Nch informants used any ($\bar{a}$)-5. All others consistently used some variant of /ei/. All the eleven informants were members of the LWC (6) or MWC (5), and all were aged over forty-five. Table 3 shows the percentage of possible ($\bar{a}$)-5 that were ($\bar{a}$)-5 in the speech of these eleven informants, by contextual style and age-group. (Note that speakers aged between forty-five and fifty-nine are treated as one group.) This table illustrates quite clearly the loss of /e:/ in Nch English, and demonstrates the extent to which this feature has become recessive: even the very oldest speakers distinguish between the vowels of name and nail in only one out of every five instances. We can therefore state that /e:/ < // $\bar{a}$ // occurs only very rarely in Nch today. In the speech of older informants this is due to the operation of the diasystemic incidence rule:

$$//\bar{a}// \longrightarrow //ai//$$

Younger people have the corresponding diasystemic inventory rule. This therefore represents a fairly major change in the Nch diasystem which, we can confidently predict, will eventually lead to the disappearance of //ā// from the diasystem altogether.

Table 3: Percentage of (ā)-5 used by
(ā)-5 users

	<u>WLS</u>	<u>RPS</u>	<u>FS</u>	<u>CS</u>
70+	4	9	20	18
60-69	1	5	15	18
45-59	0	2	4	12

The cause of this particular change can be seen to lie in the fact that both the prestige accent, R.P., and the accents of the Home Counties make no distinction between items of the lexical sets of name and nail. Another possible cause may be, as we have mentioned earlier, that there appears to have been a proliferation of long front vowels in some older forms of Nch English, of the following type:

<u>been</u>	[i:]
<u>bean</u>	[e:]
<u>beer</u>	[eɪə]
<u>bane</u>	[e:]
<u>bear</u>	[eɪə]
<u>bath</u>	[æ:]

<u>baying</u>	[a:ə]
<u>bird</u>	[a:ə]
<u>bard</u>	[a:ə]

It would not therefore be surprising if there was some pressure to reduce the number of distinctions that had to be made within this particular area of phonetic space. This hypothesis is strengthened by Lowman's material, discussed in Chapter Seven, which shows that vowels very similar or identical to the /e:/ in name were used in beer, bear and bean. (Forby, too, writes that peer is pronounced with "long a",⁸ which is the description he also gives to the vowel of ale.) The vowel quality of those instances of (ā)-3 that were recorded in the Nch survey varied from [e:] to [a:], with the occasional slight schwa off-glide. For speakers who had no off-glide in here and there items, there often appeared to be no difference between (ā)-3 and (er)-3, (ɛr)-3. One younger informant specifically stated that when he pronounced face as /fɛ:ɪs/ rather than as /fɛ:ɪs/, then face sounded exactly the same as fierce.

These, then, are the initial causes of this change. The mechanisms by means of which this change became established in Nch English at this time must be considered to be the same as those mentioned above in connection with (ō)-4: innovation diffusion processes leading to the spread of linguistic forms from the Home Counties into Nch; and social and educational pressures for the adoption of standardised forms within the city itself.

The Introduction of (ɪr)-1

We saw in Chapter Seven that the records compiled by Lowman and Kókeritz indicate that older rural EAn speakers did not, in the pre-war years, use the variant (ɪr)-1 /3:/ in items of the type bird, burn, fern, but had instead vowels of the type [a:], [ɐ:], [ɐ], [ə], [ʌ]. The post-war SED records have a series of similar vowels, but with the addition of the R.P.-like [3:]. This suggests that, in EA generally, the older pronunciations formerly typical of the area are being replaced by [3:] (and we have already stated, in previous chapters, that this is in fact the case).

Fig. 12 shows exactly to what extent the older EAn variants of (ɪr) are being lost in Noh. Fig. 12 is a style and age diagram of (ɪr), where consistent use of [3:] will give an index score of 000, and consistent use of the older EAn forms a score between 100 and 200. We can see straight away that no informant aged under forty uses anything but [3:] in any contextual style. Speakers aged over seventy, on the other hand, use little or no [3:] at all in CS: the average (ɪr) index score for this group is 184. Thus, in the space of thirty years or so, the R.P.-type form has completely replaced the older forms. Moreover, the fall from the scores of the seventy-plus group down to those of the sixty to sixty-nine and fifty to fifty-nine groups is very steep: the change was a very rapid one. Speakers born after 1910

have virtually no (1r)-2 or (1r)-3. This suggests that the introduction of [3:] may have coincided with the First World War.

The causes of this change and the mechanisms of its spread and establishment are very probably the same as those associated with the loss of (ā)-5. There is evidence that the spatial diffusion of /3:/ has been effected by gradual spread across EA as well as by transmission down the urban hierarchy, since although no [3:] forms occur in Lowman's records, forms with [3ə] do occur in Honington and Buxhall, the two most south-westerly localities investigated.

The Loss of /h/

The fact that "h-dropping" occurs in Nch but not in the surrounding areas of rural Nfk has already been mentioned several times during the course of this work. Fig. 14 is a style and age differentiation diagram for the variable (h). It shows a pattern of variation in many ways similar to that for (ng), in Fig. 2. This suggests that, since (h) has the characteristics of a "neutral" variable not involved in linguistic change, the introduction of (h)-2 into Nch English cannot be of recent origin. (H) is subject to just as much stylistic variation in the speech of the elderly as it is in the speech of the young. What linguistic change there is associated

with (h) would therefore appear to be confined to the rural areas surrounding Nch.

The initial cause of this change lies in the use of (h)-2 in very many other types of English, and in particular in the Home Counties. (The cause of the loss of /h/ in these accents is not one we can investigate here.) For reasons we shall discuss in more detail later in this chapter, this feature of London English has spread along the main lines of communication from town to town in EA, down the urban hierarchy. The result is that Nch and London have this feature in common, but that many of the intervening rural areas do not.

We cannot be sure of the date of the introduction of (h)-2 into Nch, and for that reason cannot decide why this change became established in Nch when it did. It is interesting to speculate, however, on why this change has taken so long to spread into the surrounding areas of the hinterland of Nch. The answer may well lie in resistance factors of a socio-psychological type. Weinreich has hinted at this type of phenomenon: "Rural populations sometimes develop a hostile attitude (or at least an ambivalent one) towards their urban centres ... Whether anti-urban attitudes can prevent the diffusion of linguistic interference phenomena ... remains to be determined by empiric sociolinguistic investigation".⁹ We can therefore suggest that anti-urban attitudes may have played some part in delaying the spread of (h)-2. Furthermore, while

most Nch speakers appear to be unaware of this difference between Nch and Nfk speech, (only one informant in the survey commented on it), general experience suggests that many rural speakers are very aware of this difference and often cite it as an example of the unpleasant way in which Nch people speak.

On this topic, it is informative to compare the opinions informants in the Nch sample held concerning the differences between Nch and Nfk speech. When asked if they thought there were any differences between the way country people spoke and the way Nch people spoke, most MC informants characterised Nch speech as harsh and unpleasant, and Nfk speech as soft, quaint, pleasant, amusing or even attractive. They clearly associated "the way people talk in Nch" with Nch WC speech. WC informants, on the other hand, generally considered that city people spoke better than country people. They characterised country speech as drawling, slow, full of mistakes, and even, surprisingly, hard to understand (which it certainly is not for Nch speakers). Nch speech they considered to be more correct. They appeared, that is, to associate "the way people talk in Nch" with Nch MC speech.

The Variable (e)

The variable (e) is the amount of centralisation of the vowel in items such as twelve, bell, better.

Fig. 12 Variable (ir) by Style and Age.

Fig. 13 Variable (h) by Style and Age.

Fig. 14 Variable (a) by Style and Age.

The centralisation of this vowel is not new in EA. Ferby has no mention of it, but Kōkeritz and Lowman both give examples. Lowman, for instance, writes [twalv] for twelve, in the two southern Nfk and two northern Suffolk localities. In recent years, however, there has been a very marked increase in the frequency of centralised variants of this variable in Nch. This is illustrated very clearly in the style and age differentiation diagram for (e), Fig. 21 in Chapter Eight. People aged under thirty, this shows, have very much higher index scores than older speakers, and the upward slope of the lines across the graph from right to left is very marked.

What are the causes and mechanisms associated with this change? In this case there is no evidence to suggest that the cause lies in any influence from R.P. or other accents. The change must therefore be in some way internal to Nch. We have, in fact, already suggested, in Chapter Ten, that this is the case, and proposed that this change may in some way be due to a change in setting. Older Nfk and Nch speakers tend to have clear /ɪ/ in all contexts: they do not have dark /ɪ/ in those positions where it occurs in R.P. Thus, Lowman writes [ɪ] in April for all three Nfk localities and for Ilketshall in Suffolk. The three remaining Suffolk localities have [ɪ̯]. We can postulate that, as a result of some of the diffusion processes and standardising pressures already discussed, dark /ɪ/ has replaced clear /ɪ/ in Nch English in those positions where it occurs in R.P. (and indeed, in the speech of a few younger male WC speakers, in all positions).

Gimson states that clear /l/ in R.P. has a resonance that "is often of the [ɐ̃] type", while dark /ɫ/ has a resonance which "is often of the type [ɔ̃] or [ɤ̃]". Furthermore, "variations in the quality of the back vowel resonance associated with [ɫ] are ... to be found among R.P. speakers, with a range extending from [ɔ̃], [ʊ], or [ɤ̃] to [ɐ̃] or [ɪ̃]".¹⁰ Now, a change in the pronunciation of l, with an [ɐ̃]-type resonance being replaced by an [ɪ̃]-type resonance, is exactly parallel to the change in vowel quality that has occurred in the realisation of (e) in Nch English: [e] has become [ʌ]. We can therefore hypothesise that the change from clear /l/ to dark /ɫ/ has led to a concomitant change in the realisation of /e/ before /ɫ/. This hypothesis is strengthened by the fact that /l/ tends to be somewhat lowered and centralised before /ɫ/ in the speech of the young, and there is similarly a lowered and centralised variant of /e/ in the same position. In fact, hell, Hal, hull are often all pronounced [hʌɫ] by younger Nch speakers.

The centralised variant of /e/ was recorded frequently in the Nch survey in the items manner, matter, that, as well as before /ɫ/. The environments for the centralisation of /e/ therefore seem to be the same as the environments in which (e) occurs, except that that is of course monosyllabic, and that there is the addition of the environment: /___ nɜ/. The centralisation of /e/ was particularly clear in the Pairs Test, where the pair man : manner frequently produced the distinction:

[mə:ɪ̃n] : [mɛnə]

This suggests that the context for (e) ought perhaps to be extended to include /____ nə/, although only one item with a centralised (e) was recorded during the survey in this context:

penn^horth [p^hʌnəθ]

The above explanation for the centralisation of vowels before /ɪ/ does not, of course, apply to the other contexts. We shall see below that there may be a socio-psychological explanation for the increase in centralisation in these contexts and also before /ɪ/.

The Variable (a)

We discussed the linguistic changes associated with the variable (a) at some length in Chapter Eight. There we saw that the overlapping pattern of class differentiation was due to a change in the phonetic realisation of (a) from [ɛ] to [ə] and from [ə] to [aɪ]. For younger speakers we noted the additional change from [aɪ] to [aɪə] to [ɛ:ə].

Fig. 14 is an age differentiation diagram for (a). It shows that the index scale for (a), although as we saw in Chapter Eight not altogether successful in handling

class differentiation, does produce a clear enough picture of age differentiation. We can see that older speakers have higher scores than younger speakers, at least in CS. The particularly sharp fall in scores between those of the seventy-plus group and the sixty to sixty-nine group indicates the replacement of [ɛ] by [æ].

An examination of the causes and mechanisms associated with phonetic change of (a) must be carried out in two parts. We must first of all consider the change from [ɛ] to [æ] and [æ:]. We must assume that the initial cause of this change is the [æ] pronunciation typical of the R.P. prestige accent, which has become established in Nch as the result of social and educational pressures. The form [æ:], moreover, is now also typical of R.P.: "the lengthened [æ] is equivalent in quantity to the longest varieties of /i:, e:, ɔ:, u:, ʒ:/".¹¹ This, then, is most probably a "change from above", and certainly a change that has been diffused down the hierarchy of social classes.

The second change, however, - that from [æ:] to [æɪ] - must be considered to be a change "from below", since forms of this kind do not occur in R.P. (although pronunciations such as [æ] are reported). They do, on the other hand, occur in London English. Sivertsen writes, of /æ/: "Vocoid glides, [ɛ⁰] or [ɛ¹], are more common before /C+/ and /C~~+~~/ than the long monophthong

[e·]".¹² We can therefore ascribe the diphthongal forms in Nch English to the influence of London and Home Counties forms. Note, however, that the diphthongisation of Nch /e/ is not so closely tied to particular contexts as is the London variant, except that the diphthongisation in Nch is more pronounced before velar consonants. (Sivertsen, on the other hand, specifically states that in London speech diphthongisation is less common before voiceless stops, and cites as an example the lexical item back with a monophthong rather than a diphthong.) We can therefore interpret this change in Nch English as the result of the transmission of a phonetic realisation rule in a more general form than that in which it occurs in the source dialect: the Nch rule is relatively context-free.

Finally, it is also worth noting that the diphthongisation of /e/ permits a clearer phonetic distinction to be made between /e/ and /e:/. Some speakers, for example, make the following kind of opposition:

<u>plan</u>	[p ^h le:ɛn]
<u>playing</u>	[p ^h leɪn]

The Variable (I)

We saw in Chapter Eight that there appears to be a linguistic change in progress in connection with the

variable ($\bar{I}$). An apparently new variant, ($\bar{I}$)-4 = [ɔi], is more prevalent in the speech of the young than of the old, and is particularly common in the speech of male MWC informants. However, in Fig. 15, which is an age and style differentiation diagram for ($\bar{I}$), there is very little evidence of an actual change in index scores: the differentiation pattern is very similar to the neutral (ng) pattern. The main deviations from the neutral pattern are the sharp drop in scores between those of the seventy-plus group and those of the sixty to sixty-nine group, and the very high score of the thirty to thirty-nine group in CS. What change there is appears to be slight. The occurrence of the [ɔi] variant is obscured by the general index scores. This is due to the fact that it is confined to a relatively small number of speakers, and that those groups which have most ($\bar{I}$)-4 forms are the same groups which have more ($\bar{I}$)-1 and -2 and less ($\bar{I}$)-3 than other groups. The fall in scores between seventy-plus and sixty to sixty-nine reflects the replacement of [ɔi] forms by some [ai] forms, because of the influence of R.P. The high and rather erratic CS score of the thirty to thirty-nine group is due to a high concentration of male MWC speakers in this group.

The introduction of the [ɔi] variant is obviously not due to the influence of R.P. It seems likely that it is in fact due to the influence of the speech of the Home Counties. Gimson states that the first element of

Fig. 15 Variable (i) by Style and Age

Fig. 16 Variable (o) by Style and Age

the /aɪ/ diphthong in London speech is generally [a] or [ɒ].¹³ SED records also show that forms with [ɔɪ] occur commonly in Suffolk, Hertfordshire, Essex, Bedfordshire and Buckinghamshire.¹⁴ We can therefore assume that (Ī)-4 occurs in Nch English as the result of the diffusion of this type of pronunciation from the Home Counties.

What now remains to be explained is the exact role of the MWC in the introduction of this variant. The material presented in Chapter Eight concerning the incidence of (Ī)-4, together with scores for some of the other variables, suggests that the MWC, and, on occasions, the UWC, are the first groups of Nch speakers to adopt non-standard forms upon their introduction into Nch. We can put forward two reasons for this. First, the MMC, LMC, and, often, the UWC, adopt only those features transmitted from geographically external dialects that also occur in R.P., or alternatively adopt non-standard features only after the MWC. This means that although they are not usually genuine R.P. speakers, R.P. is, at least overtly, their only model. Secondly, the LWC is, as we have already indicated, a socially isolated group which is late in adopting all types of innovations. This is because many of this class are elderly, they are all relatively poor, and have had relatively little education. Thus, the MWC, alone of the social classes, is both accessible to the diffusion of non-standard innovations

and not resistant to them. For this reason, this class will always be instrumental in the introduction of changes of this type into Noh English, and probably in the diffusion of non-standard forms throughout Britain generally.

The Variable (o)

In their dialect records of rural Nfk speech, Lowman and Nelson Francis write pronunciations of this variable with variants of the symbol [a]. We suggested in Chapter Eight, however, that the variable (o) is currently undergoing change in Noh, with R.P.-type rounded vowels of the type [ɔ] increasing in frequency as compared to [a]-type vowels. This is confirmed by Fig. 16, the style and age diagram for (o), which shows a clear decrease in scores, indicative of an increase in rounding, from right to left across the graph.

We have also, however, mentioned a further type of change that is associated with (o) in Noh: the fronting from [a] to [a], and the lengthening to [a:] or [a:], which in some cases leads to a merger of /ɔ/ and /a:/, or /ɔ/ and /a:/. Complete mergers were suspected in the speech of some, particularly younger speakers who did not have the rounded variant. Even by tape-cutting, though, it was not possible to decide unequivocally that there was no distinction in the realisation of these vowels. We do

have some evidence from the Pairs Test, however. During the course of this test, speakers were asked to read aloud two pairs:

arm : on
barks : box

Out of the sixty Nch informants, as many as seven made no distinction at all between barks and box and/or the vowels of arm and on. It should be remembered, moreover, that the Pairs Test represents what is in many ways the most formal of all the contextual styles. The mere fact that two items (which are distinguished in N.P. and many types of Nch English) are placed side by side focusses the informant's attention on the potential contrast, and encourages him to differentiate the two items. It is therefore legitimate to assume that several other speakers have this phonetic merger in CS.

We must, further, consider the fact that the seven speakers who were shown to have the merger fall into the following age-groups:

10-19	1	50-59	4
20-29	0	60-69	1
30-39	0	70+	0
40-49	1		

There is, it is clear, a preponderance of older speakers.

This does not, however, counteract our assumption that this merger is on the increase. This is because there are two different phonetic changes of (o) currently in progress in Nch English:

$$[e] > [v]$$

$$[a] > [a]$$

Both [v] and [a] are more common in the speech of younger informants. There is possibly, therefore, a higher percentage of unrounded-vowel-users who use [a] among younger speakers, (although more older than younger speakers use unrounded vowels).

The cause of the change from [a] to [v] clearly lies in the presence of [v] not only in R.P. but also in Suffolk English. This suggests that speakers who have the highest proportion of [v] forms will be younger members of the MMC and of the MWC, the former because of the influence of R.P., the latter because of its role in the acceptance of linguistic innovations transmitted from other geographical areas. We have no direct evidence of this, because our sample is not large enough to permit a study of class and age differentiation simultaneously. We have some indirect evidence, however, for part of this hypothesis. We have already seen that it is male MWC speakers who are overwhelmingly responsible for the introduction of (I)-4 into Nch English. We also saw, in Chapter Eight, that male WC speakers, unusually, have lower (o) scores than female WC speakers.

This is only suggestive, but it does lead us to suppose that changes "from below" and the introduction of non-standard forms from without are effected in the first place by male members of the WC in general and the MWC in particular. Changes "from above" and the introduction of forms from R.P. would appear, on the other hand, to be effected in the first place by MC women (see the discussion of (ng) in Chapter Eight). The fact that (e)-1 is the typical form both in R.P. and in Suffolk English therefore explains the unusual pattern of sex differentiation of (e) described in Chapter Eight. (See also Fig. 32 in Chapter Eight, which shows the MMC, UWC and MWC leading the LMC and LWC in "schwa-dropping", in CS. This suggests that this is a further change which has been introduced into the Noh diasystem both from R.P. and from external non-prestige accents.)

The high (e) scores obtained by the ten to nineteen group can perhaps be explained as the result of the failure of younger male speakers to adopt, as yet, what are characteristically male forms in the adult community. They may, on the other hand, signify a rejection of the new variant [ɐ] in favour of the other, more characteristically WC variant, [a]. There may be socio-psychological reasons for this, which we shall discuss shortly.

The change from [ɐ] to [a] or [a:] is not due to the influence of any external accent. It may possibly

be due to a change in tongue setting (see Chapter Ten). Support for this theory is provided by the parallel change of /ɒu/ : [ɒu] > [aʊ]. The change is more likely, however, to be connected with the introduction of the new C vowel /a:/, which results from earlier /æa/ and /ɔia/. A front /v/ = [a:] makes it possible for a distinction to be maintained in spite of the lengthening of /ɒ/, although of course it does lead to the loss of the /ɒ/ : /a:/ distinction in some cases. The two possible causes may therefore both have been operative.

Change in the Nch Vowel System

We are now in a position to view some of the developments we have described above collectively rather than atomistically. We can also analyse some of the ways in which, as a result of these developments, the Nch phonetic vowel system has changed and is changing, and the implications this has for the phonological vowel system. The changes that we described above that are not purely realisational and that have some effect on the systematic phonetic vowel system are the following:

1. The merger of the vowels of beer and bear
2. The lowering and monophthongisation of certain vowels before schwa and the loss of schwa
3. The merger of the vowels of name and nail

4. The introduction of (ɪr)-1
5. The merger of the vowels of box and barks

A very useful starting point in our discussion of change in the systematic phonetic vowel system is the speech of our oldest (eighty-nine year-old) informant, Mrs. D., which differs in some significant ways from the speech of all the other informants. We will take as a reference point the systematic phonetic vowel system shown in Chapter Ten, and illustrate various differences in terms of the pronunciation of the following items, which stand for lexical sets:

/ɪ/ <u>bid</u>	/iɪ/ <u>bee</u>	/eɪ/ <u>here, there</u>
/ɛ/ <u>bed</u>	/eɪ/ <u>bay, name</u>	/eɪ/ <u>player</u>
/æ/ <u>bad</u>	/Uɪ/ <u>boy</u>	/aɪ/ <u>far, path</u>
/ʊ/ <u>put</u>	/vɪ/ <u>buy</u>	/ɔɪ/ <u>paw, pore, poor, employer</u>
/ə/ <u>putt</u>	/ʉə/ <u>lewd</u>	/ɔɪ/ <u>lower</u>
/ɒ/ <u>pot</u>	/æə/ <u>loud</u>	/aɪ/ <u>fire, tower</u>
	/Uu/ <u>load</u>	/ɔɪ/ <u>bird, pure</u>
	/ɒu/ <u>low</u>	

Mrs. D.'s short (A) vowels are the same as those of the other informants, although they are realised rather differently. Table 3 illustrates these slight differences, with the "Nch" column representing an idealised type of average Nch pronunciation, the main function of which is to indicate the distinct nature of Mrs. D.'s system. The same is also true of the diphthongs (B vowels): the inventory is identical, the realisation somewhat different. This is illustrated in Table 4.

Table 3: Comparison of Realisation of (A) Vowels

	<u>Nch</u>	<u>Mrs. D.</u>
<u>bid</u>	[ɪ̥]	[i̥]
<u>bed</u>	[ɛ̥]	[e̥]
<u>bad</u>	[æ̥]	[æ̥]
<u>put</u>	[ʊ̥]	[ʊ̥]
<u>putt</u>	[ʌ̥]	[ɔ̥]
<u>pot</u>	[ɑ̥]	[ɑ̥]

Table 4: Comparison of Realisation of (B) Vowels

	<u>Nch</u>	<u>Mrs. D.</u>
<u>bee</u>	[e̥i]	[i̥i]
<u>bay</u>	[e̥ɪi]	[e̥i]
<u>boy</u>	[o̥i]	[o̥i]
<u>buy</u>	[ɔ̥i]	[e̥i]
<u>lewd</u>	[ɜ̥u]	[e̥u]
<u>lond</u>	[ə̥u]	[e̥u]
<u>load</u>	[u̥u]	[o̥u]
<u>low</u>	[ə̥u]	[v̥u]

The main differences between more recent vowels and Mrs. D.'s are associated with the lexical sets of name, here, there, player, far, pore, poor, employer, lower, fire, tower, bird and pure. Table 5 compares the systematic phonetic realisations of these items, and also includes the remaining C vowels.

Table 5: Comparison of the Realisation of (mainly) C Vowels

	<u>Nch</u>	<u>Mrs. D.</u>
<u>name</u>	/æɪ/	/eɪ/
<u>here</u>	/eɪ/	/Iɪə/
<u>there</u>	/eɪ/	/æɪə/
<u>player</u>	/æɪ/	/æɪə/
<u>far</u>	/aɪ/	/aɪə/
<u>path</u>	/aɪ/	/aɪ/
<u>poor</u>	/ɔɪ/	/Uuə/
<u>pore</u>	/ɔɪ/	/ɔɪə/
<u>paw</u>	/ɔɪ/	/ɔɪ/
<u>lower</u>	/ɔɪ/	/vuaə/
<u>fire</u>	/aɪ/	/ɔɪə/
<u>bird</u>	/ɜɪ/	/aɪə/
<u>pure</u>	/ɜɪ/	/Uuə/
<u>tower</u>	/aɪ/	/əuə/
<u>employer</u>	/ɔɪ/	/Uɪə/

This means that corresponding to the system of C vowels shown in Chapter Eight:

/eɪ/	/ɜɪ/	/ɔɪ/
/æɪ/		/ɔɪ/
/aɪ/		/aɪ/

Mrs. D. has only:

/eɪ/	
	/ɔɪ/
/aɪ/	

Apart from the long monophthong in name, the differences between the speech of Mrs. D. and that of younger Nch speakers are accounted for by the fact that where she has B and C vowels plus schwa, they have C vowels. The phonetic mutation rules which lower certain vowels before schwa and then delete the schwa, (which we assume to have been transmitted from another dialect in a more general form), do not therefore apply to Mrs. D.'s speech. They are, in other words, a relatively recent introduction into Nch English, and represent both a diachronic sound change which is still (just) reflected in the linguistic behaviour of the speech community, and a synchronic process. Because of the evidence provided by the speech of Mrs. D., we can be certain that the phonetic mutation rules we set up on purely synchronic evidence in Chapter Ten do also represent sound changes.

It is of course dangerous to generalise from the speech of one informant to the speech of a whole generation. We do have some evidence, however, to suggest that Mrs. D. is in fact typical of speakers of her generation. This is provided by the rural dialect records. Kökeritz, for instance, writes:

<u>here</u>	with the vowel	[Iə]
<u>poor</u>	with the vowel	[Uə]
<u>pore</u>	with the vowel	[əə]
<u>lower</u>	with the vowel	[əUə]
<u>fire</u>	with the vowel	[əIə]
<u>pure</u>	with the vowel	[uə]
<u>tower</u>	with the vowel	[əuə]

It is therefore clear that the merger of the vowels of beer and bear, on which we have concentrated particularly, and the lowering of vowels and loss of schwa are part of the same overall change in the vowel system.

The first stage in the development of the modern systematic phonetic vowel system from the earlier system illustrated by reference to the speech of Mrs. D. is the introduction of the pronunciation /eɪə/ in there, replacing the earlier /eɪə/ that Mrs. D. has, morph-internally. No speaker other than Mrs. D. has the /eɪə/ form, and we can therefore postulate that the obligatory phonetic mutation rule converting /eɪə/ into /eɪə/ must have been introduced into the Nch diasystem around 1890.

The second major change is the loss of the /e:/ vowel in name. This of course is not yet completed in Nch, but we saw above that even the seventy-plus group of speakers uses this variant, on average, very sporadically. We can therefore suggest that the replacement of /e:/ by /eɪ/ began in Nch some time around 1900. With this development the number of C vowels was decreased by one. As we saw in Chapter Ten, moreover, the loss of this phonetic vowel will eventually lead to the loss of the phonemic vowel //ā// from the Nch diasystem. In this particular case, therefore, we can guess that it will take between seventy-five and one hundred years for a phonetic change to lead to a corresponding phonological change.

The third major change would appear to be the introduction of the unit /ɜ:/ . Judging from the figures presented in Fig. 12, this appears to have started around 1910, maybe in the form of /ɜ:ə/ , (as it appears in Lowman's records). The system of C vowels + schwa was thus augmented by one.

The introduction of the developments /vɪə/ > /a:ə/ and /eʊə/ > /a:ə/ also appears to have occurred fairly early, since /a:ə/ occurs in the speech of most of the Noh informants. This was then followed by the developments:

/Uuə/ > /ɔ:ə/
/Iiə/ > /ɛ:ə/
/ʊuə/ > /ɜ:ə/

probably via stages such as /Uuə/ > /uɪə/ > /oɪə/ > /ɔ:ə/ . The second stage of application of this process, judging by the age levels in the sample where they begin to occur, involved the changes:

/eɪə/ > /ɛ:ə/
/vʊə/ > /vɪə/
/Uɪə/ > /ɜ:ə/

and the loss of schwa. Figs. 9 and 10 indicate that the loss of schwa began with /ɛ:ə/ some time around the turn of the century, and has gradually been spreading to other

vowels since. In this case, then, King's hypothesis concerning the spread of a rule in a more general form is only valid if the change is viewed macroscopically. The change began in Nch as it began in London, with items of the types fire and tower, and was only subsequently generalised to other vowels.

We can summarise these changes by presenting a series of artificially discrete systematic phonetic vowel systems which are valid only as an indication of the overall nature of some of the recent changes in Nch English. (A and B vowels remain unchanged throughout.) The different systems are shown in Table 6.

Stage VII is the result of the recent tendency to merge low A and C vowels. It also results from the merger of /ɔ:/ and /ɜ:/ which occurs in the speech of many younger people. /ɔ:/ is a particularly unstable element, and is also merged with /ɑ:/ by some speakers. The legitimacy of regarding these changes as only valid when viewed macroscopically is underlined by the possibility of presenting several alternatives to Stage VII. Many MC speakers at the moment, for instance, do not distinguish between fire and tower on the one hand and far on the other. These speakers have /ɑ:/ in both cases. WC speakers normally do make the distinction. Only in several years' time will it be possible (artificially) to describe either system as typical of this particular period.

Table 6: Stages in the Development of the Noh Systematic Phonetic Vowel System

	C vowels	C + <u>schwa</u>	B + <u>schwa</u>
I			Iiə Uiə ʊə ʊə
Mrs. D.	e: o:	ɔiə	eɪə ʊiə əə ʊə
	a:	aɪə	
II			Iiə Uiə ʊə ʊə
c.	e:	eɪə ʊiə ɔiə	eɪə ʊiə əə ʊə
1910	a:	aɪə	
III			Iiə Uiə ʊə ʊə
Intro.	e:	eɪə ʊiə ɔiə	eɪə ʊə
of PM			
rules	a:	aɪə aɪə	
IV			Uiə
Spread	e:	eɪə ʊiə ɔiə	
of PM			eɪə ʊə
rules	a:	aɪə aɪə	
V			
Comple-	e:	eɪə ʊiə ɔiə	
tion of		aɪə ʊiə	
Spread	a:	aɪə aɪə	
VI			
Loss of	e: ʊi ɔi		
<u>schwa</u>	e: ʊi		
	a: a:		
VII			
Recent	e: ʊi ɔi		
mergers	a:		

Metarules

We suggested in Chapter Ten that the phonetic mutation rules that operate on vowels in combination with schwa could be expressed more generally. The systems portrayed in Table 6 suggest a way in which this could be done. We claimed in Chapter Ten that one of the advantages of the type of phonological approach that we employed in setting up the Nch diasystem was that it produced systems at both the phonemic and phonetic levels, - and it was the setting up of phonetic level systems that allowed for the portrayal of forces operating in phonetic space of the type discussed by Martinet. Another advantage of having systems or inventories of this type at the phonetic level is that we can allow for the possibility of expressing the fact that both synchronic rules and diachronic changes apply to the inventory as a whole. It has been suggested by Anderson & Lass¹⁵ that rules of this type should be considered to be metarules which apply to the whole grammar. The meta-rule in this case is:

Diphthong + schwa $\longrightarrow$ Nearest long vowel

or:

B vowel + D vowel $\longrightarrow$ Nearest C vowel

(There is an exception to this rule, namely that /ɔɪ/ and /aɪ/ do not become /ɔ:/ and /a:/ but /ɑ:/.) Thus /Iɪ/, /Uu/, /Uɪ/ and /ʊu/ are lowered to the vowels closest to them in phonetic space: /ɛ:/, /ɔ:/, /ə:/ and /ɜ:/.

The Theory of Linguistic Change

In our discussion of the various phonetic and phonological changes (which we shall loosely refer to as 'sound change') that have taken place in Nch, we suggested the following factors that may have brought about these changes:

1. The influence of R.P.
2. The influence of Home Counties speech
3. The influence of Midlands speech
4. Socio-psychological factors
5. The need to preserve lexical distinctions
6. Functional load
7. Pressure in phonetic space
8. Change in setting

Changes due to these factors can be divided into two types: changes due to prior-existing linguistic differences; and purely internal linguistic changes. The former can be subdivided into: (i) changes due to differences between Nch English and other types; and (ii) changes due to differences already existing in Nch English (which may set up various types of social and psychological pressure). The latter can be subdivided into: (a) changes resulting from other changes; and (b) "spontaneous" changes. All types of change must be assumed to involve certain sociological factors, since only these can "decide" which changes should occur and which not, and when.

Before we move on to a more detailed discussion of this classification of sound changes, we shall briefly discuss some different approaches to the problem of sound change. We shall be particularly concerned with the distinction between causes, mechanisms and effects of sound change.

Theories of Sound Change

We shall now consider four of the different approaches to sound change which can be found in the literature. We shall label these four approaches:

- (i) the physical approach
- (ii) the functional approach
- (iii) the sociolinguistic approach
- (iv) the generative phonological approach.

The Physical Approach

The physical approach can be characterised by reference to the work of Hockett. Hockett states that "when a person speaks, he aims his articulatory motions more or less accurately at one after another of a set of bull's-eyes, the allophones of the language".¹⁶ Most hearers, Hockett says, are able to be quite charitable in their interpretation of utterances (which consist of shots at

these bull's-eyes) because of the amount of redundancy there is in language. The shots, therefore, need not be too accurate. "The shots intended for the initial-/t/ allophone will be aimed in the general direction of that bull's-eye, but will fall all about it - many quite close, some in the immediate vicinity, a few quite far away".¹⁷ The single point around which the shots are clustered is the frequency maximum. For the hearer, the frequency maxima of the speakers he hears build up expectation distributions. Sound change is the "slow drifting about of expectation distributions, shared by people who are in constant communication".¹⁸ In controlling expectation distributions, utterances more recently heard by the hearer are more powerful than utterances heard some time ago. Thus, as frequency maxima change, so do expectation distributions, and the hearer now aims his own shots at a new bull's-eye determined by his expectation distributions. This "slow drifting about of expectation distributions" is caused by "the vast multitude of factors which can contribute to the determination of the physical properties of any bit of heard speech. The physical properties depend only in part on the 'speaker's intention'. Before the sound reaches the inner ear of the hearer, other variables come into play".¹⁹ These variables include, according to Hockett, muscular ties, alcohol, drugs, and wax and dirt in the outer ear. Note that although we have been quoting from Hockett, similar, although perhaps less extreme views have been

held by other linguists. Bloomfield, for example, describes sound change as "change in the habits of performing sound producing movements".²⁰

The physical approach has been criticised by many linguists, including Weinreich, Labov & Herzog, who say: "Linguistic change is not to be identified with random drift proceeding from inherent variation in speech. Linguistic change begins when the generalisation of a particular alternation in a given subgroup of the speech community assumes direction and takes on the character of orderly differentiation".²¹

This type of approach has also been strongly criticised by Postal as "an extreme, physicalist account of the nature and causes of sound change".²² Postal says: "The basic idea seems to be that variation in the performance of discrete articulatory 'intentions' statistically leads to drifting of the targets". This view, Postal continues, "is really quite incredible. For this claim that performance deviations in the behaviour of adults can lead to systematic change totally ignores the fact that there is linguistic knowledge underlying speech performance".²³

However, the criticism made by Weinreich et al ignores the causes which brought about the "particular alternation in a given subgroup of the speech community" in the first place. Postal's criticism, moreover, ignores the fact that overlapping articulations, at the

performance level, can lead to the merger of systematic phonetic elements and, eventually, to the loss of systematic phonemes, as we have seen in the Nch diasystem. This final loss, it is true, may well be effected in the transmission of a grammar from one generation to another (by rule loss), but the initial impetus for the change may equally well have occurred at the level of articulation. Another generative phonologist, King, writes: "There is unquestionably something to be said for the phonetic basis of phonological change".²⁴ It is also clear that Postal and Hockett have different ideas about what sound change actually is. Some of the Nch sound changes (as we have called them), for instance, have occurred only at the performance phonetic level - changes in the realisation of A vowels, for instance. This kind of change we have postulated, can eventually have repercussions at the phonological level. Postal, however, would regard them as of no interest.

The most doubtful aspect of Hockett's approach is the view that change is random. It cannot, at present, be proved or disproved whether or not this view has any validity. It is much more likely, however, that changes in articulation are due to articulatory causes. Causes of this physical type have often been described as being due to the factor known as "ease of articulation". This is a vague and for some linguists rather controversial concept,²⁵ but is nevertheless fundamental to an explanation of certain changes, and in particular to an explan-

ation of phonetic changes of the assimilatory type. (We must of course look to sociological factors to explain which of these possible changes occur, and when. It is not, for example, accidental that changes of the "ease of articulation" type are most common in situations where redundancy is less important as an aid to communication: in colloquial speech, for instance, and at times of political instability, where breakdowns in communication mean that intra-group contacts become relatively more important, or where the language in question does not have to be used in formal contexts.)²⁶ We shall therefore add to the above list of causes of sound change the "ease of articulation" factor.

The Functional Approach

This type of approach can be characterised by reference to the work of Martinet, which we have already discussed at some length in Chapter Ten and elsewhere. The particular aspect of his work which we accept here is that pressures in phonetic space can bring about certain types of sound change, both as the result of other previous sound changes and the "asymmetry of the vocal organs". We also accept that low functional load is a factor leading to merger.

Martinet's approach has been criticised by King, Kiparsky and other generative phonologists. King,

however, concedes that "the kind of linked shift called 'drag chain' does occur". Drag chains, however, "seem to be special cases of simplification in the rule component of the grammar, and the greater simplicity of drag chains can be shown formally in generative grammar ... Only incidentally is a drag chain itself attained".²⁷ However, we have seen in the Noh material some cases of what we suggested was sound change resulting from exactly this kind of process, but with no resultant simplification. We have also investigated some examples of the so-called "push-chain". We postulated, for example, that the introduction of the new vowel /a:/ led to the "pushing forward" of /e/ in phonetic space, to [a]. King's claim that this does not happen appears to be the result of a failure to distinguish sufficiently well between the phonetic and phonological levels. Changes of this type that have occurred in the Noh diasystem have taken place at the systematic phonetic level, as they must, being tied to articulation. Any repercussions at the systematic phonemic level will be indirect, and, presumably, will occur after a considerable period of time has elapsed. King, however, appears to be discussing changes at the phonemic level, although, as often happens with the distinctive feature approach, this is not clear.

Some linguists working within the framework of generative phonology, on the other hand, have recognised the part played in sound change by this type of phenomenon.

We saw in Chapter Ten, in our discussion of setting rules, that two rules can be conditionally linked, in the following way:

if

$X \longrightarrow Y$

then

$\begin{array}{ccc} a & \longrightarrow & b \\ \downarrow & & \\ a & \longrightarrow & c \end{array}$

Anderson & Lass²⁸ have proposed that the English Great Vowel Shift, and other similar changes in other languages, can be explained in the following way. A restraint is first of all imposed on changes such that, other things being equal, lexical distinctions are maintained. Then, we can propose the rule:

$\text{long } V \longrightarrow + \text{high}$

This is a metarule which operates on the whole grammar - it applies to the entire systematic phonetic inventory - and has the effect of raising all long vowels, as occurred in the Great Vowel Shift. High vowels, however, cannot of course be raised. If lexical distinctions are to be maintained, then these vowels must undergo some other development. The above metarule, therefore, entails a subsequent rule:

$\text{long } V \longrightarrow + \text{high } C \text{ long high } V \longrightarrow \text{dis-}$
placed

In the case of English, the displacement takes the form of diphthongisation. In Swedish and E. Norwegian it takes the form of fronting. We therefore obtain, within the framework of generative phonology, formal recognition of the fact that push chains do occur.

The Sociolinguistic Approach

This approach can be characterised by reference to the work of Labov, whose sociolinguistic study of New York City English has provided much material for use in a study of sound change. Labov, it is worth noting, makes reference to some aspects of the functional approach in his work, and indeed puts forward specific empirical confirmation for certain points in Martinet's theory.

We have stated above that we must look to sociological factors for an explanation of why certain changes occur and, more importantly, why others do not. We must, in addition, look to factors of this kind in order to explain why a particular change happens when it happens. Sociolinguistic research can also facilitate a description of how changes happen. Labov, for example, proposes hypercorrection as one of the sociologically determined mechanisms which produce linguistic change. We have also put forward some fairly specific sociological explanations for the introduction of R.P.-like forms into Nch English at a particular time, for example.

Work of this type is undoubtedly of great value to linguistics, but some criticism of this approach is nevertheless implicit in Postal's comment: "The claim that change is stylistic is not incompatible with the kinds of results reached by such investigators as Labov. These latter matters concern more properly the social explanation for the spread of the change, a matter which seems more properly sociological than linguistic".²⁹ We have ourselves already criticised the view put forward in Weinreich et al for ignoring the initial causes of change.

The Generative Phonological Approach

The theory of generative phonology regards linguistic change as change in grammars. Sound change, according to this theory, is the addition, deletion, simplification or reordering of rules. We have already given examples of rule addition, deletion and simplification in the Nch diasystem. The phonetic mutation rule:

$$/ɛi/ + /ə/ \longrightarrow /ɛi/$$

has been added to the Nch diasystem in the course of this century. The diasystemic inventory rule:

$$\left. \begin{array}{l} //\bar{o}// \\ //\bar{e}// \end{array} \right\} \longrightarrow //\bar{o}//$$

has, on the other hand, been lost from the diasystem, or almost so. During the course of this loss it was involved in simplification from

$$\left. \begin{array}{l} a) \\ b) \end{array} \right\} \longrightarrow \phi / \frac{\quad}{Y \propto II}$$

to

$$\left. \begin{array}{l} a) \\ b) \end{array} \right\} \longrightarrow \phi / \frac{\quad}{Y \propto}$$

It is reasonably true to say, however, that generative phonologists have not as a rule been particularly interested in the causes of sound change. Postal writes: "There is no more reason for languages to change than there is for automobiles to add fins one year and remove them the next, for jackets to have three buttons one year and two the next, etc."³⁰ This is a very short-sighted view that ignores both the fact that changes in fashion of this sort are generally fairly highly motivated in rather interesting ways, and, worse, the fact that investigations into the causes of sound change can tell us much about the structure of both language and society. King, on the other hand, has approached the problem in a somewhat more satisfactory way: "To use one of the better-known putative causes of phonological change as an illustration, it is all very well to attribute a number of changes to 'ease of articulation', e.g. octe > otto, but why do so many languages so successfully and so persistently resist ease of articulation? Why have not all languages assimilated to the utmost, parallel

to -kt- > -tt- ?" The sociolinguistic perspective, combined with certain aspects of the functional approach, gives us some of the answers to this problem:

1. Competing against the tendency to "ease of articulation" is the need to preserve lexical distinctions and the "desire to be understood".³¹

2. There are certain psychological and sociological factors, which we shall discuss shortly, which act as conservative forces and make for resistance to change.

3. If it were not for these factors, ease of articulation changes would be taking place all the time. As it is, changes of this type will only take place if the sociological (and linguistic) conditions are right. There are many potential changes of the assimilation type present in the performance mutation rules in the Noh diasystem which operate in colloquial speech. These changes are inhibited from spreading to all types of speech (and are prevented from becoming phonetic mutation rules) by (a) the need for speakers to be understood outside the immediate environment of family and friends, and (b) pressures leading to the desire to use prestige or otherwise "correct" forms. Thus, at any given stage in the history of a language, there is a layer of colloquial speech where, as it were, sound changes have already taken place. When and if the conditions are right, certain

aspects of this layer will become established in the language. Diachronic change is, in other words, merely synchronic variation given scope by time.³²

King also points out, as we have done, the "large number of phonological changes in which a phonetic basis such as assimilation is clearly discernible".³³ He suggests that other changes which cannot be explained in this way may be "secondarily induced by other changes themselves assimilatory in origin".

Causes and Mechanisms of Change

We are now in a position to note a major difference between the four approaches we have discussed above. The physical approach is concerned solely with the cause of "spontaneous" sound changes - with the cause of "prior-existing differences". The functional approach is concerned both with this phenomenon and with those changes due to other previous changes. The sociolinguistic approach, on the other hand, is concerned with the mechanisms that lie behind the spread and acceptance of a particular change at a particular time. But how can we best characterise the generative phonological approach? In so far as it is concerned with the phonetic motivation of phonological change, it is clearly concerned with the cause of change. It is, moreover, clearly not concerned

with the mechanisms of the spread and establishment of a particular change at a particular time. In what way, then, should we regard rule addition, deletion, simplification and reordering? The answer would appear to be twofold. First, in so far as changes of this type can be ascribed to the general principle of simplification, which King claims is fundamental to most types of rule change, generative phonology is concerned with (perhaps psychological) causes of change. Secondly, in so far as rule change cannot be ascribed to simplification, (which is particularly true in the case of rule addition), generative phonology is concerned with the effect of change.

Proposals for a Theory of Sound Change

Now that we have been able to distinguish between causes, mechanisms and effects of sound change, we can modify our original classification of those factors that lead to and bring about sound changes. We can also add other factors that have been dealt with by the linguists whose work we have just discussed.

A. The Initial Causes of Sound Change

The following are proposed as causes of those types of purely linguistic change which we described above as

"spontaneous" changes.

1. Ease of Articulation. Tendencies to apply the "principle of least effort" lead to the simplification of articulatory movements and especially to assimilatory changes. Given the possibility of the effort involved in articulation being reduced, this will be done, all other things being equal - which they only rarely are. Changes of this type are inhibited by the need to be understood, the need to preserve lexical distinctions, particularly those with a high functional load, and the social need to be correct or to be acceptable in other ways. An example of this type of change in Nch English is the introduction of the phonetic mutation rules of the type /sɪ/ + /ə/ → /sɪ/, which represent a simplification in articulatory movements (although, as we have seen, this rule was introduced from another dialect, so the initial change took place elsewhere).

2. Asymmetry of the Vocal Organs. We have already seen that Martinet claims that tendencies, perhaps psychological in origin, to symmetry in phonological (and particularly in vowel) systems are in conflict with the basic asymmetry of the human vocal apparatus. This

conflict can lead to continual change, through "attempts" to impose symmetry being countered by the physiological impossibility of achieving perfect symmetry. An examination of Table 6 in this chapter suggests that forces of this kind may have been operating on the systems of C vowels and C vowels plus schwa, although this is not really subject to proof or disproof. Changes of this type are inhibited in the same way as type 1. changes. Note that we can also introduce the concept of simplification here: the conflict is between simplification of the system and simplification of the realisation of the system.

3. Functional Load. Another cause of change proposed by the adherents of the functional approach is that which is concerned with functional load. Distinct units that have only a low functional load can be collapsed, with only a small loss in comprehension, if any at all, and with an increase in the simplicity of the resulting system, whereas oppositions with a high functional load are much more likely to be maintained. Simplification, therefore, is also an important factor in this particular cause of change. We have already noted that the merger of here and there items in Nch English

was made possible by the low functional load the distinction between the two vowels carried. Note that the phrase "made possible" suggests that the drive to simplification is in fact the cause of this particular type of change, and that the low functional load of this distinction merely fails to inhibit the merger.

4. Grammar Simplification. The above causes of change are all operative at the systematic phonetic level. We now move on to causes that operate at the systematic phonemic level.

King claims that rule loss, rule reordering and rule simplification "can all be understood as belonging to simplification in its broadest sense".³⁴ They are all due to the ability of children to construct optimal - most simple - grammars from a body of heard speech material. Simplification, once again, is therefore a fundamental factor in this cause of change. Simplification of this type, however, most often takes place in the development of the child's grammar as the result of a change in the adult's grammar of the rule addition type. This must be the case, since each adult, as a child, must have constructed an optimal grammar. Change therefore only takes place if the adult's grammar

is not optimal. Changes of this type are not, in other words, truly "spontaneous" changes. The only "spontaneous" changes are those that take place in the grammar of the adult.³⁵ These, King hypothesises, "are typically limited to minor alterations: addition of items to the lexicon, minor modifications in the formulation of a rule, addition of at most a few rules to a component of the grammar".³⁶ Since these minor alterations are themselves most likely to be the result of sociological factors, this type of cause of change is relatively unimportant. We will show below that all cases of rule simplification in Noh English are due to borrowing or to other sociological factors, and are not therefore "spontaneous".

5. Marked and Unmarked. The theory of markedness in phonology has been discussed by members of the Prague school,³⁷ and more recently by Postal,³⁸ and Chomsky & Halle,³⁹ amongst others. King has described the part that markedness can play in phonological change: "In the technical sense of this word phonological systems of a natural type, e.g. /i e a o u/ and /p t k b d g s/, are said to be less highly marked than systems such as /i e ɜ ɔ u/

and /p ɒ c f d z ʒ/. Markedness seems to play a part, not completely understood at present, in the evolution of sound systems. For example, the original stop system of Indo-European:

p	t	k
b	d	g
b ^h	d ^h	g ^h

was highly marked in that it required both voice and tenseness for its classification (most languages require at most one or the other). The vast majority of Indo-European languages have developed less highly marked obstruent systems".⁴⁰ In other words, phonological systems move from more marked states to less marked. This movement towards less marked systems is a further cause of "spontaneous" change. Note that this too can be regarded as simplification (again perhaps of a psychological type) in that less marked systems can be regarded as more simple than more marked systems.

If there is this movement towards less marked systems, the question arises as to how marked systems arise in the first place. In what way can systems become more marked? The

answer lies in the interplay of causes of sound change at the phonetic and at the phonological levels. We can illustrate this point from the history of German. It is generally considered that high front unrounded and high back rounded vowels are unmarked, and that high front rounded and high back unrounded vowels are marked. Why then did German, during the course of the OHG period, move from a relatively unmarked system, where it had only /i/, to a more marked state, with the addition of /^hu/? The answer lies in one of the causes of change that operate at the phonetic level: [u] became [^hu] before /i/ or /j/ in a following syllable. The change is a phonetic one, of assimilation, with [u] assimilating the frontness of /i/ and /j/. At first this was simply a phonetic change, but ultimately //^hu// was added to the phonemic system (which thereby became more marked) when the /i/ or /j/ which had brought about the change was lost. Thus a simplification at the phonetic level leads to a complication at the phonological level (see the reference to Schane in Chapter Ten). Note, too, that it is because of changes of this type that systems are not continually being reduced in size because of changes due to functional load: units are being added to as well as lost from the system.

These, then, are some at least of the causes of sound change: factors which lead to changes "in the first place". It is notable that they are all, in some sense, reducible to the principle of simplification, which, intuitively, seems to be a sufficiently realistic explanation for why changes occur. This exposition has been very brief, but was necessary in order to put other types of changes, on which sociological urban dialectology has more to offer, into a coherent framework. Note especially that none of these causes is on its own sufficient to bring about a sound change. Sociological factors, some of which we shall discuss below, "decide" which of all the possible changes will "occur" (i.e. become generalised to more than one occasion, more than one speaker, or more than one style) and when they will occur.

B. Secondary Causes of Sound Change

We have listed above the factors which cause sound change, as we have said, "in the first place". These changes can, in turn, lead to other changes, and we will now move on to a discussion of these purely linguistic causes of sound change which are dependent on and stem from changes due to initial causes. Changes of this type can also be brought about by tertiary changes (see below).

1. Pressures in Phonetic Space. We described above how the asymmetry of the vocal organs can be responsible for certain sound changes, by setting up pressures in phonetic space. By no means all the changes of this type, however, can be ascribed to this particular cause. Most, in fact, result from other previous changes. We can say, for example, that the diphthongisation of high vowels in the English Great Vowel Shift was the result of the raising of low and mid vowels. Similarly, the introduction into Nch English of the systematic phonetic element /u:/ (which itself resulted from an initial change due to ease of articulation) caused the fronting of /ɔ/ in phonetic space.

2. Secondary Ease of Articulation. We have already described above how the introduction of /ɜ:/ into Nch English may well have brought about the centralisation of (e) from [e] to [ɜ̃]. In this way an initial or tertiary change (in this case a tertiary change) which makes articulation less simple, can lead to a secondary change of an assimilatory type which cancels out the new "difficulty". Ease of articulation is therefore a secondary as well as initial cause of change.

3. Grammar Simplification. We stated above

that most grammar simplification takes place during the child's acquisition of a maximally simple grammar which is based on his exposure to a certain body of performance data. This simplification is generally due to the adult's grammar on which the child's is based having become less than optimal, because of initial or tertiary changes. Simplification of this type is therefore, strictly speaking, due to previous changes. It is, however, of a somewhat different type from 1. and 2. above: it occurs only across generations, and has the effect of consolidating rather than actually bringing about a change.

As an example, we can cite a case from the Noh diasystem. As a tertiary change, certain adults under the influence of R.P. and other accents began to realise their systematic phoneme $//\bar{a}//$ in the same way as $//ai//$. They replaced the phonological realisation rule

$$//\bar{a}// \longrightarrow /e:/$$

by the diasystemic incidence rule

$$//\bar{a}// \longrightarrow //ai//.$$

Since the realisation of $//\bar{a}//$ is now identical with that of $//ai//$, the child constructing a maximally simple grammar on the basis of this data will acquire only one systematic phoneme, $//ai//$, and only one realisation rule, instead of two.

C. Tertiary Causes of Sound Change

Initial and secondary causes of change are purely linguistic. They result in linguistic differentiation both between and within speech communities, because the sociological, psychological and cultural factors, which control which (and when) changes are to occur, vary from place to place and time to time. (It is also possible that Hockett's hypothesis of the random nature of sound change may play some part in this differentiation.) A situation therefore arises where linguistic differentiation is correlated with geographical and sociological differentiation. The different linguistic varieties, in so far as they are able to interact, give rise to further linguistic changes. The causes of these changes, which derive, as we said above, from prior-existing differences, we shall label tertiary causes of change.

Tertiary causes of sound change can be divided into two different types. This division is one of convenience rather than fact, since the two are overlapping rather than discrete types. It is, however, useful to be able to distinguish between changes due to prior-existing differences between speech communities and those due to differences within speech communities. Note that as these changes are not purely linguistic, we shall have occasion to discuss not only those sociological factors which decide which changes should happen when, but also those involved in the mechanisms which bring about the development, transmission and acceptance of these changes.

L. Causes of Change Resulting from Differences between Communities

1. The Adoption of Prestige Features. The most important cause of change due to prior-existing differences between speech communities that we have noted in Nch is the influence of the prestige R.P. accent on the Nch accent. Obviously, many different changes over long periods of time have brought about a situation where R.P. is quite clearly differentiated from Nch pronunciation. There are therefore various pressures to modify some aspects of Nch pronunciation in the direction of R.P. Note, however, that in principle prestige features can be borrowed from any other speech variety. The prestige feature can be drawn from a different social dialect in the same community, or from a different geographical dialect. The introduction of the variable (r) into New York speech is the result of the shift of the prestige model from one different geographical dialect, that of Eastern New England, to other geographical dialects which have post-vocalic /r/. In the English of England, these two different aspects of prestige borrowing are often closely linked, because, since R.P. is a non-localised variety of pronunciation (as far as England is concerned), the influence of R.P.

can stem both from within and from without a community. Examples of the influence of R.P. on Nch English have been given above. They include the introduction of the systematic phonetic element /ɜ:/ into the system of C vowels. This change was effected by replacing the phonetic mutation rule:

$$/ɪ/ + /ə/ \longrightarrow /a:/ \text{ or } /ɐ:/$$

by:

$$/ɪ/ + /ə/ \longrightarrow /ɜ:/$$

A rule, we can say, was borrowed into Nch English from R.P.

We also noted the gradual loss of the EAn short ə. This is a result of the influence of R.P. inhibiting, to a certain extent, the operation of the optional incidence rule:

$$//\tilde{ə}// \longrightarrow //u//$$

That there are socio-psychological pressures leading to the adoption of prestige features is obvious and indisputable. In practice, however, these pressures may be of

a very complex nature, and we shall not discuss them further here. They are overtly most apparent in the speech community in the educational institutions, but are probably most important in face-to-face contact situations. This means that features of this type are introduced first of all into the speech of the MC, and only later penetrate to the lower classes. We have been able to state that some of the changes of this type in Nch occurred when they did because of the increase in geographical mobility and educational opportunity.

2. The Adoption of Features from Non-Prestige Varieties. We have also noted in our study of changes that have taken place in Nch that certain of these are due to the borrowing of features from the dialects of Suffolk, the Home Counties, or the Midlands. In some cases, it is not possible to distinguish this type of change entirely from changes due to borrowing from R.P. For example, we can associate the rounding of (o) both with the influence of R.P. within and without the Nch speech community, and with the rounded vowels that occur in the accents of the Home Counties and Suffolk. In cases like this, the two types of causality of change reinforce one another.

Now on the other hand can we explain the fact that Nch English, like other linguistic varieties, borrows features from accents that are not in their geographical region of origin prestige features? Why, moreover, are features borrowed from some dialects and not from others?

We saw above that in some cases prestige borrowing and borrowing from different geographical dialects work in the same direction. In other cases the reverse applies. Cases of geographical borrowing into Nch English that we have described include the introduction of (ĩ)-4, the introduction of (h)-2, and the introduction of (a)-3 and -5. In each of these cases, the influence of London and Home Counties speech is counter to that of R.P. The result is that the influence of non-prestige features of this type is felt first and most strongly amongst the WC, and, as we saw in the case of (ĩ)-4, particularly the MWC. This is because the influence of R.P. is exerted most strongly on the MC, who come into more contact with R.P. speakers and who find it more necessary or desirable to adopt prestige forms. Why, however, do WC speakers adopt different but non-prestige forms from different geographical dialects? The answer is that these, too, are, in a rather particular sense of this word, prestigious.

The most common form of spread, as we saw, is from London and the Home Counties into Nch. In what sense is the WC speech of London more prestigious or influential than that of the Nch WC? Obviously, London is the political, cultural and social centre for the whole of Britain, and for that reason has a very great deal of influence. But why should this be associated with its WC? For the answer to this question we must look to the theory of the diffusion of innovations. We have mentioned this topic before in a rather inexact way. We must now attempt to make a more rigorous interpretation of the way in which linguistic innovations are diffused in general and into Nch in particular.

Innovations of all types - although this is particularly noticeable in, say, the world of fashion - are diffused outwards from London to the rest of Britain. This is because of the dominant cultural position of London and its status as a "world city". It is also due to the mere size, in terms of population, of the city. The level at which innovations are diffused is generally that of personal interaction. Thus any larger population will tend to dominate a smaller population. Linguistic innovations

spread from London in the same way, and are generally confined to the WC simply because of the inhibiting and conservative effect that R.P. has on the MC. (Innovations within R.P. will generally take the same course: "advanced" R.P. forms will be more common in London than in the provinces.) The London WC is more "prestigious" than the Nch WC simply because of the general dominance of London.

Linguistic innovations, then, spread out from London to other major cities, and from these to minor cities, and so on. (This does not mean to say of course that all linguistic innovations start in London. They clearly do not.) Innovations, in other words, travel down the urban hierarchy. Hågerstrand has written: "The urban hierarchy canalises the course of diffusion. In addition to the influence from a centre on the neighbouring districts we find short circuits to the more important places at a greater distance".⁴¹ This explains why (h)-2 is found in Nch but not generally in Nfk. As well as spreading more gradually across the country into the hinterland of London, (h)-2 also jumps from one member of the urban hierarchy to another.

Innovations, however, do not simply move

down the urban hierarchy. If this were the case, Glasgow speech would more closely resemble London speech than Nch speech does. Obviously, distance also plays a very important part in diffusion. Innovation diffusion is subject to distance decay. If we wish to study the exact nature of the influence of London English on Nch we must take into consideration (i) the transmission of innovations down the urban hierarchy, and (ii) distance decay. We must also consider the spread of innovations across country.

Geographers have developed several models of the diffusion of innovations, some of them rather sophisticated and complex. For our present purposes, we can adopt one of the simpler models in order to demonstrate in a more rigorous way the nature and extent of the linguistic influence of London on Nch. The model we shall adopt is the so-called gravity model, which has also been applied in many other sciences in addition to geography. "This model uses the Newtonian theory of gravitation, and suggests that the movement between two centres is proportional to the products of their populations, and inversely proportional to the square of the distance separating them."⁴² We can

therefore use this model as a measure of the relative amount of interaction and influence between two centres. It can give us a simple numerical demonstration of the influence of London speech forms on Nch speech relative to the influence of other centres.

The formula for the gravity model that we shall use is:

$$M_{ij} = \frac{P_i P_j}{(d_{ij})^2}$$

where M_{ij} is the amount of interaction between two centres i and j , which have populations of P_i and P_j respectively. The distance between the two centres is d_{ij} .

Where i = London and j = Nch, the equation reads as follows (with populations in thousands and distance in miles):

$$M_{\text{London,Nch}} = \frac{10,000 \times 120}{(110)^2} = \frac{1,200,000}{12,100} = 99.2$$

Where, however, i = Birmingham, we have the following result:

$$M_{\text{Birmingham,Nch}} = \frac{1,000 \times 120}{(150)^2} = \frac{120,000}{22,500} = 5.4$$

If we multiply these results by 10 we have the simple index scores:

interaction of London and Nch = 992

interaction of Birmingham and Nch = 54

The influence of London on Nch would therefore appear to be at least 20 times that of Birmingham. Even this difference, however, is clearly a distortion of the facts. The number of changes that spread from London to Nch is significantly greater than 20 times the number of changes that spread from Birmingham, since very few, if any, changes follow this latter route.

There are two main reasons for this distortion. The first is that we have not taken into account the fact that it is a linguistic situation that we are dealing with: prior-existing linguistic similarities must therefore be taken into account. Nch English is more similar to London English than it is to Birmingham English. London features are therefore both linguistically and psychologically more acceptable into Nch English than are Birmingham features. Since linguistic similarity is not simply a function of distance - the English of, say, Canterbury is in many ways more similar to that of Nch than is the

English of Peterborough - we shall modify the formula in the following way:

$$M_{ij} = s. \frac{P_i P_j}{(d_{ij})^2}$$

where s is a variable expressing prior-existing linguistic similarity. Linguistic similarity and difference is very difficult if not impossible to measure accurately. We shall therefore solve this problem by allowing the value of s to depend on dialect area differences. The dialect areas will necessarily be somewhat arbitrarily defined. In the case of Nch, the value of s will vary with the dialect area of the other centre in the equation as follows:

- s = 4 for centres in Nfk
- s = 3 for other centres in EA
- s = 2 for other centres in the South-East
- s = 1 for other centres in England
- s = 0 for all other centres

The revised formula produces the indices shown in Table 7 for the interaction of Nch with other centres. Note that this does not necessarily mean that the speech of Glasgow can have no effect on Nch speech. Any effect it does have (and at least one writer has postulated

**Table 7: Indices of Interaction of
Nch and Selected Centres**

London	1,984	Cambridge	66
Yarmouth	300	Birmingham	54
Ipswich	213	Peterborough	17
Kings Lynn	118	Glasgow	0

that the spread of the glottal stop realisation of /t/ began from the Glasgow area)⁴³ must, however, be indirectly transferred through some other centre such as London. These figures show why the speech of London has such a strong influence on that of Nch, particularly in those cases where London features are also found in Ipswich and/or Cambridge speech. According to this formula, London exerts approximately 40 times as much influence on Nch as does Birmingham. This figure, however, depends on the very arbitrary allotment of values to g, which makes London speech exactly twice as similar to Nch speech as Birmingham speech is. This assumption clearly has no validity. All we can claim is that the influence of London is clearly much greater than that of any other centre.

The second reason for the distortion is that the above formula provides us with a

measurement of the interaction of one centre and another, not the influence of one on another. We have given the index score for the interaction of London and Nch as 1,984. Part of this interaction, however, consists of the influence of Nch on London. The influence of one centre on another, other things being equal, will depend on the relative size of their populations. In view of the big discrepancy in the size of the populations of these two centres, the influence of Nch on London will be extremely small, but it must be taken into account. The ratio of the population of London to that of Nch is approximately 83:1. We can therefore introduce the concept of direction into our measurement of interaction in the following way. If the interaction of London and Nch is expressed as 1,984, then the one-way interaction, the influence of London on Nch will be:

$$\frac{83}{84} \times 1,984 = \underline{1,260}$$

The formula for obtaining an index of the linguistic influence of one centre on another is therefore:

$$I_{ij} = 10.s. \frac{P_i P_j}{(d_{ij})^2} \cdot \frac{P_i}{P_i + P_j}$$

We must therefore revise the list of index scores given in Table 7. The revised list appears in Table 8.

**Table 8: Indices of the Influence
of Selected Centres on Nch**

London	1,960	Kings Lynn	39
Ipswich	106	Cambridge	33
Yarmouth	50	Peterborough	6
Birmingham	48	Glasgow	0

This, then, provides an explanation for why features are borrowed from some dialects and not from others, for why non-prestige features are borrowed at all, and for why changes are diffused down the urban hierarchy. The question still remains as to why features are borrowed when they are borrowed. The question might, in fact, be better rephrased: why are features not borrowed instantaneously? The answer to this problem lies in what we have referred to above as distance decay, which is provided for in the equation by the expression $(d_{ij})^2$. Distance between two centres makes for friction, which can slow down or even halt the progress of an innovation from one to another. It also lies in

the prior-existing linguistic differences which make for resistance of both a psychological and a linguistic nature. Because of these resistance factors, there is always a considerable time lag before a feature from London is adopted into Nch English. Linguistic features are also, of course, more difficult for adults to acquire than, say, mini-skirts. In evaluating the amount of the time lag we must take into consideration the role of the system of transport and communications in relation to distance decay. Thus, the increase in various types of communication between Nch and London since the First World War has meant an acceleration of the introduction of London forms into Nch. We can therefore say that features from London English are adopted into Nch English after some considerable time lag, which will depend both on the nature of the linguistic feature itself and on the state of the communications network.⁴⁴

3. Changes due to Migration. A third, related, type of tertiary change resulting from prior-existing linguistic differences is that which is due to migration. Linguistic features can be transmitted from one place to another because speakers who use these features move.

In this way between-community differences become within-community differences. The change is one of relocation rather than of expansion, although expansion may well follow, within the new community.⁴⁵

If migration from London to Nch took place on a sufficiently large scale, then we would expect there to be some significant introduction of London features into Nch speech. We saw in Chapter Two that there is a large amount of migration from the Home Counties into Nfk and Nch, but this has not yet reached sufficiently large proportions for any influence to be felt, at least in Nch. The only significant source of migrants into Nch is the county of Nfk. Of the sixty informants in the Nch sample, eleven were born in rural districts of the Nfk dialect area. Is there any reason to believe that differences within the Nfk dialect area have given rise to differences within the Nch speech community?

We have already seen that there is a large amount of variation in Nch in the pronunciation of items of the type boot. This alternation is handled by the diasystemic rules discussed in Chapter Ten, which produce either

/U/, /Uu/ or /Wu/. The origin of these incidence rules is obscure, but we did see in Chapter Seven that there is some geographical variation in the use of these variants in rural EA. It is therefore possible that the variation to be found in Nch is dialect mixture, resulting from in-migration from surrounding areas of Nfk which have different variants in items of this lexical set.

Map 1 shows the childhood homes of the rural-born informants who have /Uu/ in soup and those who have /Wu/. (Note that in order to obtain genuinely comparable material these maps are based on forms produced in WLS and RPS.) If the speech of these informants is at all typical of the areas in which they grew up, then it is clear that there is some genuine geographical differentiation in the use of these two variants. This is also true of Map 2, which contrasts the use of /Uu/ and /U/ in room.

We would of course need a larger sample of rural-born informants in order to be able to draw more convincing conclusions, but we are at least able to suggest that in-migration has played some part in causing the linguistic variation that occurs in Nch.

Map 1

SOUP
/uu/ x
/uu/ .

Map 2

ROOM
/uu/ x
/u/ .

PROOF
/uu/ x
/u/ .

II. Causes of Change resulting from Differences within Speech Communities

Just as initial and secondary causes of change, in combination with various sociological factors, bring about geographical differentiation between speech communities, so they give rise to differentiation within communities. As we have demonstrated in the case of the Noh speech community, this differentiation is generally correlated with social factors such as class, age and sex. Differentiation within the community leads to various types of linguistic and social interaction and pressures, which can in turn result in further, tertiary changes. Some of the causes of change due to these linguistic and social pressures are listed below.

1. Hypercorrection. Labov has shown that one type of change due to prior-existing differences within the speech community is brought about by hypercorrection. For example, LMC speakers in New York, and particularly middle-aged speakers from this class, not only adopt characteristics of Upper Middle Class speech in formal contexts but actually surpass UMC speakers in the use of these characteristics. In the case of post-vocalic /r/, "lower middle class speakers go beyond the highest status group in their tendency to use the forms considered correct and appropriate for formal styles".⁴⁶

Labov interprets this as the result of the linguistic insecurity of the LMC (which has also been pointed out in the case of the Nch sample). Crudely put, LMC speakers are anxious to assume the prestige associated with such forms, and therefore use them as much as possible.

Change results from the fact that this hypercorrection represents an increase in the use of a prestige form. It also results from the fact that middle-aged speakers of the LMC generally adopt the formal speech pattern of the younger UMC speakers, which "provides a feedback mechanism which is potentially capable of accelerating the introduction of any prestige feature". The acceleration is due to the fact that the LMC youth is "in contact with the new prestige pronunciation on two fronts":⁴⁷ they are in contact with them, because of their age, in the speech of young UMC speakers, and, because of their social class background, in the speech of middle-aged LMC speakers.

Labov states: "The suggested role of hypercorrection in the acceleration of linguistic change has been put forward with the expectation that further empirical studies may confirm or refute this possibility. Similar investigations may

profitably be carried out in other cities, perhaps in those which do not show as great a range of stylistic variation in the speech community".⁴⁸ We can present supporting evidence for the linguistic insecurity of the LMC from the Nch survey. There is, on the other hand, no evidence at all of hypercorrection of this type in Nch. Isolated instances of hypercorrection do of course occur (such as move /mauv/). But there are no examples of the kind of structured hypercorrection that occurs in New York. Hypercorrection, therefore, cannot be considered a universal mechanism of change, even in urban areas. It is probable, however, that hypercorrection stems from particular tendencies associated with group identification which may be universal (see below).

There are certain differences between New York and Nch speech which can explain this difference between the two communities. The prestige model for New York English is a geographically external one. Speakers from these external areas will use, say, 100 per cent post-vocalic /r/. Because, however, the model is one that is foreign to the city, even UMC speakers in New York will not achieve this particular level. This means that there is, as it were, room for the LMC to overtake them. The prestige

model for Nch speech, however, as for all types of English English speech, is R.P., which is a non-localised variety: the prestige model is an internal as well as external model. There are R.P. speakers in the Nch speech community. If post-vocalic /r/ were a prestige marker in England, all R.P. speakers would use something like 100 per cent post-vocalic /r/. The presence of these speakers in the Nch MMC would make it that much more difficult, although of course not impossible, for LMC speakers to "overtake" them. We are therefore much less likely to find this type of hypercorrection in an English city.

2. Group Identification. It was suggested above that hypercorrection may be due to some form of universal or widespread tendency associated with group identification. We can now examine these tendencies in more detail.

(1) Prestige Groups. One type of change due to tendencies of this kind is that which results from a prestige group's desire to remain distinctively prestigious. Members of groups of this type can wish to prevent "overtaking" of the type just described

from taking place, in order to preserve their distinct upper-class identity. If, therefore, a prestige feature is involved in linguistic change in a particular direction, the prestige group must continue to develop the forms they use in this same direction in order to be able to signal their group membership. Failure to do this may result in the LMC also acquiring the prestige marker. This is of course an unconscious process, but it is one way in which changes of the "drift" type may be produced. One possible change of this "vanity factor" type is described by Joos.⁴⁹ Another possible example is the continued fronting of R.P. /ou/ from [ɔU] to [eU] to [ɛU]. The last variant is described by Gimson as an "affectation",⁵⁰ but may well become more widely established in R.P., in order to preserve a distinct advanced R.P. form.

(11) Non-prestige Groups. Changes of this type are not confined to prestige groups. The desire to express group membership and to maintain or exaggerate

group differentiation is equally well to be found among lower ranking groups. This type of desire can lead to the maintenance or spread and exaggeration of even heavily stigmatised features. One example of this is provided by Labov in his study on Martha's Vineyard.⁵¹ Here, the stigmatised, old-fashioned, lower-class variant of /au/, [3u], was found actually to be increasing amongst those inhabitants of the island who rejected the values and way of life associated with the mainland, and who identified most strongly with the island community.

An example of this type of change can also be provided from Nch English. It was shown above that linguistic change is at present associated with the variable (e), with open centralised vowels very much on the increase amongst younger people. We were able to advance a partial explanation for this centralisation before /ɜ/, but none at all for the centralisation in other contexts. We also saw that this phenomenon is not new in EA, but appears to be merely on the increase in Nch.

Because this feature occurs mainly in WC speech in Nch, (and certainly does not occur in R.P.), we can postulate that the cause and mechanisms associated with this particular change are the following. Centralised variants of (e) have become recognised as a marker of membership of the WC in Nch, and have therefore acquired favourable associations with anti-authoritarian attitudes, masculinity, or other features. The desire to express group membership, which can perhaps be described as "WC solidarity" has led to a consistent increase in the centralisation of this vowel, in order to differentiate this group more clearly from (e)-1 users. (This point is underlined by the fact that the UWC has higher (e) scores than the MWC, and both have higher scores than the LWC - see Fig. 20 in Chapter Eight.) This therefore represents the complete obverse of the hypercorrection of a prestige feature: exaggeration of an "anti-prestige feature".

We can provide some confirmation for this hypothesis in the following way. Labov

has shown that in the evaluation of their own speech, New York informants, on average, report themselves as using forms which are more prestigious than those they actually do use. This "dishonesty", although of course not deliberate, suggests that the informants are dissatisfied with the way they speak, and would prefer to be able to use more statusful forms. This was confirmed by comments informants actually made about their own speech and by the test of linguistic insecurity, which required informants to distinguish between the way they pronounced certain items and the "correct" way of pronouncing them.

Now, overt comments made by the Nch informants on their own speech were also of this type. Many informants expressed views such as: "I talk horrible". There appeared, however, to be other, deeper motivations for their actual linguistic behaviour than these overtly expressed notions of their own "bad speech". For example, many informants who initially stated that they did not speak properly,

and would like to do so, admitted, if pressed, that they perhaps would not really like to, and that they would almost certainly be considered foolish, arrogant or disloyal by their friends and family if they did.

It is therefore interesting to compare the results of the New York self-evaluation tests with those obtained in Nch. In the Nch survey half of the informants in the sample, thirty, took the self-evaluation test. Twelve lexical items were read aloud to them with three or more different pronunciations. For example:

better 1. [betə] 2. [bet2ə] 3. [be2ə]

They were then asked to indicate, by marking a number on a chart, which of these pronunciations most closely resembled the way in which they normally said this word.

Self-evaluation tests (of the same kind) for the variable (r) - post-vocalic /r/ - in New York produced the following results. Informants who in formal speech

used over 30 per cent (r)-1 (= post-vocalic /r/) were, generously, considered to be (r)-1 users. 70 per cent of those who, in this sense, were (r)-1 users reported that they normally used (r)-1. But 62 per cent of those who were not (r)-1 users also reported that they normally used (r)-1. As Labov says: "In the conscious report of their own usage ... New York respondents are very inaccurate".⁵² The inaccuracy, moreover, is mainly in the direction of reporting themselves as using more prestigious forms than they actually use. Labov claims that "no conscious deceit plays a part in this process"⁵³ and that "most of the respondents seemed to perceive their own speech in terms of the norms at which they were aiming rather than the sound actually produced".⁵⁴

The full results for this test are shown in Table 9. (Note that (r)-0 signifies non-use of post-vocalic /r/.) Table 9 shows that 62 per cent of (r)-0 users "over-reported" themselves, and 21 per cent of (r)-1 users "under-reported",

Table 9: Self-evaluation of (r) - New York

Per cent (r)

Used	<u>Reported</u>		
	1	0	
1	79	21	= 100
0	62	38	= 100

although the latter were probably simply being accurate in view of the 30 per cent dividing line.

Now, in comparing the results obtained in the self-evaluation test to forms actually used in Nch, CS was used rather than FS, since CS more closely approximates to everyday speech - to how informants normally say words, which is what they were asked to report on. Informants, moreover, were allowed no latitude in their self-evaluation. They were considered to use in everyday speech the variant indicated by the appropriate CS index. For example, a (yu) index of between 051 and 100 indicated a (yu)-2 user. If, therefore, the characteristics

of the Nch sample were the same as those of the New York sample, we would expect an even higher degree of over-reporting.

Self-evaluation of the variable (yu), however, produced strikingly different results, which are shown in Table 10.

Table 10: Self-evaluation of (yu)

(yu)		Reported		
Per cent		1	2	
Used	1	60	40	= 100
	2	16	84	= 100

Only 16 per cent of (yu)-2 users (as compared to 60 per cent in New York) over-reported, and, much more significant, 40 per cent of (yu)-1 users actually under-reported (and the under-reporting is in this case quite genuine). A further breakdown of these scores is also very revealing. Of the 16 per cent (yu)-2 users who over-reported, all were women. Of the (yu)-1 users who under-reported, half were men and half women. If we take the sample as a whole, we have

the percentages of speakers under- and over-reporting shown in Table 11. Male speakers, it will be seen, are strikingly more accurate in their self-assessment than are female informants.

Table 11: Percentage of Informants over- and under-reporting (yu)

	<u>Total</u>	<u>Male</u>	<u>Female</u>
Over-reporting	13	0	29
Under-reporting	7	6	7
Accurate	80	94	64

There is, however, some considerable variation in the assessment of different variables. Tables 12, 13 and 14 show the percentage of informants over- and under-reporting their usage of (er), ($\bar{o}$) and ($\bar{a}$) respectively.

For each of these four variables there are more male speakers who state that they use a less prestigious variant than they actually do than there are who over-report, and for one of the variables, ($\bar{o}$), the

Table 12: Percentage of Informants over- and under-reporting (er)

	<u>Total</u>	<u>Male</u>	<u>Female</u>
Over-reporting	43	22	68
Under-reporting	33	50	14
Accurate	23	28	18

Table 13: Percentage of Informants over- and under-reporting (o)

	<u>Total</u>	<u>Male</u>	<u>Female</u>
Over-reporting	18	12	25
Under-reporting	36	54	18
Accurate	45	34	57

Table 14: Percentage of Informants over- and under-reporting (a)

	<u>Total</u>	<u>Male</u>	<u>Female</u>
Over-reporting	32	22	43
Under-reporting	15	28	0
Accurate	53	50	57

difference is very striking: 54 per cent to 12 per cent. Comparison also shows that the

Neh informants are much more accurate in their self-evaluation than are the New York informants, and are also much more prone to under-report. Neh female informants are more inclined to over-report than the male informants.

In this tendency to report themselves as using less statusful forms than they actually use, it is possible to see an expression of the forces that lead to the exaggeration of stigmatised forms. It would seem that, particularly for Neh men, the connotations of WC speech are in many ways very favourable. This is not overtly so. As in New York, many speakers expressed "linguistic self-hatred". But their responses to these tests show that these overt statements are for public or conscious consumption. Privately or subconsciously, a large number of speakers find the need for group solidarity more important than the need for prestige, in the more usual sense of the word.

It is therefore fairly simple to see how group identification of this type functions in linguistic change. Labov has

postulated that New York speakers have as their norm a variety (which they "hear" themselves using) which is more statusful than their own. This leads to change in the direction of the prestige norm. The Nch material suggests that Nch men have at least to a certain extent a norm that is a less statusful variety than the one they themselves use. Change therefore takes place in this direction, and (e) becomes increasingly centralised.

Resistance to Change. Group identification, as well as causing change, can also bring about resistance to change. The fact that a particular form may be identified with a particular geographical area or social class can lead other groups to resist the introduction of this form into their own speech, in order to preserve their own group identity. This may explain why some London forms are accepted into Nch English and others not, or why some may take longer than others to be accepted. (We have already mentioned this type of resistance in our discussion of the resistance to (h)-2 in rural Nfk.)

Summary

We have regarded the causes of phonological and phonetic change as consisting of three types. Initial causes are constantly leading to change, but these changes are inhibited from re-occurring or spreading by the need to be understood, and by various sociological factors. Where they do occur, they can lead to secondary changes - when the linguistic and sociological conditions permit. Both types of change result in the social and geographical differentiation of language, which leads, by means of various pressures and mechanisms (some of which we have described above) to tertiary changes. Tertiary changes can in turn lead to further secondary changes.

NOTES

Notes to Chapter One

1. See W. Bright, "Introduction: The Dimensions of Sociolinguistics", in W. Bright (ed.), Sociolinguistics, (The Hague: Mouton, 1966); A. Capell, Studies in Sociolinguistics, (The Hague: Mouton, 1966).
2. See T. Hill, "Institutional Linguistics", Orbis 7, (1958), pp. 444-455.
3. See H. Hoijer, "Anthropological Linguistics", in C. Mohrman, A. Sommerfelt & J. Whatmough (eds.), Trends in European and American Linguistics, 1930-1960, (Utrecht: Spectrum, 1961).
4. See B.J.L. Berry & A. Pred, Central Place Studies. A Bibliography of Theory and Applications, (Philadelphia: Regional Science Research Institute, 1961).
5. See references in Chapter Two.
6. See P. Haggett, Locational Analysis in Human Geography, (London: Arnold, 1965).
7. See T. Hägerstrand, Innovationsforloppet ur Korologisk Synpunkt, (Lund: Gleerup, 1953).
8. H. Kurath & R.I. McDavid, The Pronunciation of English in the Atlantic States, (Ann Arbor: University of Michigan Press, 1961).
9. See J. Lyons, Introduction to Theoretical Linguistics, (London: C.U.P., 1968), pp. 34-35.
10. C.F. Hockett, A Course in Modern Linguistics, (New York: Macmillan, 1958), p. 486.
11. See the discussion in Z.S. Harris, Structural Linguistics, (Chicago: University of Chicago Press, 1951), pp. 9-11.
12. See W. Labov, The Social Stratification of English in New York City, (Washington: Center for Applied Linguistics, 1966a).
13. Ibid.
14. Ibid., p.v.

15. See, for example, the reference in P. Kiparsky, "Linguistic Universals and Linguistic Change", in E. Bach & R.T. Harms (eds.), Universals in Linguistic Theory, (New York: Holt, Rinehart and Wilson, 1968), p. 178, to F. Enderlin, Die Mundart von Kesswil in Oberthurgau. Beiträge zur schweizer-deutschen Grammatik 5. (Ed. by A. Bachmann: Frauenfeld, 1911).
16. See W. Labov, Some Sources of Reading Problems for Negro Speakers of Non-Standard English, (N.C.T.E. Spring Institute on New Directions in Elementary English: Chicago, March 1966b. Unpublished).
17. See D. Lawton, Social Class, Language and Education, (London: Routledge and Kegan Paul, 1968).

Notes to Chapter Two

1. East Anglia. A Study. A first report of the East Anglia Economic Planning Council. Published for the Department of Economic Affairs. (London: H.M.S.O., 1968), pp. 22 and 118.
2. Ibid., p.25. The London overspill scheme means that Ipswich could quite soon achieve a population greater than that of Norwich.
3. For an exposition of the concept of urban hierarchy, see J.H. Johnson, Urban Geography, (London: Pergamon Press, 1967), pp. 92-94. See also R.E. Dickinson, The City Region in Western Europe, (London: Routledge and Kegan Paul, 1967), pp. 47-59.
4. For an exposition of the concept of hinterland, see J.H. Johnson, (op. cit.), pp. 89-92. See also J.D. Nystuen & M.F. Dacey, "A Graph Theory Interpretation of Nodal Regions", Papers and Proceedings of the Regional Science Association, 7, (1961), pp. 29-42, also published in B.J.L. Berry & D.F. Marble (eds.), Spatial Analysis: A Reader in Statistical Geography, (Englewood Cliffs: Prentice-

- Hall, 1968), pp. 407-418. For the similar term "Umland", see E. Kant, "Umland Studies and Sector Analysis" in Studies in Rural-Urban Interaction, Lund Studies in Geography, ser. B, Human Geography no. 3, (Lund, Sweden: The Royal University of Lund, 1951). For the term "Urban Field", see A.E. Smiles, The Geography of Towns, (London: Hutchinson, 1957), Chapter VII. See also R.E. Dickinson, op. cit., p. 31. For linguistic influence of cities on hinterlands, cf. M.A.K. Halliday, A. Mackintosh & P. Stevens, The Linguistic Sciences & Language Teaching, (London: Longmans, 1964), p. 85.
5. "The only remaining manifestation of the /h/ phoneme, initial prevocalic [h], began to be lost as early as the 15th century in many dialects. Its loss in the dialects south of the Humber (Vachek should have excepted East Anglia, where it is still very much alive) has resulted in the total disappearance of the phoneme in these dialects". W.N. Francis, Review of Vachek, "On the peripheral phonemes in Modern English", Language 42, (1966), pp. 142-149.
 6. W. Labov, op. cit., (1966a), p. 328, and footnote p. 379. See also W. Labov, "On the Mechanism of Linguistic Change", Georgetown University Monographs on Languages and Linguistics, 18, (1965), pp. 91-114.
 7. East Anglia. A Study, (op. cit.)
 8. The publication of the complete East Midland and East Anglia section of the Leeds University English Dialect Survey should reveal to what extent this is true. (H. Orton & P.M. Tilling, Survey of English Dialects, Volume III, East Midlands and East Anglia, (Leeds: Arnold, 1969-).)
 9. See, for example, G.L. Brook, English Dialects, (London: Deutsch, 1963), p. 153, map: "English Dialects in 1887" .
 10. See East Anglia. A Study, (op. cit.), Chapter 6,

pp. 20-25, "A City Region Strategy", and map p. 55. The Nch city region consists of the whole of Nfk, except for the western Local Authority areas of Decking, Hunstanton, Freebridge Lynn, King's Lynn, Downham, Downham Market, and Marshland. It also includes the Local Authority areas of Lothingland, Lowestoft, Beccles, Bungay, Wainford, and Southwold, which are in the north-eastern part of East Suffolk. The recent Royal Commission on Local Government has stated that it considers most of the above areas of western Nfk to be more closely tied to the rest of Nfk than to Peterborough, and has proposed drawing Local Authority boundaries very similar to the already existing County boundary at this point.

11. A.A. Wood, "City of Unique Quality", in Eastern Evening News Supplement, Norwich - The Way Ahead, (Norwich: October 22nd, 1968), pp. 1 and 2.
12. D.J. Cobbett, "Transport - the Pattern for the Future", ibid., p. 11.
13. P. Deavin, ibid., pp. 8-9.
14. Adapted from the map prepared by the Ministry of Housing and Local Government in East Anglia. A Study, (op. cit.), p. 86.
15. Ibid., p. 22.
16. "Most of the important dialect boundaries in the Eastern United States fall along lines which are natural troughs in the network of communications." W. Labov, op. cit., (1966a), p. 499. See also footnote p. 502.
17. A.E. Smailes, "The Urban Hierarchy in England and Wales", Geography, 29, (1944), pp. 41-51.
18. W. Christaller, "Das Grundgerüst der Räumlichen Ordnung in Europa", Frankfurter Geog. Hefte, (1950). Map also reproduced in R.E. Dickinson, (op. cit.), p. 166.
19. From East Anglia. A Study, (op. cit.)
20. For work by human geographers, see T. Hägerstrand, The Propagation of Innovation Waves, Lund Studies in Geography, ser. B. Human Geography, no. 4, (Lund,

Sweden: The Royal University of Lund, 1952); "Migration and the Growth of Culture Regions" in Lund Studies in Geography ser. B. Human Geography, no. 3, (op. cit.); "A Monte Carlo Approach to Diffusion", in European Journal of Sociology, 6, (1965), pp. 43-67; and op. cit., (1967).

See also W. Bunge, Theoretical Geography, (Lund, Sweden: Royal University of Lund, 1966), pp. 112-174 and references. For work by linguistic geographers, see A. Bach, Deutsche Mundartforschung, (Heidelberg: Winter, 1950), p. 136; and E. Schwarz, Die deutschen Mundarten, (Göttingen: Vandenhoeck and Ruprecht, 1950), p. 74. See also D. De Camp, "The Pronunciation of English in San Francisco", Orbis, 7, (1958), p. 372.

21. A trunk road is a road for which the Minister of Transport, rather than the Local Authority, is the highway authority. The main national network of through routes is composed of trunk roads.
22. General Register Office for England and Wales, Census 1961, England and Wales. County Report: Norfolk, (London: H.M.S.O., 1964). General Register Office for England and Wales, Sample Census 1966, England and Wales. County Report: Norfolk, (London: H.M.S.O., 1967).
23. Note that the Eastern Region of the 1961 Census differs from the EAn region of the 1966 Sample Census. The 1961 Census Eastern Region consisted of: Bedfordshire, Cambridgeshire including the Isle of Ely, Huntingdonshire, Norfolk, Suffolk, and those parts of Hertfordshire and Essex not in the London region.
24. The 1966 figures are, of course, not strictly comparable with the 1961 figures, since they are in fact taken from birthplace tables, and hence refer to all living immigrants to EA who have remained in the region, rather than to immigration over a

specified period of time. Even a large pre-dominance of immigrants into EA from the SE would not be surprising, in view of the very large population of the SE, and its proximity. The population of the SE region in 1966 was somewhat less than three times as large as that of the second largest Region, the North West. There were, however, between six and ten times as many immigrants into EA from the SE as from the other Regions. See also note 23.

25. B. Green & R.M.R. Young, Norwich - The Growth of a City, (Norwich: Museums Committee, 1964), p. 13.
26. Ibid., and E. Fowler, "An English Province and its Capital", in F. Briers (ed.), Norwich and its Region, (Norwich: British Association for the Advancement of Science, 1961), pp. 10-17.
27. Ibid., p. 12.
28. A.A. Wood, (op. cit.)
29. Census 1961, (op. cit.), Preliminary Report.
30. C.A. Moser & W. Scott, British Towns, Centre for Urban Studies, Report No. 2, (London: Oliver and Boyd, 1961).
31. Ibid., p. 134.
32. P.G. Thomas, "Commercial and Professional Services", in F. Briers (ed.), (op. cit.), pp. 211-224.
33. Ibid., p. 211.
34. A.R. Cartwright, A. Fitch & D.L.J. Robins, "Manufacturing Industries", (ibid.), pp. 192-210.
35. Sample Census 1966, (op. cit.)
36. The figures in the following section are taken partly from: J.H. Mabry, Norwich 1961 - An Analysis of Census Returns, an unpublished study of 1961 Census returns for the sixteen Nch electoral wards obtained from the General Register Office, which was kindly given to me by Professor A.R. Emerson, Professor of Sociology, University of East Anglia.
37. See A.E. Smailes, op. cit., (1957), p. 87. See

also p. 92 for remarks on intrusive features as signs of residential deterioration in inner integuments.

38. Not to be confused with the suburb of the same name.
39. "Enclaves are ... reservations for special functions ... set apart from the free interplay of forces that make for the normal patterning of a town." A.E. Smailes, op. cit., (1957), p. 101.
40. Crome, moreover, does not share with the south and south-west in the other patterns of social dominance. See, for example, the high figures for unemployment shown in Fig. 16.
41. The indices for the socio-economic class of each ward were obtained by summing three of the indices developed in J.H. Mabry, (op. cit.), and calculating the mean. The indices were: the socio-economic status index; the housing status index; and the unemployment index. The socio-economic status index is calculated by Mabry on the basis of the percentage of persons in each ward whose terminal education age was sixteen years or over, together with the percentage of male non-manual workers in each ward. The housing status index is based on the percentage of occupied households with the use of four facilities (hot and cold water, fixed bath, and W.C.), and the percentage of dwellings privately rented. The unemployment index is based on the percentage of unemployed economically active persons aged fifteen years and over in each ward. The indices are given by Mabry in terms of T-scores, which are scores converting distributions to a common standard with a mean average of 50 and a standard deviation of 10.
42. The social class index is in fact Mabry's socio-economic status index (see note 41).
43. It is, however, true of many British towns that the south-western areas are generally more statusful than other areas. This is ascribed to the prevailing

south-westerly winds, which mean that south-western suburbs suffer less from air pollution than other areas.

Notes to Chapter Three

1. Cf. H. Orton & E. Dieth, Survey of English Dialects, (Leeds: Arnold, 1962-).
2. See H. Kurath & R.I. McDavid, op. cit.
3. C.A. Moser, Survey Methods in Social Investigation, (London: Heinemann, 1958), p. 51.
4. Ibid., p. 50.
5. E. Sivertsen, Cockney Phonology, (Oslo: Oslo University Press, 1960).
6. See also the criticisms of J.T. Wright, "Urban Dialects: A Consideration of Method", Zeitschrift für Mundartforschung, 33, (1966), pp. 232-247.
7. D. De Camp, "The Pronunciation of English in San Francisco", Part I Orbis 7, (1958), pp. 373-391, Part II Orbis 8, (1959), pp. 54-77.
8. "The statistical reliability of the study would naturally be far greater if several hundred San Franciscans, selected by random sampling, could all have been interviewed. The field interview method admittedly sacrifices reliability of sample in order to gain more reliable data from each informant and to obtain kinds of data unavailable by any other means." It is certainly true that De Camp's study could have been statistically much more reliable. The point is, however, that if a sample is statistically reliable, nothing like several hundred informants is needed. It is, moreover, not true to say that this kind of data is "unavailable by other means". De Camp seems to have been thinking that random sampling necessarily implies large numbers of informants, and that large numbers necessarily imply mail questionnaires.

9. W. Viereck, Phonematische Analyse des Dialekts von Gateshead-upon-Tyne/Co. Durham, (Hamburg: Cram, de Gruyter and Co., 1966).
10. Ibid., p. 49.
11. See, for example, A.J. Bronstein, "Let's take another look at New York City Speech", American Speech 37, (1962), pp. 13-26; Y.A. Frank, The Speech of New York City, unpublished dissertation, (Ann Arbor: University of Michigan, 1948); A.F. Hubbell, The Pronunciation of English in New York City: Consonants and Vowels, (New York: Columbia University, 1950); G.N. Putnam & E.M. O'Hern, "The Status Significance of an Isolated Urban Dialect", Language 31, (1955), Supplement, Language Dissertation no. 53; A. Vanvik, A Phonetic-Phonemic Analysis of the Dialect of Trondheim, (Oslo: Oslo University Press, 1966).
12. W. Labov, op. cit. (1966a). See also W. Labov, "The Social Stratification of /r/ in New York City department stores", Paper given at annual conference of the Linguistic Circle of New York, March 1963; "Phonological Correlates of Social Stratification", in J.J. Gumperz & D.H. Hymes (eds.), The Ethnography of Communication, (Menasha: American Anthropologist Special Publication, 1964), = American Anthropologist 66, (1964); "The Effect of Social Mobility on Linguistic Behaviour" in S. Lieberson (ed.), Explorations in Sociolinguistics, (The Hague: Mouton, 1966), = Sociological Inquiry 36, (1966); and "The Reflection of Social Processes in Linguistic Structures" in J.A. Fishman (ed.), Readings in the Sociology of Language, (The Hague: Mouton, 1968).
13. R.W. Shuy, W.A. Wolfram & W.K. Riley, Linguistic Correlates of Social Stratification in Detroit Speech, (U.S. Office of Education: Final Report, Cooperative Research Project 6-1347, 1967); and Field Techniques in Urban Language Study, (Washington D.C.: Center for Applied Linguistics, 1968).

14. I. Levine & H.J. Crockett, "Speech Variation in a Piedmont Community: Postvocalic r", in S. Lieberman (ed.), (op. cit.).
15. Work which is at present in progress includes that of G.O. Knowles, of the University of Leeds, on the urban speech of Merseyside, and that of J. Pellowe, of the Tyneside Linguistic Survey, on Newcastle speech.
16. C.L. Houck, Methodology of an Urban Speech Survey, (University of Leeds, Institute of Dialect and Folk Life Studies, unpublished, 1967).
17. C.A. Moser, (op. cit.), p. 77. Cf. W.J. Goode & P.K. Matt, Methods in Social Research, (New York: McGraw Hill, 1952), p. 217.
18. C.A. Moser, (op. cit.), p. 76.
19. The Social Class Index and Socio-Economic Index of Table 7 are those described in Chapter Two. The Age Index is also taken from Mabry (op. cit.). The other figures are taken from the 1961 Census of England and Wales.
20. This method of selecting wards which are representative of the city as a whole, and of then taking an equal number of informants from each ward to ensure that this representativeness is maintained in the sample, would appear to be equivalent to selecting wards at random, and then taking informants from each ward in proportion to its population size. However, the advantages of the type of procedure used in this survey are that all main types of social area are sure to be represented, which thus increases the chances of obtaining informants from all types of social background. With a sample of this size it would otherwise be quite possible to miss altogether professional workers and other probable R.P. speakers, who only constitute a very small percentage of the population. (For means of obtaining higher-than-representative proportions

- of non-manual workers in a sample, for the purposes of comparison with manual workers, see F.M. Martin, "Some Subjective Aspects of Social Stratification", in D. Glass (ed.), Social Mobility in Britain, (London: Routledge and Kegan Paul, 1954), p. 52.
21. Instructions for the use of random numbers are usually given with the tables.
 22. The letter nowhere contained any mention of the sender's address. This was to avoid the risk of having the letter returned before a visit could be made.
 23. Some appointments were not kept by the informant. This meant that a further visit, and sometimes further persuasion, were necessary.
 24. W. Labov, op. cit., (1966a), p. 638.
 25. Cf. L. Levine & H.J. Crockett, op. cit., p. 78.
 26. One drawback which arises from taking a sample of schoolchildren is that we do not have in the sample any people aged under twenty-one who are working rather than still at school. This may have the effect of biasing results for this age-group away from standardising tendencies which may emerge as a result of the job situation (cf. Chapter Six.)
 27. W. Labov, op. cit., (1966a), p. 638.

Notes to Chapter Four

1. See K.B. Mayer, Class and Society, (New York: Random House, 1955), p. 4.
2. T.B. Bottomore, Classes in Modern Society, (London: Allen and Unwin, 1965), p. 15.
3. H.F. Reading, A Glossary of Sociological Terms, (Athens: Contos, 1963), p. 27.
4. Ibid., p. 27.

5. See B. Barber, Social Stratification, (New York: Harcourt, Brace and World, 1957), Chapter 1.
6. See K.B. Mayer, op. cit., Chapters 3 and 5.
7. Ibid., p. 43.
8. "The correlation of social status and linguistic performance first requires a careful delineation of each." R.W. Shuy et al., op. cit., p. 11.
9. See, for example, D.V. Glass & J.R. Hall, "Social Mobility in Great Britain: A Study of Inter-Generation Changes in Status", in D.V. Glass (ed.), op. cit., pp. 177-259.
10. See J.R. Hall & D.V. Glass, "Education and Social Mobility", ibid., pp. 291-307. See also D. Lawton, op. cit., Chapter 1.
11. See J. Goldthorpe & D. Lockwood, "Affluence and the British Class Structure", Sociological Review 11, (1963), pp. 133-163.
12. Cf. the works of Bernstein cited below (note 23).
13. See W. Labov, op. cit., Chapter VIII, for examples of differing linguistic norms in different social classes.
14. Ibid.
15. R.W. Shuy et al., op. cit.
16. L. Levine & H.J. Crockett, op. cit. See also G.N. Putnam & E.M. O'Hern, op. cit.
17. See, for example, W.L. Warner, M. Meeker & K. Eells, Social Class in America: A Manual for Procedure for the Measurement of Social Status, (Chicago: Science Research Associates, 1949); G. Lundberg, "The Measurement of Socio-Economic Status", American Sociological Review 5, (1940), pp. 29-40; R.R. Kornhauser, "The Warner Approach to Social Stratification", in R. Bendix & S.M. Lipset (eds.), Class, Status and Power: A Reader in Social Stratification, (Glencoe: Free Press, 1953); G. Hochbaum, J.G. Darley, E.D. Monachesi & C. Bird, "Socio-Economic Variables in a Large City", American Journal of Sociology 61, (1955), pp. 31-38.

18. H. Kurath & R.I. McDavid, op.cit.
19. H. Kurath et al., Handbook of the Linguistic Geography of New England, (New York: American Council of Learned Societies, 1954).
20. G.R. Pickford, "American Linguistic Geography - A Sociological Appraisal", Word 12, (1956) pp. 211-233.
21. D. De Camp, op. cit.
22. H. Orton & E. Dieth, op. cit.
23. E. Sivertsen, op. cit.
24. J.L. Fischer, "Social Influences on the Choice of a Linguistic Variant", Word 14, (1958), pp. 47-56, also published in D. Hymes (ed.), Language in Culture and Society, (New York: Harper and Row, 1964).
25. See, for example, B. Bernstein, "Social Class, Linguistic Codes and Grammatical Elements", Language and Speech 5, (1962), pp.221 -240; "Elaborated and Restricted Codes: An Outline", in S. Lieberman (ed.), op. cit.; "Elaborated and Restricted Codes: their social origins and some consequences", in J.J. Gumperz & D. Hymes, op. cit.
26. B. Bernstein, "Language and Social Class", British Journal of Sociology 11, (1960), pp. 271-276.
27. See B. Barber, op. cit., Chapter 8.
28. O.D. Duncan, "Properties and Characteristics of the Socioeconomic Index", in A.J. Reiss, Occupations and Social Status, (Glencoe: Free Press, 1961), p. 139.
29. D. De Camp, op.cit.
30. B. Barber, op. cit., p. 176. Cf. G.D.H. Cole, Studies in Class Structure, (London: Routledge and Kegan Paul, 1955), p.5: "no single criterion can serve adequately as a means of assigning every person in a society to his or her class".
31. See, for example, J.A. Kahl & J.A. Davis, "A Comparison of Indexes of Socio-Economic Status", American Sociological Review 20, (1955), pp. 317-325; and F.H. Finch & A.J. Hoehn, "Measuring Socio-Economic or Cultural Status: A Comparison of Methods", Journal of Social Psychology 33, (1951), pp. 51-67.

32. B. Barber, op. cit., pp. 184-185.
33. Ibid., p. 171.
34. See, for example, C.A. Moser & J.R. Hall, "The Social Grading of Occupations" in D.V. Glass, op. cit.; P.K. Hatt, "Occupation and Social Stratification", American Journal of Sociology 55, (1950), pp. 533-543; O.D. Duncan, "A Socio-Economic Index for all Occupations", in A.J. Reiss, op. cit.; and A.F. Davies, "Prestige of Occupations", British Journal of Sociology 3, (1952), pp. 134-147.
35. The advantages of weighting have been pointed out by G.E. Lenski, "Status Crystallisation: A Non-Vertical Dimension of Social Status", American Sociological Review 19, (1954), pp. 405-413.
36. See R.W. Mack, "Housing as an Index of Social Class", Social Forces 29, (1951), pp. 391-400; and O.D. Duncan & B. Duncan, "Residential Distribution and Occupational Stratification", American Journal of Sociology 60, (1955), pp. 493-503. (Note that Mack is more concerned with the condition and state of repair of the dwelling in question than with ownership or type.) Cf. B. Barber, op. cit., p. 144, "The type of dwelling place and its location within the local community are likely to be symbols of social class position in all societies".
37. See W. Labov, op. cit., (1966c).
38. See F.M. Martin, op. cit.
39. General Register Office for England and Wales, Classification of Occupations, (London: H.M.S.O., 1966).
40. Sample Census of England and Wales, 1966, (op. cit.).
41. D.V. Glass & J.R. Hall, "A Description of a Sample Inquiry into Social Mobility in Great Britain", in D.V. Glass (ed.), op. cit., p. 83.
42. Cf. ibid., p. 83.
43. See, for example, R.W. Shuy et al., op. cit., p. 13.
44. A comparison of Table 4 with the information given

in Chapter Two concerning the social and economic characteristics of the city will show that this subjective ranking of wards and parts of wards is perfectly consonant with the facts and figures illustrated there.

45. "... modern city neighbourhoods and suburbs themselves, both as wholes and in their subdivisions, are finely graded as symbols of superior and inferior social class positions." B. Barber, op. cit., p. 145.
46. No Local Authority houses, for example, were built before 1914.

Notes to Chapter Five

1. M.A.K. Halliday et al., op. cit., Chapter 4. See also, for example, J. Spencer, M. Gregory & N. Enkvist, Linguistics and Style, (London: Oxford University Press, 1964); and M. Joos, The Five Clocks, (New York: Harcourt, Brace and World, 1967).
2. W. Labov, op. cit., (1966a).
3. M.A.K. Halliday et al., op. cit., p. 87.
4. Ibid., p. 90. (My emphasis.)
5. See, for example, C.F. Hockett, op. cit., p. 556.
6. See M.A.K. Halliday et al., op. cit., p. 22.
7. Ibid., p. 93.
8. Ibid., p. 88.
9. The distinction maintained here between dialect and accent is that of Abercrombie. See D. Abercrombie, Problems and Principles in Language Study, (London: Longmans, 1956), Chapter IV; "RP and Local Accent" in Studies in Phonetics and Linguistics, (London: Oxford University Press, 1965); and Elements of General Phonetics, (Edinburgh: Edinburgh University Press, 1967), p. 19.

10. M.A.K. Halliday et al., op. cit., p. 94.
11. See B. Bernstein, op. cit., (1966); op. cit., (1964); and "A Socio-Linguistic Approach to Social Learning", in J. Gould (ed.), Penguin Survey of the Social Sciences 1965, (Harmondsworth: Penguin Books, 1965).
12. W.P. Robinson, "The Elaborated Code in Working Class Language", Language and Speech 8, 1965, pp. 243-252.
13. J. Regan, "Southern California Ghetto Language and Roles", Paper presented at the Autumn Meeting of the Linguistics Association of Great Britain, University of Leeds, (1969).
14. E. Goffman, The Presentation of Self in Everyday Life, (New York: Doubleday Anchor, 1959).
15. W. Labov, op. cit., (1966a), Chapter IV.
16. M.A.K. Halliday et al., op. cit., p. 91.
17. It seems probable, however, that the effect here is greater than that achieved by a similar instruction in the New York City survey. Reasons for this will be discussed later, but appear to be connected with British "working-class solidarity" and other ideological and psychological factors; (see Chapter Eleven).
18. Characteristics of formal, slow reading style that we wish to avoid are, for example, the comparative lack of reduced forms, and the lack of certain juncture features, such as the "intrusive r".
19. The items were presented to informants in cards which contained eighteen items each. The items were hand-written in large block capitals to make for easy reading.
20. C.L. Houck, op. cit.
21. Ibid., p. 13. Houck also states that this type of question "would force the informant to focus on giving the appropriate response word rather than focusing on some particular "correct" pronunciation he thought the investigator wanted". (p. 13). It is of course possible for the investigator to

instruct the informant to use his normal pronunciation, and not some kind of "class-room" pronunciation.

22. H. Orton & E. Dieth, op. cit.
23. W. Labov, op. cit., (1966a), p. 98.
24. Ibid., p. 100.
25. C.L. Houck, op. cit., p. 13.
26. "Have you ever been in a situation where you thought there was a serious danger of your being killed? That you thought to yourself "This is it?"
W. Labov, op. cit., (1966a), p. 595.
27. Ibid., p. 109.
28. Ibid., p. 110.

Notes to Chapter Six

1. The position concerning the paradigm of the copula be is somewhat complex. The usual forms in Nch are those of Standard English. There is, however, some evidence that the same regularising tendency which has affected all other verb forms was formerly also operative in this paradigm. There are, particularly in the rural areas around Nch, traces of what may be an older system which had "be" throughout the paradigm, although at the present time there are only spasmodic occurrences of forms of this type. These are especially common in locutions such as: "Here I be"; "There it be". The same tendency, moreover, is particularly in evidence in Nch in negative forms of this paradigm. Alongside the standard forms "I'm not, you're not, he isn't" etc., and the non-standard forms "I aren't, you aren't", there occurs, almost universally in working-class speech, the form "int" [In2]. This co-occurs

with all persons, and like its geographically more widespread counterpart "aint", also functions as the negation of "have": "I int going; you int allowed to; they int got it".

2. See H. Orton & P.M. Tilling, Survey of English Dialects, (B), The Basic Material, Volume III, The East Midland Counties and East Anglia, (Leeds: Arnold, 1969). Responses to III.3.7. (p. 296) show marker-less forms for all the Nfk and Suffolk localities where informants responded with third-person singular present tense verb forms, and for one such locality in North-East Essex.
3. See R.I. McDavid, "Dialects: British and American Standard and Non-Standard" in A.A. Hill (ed.), Linguistics Today, (New York: Basic Books, 1969), p. 87.
4. "In East Anglia, in England, the omission of this [third singular present] marker is endemic." R.I. McDavid, in discussion reported in W. Bright (ed.), op. cit., p. 112.
5. In his Norfolk field-notes for the University of Leeds Survey of English Dialects, Francis states that it is of grammatical interest (in the Blickling locality) that the third-person singular marker is completely lacking, and quotes "That have been" and "She wear" as examples. He also states that: "This is standard in youngest speakers". I am very grateful to Mr. S.F. Sanderson of the Institute of Dialect and Folk-Life Studies for giving me permission to examine these as yet unpublished records. I am also grateful to Mr. Philip Tilling, Mr. Stanley Ellis, and Professor W.N. Francis himself for their help and advice.
6. "In grammar, the Chicago-born Negro who grows up in an environment of poverty and limited cultural opportunities - as most Chicago Negroes grow up - has a tendency to use forms that identify him easily

and to his disadvantage, in writing as well as in speech. Most of these are forms of common verbs - absence of the third-singular present marker, as in he do, it make ..." R.I. McDavid, "Dialect Differences and Social Differences in an Urban Society", in Bright (ed.), op. cit., p. 80. See also W. Labov, op. cit., (1966b): "The third person singular marker // -s // does not exist in the particular grammar being used here". (The grammar referred to is that of Negro children in Harlem, New York City.) Many white Southerners apparently also have this speech characteristic, but in the Northern cities it has come to be associated with Negroes.

7. Under the heading "marker-less" are included all occurrences of the form have for has.
8. Only relatively few instances of relevant verb forms were obtained from each informant, and taking a mean of individual percentages would have introduced a bias for this variable in favour of those informants who provided only one or two instances and whose percentage scores were therefore less reliable. An overall group percentage score in this case gives a much more accurate reflection of group behaviour.
9. It is perhaps interesting to note that where the evidence of occupational status is over-ridden by the other parameters of the social class index, so that, for example, a non-manual worker is classified as working-class, the interviewer's subjective impressions concerning the informant's social class in all cases confirm the classification produced by the index. This fact is of course of no scientific value.
10. This classification of non-manual workers as working-class stresses the importance and usefulness of a multiple-item social class index. The linguistic

behaviour of these informants, and their subjective attitudes, have definite working-class characteristics.

11. To avoid confusion, Class I will be referred to as "MMC" (= "middle middle-class") and Class IV as "MWC" (= "middle working-class"). The term "middle-class" can then be used to apply to both Class I and Class II, and "working-class" to Classes III, IV and V.
12. These figures, together with the social class characteristics of the schoolchildren illustrated in Chapter Four, suggest that it is possible to consider that the sample of schoolchildren forms a natural extension of the adult sample, and that its inclusion should introduce no significant bias into any results obtained.
13. The implications of the approach adopted here, and the problems of "age-grading" and "apparent time" will be discussed at greater length in Chapter Eleven.
14. We must, of course, assume the presence of Standard speakers in the community before this time.
15. Anecdotal evidence suggests that, although this stigmatised form is not often the object of overt critical comment in Noh itself, it is one of the main objects of derision in, for example, the armed forces outside EA.
16. These facts point to the relative ineffectiveness of schools as normative influences, at least as far as speech-forms are concerned, and stresses the importance of face-to-face contacts, such as those that occur in job situations, in the dissemination of linguistic features. Cf. "Dissemination through private or group conversation easily outbalances other means of communication. Even today we are very neolithic in that respect, I am sure."
T. Hågerstrand, "Quantitative Techniques for Analysis of the Spread of Information and Technology",

- in C.A. Anderson & M.J. Bowman (eds.), Education and Economic Development, (Chicago: Aldine, 1965), p. 263.
17. W. Labov, op. cit., (1966a), p. 323.
 18. Ibid., p. 325.
 19. Ibid., p. 326. "... the evidence from the present study indicates that the greatest degree of stylistic fluctuation, and linguistic insecurity, occurs in middle-aged speakers from the middle-ranking groups."

Notes to Chapter Seven

1. The distinction between alteration or distortion and suppression is one that has escaped at least one linguist. J.T. Wright has written in his discussion of Labov's work: "The variables should also be salient in order to facilitate studies of the subjective reactions of the respondents to the forms, but this requirement conflicts with the further criterion of immunity from conscious distortion". J.T. Wright, op. cit. Labov, on the other hand, quite clearly states: "Immunity from conscious distortion is not required". Op. cit., (1966a), p. 61.
2. Post-vocalic /r/ does, in fact, occur as a relic form in the speech of some older speakers.
3. This, of course, is also a feature of many American English accents, at least following alveolar consonants.
4. In the speech of some older, rural DAN speakers, these items do not have [j]. These speakers also have, for example, education as [ˌɛdʌk^hɛːʃn], as opposed to Nch [ˌɛdʒə^hkɛɪʃn].
5. See W.S. Avis, "The New England short ɔ: a recessive Phoneme", Language 37, (1961), pp. 544-558.

See also H. Kurath & R.I. McDavid, op. cit., p. 12: "A regional feature not found elsewhere in the Eastern States [other than Eastern New England] ... is a checked vowel /ə/ in such words as coat, road, home, contrasting with the free vowel /o/ of know, rode, etc."

6. In Noh this shortening is much more common in some items than in others. In home, aerodrome, it is very widespread; in don't, won't, it is quite frequent; it is also quite often heard in road, stone, broke.
7. It is not clear whether the shortening of room, roof, boot, is, diachronically or synchronically, part of the same process as the shortening of boat, home. This will be discussed in Chapter Ten.
8. This merger is not a surprising one in view of the small functional load of the distinction. D.R. Fry has calculated that /eə/ and /ɪə/ are respectively seventeenth and eighteenth in order of frequency of occurrence of the twenty English vowel phonemes, and between them account for only 0.55 per cent of the total number of phonemes. See "The Frequency of Occurrence of Speech Sounds in Southern English", Archives Neerlandaises de Phonétique Experimentale 20, (1947), pp. 103-106, (see Chapter Eleven). This merger also appears to have taken place in New York City, and in South Carolina, (see H. Kurath & R.I. McDavid, op.cit.).
9. A secondary articulation of palatalisation frequently accompanies this vowel. This point will be discussed in Chapter Ten.
10. No information appears to be available on the speech of other urban centres in PA.
11. Information from these sources has in some cases been supplemented or confirmed by evidence from personal observation.

12. H. Kōkeritz, The Phonology of the Suffolk Dialect, (Uppsala: Appelberg, 1932), (=Uppsala Universitets Årsskrift 1932:4). Kōkeritz also includes notes on the dialect of Essex.
13. Lowman's records are a part of those he made in a survey of a large area of the South of England. The records are unpublished, and are in the custody of the University of Chicago. I am extremely grateful to Professor R.I. McDavid who was kind enough to take a great deal of trouble to permit me to see these records.
14. H. Orton & P.M. Tilling, op. cit.
15. Kōkeritz's information shows that there are some traces of this distinction in Essex, but that [əU] is usual in both sets of items.
16. Lowman's records are written in the phonetic transcription system used by the Linguistic Atlas of the Eastern United States. Details of this can be found in H. Kurath, op. cit., pp. 122-146, and H. Kurath & R.I. McDavid, op. cit., p. 1. Note that Lowman uses the symbol (to indicate unrounding. The symbols [U] and [ʊ] indicate vowels more open than [u] and [ʊ] respectively.
17. One qualification must be that, as Map 1 shows, the SED Suffolk localities are further south than the northernmost localities studied by Kōkeritz and Lowman.
18. This, and the subsequent quotations from Francis, are taken from unpublished material found under "phonetic notes" in the field-work note-books.
19. H. Kōkeritz, op. cit., p. 46.
20. A clear example of this is toadstools, which Lowman writes [tə-dst'əʊlz].
21. It can perhaps be assumed that the conflicting /u:/, /ʊ:/ and /U/ forms in Nch represent dialect mixture resulting from the absorption of forms from all three areas.

22. The notations here, (like Kōkeritz's [U:] and [u:]), would appear to indicate a pre-merger state between R.P. /u:/ and EAn /u:/.
23. This evidence would appear to suggest that the two sets of items (which are close but distinct in Kōkeritz) have, in Lowman and Francis, overlapping areas of articulation, but not a complete merger. Francis' transcriptions, which do show some very minimal contrasts, e.g., [ou] / [Uu]; [u:] / [u:], may tend to obscure this state of affairs as far as his records are concerned. The complete merger can be assumed to be a Nch feature.
24. H. Kōkeritz, op. cit., p. 159.
25. Kōkeritz also reports that older informants recall sure and sugar being pronounced with initial [s].
26. Note that Martlesham is very close to the urban centre of Ipswich. (See Map 1).
27. It is also interesting to note that three of the Essex localities have [U], and the two Cambridge localities [A].
28. H. Kōkeritz, op. cit., p. 71. Kōkeritz also cites some evidence of the merger in Essex.
29. Lowman's records have been taken by Kurath & McDavid as evidence of the merger of /Iə/ and /eə/ as /eə/ in the "eastern counties" of England. H. Kurath & R.I. McDavid, op. cit., pp. 118-119.
30. This suggests that the merger was once usual throughout EA, but that the distinction is being introduced from the Home Counties in the South.
31. Personal communication.
32. H. Kōkeritz, op. cit., p. 55.
33. Kōkeritz also mentions another EAn feature, which is also found in Nch: the monophthongisation of this vowel in final position, e.g. say [se ~ se:].
34. Kōkeritz writes: "My observations ... have convinced me that today e: is rapidly disappearing from the Suff. dialect, for the children hardly ever used e: ... but replaced it by a broad diphthong (eI - aI)", H. Kōkeritz, op. cit., p. 19.

35. Ibid., p. 13.
36. Phonological variables are symbolised by enclosure in parentheses.
37. See also R.J. Gregg, "Notes on the Phonology of a County Antrim Scotch-Irish Dialect", Orbis 7. (1958), pp. 392-406.
38. This method of computing indices was initially developed by Labov in his New York study. The term "norm" is perhaps not accurate here. The mode, it could be argued, might perhaps be a better indication of the pronunciation norm than the mean. One fault of Labov's system of calculating indices is that only the mean score is given, and that the range of variable-types employed by a given speaker is concealed. For example, a speaker who has 50 per cent (t)-1 and 50 per cent (t)-3 will have the same index as a speaker who has 100 per cent (t)-2. This fault can be rectified by the inclusion of some measure of consistency of performance, such as the standard deviation.
39. See, for example, J.L. Fischer, op. cit.
40. Intrusive /r/ is rare after a preceding /r/ in the same syllable: e.g. extra eggs ['kstrə'ɛɡs].
41. In Labov's work, this problem of phonetic transcription is not adequately dealt with. He says, for example, "The height of the vowel which occurs in words [of the class bad] forms a continuous scale. This may be codified into several discrete units with the help of other word classes that are relatively fixed". W. Labov, op. cit., (1966a), p. 52. There is no discussion of exactly how this continuous scale is to be divided precisely into discrete units, or of any of the problems that arise from this.
42. (a)-5 indicates that there is obviously a further possibility of a merger in the front vowels involving, e.g., bad and bared. There is also a further pro-

nunciation type [ɘ]. This centralised vowel is most common in items of the type matter, Alan, and would therefore appear to be involved in the same type of development as (e), (see Chapter Eleven). It is also possible that transcriptions like Lowman's hammer [hama ~ h>ama] indicate the same phenomenon.

43. In many types of R.P. this vowel is in fact lengthened to (a)-2, especially before /b, d, g, dʒ, m, n/. In Nch this lengthening occurs in all environments. Cf. A.C. Gimson, An Introduction to the Pronunciation of English, (London: Arnold, 1962), p. 100.
44. Diphthongisation is particularly common before /g, k, ɣ/. This fact is not taken into consideration in the calculation of index scores, since any possible bias should be minimised by the large amount of material.
45. Francis has observed a distinction in the distribution of these types. He has:

ME: ǫ	> [ɔ:]	/	___	f	e.g. <u>off</u>
	> [ɑ:]	/	___	voiceless C	e.g. <u>box</u>
	> [ʊ]			elsewhere	e.g. <u>collar</u>

Notes to Chapter Eight

1. w. Labov, op. cit., (1966a).
2. See ibid., pp. 394-399; J.L. Fischer, op. cit.; A.C. Gimson, op. cit., p. 194; E. Sivertsen, op. cit., p. 129; G.L. Brook, op. cit.
3. J.L. Fischer, op. cit.
4. Labov's terms "change from below" and "change from above" refer respectively to changes from below and above the level of conscious awareness. Usually,

however, changes from above involve the downward dissemination of prestige features, i.e. they are socially changes "from above" as well. Changes from below, moreover, very often start among lower class groups. (See Chapter Eleven.)

5. See A.C. Gimson, op. cit., p. 131.
6. See J. Fellowes, "Establishing Speech Varieties of Conurbations", Journal of Linguistics, (forthcoming).
7. H.M. Blalock, Social Statistics, (New York: McGraw-Hill, 1960), p. 66.
8. W. Avis, op. cit.
9. See A.C. Gimson, op. cit., p. 128.
10. W. Labov, op. cit., (1966a), pp. 520-524. See also T.H. Wetmore, The Low-Central and Low-Back Vowels in the Eastern United States, American Dialect Society Publication 32, (Alabama: University of Alabama Press, 1959).
11. For different types of argument in favour of a theory of phonology which allows for "complete overlapping", see P.M. Postal, Aspects of Phonological Theory, (New York: Harper and Row, 1968), Chapter 9.
12. C.A. Ferguson, "Diglossia", Word 15, (1959), pp. 325-340.
13. U. Weinreich, W. Labov & M.I. Hergog, "Empirical Foundations for a Theory of Language Change", in W.P. Lehmann & Y. Malkiel (eds.), Directions for Historical Linguistics, (Austin and London: University of Texas Press, 1968), p. 134.
14. For a discussion of the unmarked nature of /t/ as opposed to marked /p/ and /k/ see K. Kohler, "Modern English Phonology", Lingua 19, (1967), pp. 145-176.
15. H. Kōkeritz, op. cit., p. 10.
16. H. Forby, The Vocabulary of East Anglia, (London, 1830).
17. (er) and (ɛr) provide a true example of "complete

overlapping", in contradistinction to (ō) and (ou) where there is a tendency for the realisation of one unit to predominate in one particular section of the phonetic area, and vice versa.

18. "Another form of advanced RP uses a long pure vowel [ɜ:], often somewhat centralised, especially in a non-final syllable, e.g. careful, scarcely ['kɜ:fl], ['skɜ:sl]."
A.C. Gimson, op. cit., p. 138.

Notes to Chapter Nine

1. It is a matter of some interest, for example, that speakers who, to take a rather trivial example, do not normally distinguish between the vowels of name and nail are perfectly well able to do so without error for humorous or other purposes.
2. The term diasystem will be used ambiguously to describe both the linguistic competence of the native speaker as a member of the speech community and to the model of this competence which will be developed in Chapter Ten.
3. W. Labov, op. cit., (1966a).
4. U. Weinreich, "Is a Structural Dialectology Possible?", Word 10, (1954), pp. 388-400.
5. D. De Camp, op. cit.
6. U. Weinreich, op. cit.
7. G.L. Trager & H.L. Smith, An Outline of English Structure, (= Studies in Linguistics Occasional Papers 3), (Washington, D.C.: American Council of Learned Societies, 1957).
8. G.R. Cochrane, "The Australian English Vowels as a Diasystem", Word 15, (1959), pp. 69-88.
9. D. Jones, The Phoneme: Its Nature and Use, (Cambridge: Heffer, 1950), p. 195.

10. G.R. Cochrane, op. cit.
11. W.G. Moulton, "The Short Vowel Systems of Northern Switzerland", Word 16, (1960), pp. 155-182.
12. E. Pulgram, "Structural Comparison, Diasystems and Dialectology", Linguistics 4, (1964), pp. 66-82.
13. Ibid.
14. See for example W. Viereck, op. cit.
15. G.R. Cochrane, op. cit.
16. E. Sivertsen, op. cit.
17. Ibid., pp. 115-117.
18. D. De Camp, op. cit.
19. C.C. Fries & K.L. Pike, "Co-existent Phonemic Systems", Language 25, (1949), pp. 29-50.
20. Cf. C.F. Hockett, op. cit., pp. 332-333.
21. S.J. Keyser, Review of Kurath & McDavid (op. cit.), Language 39, (1963), pp. 303-316.
22. H. Kurath & R.I. McDavid, op. cit.
23. S. Saporta, "Ordered Rules, Dialect Differences, and Historical Processes", Language 41, (1965), pp. 218-224.
24. E. Vasiliu, "Towards a Generative Phonology of Daco-Romanian Dialects", Journal of Linguistics 2, (1966), pp. 79-93.
25. E. Vasiliu, "Transformational versus Bilingual Phonemic Typology" in J. Hamm (ed.) Phonologie der Gegenwart, (Vienna: Böhlau, 1967), pp. 254-261.
26. R.D. King, Historical Linguistics and Generative Grammar, (Englewood Cliffs: Prentice-Hall, 1969).
27. S. Lamb, "Prolegomena to a Theory of Phonology", Language 42, (1966), pp. 536-573.
28. R.D. King, op. cit., p. 38.
29. Ibid., p. 39.
30. W.A. O'Neil, "The Dialects of Modern Faroese: A Preliminary Report", Urbis 12, (1963), pp. 393-397.
31. E. Klima, "Relatedness between Grammatical Systems", Language 40, (1964), pp. 1-20.
32. A.R. Thomas, "Generative Phonology in Dialectology", Transactions of the Philological Society, (1967), pp. 179-203.

Notes to Chapter Ten

1. E.C. Fudge, "The Nature of Phonological Primes", Journal of Linguistics 3, (1967), pp. 1-36.
2. Ibid.
3. R.T. Harms, Introduction to Phonological Theory, (Englewood Cliffs: Prentice-Hall, 1968), Chapter 4.
4. E.C. Fudge, op. cit., p. 3.
5. Ibid., p. 4.
6. D. Jones, "Concrete and Abstract Sounds", Proceedings of the Third International Congress of Phonetic Sciences, (Ghent: Laboratory of Phonetics of the University, 1939), pp. 1-7.
7. E.C. Fudge, op. cit., p. 3.
8. N. Chomsky & M. Halle, The Sound Pattern of English, (New York: Harper & Row, 1968).
9. M.W.J. Tay, A Phonological Study of Hokkien, (University of Edinburgh: Unpublished Doctoral Thesis, 1968); and "Hokkien Phonological Structure", Journal of Linguistics 6, (1970), pp. 81-88.
10. E.C. Fudge, "Syllables", Journal of Linguistics 5, (1969a), pp. 253-286.
11. Ibid.
12. R.L. Cheng, "Mandarin Phonological Structure", Journal of Linguistics 2, (1966), pp. 135-158.
13. For criticisms and comments on this approach, see J. Anderson, "Syllabic or Non-Syllabic Phonology", Journal of Linguistics 5, (1969), pp. 136-142; G. Brown, "Syllables and Redundancy Rules in Generative Phonology", Journal of Linguistics 6, (1970), pp. 1-17; K.J. Kohler, "Is the Syllable a Phonological Universal?", Journal of Linguistics 2, (1966), pp. 207-208.
14. E.C. Fudge, op. cit., (1969a).
15. Ibid., p. 269.
16. Ibid., pp. 269-270.
17. See, for example, N. Chomsky & M. Halle, op. cit., Chapter 4.

18. E.C. Fudge, op. cit., (1967), p. 3.
19. See, for example, R.D. King, op. cit., Chapter 4.
20. A.R. Thomas, op. cit.
21. U. Weinreich et al., op. cit.,
22. Ibid., p. 170.
23. W. Labov, The Aims of Sociolinguistic Research,
(Columbia University: Unpublished Working Paper, 1964).
24. S.A. Schane, "Natural Rules in Phonology" in Proceedings to an Historical Linguistics Conference,
UCLA, 1969, (Forthcoming).
25. N. Chomsky & M. Halle, op. cit.
26. See N. Chomsky, Current Issues in Linguistic Theory,
(The Hague: Mouton, 1964), p. 72.
27. E.C. Fudge, "Mutation Rules and Ordering in Phonology", Journal of Linguistics 5, (1969b), p. 37.
28. E.C. Fudge, op. cit., (1967).
29. E.C. Fudge, op. cit., (1966b), pp. 23-38.
30. P. Ladefoged, Linguistic Phonetics, (UCLA: Working
Papers in Phonetics 6, 1967a).
31. E.C. Fudge, op. cit., (1969b).
32. E.C. Fudge, op. cit., (1967).
33. P.M. Postal, op. cit., p. 273.
34. Note that the introduction of the performance phonetic level does not mean that we are attempting to construct a performance model as such, of the type discussed in V. Fromkin, "Speculations on Performance Models", Journal of Linguistics 4, (1968), pp. 47-68. A performance model proper would be concerned with factors such as motor commands, muscle activity and neural impulses in a way that is not possible in a work of this nature. We are concerned with features of actual speech, but only in so far as they characterise Nch speech and in that sense form part of the competence of the native Nch speaker, as a member of the Nch speech community. Our phonetic realisation rules, for example, are competence rules; they are rules relating to the whole speech community. The exact way in which these rules are

actually used in performance, and the physiological form they take, is a topic for discussion in a performance model.

35. E.C. Fudge, op. cit., (1966b).
36. S.M. Lamb, "On Alternation, Transformation, Realization and Stratification", Monograph Series on Languages and Linguistics 17, (Washington D.C.: Georgetown University Press, 1964), pp. 105-122.
37. In the speech of some older informants, /w:/ results from //a// + //f//, //o//, and //s//, giving, for example, half /hæ:f/. (See rule 36.)
38. The necessity for this rule was pointed out to me by G.O. Knowles.
39. E.C. Fudge, op. cit., (1969a), pp. 275-276.
40. P. Kiparsky, op. cit., p. 183.
41. A. Martinet, Économie des Changements Phonétiques, (Bern: Francke, 1955); and "Function, Structure and Sound Change", Word 8, (1952), pp. 1-32.
42. W.G. Moulton, "Dialect Geography and the Concept of Phonological Space", Word 18, (1962), pp. 23-33.
43. A. Martinet, op. cit., (1955), p. 54.
44. Ibid., p. 54.
45. D.B. Fry, op. cit.
46. A. Martinet, op. cit., (1955), p. 93.
47. R.H. Robins, A Short History of Linguistics, (London: Longmans, 1967), p. 224.
48. W. Labov, op. cit., (1964, unpublished).
49. P. Ladefoged, Three Areas of Experimental Phonetics, (London: Oxford University Press, 1967b), p. 163.
50. N. Chomsky & M. Halle, op. cit.
51. P. Ladefoged, op. cit., (1967a).
52. S.E.G. Ohman, "Coarticulation in VCV Utterances: Spectrographic Measurements", Journal of the Acoustical Society of America 39, (1966), pp. 151-163.
53. See R. Honikman, "Articulatory Settings", in D. Abercrombie et al., (eds.), In Honour of Daniel Jones, (London: Longmans, 1964).

54. J.D.M. Laver, "Voice Quality and Indexical Information", British Journal of Disorders of Communication 3, (1968), pp. 43-54. [Note that Laver's model of voice quality is based on D. Abercrombie, op. cit., (1967), Chapter 6. I am extremely grateful to John Laver for his help with this section.]
55. Ibid., p. 44.
56. See J.C. Catford, "Phonation Types: the Classification of some Laryngeal Components of Speech Production", in D. Abercrombie et al., op. cit.
57. J.D.M. Laver, op. cit., p. 46.
58. Ibid., p. 46.
59. Ibid., p. 47.
60. On this point, see C.-W. Kim, "Two Phonological Notes: A* and B'", (unpublished: University of Illinois, 1970).

Notes to Chapter Eleven

1. W. Labov, op. cit., (1966a), p. 319.
2. Ibid., p. 325. Compare the discussion of the age differentiation pattern of the verb marker in Chapter Six.
3. R. Forby, op. cit., p. 90.
4. G.Y. Shevelov, "On Predicaments, Predictability and Futurism in Phonology", in J. Hamm (ed.), op. cit.
5. A.C. Gimson, op. cit., p. 114.
6. A.C. Gimson, "Phonetic Change and the R.P. Vowel System", in D. Abercrombie et al., op. cit., p. 135.
7. R.D. King, op. cit., pp. 90-91.
8. R. Forby, op. cit., p. 96.
9. U. Weinreich, Languages in Contact, (New York: Linguistic Circle of New York, 1953), p. 97.
10. A.C. Gimson, op. cit., (1962), p. 197.

11. Ibid., p. 100.
12. E. Sivertsen, op. cit., p. 62.
13. A.C. Gimson, op. cit., (1962), p. 125.
14. See H. Orton & P.M. Tilling, op. cit., II.6.2 "To BIND", pp. 207-208.
15. J. Anderson & R. Lass, (forthcoming): a book on Old English and historical linguistics. References to Anderson & Lass are based on a seminar given by Lass in the Department of Linguistics, University of Edinburgh, May 1970, entitled "Sound Change". They may therefore require revision upon publication of the book.

Note that the exceptions to the metarule mean that this most probably needs to be presented in a somewhat more sophisticated form.

On metarules, see also: C.-W. Kim, op. cit.

16. C.F. Hockett, op. cit., p. 440. (See also C.F. Hockett, "Sound Change", Language 41, (1965), pp. 185-205.)
17. Ibid., p. 440.
18. Ibid., p. 443.
19. Ibid., p. 443.
20. L. Bloomfield, Language, (London: Allen and Unwin, 1935), p. 369.
21. U. Weinreich, W. Labov & M.I. Herzog, op. cit., p. 187.
22. P.M. Postal, op. cit., p. 287.
23. Ibid., pp. 297-298.
24. R.D. King, op. cit., p. 190.
25. See ibid., p. 79.
26. For example, many of the major changes that led to the distinctive characteristics of Middle English (as compared to Old English) occurred during the period after the Norman Conquest, when French was the official language.
27. R.D. King, op. cit., p. 199.
28. J. Anderson & R. Lass, op. cit.

29. P.M. Postal, op. cit., p. 284.
30. Ibid., p. 283.
31. See J. Lyons, op. cit., p. 90.
32. J.L.M. Trim has reported hearing the utterance, made by one London boy to another: [giəʔleəs], which, out of context, would be totally incomprehensible as "give him something else". Note the parallels in the relationship between this utterance and its more formal equivalent and the relationship between, say, Early Modern French and Latin.
33. R.D. King, op. cit., p. 139.
34. Ibid., p. 64.
35. According to King, "spontaneous" changes do take place in the child's grammar. These, however, are usually of the case of articulation type. See ibid., p. 79: "child innovations probably are often (if not always) assimilatory in nature".
36. Ibid., p. 66.
37. See J. Vachek, A Prague School Reader in Linguistics, (Bloomington: Indiana U.P., 1964).
38. P.M. Postal, op. cit., pp. 153-198.
39. N. Chomsky & M. Halle, op. cit., pp. 400-435.
40. R.D. King, op. cit., pp. 192-193.
41. T. Hägerstrand, op. cit., (1952), p. 8.
42. J.A. Everson & B.P. Fitzgerald, Settlement Patterns Concepts in Geography 1, (London: Longmans, 1969), p. 97.
43. See B.S. Andresen, Pre-glottalisation in English Standard Pronunciation, (Oslo: Norwegian Universities Press, 1968), pp. 12-24.
44. The gravity model formula we have used here is more properly expressed as:

$$\frac{P_i P_j}{(d_{ij})^a}$$

where the value of a depends on the nature of the terrain and communications. Where transport facilities are poor, for example, the formula can include

the expression (dij)³. In the measurement of linguistic interaction, however, the indices arrived at are purely relative, and this is therefore of little importance.

On gravity models in geography, see P. Haggett, op. cit., Chapter 2.

45. See L.A. Brown, Diffusion Processes and Location, (Philadelphia: Regional Science Research Institute, 1963), pp. 2-3.
46. W. Labov, "Hypercorrection by the Lower Middle Class as a Factor in Linguistic Change", in W. Bright (ed.), op. cit., p. 88.
47. Ibid., p. 101.
48. Ibid., p. 102.
49. M. Joes, "The Medieval Sibilants", Language 28, (1952), pp. 222-231.
50. A.C. Gimson, op. cit., (1962), p. 128.
51. W. Labov, "The Social Motivation of a Sound Change", Word 19, (1963), pp. 273-309.
52. W. Labov, op. cit., (1966a), p. 455.
53. Ibid., p. 455.
54. Ibid., p. 480.

A P P E N D I X

The Questionnaire

I. "First of all, we'd like to ask you a few questions about your local background."

1. (i) Where in your time have you lived apart from Nch., and for how long?
 (ii) What different parts of Nch. have you lived in, and for how long?
 (iii) Where did your father, mother, grandparents, husband/wife come from?
2. (i) What job do you (and/or your husband) do now? (Ascertain exactly.)
 (ii) What other jobs have you done previously?
 (iii) What is/was your father's (last) job?
3. (i) Which schools did you go to?
 (ii) How old were you when you left school?
 (iii) Do you have any O- or A-level passes? (or equivalent: e.g. "Cambridge".)
 (iv) Do you have any further night-school, college or university education?

II. (Word List) (Cards 1 - 12)

"Now we'd like you to read out the words on these cards as naturally as you can."

III. (Lexical)

"A few questions about some Nch. or Norfolk words."

1. (i) Do you know what a dwile is?
 (ii) Have you ever heard anybody say this word?
 (iii) Do you ever use it yourself?

(Similarly: mardie, mawther, squit, swad.)

2. What do you call that stuff you can buy on the fish stalls on the market and fry up for your tea - it's fish eggs really, some of it hard, some soft? (Milts and roes.)

3. Do you know any other local words?

IV. (Reading Passage)

"We'd like you now to read this short story. Please don't read it as if you were in the class-room at school, but as naturally as you possibly can. We'd like to see just how naturally you can read it."

V. (Norwich)

"Some questions about Nch. itself."

1. (i) What do you think of Nch. as a place to live?
 (ii) What do/don't you like about it?
 (iii) Would you rather live somewhere else/in some other part of the city?
 (iv) Since you can remember, has Nch. changed very much? For the better/worse?
2. (i) Do you take much interest in what the city council do?
 (ii) What do you think of the council?
 (iii) If you were a councillor, what would you have done in the city?
3. (i) Do you take an interest in football at all?
 (ii) Do you ever watch Nch. City? (If so, introduce some topic of interest, e.g. promotion.)
4. (i) Do you find there's very much to do in Nch.?

- (ii) Would you say to someone who was thinking of moving here that you could enjoy yourself here O.K. if you wanted to?
- (iii) Have you been in a situation, recently or some time ago, where you had a good laugh, or something funny or humorous happened to you, or you saw it happen to someone else?

VI. (Rapid Word List) (Cards A - C)

- 1. (i) "Would you now read out the words on these cards as rapidly as you can but without being incomprehensible."
- 2. (i) "And would you now please say for me the days of the week."
- (ii) "... count from 1 to 20."

VII. (Pairs) (Cards 1 - iv)

"There's one last set of words we'd like you to read out, at a normal speed. Would you please read these out in pairs."

VIII. (Subjective Attitudes)

"Some questions on the way people speak in Nch."

- 1. (i) Do you like the way people in Nch. speak?
 - (ii) What in particular do/don't you like?
 - (iii) Is there anything you don't like about the way you speak yourself/your children speak?
 - (iv) Have you ever tried to do anything about it?
 - (v) Would you like to hear local radio or T.V. announcers with Nch. accents? Why (not)?
- 2. (i) Has anybody outside Nch. or Nfk. ever laughed at you for the way you speak?
 - (ii) Has anybody ever recognised/made a mistake about where you come from by the way you speak?

(111) Do you think people outside Nch. or Nfk.
like the way we talk here?

3. (1) Do you think people in Nch. speak different-
ly from the country people in Nfk.? If so,
how?

IX. (Self Evaluation) (Chart One)

"You're now going to hear some different pronun-
ciations of twelve different words. All these pro-
nunciations are used in Nch. We would like you to
mark which pronunciation of each word is nearest to
the one you generally use yourself. If you use
more than one, mark more than one. If you can hear
no difference, leave a blank."

X. (Linguistic Insecurity)

"This is the last thing we're going to ask you to
do. You're going to hear two different ways of
saying ten different words. We'd like you to tick
which way you think is correct, and then to under-
line the way you say it yourself, either if it's
the same or different."

XI. 1. Age Group.

2. Income Group.

B I B L I O G R A P H Y

- Abercrombie, D., Problems and Principles in Language Study. London: Longmans. (1956).
- Abercrombie, D., Studies in Phonetics and Linguistics. London: Oxford University Press. (1965).
- Abercrombie, D., Elements of General Phonetics. Edinburgh: Edinburgh University Press. (1967).
- Abercrombie, D., D.B. Fry, P.A.D. MacCarthy, N.C. Scott and J.L.M. Trim, eds., In Honour of Daniel Jones. London: Longmans. (1964).
- Anderson, C.A., and M.J. Bowman, eds., Education and Economic Development. Chicago: Aldine. (1965).
- Anderson, J., "Syllabic or Non-Syllabic Phonology". Journal of Linguistics 5. (1969). 136-142.
- Andresen, B.S., Pre-Glottalization in English Standard Pronunciation. Oslo: Norwegian Universities Press. (1968).
- Avis, W.S., "The 'New England short o': a Recessive Phoneme". Language 37. (1961). 544-558.
- Bach, A., Deutsche Mundartforschung. Heidelberg: Winter. (1950).
- Bach, E., and R.T. Harms., Universals in Linguistic Theory. New York: Holt, Rinehart and Winston. (1968).
- Barber, B., Social Stratification. New York: Harcourt, Brace and World. (1957).
- Bendix, R., and S.M. Lipset, eds., Class, Status and Power: A Reader in Social Stratification. Glencoe: Free Press. (1953).
- Bernstein, B., "Language and Social Class". British Journal of Sociology 11. (1960). 271-276.
- Bernstein, B., "Social Class, Linguistic Codes and Grammatical Elements". Language and Speech 5. (1962). 221-240.
- Bernstein, B., "Elaborated and Restricted Codes: their Social Origins and Some Consequences". In Gumperz and Hymes, eds. (1964).

- Bernstein, B., "Elaborated and Restricted Codes: An Outline". In Lieberman, ed. (1966).
- Berry, B.J.L., and D.F. Marble., Spatial Analysis: A Reader in Statistical Geography. Englewood Cliffs: Prentice Hall.(1968).
- Berry, B.J.L., and A. Pred., Central Place Studies. Philadelphia: Regional Science Research Institute. (1961).
- Bialock, H.M., Social Statistics. New York: McGraw-Hill. (1960).
- Boomfield, L., Language. London: Allen and Unwin.(1935).
- Bottomore, T.B., Classes in Modern Society. London: Allen and Unwin.(1965).
- Briers, F., ed., Norwich and its Region. Norwich: British Association for the Advancement of Science.(1961).
- Bright, W., "Introduction: The Dimensions of Sociolinguistics". In Bright, ed. (1966).
- Bright, W., ed. Sociolinguistics. The Hague: Mouton.(1966).
- Bronstein, A.J., "Let's take another look at New York City Speech". American Speech 37. (1962). 13-26.
- Brook, G.L., English Dialects. London: Deutsch.(1963).
- Brown, G., "Syllables and Redundancy Rules in Generative Phonology". Journal of Linguistics 6. (1970). 1-17.
- Brown, L.A., Diffusion Processes and Location. Philadelphia: Regional Science Research Institute. (1968).
- Bunge, W., Theoretical Geography. Lund: Royal University of Lund. (1966).
- Capell, A., Studies in Sociolinguistics. The Hague: Mouton. (1966).
- Cartwright, A.R., A. Fitch and D.L.J. Robins., "Manufacturing Industries". In Briers, ed. (1961).
- Catford, J.C., "Phonation Types: the classification of some laryngeal components of speech production". In Abercrombie et al., eds. (1964).
- Cheng, R.L., "Mandarin Phonological Structure". Journal of Linguistics 2. (1966). 137-159.

- Chomsky, N., Current Issues in Linguistic Theory. The Hague: Mouton. (1964).
- Chomsky, N., and M. Halle, The Sound Pattern of English. New York: Harper and Row. (1968).
- Christaller, W., "Das Grundgerüst der Räumlichen Ordnung in Europa". Frankfurter Geog. Hefte. (1950).
- Cobbett, D.J., "Transport- the Pattern for the Future". In Norwich - The Way Ahead. (1968).
- Cochrane, G.R., "The Australian English Vowels as a Diasystem". Word 15. (1959). 69-88.
- Cole, G.D.H., Studies in Class Structure. London: Routledge and Kegan Paul. (1955).
- Davies, A.F., "Prestige of Occupations". British Journal of Sociology 3. (1952). 134-147.
- De Camp, D., "The Pronunciation of English in San Francisco. Part I". Orbis 7. (1958). 372-391.
- De Camp, D., "The Pronunciation of English in San Francisco. Part II". Orbis 8. (1959). 54-77.
- Dickinson, R.E., The City Region in Western Europe. London: Routledge and Kegan Paul. (1967).
- Duncan, O.D., "Properties and Characteristics of the Socioeconomic Index". In Reiss. (1961).
- Duncan, O.D., "A Socio-Economic Index for all Occupations". In Reiss. (1961).
- Duncan, O.D., and B. Duncan, "Residential Distribution and Occupational Stratification". American Journal of Sociology 60. (1955). 493-503.
- East Anglia Economic Planning Council, East Anglia: A Study. London: H.M.S.O. (1968).
- Eastern Evening News, Norwich - The Way Ahead. Norwich: Supplement, October 22nd, (1968).
- Enderlin, F., Die Mundart von Kesswil im Oberthurgau. Frauenfeld: Bachmann. (1911).
- Everson, J.A., and B.P. Fitzgerald, Concepts in Geography, 1. Settlement Patterns. London: Longmans. (1969).
- Ferguson, C.A., "Diglossia". Word 15. (1959). 325-340.

- Finch, F.A., and A.J. Hoehn, "Measuring Socio-Economic or Cultural Status: A Comparison of Methods". Journal of Social Psychology 33. (1951). 51-67.
- Fischer, J.L., "Social Influences on the Choice of a Linguistic Variant". Word 14. (1958). 47-56.
- Fishman, J.A., ed., Readings in the Sociology of Language. The Hague: Mouton. (1968).
- Forby, R., The Vocabulary of East Anglia. London. (1830).
- Fowler, E., "An English Province and its Capital". In Briers, ed. (1961).
- Francis, W.N., Review of Vachek: "On the peripheral phonemes in Modern English". Language 42. (1966). 142-149.
- Frank, Y.A., The Speech of New York City. Ann Arbor: University of Michigan, unpublished dissertation. (1948).
- Fries, C.C., and K.L. Pike, "Co-existent Phonemic Systems". Language 25. (1949). 29-50.
- Fromkin, V., "Speculations on Performance Models". Journal of Linguistics 4. (1968). 47-68.
- Fry, D.B., "The Frequency of Occurrence of Speech Sounds in Southern English". Archives Neerlandaises de Phonétique Experimentale 20. (1947). 103-106.
- Fudge, E.C., "The Nature of Phonological Primes". Journal of Linguistics 3. (1967). 1-36.
- Fudge, E.C., "Syllables". Journal of Linguistics 3. (1969a). 253-286.
- Fudge, E.C., "Mutation Rules and Ordering in Phonology". Journal of Linguistics 5. (1969b). 23-38.
- Gimson, A.C., "Phonetic Change and the R.P. Vowel System". In Abercrombie et al., eds. (1964).
- Glass, D.V., ed., Social Mobility in Britain. London: Routledge and Kegan Paul. (1954).
- Glass, D.V., and J.R. Hall, "Social Mobility in Great Britain: A Study of Inter-Generation Changes in Status". In Glass, ed. (1954).

- Glass, D.V., and J.R. Hall, "A Description of a Sample Inquiry into Social Mobility in Great Britain". In Glass, ed. (1954).
- Joffman, E., The Presentation of Self in Everyday Life. New York: Doubleday Anchor. (1959).
- Goldthorpe, J., and D. Lockwood, "Affluence and the British Class Structure". Sociological Review 11. (1963). 133-163.
- Goode, W.J., and P.K. Hatt, Methods in Social Research. New York: McGraw Hill. (1952).
- Green, B., and R.M.D. Young, Norwich - The Growth of a City. Norwich: Museums Committee. (1964).
- Gregg, R.J., "Notes on the Phonology of a County Antrim Scotch-Irish Dialect". Orbis 7. (1958). 392-406.
- Gumpers, J.J., and D.H. Hymes, eds., The Ethnography of Communication. Menasha: American Anthropologist Special Publication. (1964).
- Hägerstrand, T., "Migration and the Growth of Culture Regions". Lund Studies in Geography Series B. Human Geography 3. Lund: Royal University of Lund. (1951).
- Hägerstrand, T., The Propagation of Innovation Waves. Lund Studies in Geography Series B. Human Geography 4. Lund: Royal University of Lund. (1952).
- Hägerstrand, T., "A Monte Carlo Approach to Diffusion". European Journal of Sociology 6. (1965). 43-67.
- Hägerstrand, T., "Quantitative Techniques for Analysis of the Spread of Information and Technology". In Anderson and Bowman, eds. (1965).
- Hägerstrand, T., Innovation Diffusion as a Spatial Process. Chicago: University of Chicago Press. (1967).
- Haggett, P., Locational Analysis in Human Geography. London: Arnold. (1965).
- Hall, J.R., and D.V. Glass, "Education and Social Mobility". In Glass, ed. (1954).
- Halliday, M.A.K., A. McIntosh and P. Stevens. The Linguistic Sciences and Language Teaching. London: Longmans. (1964).

- Hamm, J., ed., Phonologie der Gegenwart. Vienna: Böhlau. (1967).
- Harms, R.T., Introduction to Phonological Theory. Englewood Cliffs: Prentice-Hall. (1968).
- Harris, Z.S., Structural Linguistics. Chicago: University of Chicago Press. (1951).
- Hatt, P.K., "Occupation and Social Stratification". American Journal of Sociology 55. (1950). 533-543.
- Hill, A.A., ed., Linguistics Today. New York: Basic Books. (1969).
- Hill, T., "Institutional Linguistics". Orbis 7. (1958). 441-453.
- Hochbaum, G., J.G. Darley, E.D. Monachesi and C. Bird, "Socio-Economic Variables in a Large City". American Journal of Sociology 61. (1955). 31-38.
- Hockett, C.F., A Course in Modern Linguistics. New York: Macmillan. (1958).
- Holjer, H., "Anthropological Linguistics". In Mohrman et al., eds. (1961).
- Honikman, B., "Articulatory Settings". In Abercrombie et al., eds. (1964).
- Houck, C.L. Methodology of an Urban Speech Survey. Leeds: University of Leeds, Institute of Dialect and Folk Life Studies, unpublished. (1967).
- Hubbell, A.F., The Pronunciation of English in New York City: Consonants and Vowels. New York: Columbia University. (1950).
- Johnson, J.H., Urban Geography. London: Pergamon. (1967).
- Jones, D., "Concrete and Abstract Sounds". Proceedings of the Third International Congress of Phonetic Sciences. Ghent: Laboratory of Phonetics of the University. (1939).
- Jones, D., The Phoneme: Its Nature and Use. Cambridge: Heffer. (1950).
- Joos, M., "The Medieval Sibilants". Language 28. (1952). 222-231.
- Joos, M., The Five Clocks. New York: Harcourt, Brace and World. (1967).

- Kahl, J.A., and J.A. Davies, "A Comparison of Indexes of Socio-Economic Status". American Sociological Review 20. (1955). 317-325.
- Kant, E., "Umland Studies and Sector Analysis". Studies in Rural-Urban Interaction. Lund Studies in Geography Series B. Human Geography 3. Lund: Royal University of Lund.
- Keyser, S.J., Review of Kurath and McDavid: The Pronunciation of English in the Atlantic States. Language 32. (1963). 303-316.
- Kim, C.-W., "Two Phonological Notes: A[#] and B^b". Unpublished paper. University of Illinois. (1970).
- King, R.D., Historical Linguistics and Generative Grammar. Englewood Cliffs: Prentice-Hall. (1969).
- Liparsky, P., "Linguistic Universals and Linguistic Change". In Bach and Harms, eds. (1968).
- Klima, E.S., "Relatedness between Grammatical Systems". Language 40. (1964). 1-20.
- Kohler, K.J., "Is the Syllable a Phonological Universal?" Journal of Linguistics 2. (1966). 207-208.
- Kohler, K.J., "Modern English Phonology". Lingua 19. (1967). 145-176.
- Kökeritz, H., The Phonology of the Suffolk Dialect. Uppsala: Appelberg. (1932).
- Kornhauser, R.R., "The Warner Approach to Social Stratification". In Bendix and Lipset, eds. (1953).
- Kurath, H., Handbook of the Linguistic Geography of New England. Providence: Brown University. (1939).
- Kurath, H., and R.I. McDavid, The Pronunciation of English in the Atlantic States. Ann Arbor: University of Michigan Press. (1961).
- Labov, W., "The Social Motivation of a Sound Change". Word 19. (1963). 273-309.
- Labov, W., "The Social Stratification of /r/ in New York City Department Stores". Paper given at the annual conference of the Linguistic Circle of New York, March. (1963).

- Labov, W., "Phonological Correlates of Social Stratification". In Gumpers and Hymes, eds. (1964).
- Labov, W., "On the Mechanism of Linguistic Change". Georgetown University Monographs on Languages and Linguistics 13. (1965). 91-114.
- Labov, W., The Social Stratification of English in New York City. Washington: Center for Applied Linguistics. (1966a).
- Labov, W., "Some Sources of Reading Problems for Negro Speakers of Non-Standard English". Unpublished paper. N.C.T.E. Spring Institute on New Directions in Elementary English. Chicago, March. (1966b).
- Labov, W., "The Effect of Social Mobility on Linguistic Behaviour". In Lieberman, ed. (1966c).
- Labov, W., "Hypercorrection by the Lower Middle Class as a Factor in Linguistic Change". In Bright, ed. (1966).
- Labov, W., "The Reflection of Social Processes in Linguistic Structures". In Fishman, ed. (1968).
- Ladefoged, P., Three Areas of Experimental Phonetics. London: Oxford University Press. (1967).
- Ladefoged, P., "Linguistic Phonetics". Working Papers in Phonetics 6. UCLA. (1967).
- Lamb, S.M., "On Alternation, Transformation, Realisation and Stratification". Georgetown University Monographs on Languages and Linguistics 17. (1964). 105-122.
- Lamb, S.M., "Prolegomena to a Theory of Phonology". Language 42. (1966). 536-573.
- Laver, J.D.M., "Voice Quality and Indexical Information". British Journal of Disorders of Communication 3. (1968). 43-54.
- Lawton, D., Social Class, Language and Education. London: Routledge and Kegan Paul. (1968).
- Lehmann, W.P., and Y. Malkiel, eds., Directions for Historical Linguistics. Austin: University of Texas Press. (1968).

- Lenski, G.E., "Status Crystallisation: A Non-Vertical Dimension of Social Status". American Sociological Review 19. (1954). 405-413.
- Levine, L., and H.J. Crockett, "Speech Variation in a Piedmont Community: Postvocalic r". In Lieberman, ed. (1966).
- Lieberman, S., ed., Explorations in Sociolinguistics. The Hague: Mouton. (1966).
- Lundberg, G., "The Measurement of Socio-Economic Status". American Sociological Review 5. (1940). 29-40.
- Lyons, J., Introduction to Theoretical Linguistics. London: Cambridge University Press. (1968).
- Mabry, J.H., Norwich 1961 - An Analysis of Census Returns. University of East Anglia: unpublished. Undated.
- McDavid, R.I., "Dialect Differences and Social Differences in an Urban Society". In Bright, ed. (1966).
- McDavid, R.I., "Dialects: British and American Standard and Non-Standard". In Hill, ed. (1969).
- Mack, R.W., "Housing as an Index of Social Class". Social Forces 29. (1951). 391-400.
- Martin, F.M., "Some Subjective Aspects of Social Stratification". In Glass, ed. (1954).
- Martinet, A., "Function, Structure and Sound Change". Word 8. (1952). 1-32.
- Martinet, A., Economie des Changements Phonétiques. Berne: Francke. (1955).
- Mayer, K.B., Class and Society. New York: Random House. (1955).
- Mohrmann, C., A. Sommerfelt and J. Whatmough, Trends in European and American Linguistics 1930-1960. Utrecht: Spectrum. (1961).
- Moser, C.A., Survey Methods in Social Investigation. London: Heinemann. (1958).
- Moser, C.A., and J.R. Hall, "The Social Grading of Occupations". In Glass, ed. (1954).
- Moser, C.A., and W. Scott, British Towns. London: Oliver and Boyd. (1961).

- Moulton, W.G., "The Short Vowel Systems of Northern Switzerland: A Study in Structural Dialectology". Word 16. (1960). 155-183.
- Moulton, W.G., "Dialect Geography and the Concept of Phonological Space". Word 18. (1962). 23-33.
- Nystuen, J.D., and M.F. Dacey, "A Graph Theory Interpretation of Nodal Regions". Papers and Proceedings of the Regional Science Association 7. (1961). 29-42.
- Ohman, S.E.G., "Coarticulation in VCV Utterances: Spectrographic Measurements". Journal of the Acoustical Society of America 39. (1966). 151-168.
- O'Neil, W.A., "The Dialects of Modern Faroese: A Preliminary Report". Orbis 12. (1963). 393-397.
- Orton, H., and E. Dieth, Survey of English Dialects. Leeds: Arnold. (1962-).
- Orton, H., and P.M. Tilling, Survey of English Dialects. Volume III East Midlands and East Anglia. Leeds: Arnold. (1969-).
- Pellowe, J., "Establishing Speech Varieties of Conurbations". Journal of Linguistics. (Forthcoming)
- Pickford, G.R., "American Linguistic Geography - A Sociological Appraisal". Word 12. (1956). 211-233.
- Postal, P.M., Aspects of Phonological Theory. New York: Harper and Row. (1968).
- Pulgram, E., "Structural Comparison, Diasystems and Dialectology". Linguistics 4. (1964). 66-82.
- Putnam, G.N., and E.M. O'Hern, "The Status Significance of an Isolated Urban Dialect". Language Dissertation 53. (1955).
- Reading, H.F., A Glossary of Sociological Terms. Athens: Contos. (1963).
- Rogan, J., "Southern California Ghetto Language and Roles". Paper presented at the Autumn Meeting of the Linguistics Association of Great Britain, University of Leeds. (1969).
- Reiss, A.J., Occupations and Social Status. Glencoe: Free Press. (1961).

- Robins, R.H., A Short History of Linguistics. London: Longmans. (1967).
- Robinson, W.P., "The Elaborated Code in Working Class Language". Language and Speech 8. (1965). 243-252.
- Saporta, S., "Ordered Rules, Dialect Differences, and Historical Processes". Language 41. (1965). 218-224.
- Schane, S.A., "Natural Rules in Phonology". (To appear in the Proceedings to a historical linguistics conference, UCLA, February 1st and 2nd, 1969.) (Forthcoming)
- Schwarz, E., Die deutschen Mundarten. Göttingen: Vandenhoeck and Ruprecht. (1950).
- Shevelov, G.Y., "On Predicaments, Predictability and Futurism in Phonology". In Hama, ed. (1967).
- Shuy, R.W., W.A. Wolfram and W.K. Riley, Linguistic Correlates of Social Stratification in Detroit Speech. U.S. Office of Education: Final Report, Cooperative Research Project 6-1347. (1967).
- Shuy, R.W., W.A. Wolfram and W.K. Riley, Field Techniques in Urban Language Study. Washington: Center for Applied Linguistics. (1968).
- Sivertsen, E., Cockney Phonology. Oslo: Oslo University Press. (1960).
- Smailes, A.E., "The Urban Hierarchy in England and Wales". Geography 29. (1944). 41-51.
- Smailes, A.E., The Geography of Towns. London: Hutchinson. (1957).
- Spencer, J., M. Gregory and N. Enkvist, Linguistics and Style. London: Oxford University Press. (1964).
- Tay, M.W.J., A Phonological Study of Hokkien. University of Edinburgh: Unpublished Doctoral Thesis. (1968).
- Tay, M.W.J., "Hokkien Phonological Structure". Journal of Linguistics 6. (1970). 81-88.
- Thomas, A.R., "Generative Phonology in Dialectology". Transactions of the Philological Society. (1967). 179-203.

- Thomas, P.G., "Commercial and Professional Services".
In Briers, ed. (1961).
- Trager, G.L., and H.L. Smith, An Outline of English Structure. Washington: American Council of Learned Societies. (1957).
- Vachek, J., A Prague School Reader in Linguistics.
Bloomington: Indiana University Press. (1964).
- Vanvik, A., A Phonetic-Phonemic Analysis of the Dialect of Trondheim. Oslo: Oslo University Press. (1966).
- Vasiliu, E., "Towards a Generative Phonology of Daco-Rumanian Dialects". Journal of Linguistics 2. (1966). 79-93.
- Vasiliu, E., "Transformational versus Biunique Phonemic Typology". In Hamm, ed. (1967).
- Viereck, W., Phonetische Analyse des Dialekts von Gateshead-upon-Tyne/Co. Durham. Hamburg: de Gruyter. (1966).
- Varner, W.L., M. Meeker and K. Ellis, Social Class in America: A Manual for Procedure for the Measurement of Social Status. Chicago: Science Research Associates. (1949).
- Weinreich, U., Languages in Contact. New York: Publications of the Linguistic Circle of New York. (1953)
- Weinreich, U., "Is a Structural Dialectology Possible?" Word 10. (1954). 388-400.
- Weinreich, U., W. Labov and M.I. Herzog, "Empirical Foundations for a Theory of Language Change". In Lehmann and Malkiel, eds. (1968).
- Wetmore, T.H., The Low-Central and Low-Back Vowels in the Eastern United States. Alabama: University of Alabama Press. (1959).
- Wood, A.A., "City of Unique Quality". In Norwich - The Way Ahead. (1968).
- Wright, J.T., "Urban Dialects - A Consideration of Method". Zeitschrift für Mundartforschung 33. (1966). 232-246.