

A Contrastive Analysis of French and English Social Statistics Texts

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I hereby declare that none of the material contained in this thesis has been used in any other submission for any other award. Further, that the contents of this thesis are the sole work of the author except where an acknowledgement has been made for any assistance received.

Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Master of Arts is entirely my own work and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work

Signed Mairéad Creed Date 12 July 1995
Candidate

TABLE OF CONTENTS

1	Introduction	
2	Background	
2 1	Introduction	3
2 2	Contrastive Textology	3
2 3	Sublanguage	9
2 4	Text Type	17
2 5	Text Linguistics	22
2 6	Contrastive Stylistics	38
2 7	Corpus Linguistics	45
2 8	Conclusion	48
3	Analysis of the Primary Corpus	
3 1	Introduction	49
3 2	The Primary Corpus	49
3 3	Surface Linguistic Features	52
3 3 1	Sentence Length	53
3 3 2	Finite Clause Structure	54
3 3 3	Finite and Non-Finite Verbs	57
3 3 4	Unique Items	57
3 3 5	Unique Verbs	58
3 3 6	Mood	61
3 3 7	Tense	62
3 4	Coherence	70
3 4 1	The Expression of Semantic Relations	71
3 4 1 1	Semantic Relations Expressed through Clause Coordinators and Subordinators	71
3 4 1 2	Semantic Relations Expressed through Sentence Connecters	77
3 4 1 3	The Expression of Comparison and Opposition	80
3 4 1 3 1	The Expression of Superiority and Inferiority	81
3 4 1 3 2	Other Devices for the Expression of Comparison and Opposition	85
3 4 1 4	The Expression of Cause and Consequence	88
3 4 2	Linguistic Devices Relating to the Core Textual Participants	91
3 4 2 1	The Analyst	92
3 4 2 1 1	Modal Devices	93
3 4 2 1 2	Impersonal <i>il / it</i>	97
3 4 2 1 3	Pronominal Verbs	98
3 4 2 1 4	Passive Verbs and <i>On</i>	99
3 4 2 1 5	Nominalizations with Total Agent Deletion	104
3 4 2 2	The Social Actors	104
3 4 2 3	The Statistical Framework	109
3 4 2 3 1	Nouns of Motion	111
3 4 2 3 2	Verbs of Motion	112
3 4 2 3 3	Quantifying Nouns	115
3 4 2 3 4	Quantifying Verbs	117
3 5	Cohesion in the Corpus	118
3 5 1	Reference Devices	119

3 5 1 1	Personal Reference	121
3 5 1 2	Demonstrative Reference	126
3 6	Conclusions	134
4	Analysis of the Secondary Corpus	
4 1	Introduction	138
4 2	The Corpus	139
4 3	Surface Linguistic Features	141
4 3 1	Sentence Length	141
4 3 2	Finite Clause Structure	142
4 3 3	Finite and Non-Finite Verbs	144
4 3 4	Unique Items	145
4 3 5	Unique Verbs	146
4 3 6	Mood	148
4 3 7	Tense Distribution	148
4 4	Coherence	152
4 4 1	The Expression of Semantic Relations	153
4 4 1 1	Semantic Relations Expressed through Clause Coordinators and Subordinators	153
4 4 1 2	Semantic Relations Expressed through Sentence Connecters	158
4 4 1 3	The Expression of Comparison and Opposition	160
4 4 1 3 1	The Expression of Superiority and Inferiority	160
4 4 1 3 2	Other Devices for the Expression of Comparison and Opposition	161
4 4 1 4	The Expression of Cause and Consequence	162
4 4 2	Linguistic Devices Relating to the Core Textual Participants in the Secondary Corpus	164
4 4 2 1	The Analyst	164
4 4 2 1 1	Modal Devices	164
4 4 2 1 2	Impersonal <i>il / it</i>	166
4 4 2 1 3	Pronominal Verbs	166
4 4 2 1 4	Passive Verbs, <i>Nous</i> and <i>On</i>	167
4 4 2 1 5	Nominalizations with Total Agent Deletion	170
4 4 2 2	The Social Actors	170
4 4 2 3	The Statistical Framework	173
4 4 2 3 1	Nouns of Motion	173
4 4 2 3 2	Verbs of Motion	174
4 4 2 3 3	Quantifying Nouns	177
4 4 2 3 4	Quantifying Verbs	179
4 5	Cohesion in the Secondary Corpus	180
4 5 1	Reference Devices	180
4 5 1 1	Personal Reference	180
4 5 1 2	Demonstrative Reference	184
4 6	Conclusions	189
5	Conclusions	
5 1	Summary of Work	192
5 2	Problems Encountered	196
5 3	Future Work	201
	Bibliography	202

LIST OF TABLES

Table 3 1(a)	Average Sentence Length for the Texts of the French Primary Corpus
Table 3 1(b)	Average Sentence Length for the Texts of the English Primary Corpus
Table 3 2(a)	Finite Clause Structure of the Sentences of the French Primary Corpus
Table 3 2(b)	Finite Clause Structure of the Sentences of the English Primary Corpus
Table 3 3(a)	Verbs (Finite and Non-Finite) Appearing Ten or More Times in the French Primary Corpus
Table 3 3(b)	Verbs (Finite and Non-Finite) Appearing Ten or More Times in the English Primary Corpus
Table 3 4(a)	Tense Breakdown of the French Primary Corpus
Table 3 4(b)	Tense Breakdown of the English Primary Corpus
Table 3 5(a)	Percentage Breakdowns of the Three Most Important Tenses in the French Primary Corpus
Table 3 5(b)	Percentage Breakdowns of the Three Most Important Tenses in the English Primary Corpus
Table 3 6(a)	Sentence Connectors in the French Primary Corpus
Table 3 6(b)	Sentence Connectors in the English Primary Corpus
Table 3 7(a)	Comparatives and Superlatives in the French Primary Corpus
Table 3 7(b)	Comparatives and Superlatives in the English Primary Corpus
Table 3 8(a)	Nouns of Motion in the French Primary Corpus
Table 3 8(b)	Nouns of Motion in the English Primary Corpus
Table 3 9(a)	Verbs of Motion in the French Primary Corpus
Table 3 9(b)	Verbs of Motion in the English Primary Corpus
Table 3 10(a)	Quantifying Nouns in the French Primary Corpus
Table 3 10(b)	Quantifying Nouns in the English Primary Corpus
Table 3 11(a)	Subject Personal Pronouns in the French Primary Corpus
Table 3 11(b)	Subject Personal Pronouns in the English Primary Corpus
Table 3 12(a)	Direct Object Personal Pronouns in the French Primary Corpus
Table 3 12(b)	Indirect Object Personal Pronouns in the French Primary Corpus
Table 3 12(c)	Object Personal Pronouns in the English Primary Corpus
Table 3 13(a)	Possessive Determiners in the French Primary Corpus
Table 3 13(b)	Possessive Determiners in the English Primary Corpus
Table 3 14(a)	Demonstrative Pronouns in the French Primary Corpus
Table 3 14(b)	Demonstrative Pronouns in the English Primary Corpus
Table 3 15(a)	Demonstrative Determiners in the French Primary Corpus
Table 3 15(b)	Demonstrative Determiners in the English Primary Corpus

Table 4 1(a)	Finite Clause Structure of the Sentences of the French Secondary Corpus
Table 4 1(b)	Finite Clause Structure of the Sentences of the English Secondary Corpus
Table 4 2	Finite and Non-Finite Verb Ratios in the Primary and Secondary Corpora
Table 4 3(a)	Tense Breakdown of the French Secondary Corpus
Table 4 3(b)	Tense Breakdown of the English Secondary Corpus
Table 4 4(a)	Percentage Breakdowns of the Three Most Important Tenses in the French Secondary Corpus
Table 4 4(b)	Percentage Breakdowns of the Three Most Important Tenses in the English Secondary Corpus
Table 4 5(a)	Sentence Connectors in the French Secondary Corpus
Table 4 5(b)	Sentence Connectors in the English Secondary Corpus
Table 4 6(a)	Nouns of Motion in the French Secondary Corpus
Table 4 6(b)	Nouns of Motion in the English Secondary Corpus
Table 4 7(a)	Verbs of Motion in the French Secondary Corpus
Table 4 7(b)	Verbs of Motion in the English Secondary Corpus
Table 4 8(a)	Quantifying Nouns in the French Secondary Corpus
Table 4 8(b)	Quantifying Nouns in the English Secondary Corpus
Table 4 9(a)	Subject Personal Pronouns in the French Secondary Corpus
Table 4 9(b)	Subject Personal Pronouns in the English Secondary Corpus
Table 4 10(a)	Direct Object Personal Pronouns in the French Secondary Corpus
Table 4 10(b)	Indirect Object Personal Pronouns in the French Secondary Corpus
Table 4 10(c)	Object Personal Pronouns in the English Secondary Corpus
Table 4 11(a)	Possessive Determiners in the French Secondary Corpus
Table 4 11(b)	Possessive Determiners in the English Secondary Corpus
Table 4 12(a)	Demonstrative Pronouns in the French Secondary Corpus
Table 4 12(b)	Demonstrative Pronouns in the English Secondary Corpus
Table 4 13(a)	Demonstrative Determiners in the French Secondary Corpus
Table 4 13(b)	Demonstrative Determiners in the English Secondary Corpus

LIST OF FIGURES

Figure 2 1	Situation of the Social Statistics Corpora within the Entire Range of LSP Corpora
Figure 3 1	Coordinators and Subordinators at Clause Junctions in the French Primary Corpus
Figure 3 2	Coordinators and Subordinators at Clause Junctions in the English Primary Corpus
Figure 4 1	Coordinators and Subordinators at Clause Junctions in the French Secondary Corpus
Figure 4 2	Coordinators and Subordinators at Clause Junctions in the English Secondary Corpus

Abstract

A Contrastive Analysis of French and English Social Statistics Texts

Mairéad Creed

This thesis adopts the theoretical framework of *contrastive textology* (CT) developed by Hartmann (1980) for the analysis of the language of French and English expository texts from the domain of social statistics. CT results from a combination of two linguistic orientations: *text linguistics* and *contrastive stylistics* (CS).

Hartmann uses the term *parallel texts* to describe (a) translated texts and (b) non-translated texts in two languages which were produced in circumstances so similar as to produce comparable linguistic features. Although translation techniques and text-linguistic norms can more readily be observed and compared in *translated* texts, *non-translated* texts have two advantages: they allow us to observe text-linguistic features in the two languages prior to any translation activity, and they reflect no influences of a source text.

The aims of the thesis were threefold: firstly to provide a descriptive inventory of some of the most important linguistic features of social statistics which would benefit students and teachers of French, secondly to provide guidelines for the translation of social statistics texts from French into English, and finally to determine whether parallel *non-translated* texts can be used effectively to provide guidelines for translation.

To these ends some of the most important lexical, grammatical, syntactic, semantic and textual features of the social statistics texts were analyzed and compared. As an intended aid to language teaching and learning, comprehensive frequency listings of many semantic categories of words were drawn up. In terms of translation guidelines, it was advised that translators take note of the following differences between the languages: French social statistics (a) has far more unique words, (b) uses a considerably higher proportion of sentence connectors and (c) uses rather more demonstrative noun phrases than English social statistics. The translation guidelines were then tested on a published professional translation and were found to hold true. The thesis concludes that in spite of some drawbacks, parallel non-translated texts can be used with some success in establishing guidelines for translation.

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Chapter 1

Introduction

This thesis aims to describe and compare some aspects of the language of a restricted **sublanguage text type** in French and English expository social statistics writing. The theoretical framework of **contrastive textology** developed by Hartmann (1980) is adopted for the study.

In Chapter 2 the theoretical background to the current study is discussed. The first part of the chapter involves a close examination of the concept of parallel texts, by concentrating on variables such as equivalence of sublanguage and text types. The advantages of using non-translated parallel texts over translated texts are discussed, and the notion of representativeness of a corpus of parallel texts is also examined.

The second part of the chapter examines how various aspects of the two branches of linguistic theory which comprise contrastive textology – text linguistics and contrastive stylistics, can be used to analyse and compare parallel texts. The discussion centres not only on the aspects of text linguistics and contrastive stylistics that are actually applied to the analysis of the social statistics texts, but also involves a general discussion of the theoretical constructs of text linguistics.

Chapter 3 is the main analytical chapter. The parallel social statistics texts are compared in terms of some of their most important linguistic features at clause, sentence and intersentence level. Some of the findings of traditional comparative stylistics are seen to be relevant to this primary corpus. On the basis of the analysis a limited number of guidelines are provided for the translation of similar texts from French into English.

Chapter 4 extends the work carried out in Chapter 3. It examines the validity of the translation guidelines provided in Chapter 3 by testing them on a published professional translation. Chapter 4 also has a second goal to test the representativeness of the main non-translated (primary) corpus. It examines the extensibility of the descriptions of the primary corpus to other social statistics texts in French and in English.

Chapter 5 summarises the work carried out in the previous four chapters. It re-examines the notion of parallel texts and their usefulness in providing guidelines for translation, based on the results of the corpus analyses. It discusses the shortcomings of the approach used and suggests areas of further work in the application of contrastive textology to restricted LSP (Language for Specific Purposes) corpora.

Appendices A - D (after the bibliography) give the full texts of the non-translated and translated corpora. These form the basis for the research carried out in Chapters 3 and 4. Appendices A and B contain the French and English *primary* (non-translated) corpus, and Appendices C and D contain the French and English *secondary* (translated) corpus.

Chapter 2

Background

2.1 Introduction

As was stated in Chapter 1, the theoretical foundations of this thesis are based on two concepts elaborated by R R K Hartmann (1980) These concepts are **contrastive textology** and **parallel texts** Chapter 2 begins with an examination of Hartmann's work, concentrating on the *applications* of a contrastive textology to the needs of descriptive and applied linguistics (Section 2 2)

The main bases on which the social statistics texts are defined as parallel texts are examined in Section 2 3 on Sublanguage and Section 2 4 on Text Type

Section 2 5 on Text Linguistics and Section 2 6 on Contrastive Stylistics examine the components of contrastive textology which can provide a theoretical framework for the analysis of parallel texts from a specific sublanguage text type These sections give an overview of the main orientations of the two linguistic disciplines, before concentrating on the techniques of linguistic analysis that are actually applied to the corpora in Chapters 3 and 4

Finally, Section 2 7 briefly examines the notion of corpus representativeness and lists the advantages of working with corpora

2.2 Contrastive Textology

Contrastive textology (CT) results from a combination of two basic linguistic orientations text linguistics and contrastive stylistics It can be used to show "whether and how the corresponding functional varieties of any two or more languages differ significantly" (Hartmann 1980 32) and can have a range of applications in both descriptive and applied linguistics

The Theoretical Framework of CT

In phonetics, lexicology and grammar there are agreed ways of segmenting the flow of language into hierarchical units but no such agreement yet exists with reference to the study of textual discourse Hartmann (1980 36) suggests that a suitable model for CT can be provided by adding a supra-hierarchical level to the three levels of phonology, lexicology and grammar this supra-hierarchical level would be the **text level (textology)** As is the case with phonology, lexicology and grammar, textology would be subdivided by the three **semiotic dimensions of pragmatics, syntagmatics and semantics**, resulting in the components

- a) text pragmatics
- b) text syntax
- c) text semantics

The basic concerns of each of these textological components are set out below

a) Text Pragmatics

The pragmatic component is concerned with the different ways in which discourse correlates with functional variety Different functional varieties might be established on the basis of features such as the speaker's intentions, the thematic content of the message, or the hearer's reaction, etc Text pragmatic analysis can be used to characterise texts according to text type We can also take texts representative of specific varieties, describe them, and then compare them across languages

b) Text Syntax

According to Hartmann (1980 36)

The syntagmatic component is concerned with the different ways in which successive portions of discourse are strung together to form completed texts The aim is an account of inter-sentence connectivity

The study of text syntax is therefore essentially the study of textual cohesion (Section 2.5). According to Hartmann "a contrastive text syntax would need to demonstrate in what ways languages differ with respect to such features as text base introduction (such as headlines), sequential expansion (such as anaphoric reference, conjunctions), paragraphs, and termination" (Hartmann 1980: 40).

c) Text Semantics

The semantic component is concerned with the different ways in which referential information is distributed among the constituent elements of a text. The aim is an explanation of the ways and means of 'information structure'.

(Hartmann 1980: 36)

Text semantics is therefore essentially concerned with the Prague School notion of **functional sentence perspective (FSP)**.

In this thesis considerable emphasis is placed on providing an analysis of text syntax, although some emphasis is also placed on text pragmatics (the discourse of a specific sublanguage text type is described). Text semantic considerations are largely ignored because, as Henry Grimes (1975: 344, quoted in Hartmann 1980: 40) admits: "We are still a long way from getting to the bottom of the principle by which a speaker projects what he says not only with a certain content but from a certain perspective."

Parallel Texts

An important concept introduced by Hartmann in *Contrastive Textology* is the notion of parallel texts. Hartmann (1980: 37-8) proposes three classes of parallel texts:

Class A parallel texts are typically the result of a full-scale professional translation. Class B parallel texts are typically the result of a deliberate adaptation of a message in the respective conventions of two languages for the purpose of conveying an identical message to receivers of sometimes very different cultural backgrounds. Correspondences between the texts are conditioned by the need to produce similar reactions in the reader. Class C parallel texts are typically unrelated except by the analyst's recognition that the original circumstances that led to the creation of the two texts have produced accidental similarities.

Which of these classes of parallel text is used to form a corpus depends on the desired outcome of the project. This thesis makes use of two of the three classes. A corpus of Class C parallel texts is used for the analysis in Chapter 3 and a corpus of Class A parallel texts is used for supplementary analysis in Chapter 4.

To return to the definition of Class C parallel texts, Hartmann says that it is the *circumstances of their creation* that produce accidental similarities. But what can be defined as relevant circumstances of creation? The most important criteria are 1) unity of sublanguage and 2) unity of text type. These will be examined in detail in Sections 2.3 and 2.4 respectively.

CT in Descriptive and Applied Linguistics

CT is relevant both to descriptive and applied linguistics. In descriptive linguistics, CT has a place in the study of each of the following: national styles, register ranges, the style of individuals, language planning, bilingual lexicography and comparative rhetoric. In applied linguistics, CT also has a place in the study of integration, translation, bilingual code switching and foreign language learning. A number of these areas of descriptive and applied linguistics are of relevance to this thesis and are examined in some detail below.

Register Ranges

According to Hartmann (1980 43)

One respect in which languages seem to differ markedly is the extent to which they have developed register ranges within them. But we are still ignorant of how many and what types of social, regional, situational and occupational varieties the world's languages possess, how they could be classified descriptively, or analysed contrastively. [I]t seems advisable to substantiate theoretical claims by a careful analysis of the textual facts.

Hartmann is advocating here the examination of parallel texts in the study of register ranges.

Integration

Some discourse types of different languages are more in contact than others. There is some evidence to suggest that the degree of interaction between language codes correlates with the text type of the respective sub-codes. Semantic convergence appears to be greater in academic discourse than in everyday conversation. Textological analyses have already confirmed these hypotheses to some extent and more work on parallel texts will doubtless provide added proof.

Translation

Translation constitutes one of the foremost fields of applied CT. Hartmann explains the relevance of textology to translation as follows (1980 51)

Translation of discourse is only possible if we know what the equivalent structures are in the language into which we want to translate. And this knowledge is gained from comparison, from comparative linguistics, or (more specifically) from contrastive textology. To translate we should have to know not only what the corresponding lexical and grammatical units are as between source and target languages, but also what stylistic conventions are used in each of the text types.

The linguistic insights brought to the study of translation by comparative stylistics (the second component of CT) will be the subject of Section 2.6)

It is in the area of translation studies that this thesis has greatest relevance. The lexis, grammar and texture of a bilingual corpus of texts is compared in order to ascertain what the dominant linguistic features of the texts are, with the ultimate aim of providing guidelines for the translation of similar texts from French into English.

Foreign Language Learning

CT can make a contribution to foreign language learning, especially LSP learning. This is because

Closely related languages often have parallel registers in particular fields or situations, and the teaching material should be chosen to reflect the contrasting and similar features from them, bearing in mind that stylistic rhetorical appropriateness is more important than linguistic form.

(Hartmann 1980: 49)

The use of parallel texts is of particular importance in this regard.

In summary, contrastive textology is relevant to the research needs of descriptive linguistics and to many areas of applied linguistics. Chapters 3 and 4 will focus in particular on two areas of applied linguistics that can benefit from the contrastive analysis of parallel texts: specialised translation and LSP teaching.

2.3 Sublanguage

One of the criteria used in the selection of the corpora for analysis was that the texts would be representative of a single sublanguage¹. The sublanguage of social statistics arises from the combination of two fields: social science and statistics. But what exactly is a sublanguage, and what are the linguistic characteristics of a sublanguage such as social statistics? The major works on text linguistics cannot answer these questions as they have in general been confined to the study of *narrative* texts as the most important research objective.

LSP texts, often containing argumentative and explicative structures, have only very seldom become an explicit object of textual research. Consequently, most of the introductions into text linguistics deal with literary texts.

(Schroder 1991: 11)

Lehrberger (1982: 82) defines a sublanguage in vague terms as follows:

If we can recognise that a text is "in English" and yet feel that it is distinct enough to be described as being "in the language of X" (physics, aeronautics, electronics, etc.), then we may be justified in saying that the language of X is a "sublanguage" of English.

Harris (1968: 152) gives a more technical definition of sublanguage:

Certain proper subsets of the sentences of a language may be closed under some or all of the operations defined in the language, and thus constitute a sublanguage of it.

Harris' definition concentrates on the lexical and grammatical closure of a sublanguage, i.e. a sublanguage contains a finite number of syntactic patterns and lexical items. Hirschman and Sager's definition of sublanguage focuses on the

¹Lauren and Nordman (1991) use the term *technolect* with the same meaning.

restricted semantic domain of LSP texts as well as on the producers and users of such texts. They define sublanguage as

the particular language used in a body of texts dealing with a circumscribed subject area (often reports or articles on a technical speciality or science subfield), in which the authors of the documents share a common vocabulary and common habits of word usage
(Hirschman and Sager 1982: 27)

Lehrberger (1986: 21) also comments on the importance of the producers and users of sublanguage texts in terms of the evolution of sublanguages. He says that sublanguages emerge gradually through the use of a language in various fields by specialists in those fields.

However, definitions such as these are of little use in determining whether a subject domain such as social statistics actually constitutes a sublanguage. A better way of looking at the whole notion of sublanguage is to examine the *characteristics of sublanguages*.

Lehrberger (1982: 102) identifies six characteristics of sublanguages. He says that a sublanguage is not simply an arbitrary subset of the set of sentences of a language and that the factors which help to characterise sublanguages include: (i) limited subject matter, (ii) lexical, semantic and syntactic restrictions, (iii) 'deviant' rules of grammar, (iv) a high frequency of usage of certain constructions, (v) text structure and (vi) use of special symbols. Each of these sublanguage characteristics is discussed separately below with particular reference to the social statistics corpora.

(i) Limited Subject Matter

All sublanguages have restricted subject matter when compared to the 'whole' language (the natural language of which it is a part), e.g. social statistics describes the actions and states of *social actors* (human subjects) in *statistical* terms.

(ii) Lexical, Syntactic and Semantic Restrictions

Lexical Restrictions

The restricted subject matter of a sublanguage is reflected in its restricted lexis, e.g. a 'general' dictionary like the *Collins English Dictionary* (1986 edition) contains more than 170,000 references from over 200 fields of knowledge, while a sublanguage such as social statistics will certainly contain far fewer items than that²

Semantic Restrictions

Lehrberger says that what is more important than the limitation in size of vocabulary in a sublanguage is the reduction in polysemy. Some words may appear in only one grammatical category or have restricted meanings in the sublanguage, whereas they may belong to several grammatical categories or have any number of meanings in the language as a whole. In the English social statistics corpus, for example, *rose* has only the meaning of *simple past tense of rise*, and not of *a type of flower*. In the French corpus *manifestation* is used only in the sense of *an artistic, cultural or sporting event*, and not in the sense of *a political demonstration, an expression of emotion, or the symptoms of an illness*.

²According to Kittredge (1982: 124), the sublanguage which appears to have the smallest lexicon is the sublanguage of weather bulletins (c. 1,000 words excluding place names). Lehrberger (1982: 83) estimates that the sublanguage of aircraft maintenance manuals may approach a lexical size of 40,000 words excluding proper words. In terms of the size of its lexicon, the sublanguage of social statistics is assumed to be closer to that of aircraft maintenance manuals than it is to that of weather bulletins.

According to Lehrberger (1982 83)

Vocabulary restrictions do not apply to the same extent in all categories. The categories noun, verb, adjective and adverb are most limited [in a given sublanguage] while nearly all members of the remaining categories may be found in most sublanguages. This conforms to the ubiquitousness of "grammatical" words and the fact that the main semantic burden is borne by nouns and verbs.

Syntactic Restrictions

The syntactic patterns of a sublanguage will be reduced compared with the entire range of syntactic choices available in the language as a whole. In the social statistics corpora, for example, direct questions, tag questions and exclamatory sentences do not occur at all. Imperatives appear infrequently. Conversely, other syntactic and grammatical constructions have a high frequency of occurrence (see (iv) below).

(ni) Deviant Rules of Grammar

Many sublanguages use grammatical constructions which are acceptable in the sublanguage but unacceptable in terms of 'general' language. Grammatical deviations are linked to text type, e.g. in the instructive text type, the definite article is frequently or consistently deleted, leading to what is called a **telegraphic** sublanguage. Deviant rules of grammar do not occur in the social statistics corpora.

(iv) High Frequency of Certain Constructions

Coupled with their low frequency of certain constructions, sublanguages have a high frequency of other syntactic and grammatical constructions. For example, sublanguages with a high frequency of imperative sentences will have a low frequency of declarative sentences. Sublanguages like social statistics have a high frequency of declarative sentences, almost no verbs in the first or second person, and a

concentration of verbs in certain tenses. The significance of particular syntactic and grammatical structures in a given sublanguage is not that they occur, but that they occur very often. The presence or absence of these structures is linked to text type.

(v) Text Structure

This refers to the division of texts into numbered sections (a characteristic of many LSP texts but not of the social statistics corpora) and to the typical linking devices used in sublanguage texts, e.g. repetition, partial recurrence and pronominalization, etc. Although the primary social statistics corpus is not divided into numbered sections, there is a subdivision by *topic*. This is closely linked to the notion of **macrostructure** (Section 2.5).

(vi) Use of Special Symbols

Many sublanguages use special symbols and although this is not a characteristic of the small corpus analysed in this thesis, special symbols do in fact appear in many social statistics texts.

The discussion above reveals that the social statistics corpora exhibit some, but not all of the possible characteristics of a sublanguage. The reader will also note that many sublanguage characteristics are closely linked to text type, the subject of our discussion in the next section.

At the end of his paper on sublanguage, Lehrberger (1982: 105) raises a very important issue in relation to sublanguage studies:

A question which stands in need of more investigation is the extent to which corresponding sublanguages in different languages have similar characteristics.

Kittredge (1982 107-137) reports on the findings of the Contrastive Syntax Project begun in 1977 at the Université de Montréal. Eleven varieties of English and French were studied and the results showed that parallel sublanguages of English and French are much more similar structurally than are dissimilar sublanguages of the same language. Parallel sublanguages seem to correspond more closely when the domain of reference is a technical one. The issue of structural similarities between French and English social statistics will be taken up again in Chapter 3.

Other authors have examined the characterisation of sublanguages under the banner of LSP. The main difference between sublanguage and LSP research is that the two orientations have historically had different practical goals, with LSP work focusing mainly on language teaching, and sublanguage research concentrating on developing NLP applications and machine translation systems.

The formal and quantitative peculiarities of LSP syntax have been well documented by Hoffmann (1987). Although Hoffmann's work covers a large number of sublanguages in English, French, German and Russian, it does shed some light on the general characteristics of LSP/sublanguage texts. Three aspects of Hoffmann's work will be discussed here: his analyses of 1) LSP sentences, 2) noun groups and 3) verb groups. Some results of Barber's 1962 work on three sublanguages of English are also reported. Hoffmann's work uses literary prose as a standard of comparison since no clear definition exists of what constitutes the 'standard' or 'general' language.

1 Sentences

Sentences of scientific writing are longer than sentences of literary prose. Hoffmann reports an average sentence length of 17.57 words in social sciences, as opposed to 12.43 words in novels.

The number of clauses in scientific prose is consequently greater.

However, complex and compound sentences are not necessarily more frequent than simple sentences in LSP texts, a fact backed up by Barber's (1962) analyses

There is a reduced number of sentence patterns in scientific writing as compared to novels, for example

The vast majority of LSP sentences are declarative Of 350 sentences analyzed by Barber, 345 were declarative

The main subordinate clause types used in complex sentences are **relative clauses** whose function is attribution or premodification where simple modifiers do not provide the exactitude demanded, and **adverbial clauses** which are more precise than adverbs and adverbials

2 Noun Groups

Noun groups are the most important components of the vast majority of scientific sentences, at least for languages such as English, French, German and Russian They consist of complex terms or free word groups

Nominal groups act as the building blocks from which scientific sentences are constructed because they possess certain inherent qualities which enable them to perform the task of communicating information effectively and efficiently

The optimum number of constituents of noun groups, particularly of terminological ones, ranges from two to four constituents

According to Hoffmann (1987: 99) "It is not the presence of nominal groups as such that distinguishes scientific writing from general language usage and other sublanguages but the amount of modification normally employed by the authors of scientific and technical texts " Heavy pre- and postmodification characterises scientific writing in English, French, German and Russian Of course, the distinction between

scientific writing and 'general' language calls into question Hoffmann's lack of definition of what precisely constitutes 'general' language. It is difficult to make statements about the characteristics of LSPs when no clear definition of general language is available.

3. Verb Groups

Verbal groups are less characteristic of LSP than nominal groups. The selective use of some grammatical categories, e.g. indicative, present tense, third person, passive, emphasizes the restricted function of the verb itself. Indeed, Barber shows that of 25 possible tenses in English, no less than 12 of them are completely unrepresented in his material.

Analyses of verbal groups show an abundant use of adverbs and adverbials as constituents dominated by the verb. These largely contribute to the exactitude and explicitness of scientific information.

Adverbial clauses are even more numerous in LSP than adverbs and adverbials.

Verb phrases in scientific writing are on average more complex than in literary prose. VPs consisting of two or three constituents only, e.g. verb + adverb + noun, are a rare exception in most kinds of scientific texts.

Analyses such as these have helped to reveal some of the most prominent linguistic features of sublanguage texts. Such analyses could also be used to characterise the lexis and grammar of a single sublanguage text type such as social statistics.

2.4 Text Type

Until recently, sublanguage/LSP research has paid little attention to the text-linguistic notions of text type and communicative function. However, authors such as Hatim and Mason in their 1990 book *Discourse and the Translator* have developed a text typology which can be applied to specialised texts. They begin their chapter on text types (p. 138) with a discussion of the problems associated with previous text type classifications. They say that the classification of texts according to criteria such as *field of discourse* alone (a variable of **register**) amounts to little more than a statement of subject matter, with examples such as 'journalistic', 'religious', and 'scientific' text types. A classification of text types according to subject matter is too broad, yet when attempts are made to narrow the focus of description, there is a risk of ending up with virtually as many text types as there are texts.

They go on to discuss a second approach based on text *function*, which leads to text types such as 'literary', 'poetic' and 'didactic'. Again they say that these categories are too broad, and that they do not admit the possibility of a literary text being didactic and vice versa. Hatim and Mason then identify the most serious problem with previous text classifications:

The problem is that, however the typology is set up, any real text will display features of more than one type. This **multifunctionality** is the rule rather than the exception, and any useful typology of texts will have to be able to accommodate such diversity.

(Hatim and Mason 1990: 138)

LSP researchers such as Biber (1989), Wilss (1982) and Stolze (1982) also hold the view that texts are multifunctional. The notion of multifunctionality is vital to Hatim and Mason's text type classification. They define text type as "a conceptual framework which enables us to classify texts in terms of **communicative intentions** serving an **overall rhetorical purpose**" (1990: 139-140). Although texts may be multifunctional,

only one predominant rhetorical purpose can be served at one time in a given text. This is the text's **dominant contextual focus**. Other purposes may well be present, but they are in fact subsidiary to the overall function of the text.

(Hatim and Mason 1990: 146)

So a text may exhibit features of, for example, description, exposition and argumentation, but its dominant contextual focus will be only one of these.

Hatim and Mason distinguish between five basic text types and examine some of the linguistic features typically associated with each. The five types are argumentation, exposition (divided into conceptual exposition, description and narration), and instruction. Hatim (1989) subdivides the argumentative text type into covert and overt argumentation. Larson (1984) divides texts into six basic 'genres' according to the author's purpose in communication. The six genres are narrative, procedural, expository, hortatory, descriptive, and repartee (sequential speech exchanges). Like Hatim and Mason, Larson outlines the general linguistic and semantic features associated with each text type (or, in her terms, each *genre*). Similar work has been carried out by Jahr (1991) on 'Erklärungstexten' ('explanatory' texts), and by Lackstrom (1981) on argumentative texts. De Beaugrande and Dressler (1981) also discuss the semantic relation types associated with descriptive and expository/argumentative discourse.

Texts have also traditionally been divided into subject-independent types such as articles, abstracts, reviews, contracts, directives, dissertations, essays, reports, letters, minutes, monographs, patents, textbooks, theses, etc. This list is an open-ended one and there is no clear definition of each type, nor have they been demarcated against each other.

To return to the five basic text types distinguished by Hatim and Mason (1990: 155), they say that descriptive and narrative texts are generally easy to recognise, but that

it is more difficult to distinguish between argumentative texts and conceptual exposition because the differences between them are often subtle and difficult to perceive

The distinction between conceptual exposition and argumentation is of particular relevance to the social statistics corpora De Beaugrande and Dressler (1981 184) define argumentative texts as

- ↪ those utilized to promote the acceptance or evaluation of certain beliefs or ideas as true vs false, or positive vs negative Conceptual relations such as reason, significance, volition, value and opposition should be frequent The surface texts will often show cohesive devices for emphasis and insistence, e g recurrence, parallelism and paraphrase (De Beaugrande and Dressler 1981 153-4)

This definition may be contrasted with Werlich's definition of conceptual exposition

In this type, the contextual focus is either on the decomposition (analysis) into constituent elements of given concepts, or their composition (synthesis) from constituent elements (Werlich 1976, quoted in Hatim and Mason 1990 155)

In conceptual exposition concepts are therefore handled in a *non-evaluative* manner, while argumentative texts are evaluative texts

The semiotic concepts of monitoring and managing contributed by artificial intelligence are also useful in distinguishing evaluative from non-evaluative texts These are "universal semiotic structures which may be the basis for a typology of text" (Hatim and Mason 1990 115) Referring to Beaugrande and Dressler (1981), Hatim and Mason say that

In argumentation, the focus is on what is known as situation managing, i e the dominant function of the text is to manage or steer the situation in a manner favourable to the text producer's goals In exposition, on the other hand, the focus is on providing a reasonably detached account, i e a monitoring of the situation (Hatim and Mason 1990 155)

The importance of distinguishing between conceptual exposition and argumentation for the social statistics corpora is that although the primary corpus analyzed in Chapter 3 has conceptual exposition as its main text type (with description as a secondary text type), text type assignment to the secondary corpus used in Chapter 4 for testing the translation guidelines is rather more difficult. The secondary corpus is taken from a book whose author, Martine Segalen, **argues** that, contrary to the prevailing belief that the family as a social institution is in decline, it is in fact very much alive and healthy. Segalen's book constitutes a **reevaluation** of the myth of the extended family as the basic family unit in the past. The overall text type of the book is therefore argumentative and evaluative. However, Martine Segalen makes use of the expository text types of conceptual exposition and description in order to achieve this goal. In the passages chosen to test the translation guidelines, the author engages in neutral exposition rather than argumentation in order to pursue her argumentative goal. So the secondary corpus has conceptual exposition and not argumentation as its dominant text type. Martine Segalen's book is indeed multifunctional, as is inevitable in a book of its size. The classification of the extracts as belonging to the category of exposition rather than argumentation is also based on Hatim and Mason's (1990: 178) assertion that they use the term 'text'

not to refer to entire stretches of discourse (articles, books, etc.) but rather to subdivisions made within the undifferentiated whole. Text is a coherent and cohesive unit, realised by one or more than one sequence of mutually relevant elements, and serving some overall rhetorical purpose.

The overall text type of Martine Segalen's *Sociologie de la famille* is therefore argumentative, but she uses coherent and cohesive sub-texts of a different text type (conceptual exposition and description) in order to achieve that overall rhetorical purpose.

Although Hatim and Mason consider an analysis of rhetorical function and dominant contextual focus to be a sufficient basis for the classification of text types, other researchers are not convinced. Wilss, for example (1982), questions whether it is

possible to adequately describe every text type according to one of three text types (expressive, informative, imperative) when it has been demonstrated that most texts are multifunctional. Lothar Hoffmann (1991: 161) says that the classification of text types on the basis of a typology of intentions, functions, communicative means or genres has not proved satisfactory, because it cannot exhaust the broad variety of LSP texts. It is nearly impossible to classify exactly these intentions, functions, etc. themselves and they can hardly be correlated to definite language means. Hoffmann also says that it is inadvisable to found the differentiation of text types solely on the list of explicit (lexical, grammatical) and implicit (logical) relations and markers of cohesion, because these are the same in nearly all parts of discourse.

Hoffmann suggests that a safe basis for the classification of LSP texts would be to elaborate a comprehensive linguistic description of relations and elements in the texts under investigation and to supplement this description with an analysis of the *communicative* characteristics of the texts. The linguistic criteria used for description would be

- 1 Macrostructure
- 2 Pragmatic, semantic and syntactic coherence
- 3 Syntax
 - 3.1 Functional Sentence Perspective
 - 3.2 Sentence type
 - 3.3 Noun phrases
 - 3.4 Verb phrases
- 4 Vocabulary
- 5 Grammatical categories

Hoffmann's communicative criteria would include the Hallidayan components of **register**, **field**, **tenor**, and **mode** (cf. Halliday and Hasan 1989). Register relates the language of a text to the communicative situation in which it appears. The traditional text types, e.g. articles, abstracts, reviews, reports, manuals, textbooks, theses, etc. would be classified on the basis of subject matter (field), social variables such as the existence of and degree of professional competence of the producer(s) and receiver(s).

(tenor), and situational variables such as monologue/dialogue, prepared/spontaneous communication (mode) The **rhetorical mode** (Hatim and Mason's text types), e.g. descriptive/ argumentative/instructive, etc., would also be included in the analysis

What Hoffmann is suggesting, in essence, is that exact statistical measurements of all the *linguistic* characteristics of the traditional text types is the only way of ensuring a correct text type classification Extralinguistic variables would also be taken into account but a classification based on text function alone would be inadequate According to Hoffmann, each text type would be characterised by predominant features, rather than by the absence of features because it is not very likely that many elements of the language system are totally absent in one or more texts

Other researchers on LSP also consider a quantitative analysis of the linguistic features of texts on as many levels as possible to be the best way of elaborating a text classification of LSP texts in terms of text type Biber (1989), for example, uses statistical analysis to examine the notion of text type Like Hoffmann, he maintains that the functional analysis of text types has not been successful and that a text typology should be based on the analysis of co-occurrence restrictions on lexical and syntactic features as well as extralinguistic variables

2.5 Text Linguistics

The unity of the social statistics corpora in terms of their sublanguage and text type has been examined in the first part of this chapter Together, these variables account largely for the *communicative situation* of the corpora What now remains is to examine the techniques developed in linguistics, especially text linguistics and contrastive stylistics, which can be used to describe the *language* of the corpora The current section provides a general overview of the main areas of research in text linguistics and focuses on those areas of text linguistics which can usefully be applied to the description and contrastive analysis of the social statistics corpora Contrastive stylistics will be discussed in Section 2.6 below It is important to note that this

section is an *overview* only, and that many of the sections covered are of no direct relevance to this thesis, but are important if the aim is to provide a survey of current concerns in text linguistics

The Seven Standards of Textuality

In their *Introduction to Text Linguistics* (1981: 3), De Beaugrande and Dressler define a text as a "communicative occurrence which meets seven standards of **textuality**" These are cohesion, coherence, intentionality, acceptability, situationality, informativity and intertextuality In terms of the linguistic description of the social statistics corpora the two standards of **cohesion** and **coherence** are of particular importance Cohesion and coherence are concerned mainly with the internal linguistic features of texts, whereas the other standards relate mainly to the communicative situation, although these standards also affect the language of the texts, e.g. author intention is reflected in the choice of text type, which has manifestations in the language of the text

Cohesion

In their 1976 book entitled *Cohesion in English*, Halliday and Hasan list **cohesion** as one of two components of **texture**, the other being uniformity of **register** in texts They define a text as follows

A text is a passage of discourse which is coherent with respect to the context of situation, and therefore consistent in register, and it is coherent with respect to itself, and therefore cohesive
(Halliday and Hasan, 1976: 23)

They say (p. 11) that there is cohesion "where the interpretation of any item in the discourse requires making reference to some other item in the discourse"

According to Halliday and Hasan, cohesive relations have nothing to do with sentence boundaries and are therefore **semantic** in nature However, the sentence, as the

highest unit of grammatical structure, tends to determine the way in which cohesion is **expressed**. Only certain types of cohesive relation are governed by structural rules, these are mainly those involving identity of reference. Cohesion that is expressed through substitution and ellipsis is unaffected by the sentence structure, as is lexical cohesion. Some types of conjunction are sentence-bound, others are not.

Cohesion binds propositions within the sentence as well as higher-level units. Halliday and Hasan are most concerned with **intersentential** cohesion, cohesive ties between sentences stand out more clearly because they are the *only* source of texture, whereas within the sentence there are structural relations as well (sentence **structure** also provides cohesion).

Halliday and Hasan classify cohesive devices into five distinct types: reference, substitution, ellipsis, conjunction, and lexical cohesion. They devote a separate chapter to each of these text-forming devices. Reference, substitution and ellipsis (substitution by zero) are expressed through the grammar and therefore constitute **grammatical cohesion**. **Lexical cohesion** is expressed mainly through the vocabulary and **conjunction** is expressed mainly by the grammar, but with a lexical component in it.

Cohesive devices can also be classified according to whether they refer **back** to some preceding item in the text (**anaphora**) or **forward** to some item in the following text (**cataphora**). Anaphoric reference is far more prevalent than cataphoric reference. Each of the five types of cohesion will be discussed separately below.

In their chapter on **reference** Halliday and Hasan distinguish between **endophoric** and **exophoric** reference. Exophoric reference is not cohesive as it refers to text-external or **situational** elements. Endophoric reference is cohesive as the presupposed elements are to be found within the text.

Reference is a semantic relation which holds between meanings rather than between linguistic forms. It is expressed through the grammar. There are three types of

reference **personal, demonstrative and comparative** reference Personal reference is reference by means of function in the speech situation, through the category of **person** (personal pronouns, possessive determiners, and possessive pronouns) Demonstrative reference is reference by means of location, on a scale of **proximity** With the exception of the neutral determiner 'the', demonstrative reference items are deictic Comparative reference is indirect reference by means of **identity** or **similarity**

Substitution, unlike reference, is a purely grammatical relation One of the consequences of this distinction is that substitution is subject to a very strong grammatical condition the substitute must be of the same grammatical class as the item for which it substitutes This restriction does not apply to reference since the relationship is on the semantic level, only the semantic properties must match, the reference item is in no way constrained to match the grammatical class of the item it refers to

In substitution, the substitute item may function as a noun (**nominal substitution**), as a verb (**verbal substitution**), or as a clause (**clausal substitution**) The items that occur as substitutes are

Nominal one, ones, same
Verbal do
Clausal so, not

Ellipsis is very similar to substitution, it is simply 'substitution by zero' An elliptical item is **something understood** and left unsaid It refers specifically to sentences, clauses, etc , whose structure is such as to presuppose some preceding item, which then serves as the source of the missing information As is the case for substitution, there are three types of ellipsis nominal, verbal and clausal ellipsis Substitution and ellipsis are purely **textual** relations, with no other function than to cohere one piece of text to another In reference, on the other hand, the semantic properties of the item referred to need not necessarily have been encoded in the text (although they often are), they may be retrievable from the **situation**

Conjunction has the function of relating to each other linguistic elements that occur in succession but are not related to each other by structural means Halliday and Hasan classify conjunction into four types additive, adversative, causal and temporal conjunction, which serve to relate propositions and sentences using explicit linguistic forms

Lastly, **lexical cohesion** is discussed briefly in *Cohesion in English* There are two types of lexical cohesion reiteration and collocation Reiteration includes the lexical devices of

- a) Repetition
- b) Synonymy (or near-synonymy)
- c) Use of superordinates
- d) Use of general nouns (which function like anaphoric reference items)

Collocation concerns lexical items which tend to appear in similar contexts and can be cognitively accounted for in terms of **frames**

In conclusion, cohesion is the range of meanings that are specifically associated with relating what is being said or written to its semantic environment

In their 1981 *Introduction to Text Linguistics*, de Beaugrande and Dressler also discuss cohesion of the surface text, although not in the same detail as Halliday and Hasan They see cohesive devices as being a major contributor to **efficiency** in texts

In closely-knit units such as phrases, clauses, and sentences, cohesion is upheld by fitting elements into short-range grammatical dependencies In long-range stretches of text, the major operation is *discovering how already used elements and patterns can be re-used, modified, or compacted* The long-range devices are contributors to **efficiency** rather than being grammatical obligations they render the utilization of the surface text stable and economic

(de Beaugrande and Dressler 1981 54)

Their classification of cohesive devices is somewhat different to that of Halliday and Hasan Their cohesive categories of **recurrence**, **partial recurrence**, **parallelism**

and **paraphrase** would be equivalent to Halliday and Hasan's category of **lexical cohesion**. Beaugrande and Dressler also speak of **proforms** (pronouns and pro-verbs) which correspond more or less to the categories of **reference** and **substitution** in *Cohesion in English*. Proforms and **ellipsis** are devices which shorten and simplify the surface text and which can lead to an increase in informativity, effectiveness and efficiency. Finally, de Beaugrande and Dressler speak of surface cohesion devices which signal the relationships among events or situations in a textual world: **tense**, **aspect** and **junction**. Halliday and Hasan make no mention of the first two of these devices, which undoubtedly contribute to cohesion in the surface text. The use of textual cohesion devices reflects the continuous trade-off between compactness (efficiency), clarity (effectiveness) and informativity in texts.

Coherence

De Beaugrande and Dressler (1981: 84) define coherence as a "continuity of senses among the knowledge activated by the expressions of the text". It is the surface expressions of the text, along with the receiver's knowledge of the world, that produce coherence. In *Text and Context: Explorations in the Semantics and Pragmatics of Discourse* (1977), Teun van Dijk states that in order for a piece of discourse to be coherent, it must first of all be cohesive. But cohesion, although a necessary condition for discourse coherence, is not the only condition under which a discourse becomes coherent. According to van Dijk, the minimal condition for the coherence of propositions expressed by a sentence or sequence is their connection with the same (or related) topic(s) of conversation/discourse. This notion of topic of discourse will be discussed in greater detail in relation to van Dijk's semantic notion of macrostructures. The facts denoted by propositions must hold in the **same world** or a **related world** at the **same place** and/or at the **same time**. Identity of reference of individuals, properties and relations is an important, though not ultimately necessary factor in coherence. (For a fuller description of the above, necessarily abbreviated conditions on coherence in natural language discourse, see van Dijk, 1977, Chapters 3 and 4)

Coherence is also achieved by leaving some or even most of the information **implicit** in a discourse. Implicit information can be entailed propositions or propositions explicitly expressed. Implicit propositions are called **missing links** and sometimes need to be made explicit if a coherence model is built (see de Beaugrande and Dressler 1981, Chapter V, for a model of coherence which entails making implicit propositions explicit). Language users constantly employ the cognitive process of **inferencing** to provide implicit information. This is closely related to the concept of **frames**.

In order for a discourse to be coherent, **facts must be ordered**. For action and event sequences, this ordering is normal if **temporal** and **causal** ordering corresponds to the linear ordering of the discourse. For state descriptions, facts exist simultaneously. Normal ordering corresponds with general-particular and whole-part relations between facts. This 'normal' ordering is often 'skewed' (see Larson 1984), usually for the purposes of **focusing**.

Van Dijk says that a cognitive condition on coherence is the assumed normality of situations. The set of propositions characterising our conventional knowledge of some more or less autonomous situation (activity, course of events, state) is called a **frame**. When there is conflict with a frame, we require specific indicators of this abnormality. (Frames are also discussed in brief by de Beaugrande and Dressler in their chapter on coherence)

De Beaugrande and Dressler are particularly concerned with certain cognitive aspects of coherence, i.e. how knowledge is stored, organised, and activated in the brain. They deal firstly with how knowledge is **activated** (placed in **active storage**) when **concepts** used in language expressions are being processed. Certain of the **meaning components** of concepts are always activated because they are essential to the identity of concepts, and these meaning components constitute **determinate** knowledge. Other knowledge constitutes **typical** knowledge which is less closely linked to a concept and still other knowledge is **accidental** in relation to the concept. When a concept (item of knowledge) is activated, other items closely linked to it in mental

storage are also activated in a process known as **spreading activation**. Concepts occurring in surface expressions are **decomposed** into smaller units called 'primitives' or 'semes' for cognitive processing.

The authors also discuss memory, particularly **episodic** memory which refers to innate human reasoning powers. When knowledge is stored, common configurations are stored in **chunks**, while seldom used configurations are stored disparately in a **trade-off** between **economy of storage** and **economy of search**. In addition, global patterns of knowledge about a central concept are stored in chunks called **frames**. Finally, for economy of storage and processing, concepts are cognitively arranged in classes on the basis of their similarities.

Hatim and Mason (1990) discuss the cognitive aspects of **text types**. They quote Werlich (1976: 21), who suggests that texts correlate with innate biological properties of the human mind:

Texts, conceived of as assignable to *text types* primarily derive their structural distinctions (text structuring) from innate cognitive properties. Accordingly the five text types [description, narration, exposition, argumentation and instruction] correlate with *forms and ranges of human cognition*. They reflect the basic cognitive processes of contextual organization.

(Hatim and Mason 1990: 159)

They go on to discuss de Beaugrande and Dressler's (1981) work on frames, schemata and plans where the authors (building on previous work by Schank and Abelson) link these global processing patterns to text types. Hatim and Mason's formulation of the link between frames, schemata, plans and goals is much more succinct than that of de Beaugrande and Dressler:

- 1 Description uses 'frames' of knowledge which state what things belong together in principle. Commonsense knowledge is promoted and no specific order for doing things is emphasised.

- 2 Narration uses 'schemata' which establish a sequential order for the occurrence of events in terms of time proximity
 - 3 Argumentation uses 'plans' which govern how events and states lead up to the attainment of a goal
- (Hatim and Mason 1990 159-60)

They thus show how the different text types correlate with the different ranges of human cognition

Models of Text Coherence

Having discussed the cognitive aspects of coherence, de Beaugrande and Dressler proceed to build a model of text coherence. The surface expressions of the text are taken as cues to **activate concepts**. **Primary concepts** act as **control centres**, i.e. they are the *central objects, situations, events and actions* in a text. **Secondary concepts** are related to these central primary concepts, and examples of the most common secondary concepts (see de Beaugrande and Dressler 1981 95-97 for a fuller list) are **state, agent, affected entity, attribute, location, time, quantity, motion**, etc. (These primary and secondary concepts roughly correspond with Larson's case and state roles, to be discussed in connection with her representation of semantic meaning). De Beaugrande and Dressler then introduce a set of operators to further specify these primary and secondary concepts, e.g. strength of linkage operators between concepts.

The elements of the text are then assigned primary or secondary concept status and the interdependencies between these demonstrate the intricate processes of textual coherence. Where certain information necessary for coherence is missing, this information can be made explicit via **inferencing**.

The problem with de Beaugrande and Dressler's model of text coherence is that it becomes hopelessly complex even at paragraph level. Such a model could never be workable at text level. However, it does serve to demonstrate the enormous intricacy

of coherence and the cognitive processes involved. A simplified model of coherence for students of translation is detailed by Mildred Larson in her 1984 book entitled *Meaning-based Translation*.

Larson's main contribution to the study of coherence is to demonstrate a stepwise method of representing meaning in discourse which is clear, manageable, and accessible to the student of translation. Her methods do not differ greatly from those of de Beaugrande and Dressler, she does, however, provide an exhaustive inventory of the relations that exist between propositions at sentence level and above, whereas only a few of these are discussed by de Beaugrande and Dressler (chapter I), and in lesser detail. Larson's model thus accounts for the overall relational strategy of paragraphs and larger units of discourse.

Larson's model begins by breaking down the sentences of the surface text into their constituent **propositions**. Simplified rules for writing propositions are provided. Propositions are of two types: **event** and **state** propositions. An **event** proposition consists of at least a central **event concept** (an **action**, **experience** or **process**) and an additional **thing concept** related by **case roles**. **State** propositions consist of **things** related to **attributes** via **state roles/relations**. The central concept is the comment part of the proposition. Larson's event and state propositions correspond to de Beaugrande and Dressler's typology of primary concepts (events and situations) as the control centres of sentences/propositions. The **case roles** and **state roles** correspond roughly to de Beaugrande and Dressler's secondary concepts.

When propositions are written from natural language texts, the 'skewing' between semantic classes (meaning) and grammatical classes (form) is removed so that attention can be focused purely on semantic aspects of discourse. Passive constructions are made active, for instance, and abstract nouns are reconverted to the event or attribute from which they were formed.

Once the notion of relations *within* propositions has been mastered, Larson turns our attention to relations *between* propositions. These she classifies into several main

types There are **addition** relations where two propositions have the same natural prominence, and **support** relations where two propositions have unequal natural prominence There are **chronological** relations where time is the main relation and **nonchronological** relations where the time relation is secondary These can be combined to give **chronological addition** relations, **chronological support** relations, **nonchronological addition** relations, and **nonchronological support** relations Each of these types is further subdivided to yield an extensive inventory of relations between propositions Non-chronological support relations, for example, can be subdivided into three types of relations orientation, clarification and logical relations The logical relations that can occur between propositions are as follows

Reason - RESULT
Means - RESULT
Purpose - MEANS
Concession - CONTRAEXPECTATION
Grounds - CONCLUSION
Grounds - EXHORTATION
Condition - CONSEQUENCE

For each of these relations, propositions expressing the latter part of the relation e.g. RESULT, CONCLUSION, etc , have natural prominence

It will be noticed that these relations link propositions in pairs There are also secondary relations which link propositions in larger units, and these differ according to text type, e.g. the secondary relations for narrative discourse are called stimulus-RESPONSE roles Hatim and Mason (1990:206) note that Crombie (1985) describes many of these relations as **binary values**

Larson thus builds up a model for representing continuity of meaning (coherence) in discourse, with emphasis on the secondary relations of narrative discourse Her model is geared towards translators in a bid to help them decipher the meaning of discourse, especially if they are translating from/into exotic languages, whose morpho-syntactic systems diverge greatly from that of English

Macrostructure

Van Dijk (1977, Chapter 5) postulates a more global level of semantic coherence than that which exists between propositions and sentence sequences. He calls this global level of organization **macrostructural organization**. A full theory of macrostructures is not developed, rather van Dijk deals with the semantic nature of macrostructures, and provides some linguistic and cognitive evidence for their existence.

The semantic characterisation of macrostructures is as follows. Intuitively, we can say that a discourse is 'about' something. There is an overall **topic of discourse** to which sentences and sentence sequences are related semantically, i.e. for a sequence to have a topic, each sentence or its underlying propositions must 'satisfy' this topic. Such a sequence is coherent with respect to topic or to macrostructure.

Cognitively, the global coherence of macrostructures is essential both for text production and reception. This is because language users cannot store all the propositional information of a discourse in verbal processing. Morpho-syntactic structures placed in **active storage** (short-term memory) are very soon forgotten (see also de Beaugrande and Dressler 1981:85,88). It follows that propositions are replaced by macropropositions which maintain the semantic 'core' of the discourse. Information is deleted and integrated in a process known as **semantic information reduction**. The common sense knowledge contained in **frames** facilitates reduction because such knowledge is **recoverable**. For a more detailed description of the cognitive and semantic aspects of macrostructures, as well as some linguistic evidence, see van Dijk, 1977, Chapter 5.

Another author who introduces the concept of macrostructures (although he does not use this word) is Louis Trimble (1985) in *English for Science and Technology: A Discourse Approach*. His main contribution is in determining the general organizational principles of scientific and technical **rhetoric**. The organization of EST rhetoric includes

- 1) The sequencing of the items of information in a piece of written discourse and
- 2) The expression of the kinds of relationships that exist between these items

Several **organizational levels** can be defined for EST texts

- A The **objectives of the total discourse**, which are usually found in the introductory section
- B The **general rhetorical functions** that develop the objectives of level A, usually marked by section headings or sub-headings
- C The **specific rhetorical functions** that develop the general rhetorical functions of level B. These consist of groups of closely related paragraphs or single paragraphs which add up to one section at level B
- D The **rhetorical techniques** that provide relationships within and between the rhetorical units at level C. The writer must choose one or more of the techniques to organise textual elements. The rhetorical techniques most frequently found in EST are the following

I Orders

- 1 Time order
- 2 Space order
- 3 Causality and result

II Patterns

- 1 Causality and result
- 2 Order of importance
- 3 Comparison and contrast
- 4 Analogy
- 5 Exemplification
- 6 Illustration

The 'orders' are imposed upon the text producer by the nature of the text material, whereas the 'patterns' are generally optional. The patterns correspond more or less to Larson's addition and logical relations

Trimble concentrates mainly on the organisation of levels C and D in his work and on specific grammatical and lexical features associated with different organisation types, e.g. the non-temporal use of tense, passives vs. statives, and definite article and modal verb usage

At level C (specific rhetorical functions) he introduces the important notion of the **conceptual paragraph**. A conceptual paragraph consists of all the information chosen by the writer to develop a generalization, whether this is stated or only implied by the content. When a conceptual paragraph is developed by only one physical paragraph, a one-to-one correspondence exists between them. (In Larson's terms, there is no skewing between form and content). When a conceptual paragraph requires two or more physical paragraphs for its development, there is skewing.

All conceptual paragraphs have a **core generalization** whether expressed or implied. Where the core generalization is expressed, it is called a **core statement**. This corresponds to van Dijk's **topical sentence**, which expresses the **macrostructure** of the (conceptual) paragraph. However, the core need not be expressed - it can be induced. Trimble distinguishes four types of conceptual paragraph, depending on whether the core generalization is expressed explicitly at all, and on where this core statement is situated in the conceptual paragraph.

It is clear that Trimble's conceptual paragraphs and higher level units (general rhetorical functions and total discourse objectives) correspond to van Dijk's macrostructures, as levels of semantic organization that bind together sentence sequences at paragraph, episode and text level. Indeed Larose's 'superstructure' (Larose 1988: 36) could be applied at text level, as a superordinate of macrostructure.

Trimble's book essentially involves a semantic characterisation of scientific and technical texts according to the *function* of texts in discourse. He progresses from higher-level to lower-level discourse units and, finally, discusses the semantic relations (rhetorical techniques) that predominate in EST discourse as well as the grammatical features of EST.

Hoffmann also stresses the importance of macrostructure. He believes that in particular an analysis of the macrostructure of texts for specific purposes (TSPs) will allow greater insight into the processes of text production and reception. For him, the macrostructure reflects the cognitive division of the text into different concepts which, on the surface, is seen as a linear progression of the parts of a text.

Other Standards of Textuality

This section examines in brief some of the other standards of textuality: intentionality, acceptability and informativity.

De Beaugrande and Dressler (1981, Chapter VI) present a detailed analysis of **intentionality** and **acceptability**. A language configuration must be **intended** to be a text and **accepted** as such in order to be utilized in communicative interaction. The importance of these notions is that in some situations the standards of cohesion or coherence can break down. Yet incoherent or incohesive texts can still be accepted by receivers provided that the purposeful nature of the communication is upheld. Cohesion and/or coherence most often break down **unintentionally** in spontaneous oral communication. In other instances, text producers **intentionally** impair coherence in order to pursue a particular **plan** towards a **goal**.

The issue of **grammaticality** versus **acceptability** has been broached by de Beaugrande and Dressler, 1981, and by Enkvist, 1988. An ungrammatical utterance will often be considered acceptable if it is **appropriate** to some context of situation.

In scientific and technical texts in particular, reduced cohesion (including ungrammaticality) and coherence are not normally deemed acceptable. Such texts involve a carefully constructed **plan** towards some **goal**. In successful communication, text receivers are able to detect or infer the text producer's plans and goals. Text producers normally follow certain communicative procedures in order to best fulfil their intentions. Grice (1971) has elaborated four maxims of human

behaviour which text producers follow and by which text receivers judge the acceptability and **interpretability** of texts According to Enkvist (1988 16)

A piece of discourse is interpretable to those who can, under the prevailing circumstances, build around it a text world in which that piece of discourse makes sense, either by being potentially true in that particular text world, or by conforming to acceptable maxims of human behaviour, or both

Thus interpretability depends on a text being potentially true in the semantic text world built around it, or on the text conforming to the pragmatic maxims given above Text worlds are discussed in relation to van Dijk's presentation of coherence (van Dijk, 1977, Chapter 5)

The Gricean maxim of quantity includes a stipulation of **informativity** and the maxim of manner includes one of brevity (the text producer should employ as few words as possible to convey the necessary information) Informativity comes into being through the exclusion of alternatives Every structured element in a piece of discourse increases information and certainty by excluding alternatives The greater the number of excluded alternatives, the greater the information content of the element Meaningful choices arise through choices in many of the linguistic systems, eg choices between morphemes, words, syntactic structures, and textual and discourse structures

Intertextual systems also provide meaningful choices the choice of one **text type** precludes all others In other words, the choice of textual *form* will contribute to the meaning of the message Text producers are often constrained to produce texts that conform to the conventions of a traditional text type, eg an essay or academic article, while text receivers make assumptions about texts on the basis of external format Furthermore, text producers choose the text type (in Hatim and Mason's sense of the term) that best suits their communicative purpose (intention) Text type has already been discussed in detail in Section 2.4

Section 2.5 has provided a broad overview of current concerns in text linguistics. A large number of text linguistic techniques such as analyses of **cohesion** and **macrostructure**, **coherence models**, etc. could potentially be applied to the social statistics corpora. However, because text linguistic techniques are underdeveloped in many areas (there is a wealth of theories concerning them, but in many cases there is no practical application which could be adapted for this thesis), Chapters 3 and 4 are necessarily limited to analysis in a relatively small number of areas. The research concentrates on coherence relations between propositions and sentences established via logical relations, rather than on the more global but less developed concept of macrostructure. A detailed examination of some aspects of textual cohesion is carried out. Chapters 3 and 4 also examine the notion of coherence established through unity of topic (recurrence of a core set of **textual participants**).

2.6 Contrastive Stylistics

The second area of linguistics which forms an integral part of Hartmann's model of contrastive textology is **contrastive analysis** or **contrastive stylistics**. Contrastive stylistics differs from contrastive textology in a number of respects although both are text-based disciplines and are based on language comparison. Firstly, CT recognises the importance of non-translated parallel texts, while CS does not. Furthermore, CT draws on recent developments in text linguistics such as sublanguage, text type and register studies which CS does not. Thus CT has its place in, among other areas, the study of national and individual styles, register ranges, language planning, bilingual lexicography, comparative rhetoric, integration, bilingual code switching and foreign language learning, in addition to translation (see Section 2.2 for a fuller description of some of these uses of CT).

The first major work on contrastive stylistics was published by Vinay and Darbelnet in 1958. Entitled *Stylistique comparée du français et de l'anglais*³, this book "established the first viable brand of contrastive textology" (Hartmann 1980 33) by taking situational appropriateness or equivalence as a common denominator of contrasting source and target language texts. Vinay and Darbelnet's basic assumption was that there are conventionalised styles associated with different communicative situations, and that situational equivalence is the most important component of translation. According to Hartmann (1980 52-3)

Vinay and Darbelnet's greatest contribution was the idea of the text as the basic unit of translation. But as their book was never translated into English and was published when such studies were not considered very prestigious in linguistic theory, the historic importance of their statement was missed, particularly as transformational syntax was about to overhaul the study of constituency relations *within* rather than *beyond* the sentence.

In recent times, a large volume of work has been carried out on contrastive stylistics (CS) in French and English. The most important recent work on CS is Jacqueline Guillemin-Flescher's *Syntaxe comparée du français et de l'anglais*, published in 1981. Hélène Chuquet and Michel Paillard's 1987 *Approche linguistique des problèmes de traduction* is another major work in this area, and the remainder of this section will focus on this book.

Chuquet and Paillard examine in detail a number of differences between French and English in the following areas of grammar, syntax and lexis: determiners and the nominal group, tense and aspect, modality, syntactic organization, the verb group, and lexis. Their results are based on a corpus of predominantly literary and journalistic texts which, although they do not shed light on the specific features of

³In an Appendix to his *Analyse du discours comme méthode de traduction*, Jean Delisle provides a comprehensive summary of Vinay and Darbelnet's main findings (1980 244-5).

LSP texts, are nevertheless of importance to this thesis because LSP texts do display many features of 'general' language texts, although admittedly with variable frequencies of occurrence

It is important to say at the outset that Chuquet and Paillard's work is intended as an aid for two rather different groups of students with variable needs. The first group consists of trainee translators, in this case translation will be almost exclusively into the mother tongue and grammatical considerations can be largely ignored. The second group comprises intermediate language students, in this case translation will be done in both directions and grammatical considerations cannot be ignored. *Approche linguistique des problèmes de traduction* covers both types of translation, hence its concentration on translation at all levels, including the grammatical level. The book concentrates on areas of grammar and syntax that can prove problematic for translators.

Chapter 6 of Chuquet and Paillard's work on the syntactic structure of English and French is of most relevance to this thesis. Chuquet and Paillard (p. 135) borrow the term *agencement syntaxique* from Guillemin-Flescher

pour désigner l'étude des transformations syntaxiques souvent nécessaires et parfois contraignantes lors du passage d'une langue à l'autre. Il ne s'agit donc pas de simples variantes stylistiques mais, plus fondamentalement, de la stratégie propre à chaque langue dans l'orientation de l'énoncé dans son ensemble. C'est le respect des schémas dominants à ce niveau, avant même le détail des choix lexicaux ou grammaticaux, qui donne à une traduction un caractère authentique dans la langue d'arrivée.

The most important syntactic changes which occur in translating from French to English and vice versa are identified by the authors as follows

- French prepositional phrases are often translated by a subordinate clause in English. Conversely, English prepositions are sometimes expanded (*étouffement*) to become full clauses in French.

- The relation between juxtaposed clauses in French will often be made more explicit in translation through the insertion of a relative pronoun or coordinating conjunction to replace the punctuation mark
- Non-finite past participial clauses in French are often expanded to become finite clauses in English
- Conversely, relative clauses in French can sometimes be translated either by a compound nominal group or by an adjective in English
- The use of nominal clauses seems to be more common in French than in English
- A very significant syntactic difference between the languages lies in the possibility that exists in French of associating an inanimate subject with an animate verb whereas English prefers to associate an animate subject with an animate verb. An animate subject is a subject which possesses one or more of the following properties: volition, intention, cognition, perception. Animate verbs refer to activities generally carried out by animate beings, especially human beings. Many verbs are neutral with respect to the property animate/inanimate, the subject which governs these verbs determines whether they are animate or inanimate in any given context. Chuquet and Paillard (pp. 140-1) explain the differences between the French and English usage of animate and inanimate subjects and verbs as follows:

On constate une nette différence entre le français et l'anglais pour ce qui est du rapport entre l'expression linguistique et les catégories extralinguistiques, l'anglais faisant preuve d'une plus grande «homogénéité» que le français et ayant tendance à «ne mettre en relation que des termes dont les référents appartiennent à la même catégorie du réel». Dans le cas particulier de l'opposition «animé/inanimé», alors qu'il est fréquent de voir associés en français un C₀⁴ inanimé et un verbe animé, l'anglais préfère, par le biais de différents procédés syntaxiques, mettre en relation un C₀ et un verbe appartenant à la même catégorie du réel.

⁴C₀ = subject

■ Chuquet and Paillard make a number of observations in relation to the use of **relatives** in the two languages, some of which have been alluded to indirectly above. Firstly, non-defining relative clauses appear more frequently in French than in English. Where they do occur in English, they often appear in parentheses. Secondly, where French makes use of a qualifying relative clause (including defining relative clauses), English frequently either a) integrates the relative clause into the main clause, often by means of a non-finite present or past participle or other procedure or b) translates the relative clause as a juxtaposed or coordinating clause in English. Conversely, relative clauses which refer back to the entire main clause are more common in English than in French, and such clauses will often be rendered by juxtaposed or coordinating clauses in French.

■ The authors also say that relative clauses in French are often rendered by other types of subordinate clause in English (adverbial clauses). The use of adverbial clauses in English is a manifestation of the tendency in the language to disambiguate the relationships between items/processes/clauses (relative clauses express only implicit relationships between items). We would therefore expect French to display a higher frequency of occurrence of relative clauses than English, and English to display a higher frequency of adverbial clauses.

■ Finally, certain constants can be noted relative to the order of insertion of elements into French and English sentences. The first observation is that English deviates much less from the canonical order subject + verb + object than French. Whereas in French one frequently finds elements inserted between subject and verb or between verb and object, English prefers not to break up the basic order. Furthermore, the core subject + verb + object is usually introduced immediately in English whereas in French other elements frequently precede the sentence core. With regard to punctuation, the most noteworthy phenomenon is the much greater frequency of usage of the comma in French than in English. In translation, the semantic relation expressed by the comma is generally made more explicit by expanding it to become a full subordinating or coordinating conjunction.

In Chapter 3, Chuquet and Paillard also examine some of the differences between English and French in terms of their usage of determiners and pronouns in particular

- Although English and French use essentially the same determiners (articles, deictics and quantifiers), and pronouns, the choice of determiner or pronoun is not necessarily the same in similar contexts

- The articles *some* / zero article / *the* and *du/de la/des* / *le/la/les* do not have the same uses. English often uses the zero article where French uses the definite article. In other instances there is partial equivalence of *le/la/les* and *the* and in yet other cases equivalence or its lack between *le/la/les* and *the* depends upon semantic considerations

- *Cel/ces* is often translated by *the* in English and vice versa

- In English the use of *he*, *she* and *it* depends on extra-linguistic criteria, whereas in French it depends only on grammatical considerations. This difference can sometimes lead to ambiguity in translation which needs to be removed either through repetition of the nominal group or through the use of a synonym rather than of a pronoun

- The pronoun *on* is normally translated by means other than *one* in English, e.g. by a passive, by impersonal *it* or *there*, by (some) *people*, *someone*, or by *one*, *we*, *you* or *they*

- English has a tendency to particularize, French to generalize. To illustrate this point, Chuquet and Paillard offer the following example among others: *excellent pour le coeur et les poumons* -> *your heart and lungs feel the benefit*

Many of the authors' observations on determiners and the nominal group are not really relevant to the trainee translator, except perhaps in the very early stages of a

translation degree. Some of these observations have therefore been omitted from the discussion above, e.g. the translation of quantifiers, gender changes in translation, etc.

English and French also display many differences in their use of **tense** and **aspect**. There is a high degree of non-correspondence between the different tenses in French and English. The French present tense and English simple past tense in particular can have many translations, many of which arise as a result of differences in aspect in the two languages. According to J. Guillemm-Flescher, the simple past tense is the dominant tense form in English. The reader should refer to Chuquet and Paillard, Chapter 4, for a more detailed discussion of tense and aspect and of the translation difficulties associated with these.

In Chapter 5, Chuquet and Paillard examine a number of areas of difficulty in the translation of modal auxiliaries. Firstly, they show that the different modal auxiliaries have variable extensibility and that translation of modals is therefore very much context-dependent. Secondly, the authors state that whereas English very often uses modal auxiliaries, French will frequently have recourse to other means to express modality, e.g. the future tense or an infinitive.

Finally, modal auxiliaries in simple sentences in English are frequently translated by a complex sentence in French (often a completive main clause followed by a subordinate clause in the subjunctive mood, e.g. *He may be there* -> *Il se peut qu'il y soit*).

In conclusion, the authors demonstrate a clear tendency in French to avoid the use of modal auxiliaries in many situations.

The preceding paragraphs have touched upon many of the most important differences between French and English, especially in terms of syntactic differences between the languages. Some of these differences will be encountered again in the analysis of the corpora in Chapters 3 and 4.

2.7 Corpus Linguistics

This final section of Chapter 2 attempts to situate the analysis of a restricted sublanguage text type in terms of the range of possible LSP studies. It also discusses the advantages of studying corpora and examines the notion of corpus representativeness.

Situation of the current study with respect to LSP studies in general

Sublanguage corpora can be chosen to perform different tasks. Laurén and Nordman (1991) identify eight possible types of LSP corpora. They classify LSP corpus selection according to whether one or many fields, text types or individuals are under investigation. Thus, for example, broad LSP studies (e.g. Hoffmann 1987) use corpora containing texts by many individuals from many text types and many sublanguages. Such studies can shed some light on the general characteristics of scientific prose. Studies such as the one carried out in this thesis are much more restricted: texts by a number of individuals from a single text type and sublanguage are examined. Such studies can describe in detail the most pertinent characteristics of restricted LSP text types.

Figure 2.1 situates the current study with respect to the broader range of LSP studies. The whole circle represents LSP, the sectors are sublanguages and the zones of the sectors are text types. A study such as Hoffmann's would cover a large portion of this circle. The shaded area in the circle represents the small area of sublanguage/text type that this thesis attempts to characterise.

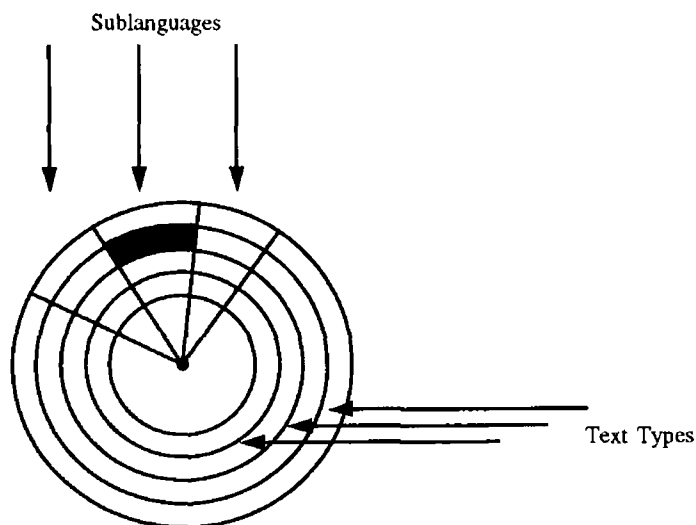


Figure 2.1 Situation of the Social Statistics Corpora within the Entire Range of LSP Corpora

Advantages of studying corpora

Renouf (1993 131) sums up the advantages of studying corpora

Corpus linguistics reflects the shift in academic focus from the brain to the text as the appropriate source of information. A description derived by introspection will tend to be idiosyncratic and partial, since no individual has total awareness of how they or others use language. A description based on the observation of appropriate corpus data, on the other hand, can provide a broader view of language use, including statements about the relative typicality of individual features based on their frequency in the corpus.

Newmark (1986 38) launches a scathing attack on text linguists in his discussion of corpus linguistics. He refers to statistical corpus-bound research as "fresh air in contrast to the waffling of many text linguists who are so expert in stating the trite."

The study of parallel translated corpora and parallel non-translated corpora each has its own distinct advantages and disadvantages. If the purpose of the study is to provide translation guidelines, then the differences between the languages are more

evident when a parallel *translated* corpus is used. However, the main advantages of using parallel *non-translated* corpora are that there is no interference from source language texts such as is to a greater or lesser extent inevitable with translated corpora and, more importantly, that their use allows us to observe differences between language prior to any translation activity. This thesis has made use of the merits of both translated and non-translated corpora.

A representative corpus?

Choosing a representative corpus is vital since the validity of the results depends to a high degree on the corpus selected. It is true that no matter how large a corpus may be, there is no guarantee that it is fully representative of the semantic domain it seeks to describe. A sublanguage corpus is much more likely to be 'representative' than a general language corpus, especially if the range of text types covered is limited. But what exactly is representativeness? A representative corpus may be described as a corpus which exhibits the property of lexical or semantic closure. However, Kittredge (1982) believes that for a corpus to be representative of a sublanguage, it must exhibit all of the possible grammatical and syntactic features of the sublanguage, and not necessarily lexical closure, because lexical closure is virtually impossible to achieve, especially in constantly evolving fields such as computer science or telecommunications.

The size of the corpus depends on the size of the sublanguage from which it is derived. The semantic domain of social statistics is a fairly broad one, covering many aspects of social life, so it is assumed that a representative corpus would need to be a large one.

However, a small-scale project such as this one involving only one researcher cannot possibly hope to analyze a very large corpus. The non-availability of the corpora in machine-readable format presented an initial problem. Furthermore, although much

of the analysis was performed using the Wordcruncher package⁵, a large amount of time-consuming manual analysis was also required, which could not be carried out over very long stretches of text given the limited time available for the analysis. The primary social statistics corpus was thus limited to approximately 11,000 words for each language, and an attempt was made to choose texts which discuss a variety of aspects of social life.

2.8 Conclusion

This chapter has provided an overview of some of the more important works on sublanguage, text type, text linguistics (with particular reference to cohesion and coherence) and contrastive stylistics. Particular attention has been paid to those areas of linguistic theory that are of relevance to the practical analysis of a bilingual corpus of social statistics texts that will be carried out in Chapters 3 and 4. What now remains is to proceed to that analysis.

⁵Once the texts were converted into machine-readable format, they were indexed and saved in Wordcruncher, a text indexing and retrieval package. Among other things, this package enables the user to examine words in context, to count the frequencies of occurrence of individual words and the number of unique items in a stretch of text, and to investigate co-occurrences.

Chapter 3

Analysis of the Primary Corpus

3.1 Introduction

This chapter presents a detailed analysis of the language of expository social statistics writing in French and English. The analysis is based on a bilingual corpus of eight parallel (non-translated) texts of approximately 22,000 words (the primary corpus), a detailed description of which is provided in Section 3.2 below.

The analysis is divided into three major sections: a comparison of some **surface linguistic features** of the texts, followed by an examination of the exponents of textual **coherence**, and finally by an investigation of **cohesion** in the texts. The analysis presented in this chapter is not exhaustive: only those features of coherence and cohesion which are of particular relevance to the description and comparison of expository social statistics are examined. Much of the analysis of textual coherence concentrates on specific categories of **verbs**. Nominal groups and other grammatical categories receive less emphasis. On the basis of the linguistic analysis, a small number of guidelines are provided for the translation of similar texts from French into English.

An important feature of the texts is their use of supporting graphic material. Tables and charts are a particularly prominent feature of the English primary corpus. The language of these charts and tables is not examined in this chapter due to space constraints, although it is recognised that the explanatory legends that accompany them display specific linguistic features such as an absence of finite verbs, frequent definite article deletion and a high concentration of complex nominal groups.

3.2 The Primary Corpus

The primary social statistics corpus comprises two sub-corpora, one in French and one in English. Each sub-corpus consists of four relatively extended non-translated texts, amounting to 10,626 words in French and 11,729 words in English. The

French texts are taken from a French government publication called *Données Sociales* and the English texts come from the corresponding English government publication *Social Trends*

The sublanguage of social statistics encompasses texts on various aspects of society based on census and other statistics and presented from a statistical point of view but with a qualitative slant. The subject domain is therefore a fairly broad one. The current study is not concerned with an examination of the *lexis* of social statistics. Nevertheless, the texts of the French and English primary corpus were chosen to represent a range of sociological topics. Each of the four texts of the French corpus examines a different social phenomenon, and the four English texts cover the same topics with reference to the United Kingdom. Thus the first text of each sub-corpus (hereafter abbreviated to F Text A and E Text A), looks at changing pastimes in France and the United Kingdom, F Text B and E Text B discuss population trends, F Text C and E Text C examine divorce patterns, and Text D of each corpus discusses educational participation rates. It was not difficult to choose corresponding topics because *Données Sociales* and *Social Trends* cover very similar subject areas.

The texts were also chosen to converge in terms of text function (see Section 2.4). The texts in both languages have a primarily expository function (conceptual exposition), although they also have other functions such as description. The language of the texts may also be described as **academic** language, although the texts differ from academic papers in that there is almost no reference to previous work in the subject area. (There is a small amount of background information of this type in the French corpus, but none in the English corpus)

Although the French and English sub-corpora are representative of the same sublanguage and are broadly convergent in terms of text type, there are a number of differences between them which have an impact on the language used. Firstly, the French corpus is somewhat more *analytical* than the English corpus, i.e. it contains more analysis in terms of cause and consequence than the English corpus. There are

several reasons for this difference, the first being that *Données Sociales* is published roughly every three years, while *Social Trends* is an annual publication. This is not significant in itself, but it probably means that the *Insee* researchers have considerably more time for detailed analysis and preparation of papers, and this is reflected in the length of the publications, any edition of *Données Sociales* being approximately twice as long as the corresponding edition of *Social Trends*. This factor does not, however, provide a satisfactory explanation of the different emphasis of the two publications. The greater amount of analysis present in *Données Sociales* is probably due not only to the time factor, but also to a combination of institutional convention and author intent. It is likely that the conventions for writing *Insee* papers require a large component of analysis, whereas the conventions for writing papers for *Social Trends* require less analytical work. It is also likely that the French publication is aimed at a slightly more specialized audience than the English publication. This leads on to the second major difference between the sub-corpora which is that *Données Sociales* uses considerably more specialized terminology than *Social Trends*. This could relate to a tendency in many varieties of French to use erudite rather than prosaic terms, or it could again relate to the longer length of the publication and hence to the greater scope for detail, or, most likely, it relates to the authors' or institution's intention to aim the publication at a slightly more specialized audience.

A third major difference between the texts is that the French primary corpus contains supporting texts called *Encadres* set apart from the remainder of the texts. The *Encadrés* serve a number of functions: they are mainly used to give detailed definitions and explanations of specialized terminology appearing in the main text. Alternatively they may discuss survey methods and inconsistencies. There is also one *Encadré* entitled *Les départements et territoires d'outre-mer* (F Text B 24) which is very similar to the main body of text: it discusses population growth in the DOM-TOM. Population growth in these regions differs from growth in France, so placing the discussion of the DOM-TOM in a separate *Encadré* facilitates evaluation and comparison.

A fourth difference between *Données Sociales* and *Social Trends* is that their overall layout is different. Both are organized into sections according to topic, e.g. population, employment, education, health, etc., but in the French corpus different aspects of each topic are discussed in *article* format. Each section usually contains 3 or 4 different articles, with a general introduction to the topic at the beginning of the section (one of these introductions has been included in F Text B, reproduced in Appendix A). The article format of the French texts means that they give the name of the author(s), and they contain *abstracts* and *bibliographies*. In the English corpus, on the other hand, the text does not take article format, rather, each section is written in chapter form, with a summary of the main points of the section at the beginning of the chapter. Consequently, the English texts contain neither abstracts nor bibliographical information.

Finally, *Données Sociales* makes international comparisons to a greater extent than *Social Trends*. The texts of the French primary corpus are less introspective than those of the English primary corpus, F Texts B and D in particular are concerned with international comparison. All of these differences between the sub-corpora have an effect on the language of the texts, as the remainder of the chapter will show. They also call into question the notion of parallel texts, an issue which will be raised again in the concluding chapter.

3.3 Surface Linguistic Features

This section compares a number of quantifiable surface linguistic features of the French and English texts: sentence length, finite clause structure and the number of finite and non-finite verbs, unique items (including unique verbs), mood, and tense. Sections 3.3.4, 3.3.5 and 3.3.7 in particular reveal some very interesting differences between the sub-corpora.

3.3.1 Sentence Length

The average sentence length of the texts of the French and English corpora is given in Tables 3 1(a) and 3 1(b) below

F Text	A	B	C	D	Total
No. of words	3,079	2,776	2,647	2,124	10,626
No of sentences	133	99	101	91	424
Average Sentence Length / Words	23 15	28	26 2	23 34	25

Table 3 1(a) Average Sentence Length for the Texts of the French Primary Corpus

E Text	A	B	C	D	Total
No. of Words	4 096	3 555	1 275	2 803	11 729
No of Sentences	168	137	45	97	447
Average Sentence Length / Words	24 4	25 9	28 3	28 9	26 2

Table 3 1(b) Average Sentence Length for the Texts of the English Primary Corpus

The average sentence length for the French primary corpus is 25 words. This compares with 26.2 words in the English primary corpus. In both sub-corpora there are considerable differences between texts. The range is between 23.15 and 28 words for the French corpus and between 24.4 and 28.9 words for the English corpus. The overall divergence between texts in terms of sentence lengths is therefore very similar, being 4.85 words for the French corpus and 4.5 words for the English corpus.

Kocourek (1982: 52) finds an average sentence length for French scientific texts of 28.6 words, this compares with an average sentence length for English scientific texts of 29 words. Similar results for Russian point to a broad convergence of sentence lengths for scientific writing across languages. However, these cumulative figures hide the fact that there is considerable variation of sentence lengths between scientific sublanguages within a single language, as the relatively short sentence length of the primary social statistics corpus in both languages reveals.

3.3.2 Finite Clause Structure

The finite clause structure of the sentences of the corpora was analyzed and compared. A clause is defined by Quirk *et al.* (1979: 342) as a unit that can be analyzed into the elements subject, verb, complement, object and adverbial. Not all of these elements are present in every clause.

The work presented below draws heavily on Barber's (1962) methods of finite clause analysis. Non-finite, reduced and verbless clauses are omitted from the analysis procedure, although it is recognised that they contribute significantly to clause complexity. The finite clause structure of the sentences of the French and English sub-corpora is given in Tables 3.2(a) and 3.2(b) below. The tables should be read as in the following examples: *the French primary corpus contains 86 sentences having one main and one subordinate finite clause*, or *the English primary corpus contains 255 sentences having one main and no subordinate clause*.

Finite Subordinate Clauses	0	1	2	3	4	Total
Main Clauses 0		5	-	-	-	5
1	239	86	19	6	2	352
2	40	11	4	2	-	57
3	6	2	-	-	-	8
4	1	-	1	-	-	2
Total	286	104	24	8	2	424

Table 3 2(a) Finite Clause Structure of the Sentences of the French Primary Corpus

Finite Subordinate Clauses	0	1	2	3	4	Total
Main Clauses 0		1	-	-	-	1
1	255	86	24	3	1	369
2	39	18	6	1	-	64
3	5	3	2	1	-	11
4	2	-	-	-	-	2
Total	301	108	32	5	1	447

Table 3 2(b) Finite Clause Structure of the Sentences of the English Primary Corpus

The tables reveal a striking similarity between the sub-corpora in terms of their overall finite clause structure. 56.4 % of the sentences in the French corpus and 57 % of the sentences in the English corpus correspond to the traditional simple sentence (i.e. have one main clause and no subordinate clause). 20.3 % of sentences in the French corpus have one main and one subordinate clause, the figure for the English corpus is 19.2 %. 87.3 % of the sentences in the French corpus have two clauses or less, this corresponds to 85.2 % in the English corpus. Finally, the French corpus has just 2.4 % of sentences with more than two main clauses, and also has 2.4 % of

sentences with more than two subordinate clauses. The English corpus, on the other hand, has 2.9 % of sentences with more than two main clauses, and 1.3 % with more than two subordinate clauses.

These results show that there is considerable homogeneity of clause structure across the two languages within a single sublanguage text type. In fact, there is greater homogeneity of clause structure between these sub-corpora across the languages than there is between two corpora of different sublanguage text types within English. This can be demonstrated by comparing the results of the clause analysis of the English primary social statistics corpus with those obtained by Barber from his 1962 analysis of a 9,600 word chapter from an elementary university textbook on astronomy.

A comparison of the two sublanguage text types reveals that the 'striking simplicity' of the clause structure of Barber's astronomy textbook is even more in evidence in the English social statistics corpus. According to Barber, 71 % of his sentences have only one main clause, this compares to 82.55 % for the English social statistics texts. Only 3.4 % of Barber's sentences have more than two main clauses, the percentage for the social statistics corpus is 3.13 %. 54 % of Barber's sentences have no subordinate clauses at all, the figure for the social statistics corpus is 66.9 %, which constitutes a significant difference from Barber's results. 6.9 % of Barber's sentences have more than two subordinate clauses, the corresponding figure is 1.34 % for the social statistics corpus. Finally, in Barber's text, only 5.2 % of sentences have a total clause number exceeding 4. The result for the social statistics texts is 1.12 %.

The comparison reveals that overall, in spite of having similar sentence lengths (26.2 words for the social statistics corpus and 27.6 words for the astronomy text), the finite clause structure of the English social statistics corpus is significantly simpler than that of Barber's text.

3.3.3 Finite and Non-Finite Verbs

The French primary corpus has one verb (finite or non-finite) for every 11.7 words of running text. It is perhaps somewhat coincidental that the ratio of verbs to running text in the English primary corpus is exactly the same, but it again points to striking structural similarities between parallel sublanguages of English and French.

3.3.4 Unique Items

The number of unique lexical items in the French and English sub-corpora was calculated using the text indexing and retrieval package Wordcruncher. It must be pointed out, however, that the counting procedure used is faulty in a number of ways. Singular and plural forms of the same noun are counted as separate items. When a word appears in a number of different word classes (homographs), commonly noun + verb + adjective, it is counted as only one unique item. Conversely, words with multiple meanings (polysemes) are counted as a single item. In addition, French adjectives can have an unmarked masculine singular form, a masculine plural form, and feminine singular and plural forms, and where such forms arise in the corpus, they are counted as separate lexical items. This is problematic in the sense that English has no adjectival inflections. On the other hand, English has inflections for many comparative and superlative adjectives (e.g. high, higher, highest) and each of these forms is counted as a separate lexical item, whereas French has no such inflected forms. There are many problematic areas in addition to those already mentioned, and these are so numerous that it would be onerous to analyze every word in terms of potential polysemy, number, gender, etc. Such an analysis has therefore not been performed.

What this means is that the unique word counts carried out by Wordcruncher should be accepted with caution. However, one thing has been done to improve the accuracy: figures and dates have been removed from the count.

The number of unique lexical items in the French primary corpus is 2,012, while there are only 1,579 unique items in the English primary corpus. This large difference between the sub-corpora becomes all the more pronounced if we take into consideration the fact that the English corpus is actually some 10 % larger than the French corpus. Thus there is one new unique item for every 5.3 words in the French corpus and one for every 7.4 words in the English corpus.

The difference demonstrates that French social statistics has a much broader vocabulary than English social statistics. This phenomenon will be further demonstrated for specific grammatical and semantic categories of words in Section 3.3.5 below.

3.3.5 Unique Verbs

The French primary corpus has 244 unique finite verbs, while the English primary corpus has just 149. This is in spite of a higher number of finite verbs in the English corpus (729) as opposed to 682 in the French corpus. When the occurrences of non-finite verbs are also taken into account the difference between the sub-corpora becomes even more pronounced. The French corpus has 313 unique verbs, while the English corpus has only 201.

The very large difference between the corpora stems at least partly from the fact that the English primary corpus uses finite *to be* a total of 233 times, whereas the French corpus uses finite *être* just 170 times. This difference relates partly to the higher usage of cleft sentences with finite *be* in the English corpus (31 instances as opposed to 21 cleft sentences with finite *être* in the French corpus). It also relates to the greater prominence of finite *be* in clauses having social actors as their subject in the English corpus (72 as opposed to 19 in the French corpus).

Tables 3 3(a) and 3 3(b) below provide alphabetical listings of all verbs (finite and non-finite) appearing ten or more times in the French and English sub-corpora respectively. The tables demonstrate clearly that the English primary corpus resorts to verb repetition far more frequently than does the French primary corpus.

Verb	No. of Occurrences
aller	13
attendre	12
augmenter	12
avoir	27
dépasser	11
diminuer	10
être	170
observer	10
passer	12
pratiquer	10
rester	23
sembler	11

Table 3 3(a) Verbs (Finite and Non-Finite) Appearing 10 or More Times in the French Primary Corpus

Verb	No. of Occurrences
account for	10
be	233
continue	11
enter	10
be expected to	12
fall	29
be granted	10
have	43
increase	37
leave	15
make	12
be projected	21
reflect	12
remain	14
rise	29
show	51
spend	14
stand	11
take	19
use	10

Table 3 3(b) Verbs (Finite and Non-Finite) Appearing 10 or More Times in the English Primary Corpus

Only 12 verbs appear 10 or more times in the French primary corpus, accounting for 321 of the 910 verbs in the corpus (35.3 %), whereas 20 verbs appear 10 or more times in the English corpus, accounting for 603 of the 1004 verbs (60.1 %) in that corpus

The greater repetition of a smaller inventory of verbs in the English corpus can also be demonstrated through an examination of one group of verbs: verbs of motion (e.g. *augmenter, to increase, diminuer, to fall*). There are 93 verbs of motion in the French corpus, and 25 unique verbs of motion, whereas in the English corpus there are 131 verbs of motion, and just 15 unique items. This smaller number of unique items is also true of other verb types examined in the texts: verbs relating to the analytical framework (Section 3.4.2.1.3), verbs with social actors as subject (Section 3.4.2.2), and quantifying verbs (Section 3.4.2.3.4). The full list of verbs occurring in each of these categories in the sub-corpora is given in the relevant sections.

3.3.6 Mood

According to Judge and Healey (1991: 95) "mood defines the attitude of the speaker or writer towards the action or state of affairs described". French and English have two personal moods: the indicative and the subjunctive (although some grammarians would argue that there are four, cf. Judge and Healey 1991: 94-95 for a discussion of these). The indicative is used for facts, while the subjunctive is used for hypotheses, suppositions, etc. (Chalker 1984: 76). The subjunctive mood hardly exists in modern English, being usually replaceable by modals and by other tense forms (Chalker 1984: 76). Subjunctive forms are not present in the English corpus.

The vast majority of sentences in the French and English texts are in the indicative mood. The verbs are almost always declarative rather than interrogative, although there are a few notable exceptions in an *Encadré* in F Text D (*La qualité des sources*). This divergence may be explained by the function of this *Encadré* which is to call into question the comparability of international statistics on education.

There are also a small number of verbs in the French corpus which are inflected for the subjunctive mood. These are mainly subjunctive forms of *être*, 10 such verbs appear in total in the French corpus. Furthermore, a number of imperative verbs

appear in the English corpus (some grammarians classify the imperative as a separate mood), there are 11 imperative verbs in total in the English corpus and all appear in the bracketed construction of the type "see Table x"

A number of verbs in the sub-corpora appear in the modal tenses the future and conditional tenses (see Tables 3.4 (a) and (b) below), and there are also a number of modal auxiliaries in both corpora 26 in the French corpus and 15 in the English corpus (see Section 3.4.2.1.1 for a discussion of the functions of modal verbs)

3.3.7 Tense

Tables 3.4(a) and (b) provide a tense breakdown of finite verbs in the French and English sub-corpora. The tables include both subjunctives (French corpus only) and modal verbs. These latter categories are classified semantically in the tables, i.e. according to the **time** they come closest to expressing, rather than according to their **inflections for tense**.

The classification of subjunctive verbs according to considerations other than their traditional tense classification is based on Judge and Healey's (1991: 134) assertion that the subjunctive does not represent time clearly. According to them:

It is the time referred to by the tense in the main clause and the context in general which indicate from what point in time the action in the subordinate clause is considered.

Modal verbs are also classified semantically in the tables because their traditional tense classification is faulty in a number of ways. In English, for example, modal verbs were traditionally divided into present and past modals, with *could* / *might* /

would / should being classified as past tense forms of *can / may / shall / will*
However, Chalker (1984 116) classifies *could / might / would / should*

as separate modals (and not as past forms of *can / may / shall / will*)
because

- [a] it is only in reported speech that they are regularly used as pasts,
- [b] all four forms have present and future reference

Most modals in the both corpora have present time reference

Finally, imperatives are listed separately in Table 3 4(b) According to Quirk, Greenbaum, Leech and Svartvik (1971 402), the imperative verb is severely restricted as to tense In their *Reference Grammar of Modern French* (1991 177), Judge and Healey make the following comment about the relationship between imperatives and tense

it [the imperative] is not a temporal mood The action is not seen as realized it refers to the completion of an action in the future and as such it is prospective

Although they are listed separately in Table 3 4 (b), all eleven imperatives ("see Table x") in the English primary corpus are thus considered to have future tense reference

All other verbs, which constitute the bulk of verbs in the primary corpus for both languages, are classified morphologically in the tables

Tense	Text A	Text B	Text C	Text D	Total
Present	165	104	130	105	504
Perfect	57	20	21	26	124
Imperfect	15	3	5	3	26
Pluperfect	-	1	-	-	1
Past Anterior	1	-	-	-	1
Future Simple	-	6	3	1	10
Conditional Present	1	8	1	4	14
Conditional Past 1	-	1	-	1	2
Total Verbs	239	143	160	140	682

Table 3.4(a) Tense Breakdown of the French Primary Corpus

Tense	A	B	C	D	Total
Present Simple	78	89	20	57	244
Past Simple	124	101	42	96	363
Present Perfect	35	21	13	8	77
Pluperfect	4	1	5	2	12
Present Progressive	4	-	-	1	5
Present Perfect Prog	1	-	-	-	1
Past Progressive	-	-	3	1	4
Future	2	7	-	2	11
Imperative	1	4	1	5	11
Conditional	-	1	-	-	1
Total	249	224	84	172	729

Table 3 4(b) Tense Breakdown of the English Primary Corpus

From a comparative point of view, several points emerge in relation to the tables above. Firstly, the present tense is strongly predominant in the French primary corpus, whereas the past tense is the first choice for writers in the English corpus, although the present simple is also used to a considerable extent. Tables 3.5(a) and (b) below record the overall weightings of the three most important tenses in the French and English texts.

Tense	Text A	Text B	Text C	Text D	Total
Present	69	72.9	81.15	75	73.9
Perfect	23.85	13.9	13.2	18.55	18.2
Imperfect	6.3	2.1	3.15	2.15	3.8
Total	99.15	88.9	97.5	95.7	95.9

Table 3.5(a) Percentage Breakdowns of the Three Most Important Tenses in the French Primary Corpus

Tense	A	B	C	D	Total
Present Simple	31.35	39.75	23.8	33.15	33.5
Past Simple	49.8	45.1	50	55.8	49.8
Present Perfect	14.05	9.4	15.5	4.65	10.55
Total	95.2	94.2	89.3	93.6	93.8

Table 3.5(b) Percentage Breakdowns of the Three Most Important Tenses in the English Primary Corpus

The significant difference in the weightings of the past and present tenses in the French and English texts stems mainly from a difference in outlook on the part of the authors in the two languages. The French analysts tend to view statistics from recent surveys as *current* statistics and therefore refer to them in the *present tense*, whereas their English counterparts tend to view such surveys as *past* events and so make reference to them in one of the *past tenses*, usually the simple past. Examples of this phenomenon in both sub-corpora are

La rupture de la vie commune **reste** partout très marginale et ne **dépasse** pratiquement jamais 2 % des divorces Le divorce pour faute **est choisi** plus souvent dans le centre du pays
(F Text C 300)

In 1984-1988 as a whole more migrants (including British citizens) **entered** the United Kingdom than **left** (Table 1 14) However, in 1988 itself more people **left** than **entered**
(E Text B 30)

The statistics on which the French quotation are based were first published in 1982 Use of the present tense without a specific time reference point in the quotation gives these statistics the status of a current trend, whereas the use of a past tense in conjunction with a specific date would, more accurately perhaps, have shown the statistics to be representative of French social behaviour at a specific point in time This is a general trend in the French primary corpus statistics tend to be given in the present tense without a specific time reference point, whereas in the English primary corpus, statistics are generally given in one of the past tenses (usually the simple past) in conjunction with a specific date An examination of the frequencies of occurrence of specific dates in the sub-corpora using Wordcruncher provides proof of this difference between them specific dates appear just 99 times over the entire French corpus, whereas they appear a total of 462 times in the English corpus

This is not to say, however, that statistics are never given in the past tenses in the French corpus, or that they are never given in the present tense in the English corpus In fact, a significant proportion of clauses in both corpora do not obey the general trend for that corpus The examples below provide evidence of both these possibilities in the corpora

De 1967 à 1987 , le revenu disponible par personne **a augmenté** de 59 % en francs constants Durant la même période, la durée du travail des employés et ouvriers **a diminué** de 6 heures par semaine
(F Text A 213)

Men **are** generally more likely to read newspapers than women, while a slightly higher proportion of adults **read** Sunday newspapers than daily morning national newspapers

(E Text A 157)

Specific dates occasionally co-occur with the present tense in the French corpus, e g *Au 1er janvier 1989, la France métropolitaine compte 55 996 000 habitants* (F Text B 18) This usage may be considered to be similar to a historic present, although the co-occurring date is a very recent one In the English corpus, on the other hand, the present tense never co-occurs with a recent (but past) statistic, in fact such structures would appear to be alien to the language

The relatively infrequent use of the present tense in the English corpus to give recent statistics current validity is somewhat offset by the use of the present perfect simple tense to the same effect The time reference of this tense extends from an initial point of reference to the time of writing or of reading, i e *now* An example of present perfect tense usage to give statistics current validity in the English primary corpus is as follows

Since 1988 the rate of remarriages for men **has fallen** in most years

(E Text C 41)

The perfect tense can fulfil a similar function in the French primary corpus in cases where it corresponds to an English present perfect, e g

Les vingt dernières années **ont été** très favorables à la pratique des loisirs

(F Text A 213)

An interesting point to note in relation to the present perfect tense in the English corpus is that two-thirds of these verbs are verbs of motion, while approximately half of the perfect tense verbs in the French corpus are verbs of motion Verbs of motion thus tend to correlate with specific tenses in the corpora, and their distribution over the various tenses differs greatly from the tense distribution of verbs as a whole in

the corpora In the French corpus, just 35.4 % of verbs of motion are in the present tense, while the percentage of present tense verbs in the corpus overall is 73.9 %. Conversely 56.6 % of verbs of motion are in the perfect tense as opposed to just 18.2 % of perfect tense verbs in the corpus overall Verbs of motion are one of the few verb categories in the French corpus that regularly co-occur with a past date and therefore tend to be used in the perfect tense In the English corpus, the percentage of verbs of motion in the past simple tense (49.2 %) matches the proportion of past simple occurrences in the corpus as a whole (49.8 %), but the percentage in the present perfect tense, at 40.3 %, is much higher than the figure for the entire corpus (10.56 %), while that for the present tense, at 3.2 %, is very much lower than the 33.47 % of present tense occurrences in the corpus overall The regular co-occurrence of verbs of motion with *since* + a specific date accounts for the high proportion of these verbs in the present perfect tense Verbs of motion also account for eight of the 12 pluperfects in the English corpus Other verb types also correlate with specific tenses, e.g. *être* and *to be* both correlate more with the present tense than is the norm for the corpora, and this is surely the case for other semantic categories of verbs as well, but these have not been examined because of time constraints

Both corpora almost invariably use the present tense for intervention on the part of the analyst, e.g. *on les appelle, est estimée, il est difficile de, it is important to note, are discussed* In the English corpus, reference to accompanying graphic material in the form of charts and tables, as well as to statistics from other sources is made almost exclusively in the present tense, e.g. *Chart 1.18 shows* Reference to accompanying visual material is much less common in the French corpus, but it does nevertheless occur, e.g. *comme en témoignent les chiffres de la figure 4*

The two corpora also generally use the present tense in all types of explanatory material in **explanations of cause**, e.g. *Ces différences tiennent probablement à la composition des familles* (F Text C 299) or *Over two-thirds of the increase can be attributed to the increase in the number of female students* (E Text D 59), in **definitions**, e.g. *le divorce pour faute suppose qu'un des époux fasse la preuve des*

faits imputables à l'autre «qui constituent une violation grave et renouvelée des devoirs et obligations du mariage » (F Text C 299), or *For demographic purposes they use the agreed international definition of migrants, such that a 'new resident' is someone who, having lived abroad for a least twelve months, declares an intention to reside in the United Kingdom for at least twelve months* (E Text B 30), and in **expressions of purpose**, e.g. *Elle est destinée à compenser* (F Text C 299), or *the aim of the new system is to encourage* *The GCSE examinations are intended to give* Finally, the present tense is often used in the presentation of **background material**, e.g. *Le monde des associations est varié Il va du club sportif aux associations de copropriétaires en passant par les mouvements militants* (F Text A 215), or *Pupils throughout the United Kingdom have the option of leaving school at 16 However, school leaving dates in Scotland allow a large number of Scottish pupils to leave at age 15* (E Text D 56) This is not to say, however, that *all* material which is not directly statistical is automatically given in the present tense, some analytical and explanatory information does appear in the other tenses

From the discussion above we can see that the present tense has a much wider scope in the French than in the English primary corpus, on various occasions the French present tense corresponds to the present simple, the present progressive, the simple past, and the present perfect tense in English

In conclusion, the most important point to note from the tense comparisons is that the English corpus generally uses the various past tense forms to refer to recent statistics, and almost always gives the date of reference of the statistics, whereas the French corpus most frequently uses the present tense without a specific date to refer to recent statistics

In terms of translation strategies the most important issue to arise from the comparison of tense usage in the corpora is whether the translator of a social statistics text from French into English should shift from a present tense to a past or perfect tense in the translation of statistical statements, in cases where such a tense shift would involve no change in meaning In so doing the translator would appear to

adhere to the tense usage norms for presenting statistics in the English. Thus in the passage *Le public du théâtre a légèrement diminué. Ceux qui y vont au moins une fois par an étaient 21 % et ne sont plus que 18 %*, the translation might be as follows: *The number of theatre attendances has decreased slightly. 21 % of the population visited the theatre at least once a year in 1967, this proportion has dropped to just 18 % / this proportion was / fell to just 18 % in 1987*. The argument here is that rather than translating the final clause by *the proportion is now just 18 %*, the translator should render the French present tense verb either by a present perfect tense verb, or it should give a date of reference (retrievable in this instance from the accompanying chart) for the statistical statement and place it in the past tense. In so doing the translation would obey the tense usage norms for the presentation of statistics in English.

3.4 Coherence

This section examines two aspects of the establishment of textual coherence in the sub-corpora. The first important feature of textual coherence is the linking of textual elements by **semantic relations**. The second is the constant recurrence of a core set of **textual participants** across the texts, namely, social actors and their social actions and states, as well as the analyst and the statistical framework. Section 3.4.1 examines the various subordinators, coordinators and connectors used to link finite clauses and sentences in the corpora, and goes on to examine in detail the language used to express two core semantic relations: comparison and causality. Section 3.4.2 looks at the language associated with the core textual participants in the corpora. The results obtained are compared throughout and guidelines for translation are provided where significant findings are made.

3.4.1 The Expression of Semantic Relations

A large number of semantic relations appear in both sub-corpora. They include **addition / enumeration, comparison / opposition (contrast), cause / consequence, time, concession, condition, elaboration, means and purpose**. These relations establish semantic links between the textual participants at phrase, clause, sentence and inter-sentence level and are vital to the establishment of textual **coherence**.

Section 3.4.1.1 examines the broad range of semantic relations expressed through **clause coordinators and subordinators**. Section 3.4.1.2 concentrates on the semantic relations expressed via **sentence connectors**. Sections 3.4.1.3 and 3.4.1.4 provide a detailed examination of the exponents of the two crucial semantic relations in social statistics writing: **comparison / opposition** and **cause / consequence**. **Addition** is in fact the most important semantic relation in the primary corpus but it is present in all text types and is therefore not a defining feature of social statistics. Furthermore, while it is recognised that a large number of additional semantic relations, e.g. **concession** and **elaboration**, have textual exponents other than conjunctions and sentence connectors, space constraints make it impossible to provide a description of these.

3.4.1.1 Semantic Relations Expressed through Clause Coordinators and Subordinators

The primary means through which semantic relations **between clauses** are expressed is through **coordinators and subordinators**. These express various relation types. Some coordinators and subordinators express different semantic relations in different contexts.

There are two types of **coordination** between clauses **syndetic** and **asyndetic coordination**. **Syndetic coordination** exists when a specific coordinating conjunction mediates between the coordinated clauses. **Asyndetic coordination** exists between clauses which are not joined by a specific coordinator but where one could be supplied. Asyndetic coordination thus concerns clauses joined by various punctuation marks.

Subordinators in the primary corpus include **subordinating conjunctions**, **relative pronouns** and **completives**. Each of these corresponds to a specific subordinate clause type: subordinating conjunctions appear at the head of adverbial clauses, relative pronouns introduce relative clauses, and completives introduce nominal clauses⁶.

Subordinating conjunctions express various logico-semantic relations between the main clause and the subordinated one. The other subordinators express different types of semantic relations. Relative pronouns link a noun or pronoun and a following subordinate clause. Completives (*que / that*) link a main clause containing either a declarative verb, a verb of opinion or a verb of emotion, to a subordinate clause which introduces the content of the utterance.

The coordinators and subordinators linking clauses in the corpora are listed below in Figures 3.1 and 3.2 for the French and English primary corpus respectively. The semantic relation expressed by each of the coordinating and subordinating conjunctions in the contexts in which they appear is also given. This section complements section 3.3.2 on finite clause structure.

⁶See Judge and Healey, 1991, pp. 360-363 for a discussion of adverbial clauses, and 359-360 for a discussion of nominal (completive) clauses.

Figure 3.1 Coordinators and Subordinators at Clause Junctions in the French Primary Corpus (261)

1 C O O R D I N A T O R S (79)

1(a) Syndetic Coordinators - Coordinating Conjunctions (35)

Item	Relation Type	No
car	cause	4
et	addition	20
mais	concession	9
non seulement mais	addition	1
ou bien	alternation	1

1 (b) Asyndetic Coordinators (44)

Item	No
,	13
,	20
,	4
()	6
- -	1

2 S U B O R D I N A T O R S (182)

2(a) Subordinating Conjunctions (45)

Item	Relation Type	No
alors que	opposition	5
à mesure que	time	1
autant que	comparison	1
bien que	concession	1
comme	comparison	2
d'autant plus que	cause	1
dès lors que	time	1
de sorte que	consequence	2
lorsque	time	5
parce que	cause	4
pour que	goal	1
puisque	cause	2
quoique	concession	1
sans que	exception	1
si	condition	12
si bien que	consequence	1
tandis que	opposition	4

2(b) Relative Pronouns (106)

Item	No
auquel	1
dont	12
lequel	6
où	11
que	15
ce que	2
qui	56
ce qui	3

2(c) Completives (31)

Item	No
que	31

Figure 3.2 Coordinators and Subordinators at Clause Junctions in the English Primary Corpus (283)

1 COORDINATORS (92)

1(a) Syndetic Coordinators - Coordinating Conjunctions (46)

Item	Relation Type	No
and	addition	37
but	concession	9

1(b) Asyndetic Coordinators (46)

Item	No
,	19
'	3
,	10
()	13
- -	1

2 SUBORDINATORS (191)

2(a) Subordinating Conjunctions (85)

Item	Relation Type	No
after	time	2
although	concession	15
as	cause	1
as	anaphoric ⁷	1
as	comparison	1
because	cause	6
since	cause	1
than	comparison	10
in order that	goal	1
so that	consequence	1
though	concession	4
unless	condition (negative)	1
when	time	8
whereas	opposition	4
while	opposition	19
whilst	opposition	10

2(b) Relative Pronouns (66)

Item	No
where	4
which	32
who	24
whose -explicit	5
-elided	1

2(c) Completives (40)

Item	No
that -explicit	36
-elided	4

⁷As occasionally acts as an anaphoric linking device. Such a construction appears once in the English corpus: "White men are most likely to be married (52 per cent), as are Indian women (52 per cent)" (E Text C 40)

A comparison of Figures 3 1 and 3 2 reveals a number of significant differences between the corpora, especially in terms of their usage of clause subordinators

The frequency of usage of clause coordinators is more or less the same across the corpora, given the fact that the English primary corpus is approximately 10 % bigger than the French. The frequency of occurrence of asyndetic coordination in the English corpus is in relative terms somewhat smaller than that of the French corpus, although not significantly so. According to Judge and Healey (1991: 390) and various authors in contrastive stylistics (see, for example, Chuquet and Paillard 1987: 148-151), coordinated clauses tend to be juxtaposed (i.e. linked by punctuation alone) to a greater extent in French than in English. The primary social statistics corpus only bears this out to a slight degree (55.7 % of coordinators are asyndetic in the French corpus compared with 50 % in the English corpus).

The most striking difference between the languages in the primary corpus in relation to their usage of clause subordinators is the small number of adverbial clauses and much greater number of relative clauses in the French corpus, whereas the opposite obtains in the English corpus. 58.2 % of subordinators in the French primary corpus are relative clauses and 24.7 % are adverbial clauses. In the English corpus, just 34.5 % of subordinate clauses are relative clauses and 44.5 % are adverbial clauses. In their chapter on comparative syntax, Chuquet and Paillard (1987) also note the stronger prominence of relative clauses in French compared to English, although they do not provide empirical evidence of this. The smaller proportion of relative clauses in the English primary corpus might relate to a greater degree of usage of present participles and prepositions as a replacement for relative clauses. It is certainly the case that present participial clauses appear far more frequently in the English corpus (78 times) than in the French corpus (43 times). Chuquet and Paillard (1987: 154) note "la fréquence de ce type de construction (formes verbales en -ing), notamment face aux relatives en français". Furthermore, the far higher frequency of usage of adverbial clauses than relative clauses in the English primary corpus is probably "une manifestation de la tendance de l'anglais à expliciter et désambigüiser les relations" (Chuquet and Paillard 1987: 145).

The subordinating conjunctions in the corpora express various semantic relations. Many of these have very different weightings across the corpora. Conjunctions of opposition appear only nine times in the French sub-corpus compared to 33 times in the English sub-corpus. However, it is true to say that the subordinating conjunctions of opposition *while*, *whereas* and *whilst* in many respects behave like coordinating conjunctions (they can have the meaning of 'and in contrast'), and some dictionaries, e.g. *The Collins English Dictionary* (1986 Edition) classify them as such. A good example of this usage of *while* is as follows:

Thus the peak in the number of 16 to 19 year olds reached in the early 1980s reflects the high number of births in the mid-1960s, **while** the trough projected in the mid-1990s arises from the low births experienced in the late 1970s

(E Text B 24)

Of course, not all the instances of *while*, *whilst* and *whereas* have an additive meaning. However, their frequent usage in instances where a conjunction of addition would have sufficed in the English primary corpus might account for the far greater frequency of usage of conjunctions of opposition in the English than in the French corpus.

Conjunctions of opposition are not the only subordinating conjunctions that have a far higher frequency of occurrence in the English than in the French primary corpus. Conjunctions of concession (*though*, *although*) appear 19 times in the English corpus but only twice in the French corpus. Conjunctions of comparison appear 11 times in the English corpus and only three times in the French corpus. The only semantic relation expressed significantly more often through subordinating conjunctions in the French corpus is the relation of **condition**. The reason for the greater number of conjunctions of concession and comparison in the English corpus lies at least partially in the fact that English has a greater tendency to specify the relations between clauses than French, i.e. French will use juxtaposition of clauses, or relative clauses, in preference to adverbial clauses. Hence the far smaller numbers of subordinating conjunctions of almost all types in the French corpus.

Finally, nominal clauses appear more frequently in the English primary corpus than in the French. This relates solely to the frequent use of completives to refer to tables and charts in the English corpus (e.g. *Table 10 12 shows that*), a procedure not used in the French corpus.

3.4.1.2 Semantic Relations Expressed through Sentence Connectors

Intersentence connection in the corpora is achieved in part through the medium of sentence connectors which express various semantic relation types: addition, enumeration and elaboration, concession, comparison and opposition, and consequence. (It is also achieved through various other devices, some of which are discussed in Section 3.5 on **Cohesion**). Previous studies have shown the frequency of sentence connectors to be much lower in English scientific / academic writing than in German (cf. Doherty 1987). A study of the sentence connectors in the primary social statistics corpus shows that this is also true of academic English relative to academic French. There are almost twice as many sentence connectors in the French primary corpus as there are in the English primary corpus. The sentence connectors appearing in the corpora are listed in Tables 3.6(a) and 3.6(b).

French Primary Corpus (91 Sentence Connectors)		
Item	Semantic Relation	No.
d'ailleurs	addition/enumeration	3
par ailleurs	addition/enumeration	3
ainsi	consequence	12
aussi (= ainsi)	consequence	3
aussi (= et)	addition	6
cependant	concession	4
certes	concession	1
au contraire	opposition	1
donc	consequence	4
en effet	cause	3
également	addition/enumeration	7
et	addition	1
par exemple	elaboration	3
de fait	opposition	1
en fait	opposition	1
mais	concession	10
d'une manière analogue	comparison	1
de même	comparison	5
néanmoins	concession	3
notamment	elaboration	1
or	addition	2
en outre	addition/enumeration	2
d'une part	enumeration	2
d'autre part	enumeration	2
plutôt	opposition	2
pourtant	concession	1
en revanche	opposition	4
toutefois	concession	3

Table 3.6(a) Sentence Connectors in the French Primary Corpus

English Primary Corpus (53 Sentence Connectors)		
Item	Semantic Relation	No.
in addition	addition	1
also	addition	12
by comparison	comparison	1
consequently	consequence	1
in contrast	opposition	5
conversely	opposition	3
correspondingly	comparison	1
for example	elaboration	3
on the other hand	enumeration	4
however	concession	18
for instance	elaboration	1
similarly	comparison	1
therefore	consequence	1
thus	consequence	1

Table 3.6(b) Sentence Connectors in the English Primary Corpus

The main semantic relations expressed through sentence connectors in the corpora are addition / enumeration (27 in the French corpus, 17 in the English corpus) and concession / opposition (31 in the French corpus, 26 in the English corpus) There are 19 sentence connectors which express the relation of consequence in the French corpus and only 3 in the English corpus

From the perspective of translation, the important question to arise out of this analysis is if all the sentence connectors in a French social statistics text were translated by a corresponding sentence connector in English, would the finished version be an overtranslation, with logical relations between sentences expressed in an over-explicit manner that is not ‘natural’ to English? Should some sentence connectors be omitted in translation? On the basis of the findings from the primary corpus, it would appear

that sentence connectors expressing consequence in particular might need to be omitted in translation. On the other hand sentence connectors expressing concession for example appear to be articulated just as frequently in the English corpus as in the French. Using the same logic, these connectors might need to be retained in translation.

Another important issue to arise from the comparison of sentence connectors is the lack of variety in the English sentence connectors compared to the French connectors. This is again an example of the use of a broader vocabulary in social statistics in French than in English. The relation of concession, for example, is expressed by six different sentence connectors in the French corpus, but only by *however* in the English corpus. Sentence connectors such as *nevertheless* and *still* do not appear. The same is true of addition: seven different connectors express this relation in the French corpus, but only two connectors do so in the English corpus. Some of the more generally accepted equivalents of *d'ailleurs/par ailleurs* and *en outre* such as *moreover*, *furthermore* and *besides* do not appear at all. The issue at stake is whether translators of social statistics texts from French into English should use only a limited number of unique sentence connectors in translation.

3.4.1.3 The Expression of Comparison and Opposition

Of all the semantic relations, comparison / opposition is undoubtedly the most important in each of the texts of both sub-corpora. The predominance of this relation in the corpora relates to the primary function of the texts: to examine and present trends in social phenomena. Each sub-corpus introduces comparisons between the present and some point(s) in the past in order to establish exactly what these trends are. Both sub-corpora likewise involve comparisons between different age groups, between men and women, and between different social groups. Different social actions and states are also compared, e.g. birth and death, marriage and divorce, practice or non-practice of a sport, participation or non-participation in third-level education.

The relation of comparison is often not made explicit in the texts of the primary corpus, the comparable elements are merely juxtaposed, e.g.

Au Royaume-Uni, le nombre des étudiants à temps plein ne s'accroît que de 25 % pour les garçons et de 50 % pour les filles. Celui des étudiants à temps partiel progresse respectivement de 57 % et de 500 %

(F Text D 333)

In this and many other examples, the relation between the sentences is one of opposition (contrast). The reader must establish the relationship between the sentences via a cognitive process known as inferencing.

The devices for the expression of comparison and opposition can be divided into devices for the expression of **superiority/inferiority**, and **similarity/difference**. The remainder of this section will be devoted to an examination of each of these comparison types in the corpora. Conjunctions and sentence connectors of comparison and opposition will be excluded because they have already been listed in the previous two sections.

3.4.1.3.1 The Expression of Superiority and Inferiority

The most important devices for the expression of **superiority** and **inferiority** in the French primary corpus are the comparative and superlative *plus/moins* and *le/la/les plus/moins*. These devices most frequently modify adjectives, but they also modify adverbs, verbs and nouns in the corpus. *Plus/moins* may or may not occur in conjunction with the correlative clause introducer *que*.

In the English primary corpus, on the other hand, the most important devices for the expression of the comparative are *more/less* and inflected comparatives in *-er*, while the most important devices for the expression of the superlative are *(the) most/least* and inflected superlatives in *-est*. Again adjectives are the biggest category of the

grammar modified by comparatives and superlatives in the English corpus, but other categories may also be modified. Like the French *plus/moins*, comparatives in *more/less* and *-er* may or may not be completed by the correlative *than*.

When comparatives and superlatives modify nouns they are classed as **quantifiers**. In the French primary corpus the comparative quantifier is *plus de/moins de* and the superlative quantifier is *le plus de/le moins de*. In the English corpus the comparative quantifier is *more/less* and the superlative quantifier is *(the) most/(the) least*.

Examples of comparatives and superlatives in context are given below for both corpora.

En matière de loisirs, hommes et femmes ont souvent évolué parallèlement. Quand ce n'est pas le cas, c'est toujours dans le sens d'une croissance **plus forte** (ou d'une **moindre dégradation**) de la pratique des femmes. De sorte que celles-ci ont, comparativement aux hommes, des loisirs **plus diversifiés** maintenant **qu'autrefois**.
(F Text A 215)

Plus de loisirs ne signifie pas toujours **plus de temps de loisir**.
(F Text A 216)

the most outstanding decline occurred in the United Kingdom. In the USA in 1983 the rate of cinema attendance was 5.1 visits per person, this was **the highest rate** since 1965, but has not been matched since.

(E Text A 152)

It is generally regarded that women enjoy **less leisure time** because they spend **more time** on essential activities such as house cleaning, although they spend **less time** in paid employment.
(E Text A 156)

Tables 3.7(a) and 3.7(b) below give the frequencies of occurrence of comparatives and superlatives in both corpora (excluding irregular comparatives in the French corpus), and shows the grammatical categories they modify.

Modifier	Adjectives	Nouns	Adverbs	Verbs	Total
plus	32	6	9	-	47
moins	8	8	-	2	18
le plus	12	1	1	2	16
le moins	1	-	-	-	1
Total	53	15	10	4	82

Table 3 7(a) Comparatives and Superlatives in the French Primary Corpus

Modifier	Adjectives	Nouns	Adverbs	Total
more	21	13	4	38
less	4	6	-	10
(the) most	25	2	3	30
(the) least	-	1	-	1
-er	81	2	1	84
-est	24	1	-	25
Total	155	25	8	188

Table 3 7(b) Comparatives and Superlatives in the English Primary Corpus

The tables show that regular comparatives and superlatives appear far more often in the English primary corpus than in the French. However, there are a number of irregular comparative adjectives and adverbs in the French primary corpus. The comparative adjective *supérieur* appears 16 times, *moindre* appears five times, and *meilleur* appears once. The adverb *mieux* appears three times, and *davantage* occurs once. This gives an overall total of 108 comparatives and superlatives in the French corpus compared to 188 in the English corpus. The relatively infrequent usage of comparatives and superlatives in the French corpus stems at least in part from the fact that the *Données Sociales* writers concentrate more than their *Social Trends* counterparts on the evaluation of social trends in terms of their causes and effects, leaving less room for simple comparison.

The adjectives modified by regular comparatives and superlatives are listed below for both corpora. Only the unmarked masculine singular forms of the adjectives are given in the case of the French listings. Adjectives modified by *more* / *most* in the English corpus are separated from adjectives in *-er*, *-est*.

French Primary Corpus

Adjectives modified by *plus*, *moins*, *le plus*, *le moins*

accusé (1), actif (1), âgé (2), ancien (1), apparent (1), assidu (2), bas (1), développé (2), diversifié (2), dynamique (1), élevé (5), équipé (1), faible (3), fort (7), fréquent (2), grand (3), gros (1), homogène (1), important (1), long (1), marqué (2), nombreux (5), petit (1), précoce (1), proche (1), répandu (1), réticent (1), saisissant (1), vrai (1)

Irregular Comparative Adjectives

meilleur (1), moindre (5), supérieur (16)

English Primary Corpus

Adjectives in *more* and *less*, *most* and *least*

able (1), accessible (1), common (2), detailed (2), dramatic (1), frequent (1), gradual (1), important (1), impressive (1), likely (6), modest (1), offbeat (1), outstanding (1), popular (18), precise (1), prevalent (1), prolific (1), rural (1)

Adjectives inflected in *-er* and *-est*

better (2), clearer (1), closer (1), earlier (2), further (6), greater (8), higher (51), larger (7), lower (13), older (5), smaller (3), younger (6)

There are 32 unique comparative and superlative adjectives in the French primary corpus, and 30 in the English primary corpus. The most frequently occurring adjective in both corpora is *supérieur* / *higher*. Of the 16 instances of *supérieur* in the French corpus, only four can rightly be considered to be comparative. The others are instances of expressions where the comparative meaning has been more or less lost, e.g. *l'enseignement supérieur*, or *la formation continue supérieure*. The same is true of *higher education* (14 occurrences) and of *further education* (5 occurrences) in the English corpus.

3.4.1.3.2 Other Devices for the Expression of Comparison and Opposition

Apart from comparatives and superlatives there are a large number of additional devices which express comparison in both corpora. These express comparison on a scale from **identity** to **similarity** to **difference (opposition)**.

Identity in the French primary corpus is expressed predominantly through the medium of *le/la/les même(s)*. It appears a total of 27 times. In the English primary corpus the corresponding *the same* is also the most important device for the expression of identity, but it appears considerably less often than its French equivalent, just 17 times. Typical examples of *le/la/les même(s)* and *the same* in the corpora are

La figure 6 donne approximativement l'importance des étudiants du troisième degré, âgés de 17 à 24 ans, parmi les scolarisés **des mêmes** âges

(F Text D 333)

There were over 64 thousand grants of British citizenship in 1988, almost **the same as** in 1987, and 19 thousand more than in 1986

(E Text B 32)

Other devices for the expression of **identity / similarity** (excluding clause subordinators and sentence connectors) in the French primary corpus include

- *aussi (que)* (3), e.g. *aussi faible*
- the adjectives *analogue* (1), *comparable* (2), *égal* (7), *homogène* (1), *identique* (3), *parallèle* (1), *proche* (5), *semblable* (1)
- the adverbs *de même* (6), *parallèlement* (1), *comparativement à* (1)
- the verbs *avoisiner* (1), *coincider avec* (1), *correspondre à* (1), *parvenir à l'égalité* (1), *se rapprocher de* (1), *ressembler à* (1), *voisiner* (1)
- the nouns *la similitude* and *la comparaison* (2)

In the English primary corpus other devices for the expression of identity / similarity are

- *as* (1), in *as well qualified as*
- the adjectives *comparable* (2), *corresponding* (5), *equivalent* (3), *similar* (5)
- the adverbs *comparatively* (1), *similarly* (1)
- the verb *compare*, *give a comparison* (1), *be comparable with* (1), and the verb derivatives *compared to* (9) and *compared with* (20)
- the noun *comparison*

Many of these devices correspond across the corpora

Difference (or contrast) in the corpora is expressed primarily through the **conjunctions** of concession and opposition given in Figures 3.1 and 3.2. It is also expressed through the medium of **sentence connectors** of concession and opposition (Tables 3.6(a) and 3.6(b)). Other devices for the expression of difference in the French primary corpus are

- the adjectives *contrasté* (2), *différent* (5), *distincte* (1), *divers* (1), *hétérogène* (1), *opposé* (1), *variable* (3), *varié* (2)
- the adverb *contrairement à* (3)
- the verbs *différer* (3), *s'opposer à* (1), *varier* (3)
- the nouns *le différentiel* (1), *la différence* (6), *leur hétérogénéité* (1), *l'inverse* (1), *les variations* (2)
- the phrases *contre* (3), *par opposition à* (1), *par rapport à* (4) and *vis-à-vis* (4)

Other devices for the expression of difference in the English primary corpus are

- the adjectives *different* (14), *differing* (1), *variable* (1)
- the adverb *conversely* (3)
- the verbs *be different from* (2), *vary* (6)
- the nouns *the converse* (1), *variations* (2)

Finally, another semantic category which is significant in terms of the relation of comparison is the group of **motion verbs**. The reason for their importance in this regard is that such verbs signify an increase or decrease (or stability) over time, so there is always a comparison or contrast between two or more time points in verbs such as *to increase (from ... to ...)*, *tomber (de ... à ...)*, etc. The following example demonstrates the comparative feature inherent in such verbs

The proportion of divorces occurring after 20 years of marriage fell from 24 per cent in 1971 to 17 per cent in 1985, before increasing slightly to 18 per cent in 1988

(E Text C 43)

All motion verbs contain this notion of comparison, even if it is not made explicit. The same is true of all the nouns of motion, most of which are derived from the corresponding verbs of motion.

The linguistic means through which comparison and opposition are expressed have been listed above. These devices more often than not correspond across the corpora, giving some obvious translation equivalents. The relation of comparison / opposition is an extremely important semantic relation in all texts of the French and English corpora. No other semantic relation is as prominent, except perhaps the relation of addition between nominal groups. Comparison and opposition are expressed through every open category of the grammar, but most especially through the medium of comparative and superlative adjectives. Comparison is considerably more prominent in the English primary corpus than in the French, this difference relates to the greater concern of the French primary corpus with *analysis* in terms of cause and consequence, as Section 3.4.1.4 below will show.

3.4.1.4 The Expression of Cause and Consequence

After comparison, the relations of cause and consequence are the most important semantic relations in both corpora. However, surface indicators of cause and consequence appear at least twice as often in the French corpus as in the English. This difference relates to the fact that the English corpus is primarily concerned with the presentation of statistical fact, and with the comparison of various social groups with respect to their social actions and states over time, whereas the French corpus is concerned not just with the presentation of statistical fact, but also with analysing it in terms of its causes and consequences. This does not mean that the English corpus is non-analytical, it is merely less so than the French corpus.

The following example demonstrates just how little concerned with analysis the English primary corpus often is

Spain remains the most popular holiday destination, attracting about the same proportion of holiday visits as in 1976, although there was a marked shift away from Spain in 1981

(E Text A 161)

No attempt whatsoever is made to give reasons for the reduced number of holidays taken in Spain in 1981. In the French primary corpus, on the other hand, where a social trend has undergone considerable change, its possible causes are always investigated.

The primary lexical means through which cause and consequence are expressed in the corpora include verbs, prepositional phrases, conjunctions, sentence connectors and nouns. Conjunctions and sentence connectors together express cause and consequence in the French primary corpus 36 times, but only 12 times in the English corpus. The conjunctions and sentence connectors of cause and consequence in the French and English corpora are listed in Figures 3.1 and 3.2 and Tables 3.6(a) and 3.6(b) respectively. The nominal groups, prepositional phrases and verbs which express cause and consequence in the corpora are listed below.

French Primary Corpus

Nominal Groups (14)

les conséquences (3), cause (2), effet (3), un facteur (3), l'impact (1), les motifs (1), les résultats (1)

Verbs (60)

s'accompagner de (2), affecter (2), associé à (1), avoir des conséquences sur (1), avoir une part dans (1), créer (1), dû à (3), entraîner (1), être (2), être dû à (5), imputable à (1), être le moteur de (1), être un motif de (1), être à l'origine de (1), être responsable de (1), être la résultante de (1), être à situer dans (1), être à la source de (1), expliquer (que) (4), faire doubler (1), faire durer (1), faire peser (1), faire ressortir (1), faire sentir (1), générer (1), inciter (1), infléchir en baisse (1), interpréter (1), jouer un rôle dans / sur (2), lié à (5), réduire (1), refléter (1), se répercuter dans (1), résulter de (2), signifier (4), tenir à (1), traduire (1), se traduire par (2)

(Complex) Prepositions (33)

du fait de (2), faute de (1), grâce à (2), par (24), en raison de (3), à la suite de (1)

English Primary Corpus

Nominal Groups (10)

cause (1), the effect (6), a factor (1), grounds (1), the impact (1)

Verbs (35)

arise from (1), be associated with (1), be attributable to (1), be attributed to (1), be the basis on which (1), be the result of (1), blame (1), bring (1), caused by (1), depend on (2), be dependent on (1), determine (1), have an effect on (2), lead to (3), make (1), make a contribution to (1), produce (2), reflect (11), be related to (1), result in (1)

(Complex) Prepositions (6)

by (1), because of (1), due to (3), following (1)

What is most interesting about these nouns, verbs and prepositions is that there is a whole series of interchangeable expressions in the two languages which express varying degrees of causality. Strong expressions of cause in the English primary corpus such as *arise from*, *be attributed/attributable to*, *because of*, *caused by* and *due to* have corresponding expressions in the French primary corpus: *être dû à*, *être à l'origine de*, *être responsable de*, *être la résultante de*, *être à la source de*, *du fait de*, *en raison de*, *imputable à*, *résulter de* and *tenir à*. Weaker (and more or less

interchangeable) expressions of cause in the English corpus such as *be associated with* and *be related to* correspond more or less to the French expressions *lié à*, *associé à*, *jouer un rôle dans/sur*, *avoir une part dans*. The same is true of expressions of consequence: *have an effect on*, *lead to*, *produce* and *result in* correspond to *avoir des conséquences sur* and *entraîner*.

The reader may wonder how some of the verbs listed above express causality or consequence in the corpora. Each of these verbs embodies the relation of cause or consequence within its meaning. Examples are given below to illustrate how such verbs produce this meaning of cause or effect in the corpora. Causes are highlighted in italics and consequences are underlined. The verb itself is emboldened.

Sans l'émigration en métropole *ce rythme de croissance* **aurait fait doubler** la population en un demi-siècle. *L'émigration* **a généré un déficit en hommes**.

(F Text B 24)

Innovative displays making use of the latest film and tape technology and computer-controlled animated exhibits **have made a significant contribution to** the success of many of the attractions opened since 1981.

(E Text A 159)

Moderate overall growth is projected to **produce** a population of slightly over 59 million by 2001 and slightly over 60 million by 2016.

(E Text B 27)

Over this period the percentage of births to mothers born in the Irish Republic fell from 2.6 per cent of all live births in 1971 to 0.9 per cent in 1988. *These trends* partly **reflect** *changes in the number of women of childbearing age born in different parts of the world*.

(E Text B 28-29)

Cause and consequence are frequently expressed via present participles in the corpora. In the example below the **cause** is expressed through a present participial clause and the **consequence** is expressed through a main clause.

Les cas de rupture de la vie commune étant rares, les divorces pour faute constituent encore presque la moitié de l'ensemble
(F Text C 298)

The devices for the expression of cause and consequence in the corpora have been discussed in detail above. However, it must be remembered that these relations often have no lexical realization in the corpora: the clauses may be simply juxtaposed and the reader supplies the link via inferencing, e.g.

Toutes les sources pèchent par l'absence d'homogénéité. La Classification Internationale Type d'Education (CITE) n'est guère utilisée par les services statistiques nationaux
(F Text A 214)

In conclusion, the prominence of the relation of cause in the French corpus (relative to the English corpus) is linked to the fact that *comparison* does not dominate in the French corpus to the same extent as it does in the English corpus. This more even balance of the two pivotal semantic relations of cause and comparison in the French social statistics corpus reflects the fact that it is at least as concerned with the *interpretation* of statistics as it is with their presentation.

3.4.2 Linguistic Devices Relating to the Core Textual Participants

This section examines the linguistic devices associated with the main textual participants in the French and English corpora: the analyst, the social actors, and the statistical framework. Other participants include the social actions and states of social actors, social institutions, and geographical entities, but although the latter participants constitute a fairly large group in the corpora, space constraints mean that it is impossible to undertake a detailed examination of the linguistic devices associated with them.

The analysis concentrates first and foremost on the **verbs** appearing alongside certain **subject** types: verbs with the analyst as their subject or agent, verbs with social actors as subject, and verbs with quantifying nouns and nouns of motion as subject. The recurrence of these textual participants contributes to textual coherence. This section also examines the **nominal groups** appearing in subject position.

3.4.2.1 The Analyst

Intervention on the part of the text producer is an important feature of all types of scientific writing and the social statistics corpus is no exception. There are a number of possible reasons for such intervention in the corpus: the analyst may wish a) to explain research methodology or difficult statistical concepts, b) to highlight points of particular interest to the reader, c) make projections about future trends, or d) to suggest possible or probable causes of statistical phenomena, to formulate hypotheses, etc.

Different linguistic devices are linked to each of these types of intervention. When text producers wish to suggest possible causes for social phenomena they have recourse to various types of modality, e.g. the modal verbs *pourrait*, *could*, *might*. When explaining research methods and concepts, they tend to use passive constructions (and *on* in the French corpus). When drawing the readers' attention to a point of particular interest or a complicating factor in the analysis they use modal constructions, which are often combined with impersonal *il / it* constructions and passives, e.g. *it should be borne in mind that*. Finally, when making projections about future trends they use passives and the modal tenses - the future and conditional tenses.

The use of these subjective, passive and impersonal devices is governed by conventions for scientific and academic writing in French and English. These conventions do not necessarily converge across the two languages. The basic aim of the devices used is to convey the analysts' presence in the texts of the corpora and

at the same time to distance them from their writing. Thus the conventions dictate that analysts do not refer to themselves directly using the first person singular pronoun, nor do they use the first person plural pronoun in the primary corpus (although writers do use *nous* and *we* in other types of scientific writing, see, for example, Tarone et al 1981). Both corpora use finite and non-finite **passives** to signal the analyst's intervention, the French corpus additionally uses *on* to fulfil the same function. Some use is made of impersonal *il / it* constructions to point to intervention by the analyst, and finally the French corpus uses **pronominal verbs** to a small extent to signal intervention.

This section aims to systematically examine and compare the linguistic devices associated with the analysts' presence in the texts. In particular the **verbs** used in conjunction with the analyst are compared across the languages.

Some of the features mentioned above are concentrated in certain parts of the texts. In the French primary corpus they are especially prominent in the *Encadrés*, for two reasons. Firstly, these *Encadrés* function as sub-texts where, among other things, definitions of difficult statistical phenomena are given, and secondly, it is in the *Encadrés* that the analyst's judgement is particularly to the fore. Some features are also particularly prominent in the concluding sections of the texts, where the analyst is again inclined to give an opinion. The somewhat less frequent usage of linguistic devices associated with the text producer in the English primary corpus is linked to two features of the texts: there is no equivalent of the *Encadrés*, and analysis of possible causes of statistical phenomena is kept to a minimum.

3.4.2.1.1 Modal Devices

According to Vinay and Darbelnet (1958: 137): "La modalité indique l'attitude du sujet parlant à l'égard de son énoncé, suivant qu'il le considère comme exprimant un fait, une supposition, une nécessité, etc." Modal devices in the French and English

primary corpora may be divided into modals expressing various degrees of **obligation, ability and likelihood**. Likelihood includes possibility and probability, hypothesis and prediction

The only modal device in the French corpus which expresses **obligation** is the modal verb *devoir*. Of the six instances of *devoir*, three relate to the necessity for social actors to perform certain social actions in certain circumstances, and so are not analytical devices, e.g. *En contrepartie de sa liberté, l'époux demandeur doit supporter toutes les charges du divorce* (F Text C 299). The other three instances of *devoir* relate to the reader, the analyst warns the reader that the topic under discussion is a complex one, e.g. *La somme des taux est un indicateur conjoncturel, dont les valeurs ne doivent pas être confondues avec l'intensité du divorce dans les promotions* (F Text C 297). All six instances of *devoir* appear in Text C of the French corpus, entitled *Une nouvelle phase pour le divorce?* Four of them appear in a single *Encadré* within that text entitled *Les cas de divorce*, which discusses the choices and obligations of partners involved in divorce proceedings.

In the English corpus the only modal expression of obligation is the modal verb *should* in the construction *it should be borne in mind that* (E Text D 56). The obligation here is very weak: the text producer is **advising** the reader that the topic under discussion is more complex than it might appear. It is therefore similar to the use of *devoir* as a signalling device to the reader in the French corpus.

The second type of modality in the corpora is **ability / permission**. The only modal device used to express ability in the French corpus is the modal verb *pouvoir* (8 instances). Modal verbs of ability relate only to social actors, e.g. *la lecture de revues peut être découpée* (F Text A 214). They are therefore not analytical devices. Three of these modals of ability occur in the *Encadré* in F Text C entitled *Les cas de divorce* which as we have already seen contains most of the modal verbs associated with obligation.

The modal verbs of ability / permission in the English corpus are *can* (7 instances) and *could* (1 instance). Half of these refer to social actors, e.g. *No author can receive more than £6,000* (E Text A 158), and half to the reader, e.g. *Further details can be found in the Government White Paper* (E Text D 56). The latter type of usage signals to the reader where to search for further information.

Finally, modal devices associated with **likelihood** are the most important modal devices in both corpora, but they are found more often in the French than in the English primary corpus. Both modal verbs and modal adjuncts express this type of modality in the French corpus. Modals of likelihood are far more often associated with the analyst than with social actors, although social actors are the subject of such verbs on two occasions, e.g. *celui-ci peut même se voir réclamer des dommages et intérêts* (F Text C 299). The modals associated with the analyst may have a predictive usage (very high probability - 4 instances) in which case the modal used is *devoir*, e.g. *Ce potentiel de croissance doit durer jusqu'à la fin du siècle* (F Text B 20). They may be used to postulate hypotheses of cause (4 instances), in which case the modal verb used is *pouvoir* e.g. *Par ailleurs, des évolutions globales pourraient cacher des mouvements discordants* (F Text A 216). Finally two modal verbs in the French corpus express such high probability that they achieve factual status, e.g. *Moins de naissances, moins de décès, la population ne peut que vieillir* (F Text B 22).

The modal adjuncts in the French corpus are *sans doute* (3), *évidemment* (1), *peut-être* (4), *probablement* (3), *sûrement* (2), *bien sûr* (1). These express varying degrees of certainty about hypotheses of cause. They therefore relate only to the analyst. Examples of these in context are

6

Les Etats-Unis maintiennent leurs taux de scolarisation aux niveaux atteints à la fin des années soixante, mais la flexion récente, surtout pour les garçons, due **peut-être** à la croissance économique, donne l'impression d'un plafond qui aurait été atteint
(F Text D 330-331)

Le seul type de lecture à s'être développé est celui des magazines et revues 79 % de la population en lit régulièrement au moins un, contre 56 % en 1967 La concurrence de la télévision est **sans doute** moins forte ici

(F Text A 214)

Within the English corpus, the formulation of hypotheses of cause is not as important a textual goal as it is in the French corpus There is only one modal adjunct of likelihood *probably* Modal verbs associated with the analyst expressing various degrees of likelihood are used 5 times the verbs used are *can* (1), *could* (2), and *may* (2) On one further occasion *could* refers to social actors rather than to the analyst *Could* expresses a lesser degree of likelihood than either *may* or *can* A short extract from the English corpus demonstrates all these modals in context

These projected changes will have an effect on the flow of young persons into higher education and into the work force and **could lead** to consequent problems as the labour market will need to adjust An influx of a large number of young persons **can lead** to high youth unemployment while a scarcity of school leavers **may result in** increased economic activity amongst older persons and married women

(E Text B 24)

Varying degrees of likelihood may additionally be expressed through the modal tenses the future and the conditional These tenses are by their very nature uncertain In addition to the modal tenses the English corpus uses the predictive constructions *be projected* and *be expected* to express a high degree of statistical probability of occurrence of future trends

In conclusion, although modal auxiliaries and modal adjuncts are certainly a feature of the texts of the corpora, they are used only occasionally to modify a hypothesis made by the authors **Certainty** rather than **uncertainty** is the prevailing mood of the texts Modal auxiliaries and modal adjuncts associated with the analyst appear rather more frequently in the French corpus (27 times) than in the English (11 times)

3.4.2.1.2 Impersonal *il* / *it*

Impersonal *il* / *it* constructions are not a common feature of either corpus. When they do occur, they relate the author's opinion in most instances (e.g. *il est difficile d'interpréter, il est important de savoir, it is certain that, it is important that*). In a number of instances in the French corpus, however, they act not as a device for distancing but exist purely to fill a gap as an 'empty' subject (e.g. *Peut-être, en outre, s'est-il produit un phénomène de substitution*). English has the choice of using *there* as an empty subject (for thematic reasons usually) and so does not use *it* in this manner.

Impersonal *il* / *it* constructions often act as a sort of cataphoric reference device, signalling to the reader to take particular note of what the author is about to discuss, e.g.

Aussi est-il important de savoir ce que chaque catégorie recouvre non seulement des différences en termes de métier, mais aussi en termes de mode de vie, qu'il s'agisse d'habiter la ville ou la campagne

(F Text B 30)

It is important to note, however, that birthplace does not necessarily equate with ethnic group

(E Text B 29)

Impersonal *il* / *it* constructions related to the analyst are not numerous in either corpus (there are 7 in each corpus), and many are modal constructions, since they express uncertainty to some degree or other. Hence impersonal *il* / *it* and modality are closely interlinked.

In the French primary corpus the impersonal *il* verbs are

il convient de (1), *il est difficile de* (2), *il est important de* (1), *il est possible de* (1), *il est vrai que* (1), *il semblerait que* (1)

The impersonal *it* verbs occurring in the English primary corpus are

it is generally regarded that (1), it is certain that (1), it is projected that (3), it is important to note that (1), it should be borne in mind that (1)

3.4.2.1.3 Pronominal Verbs

Pronominal verbs acting as a passive substitute to conceal the analyst's presence are not a feature of the English language. Of the pronominal verbs appearing in the French primary corpus, only four can be considered to indicate the analyst's intervention in the texts and hence to constitute analytical constructions. Other pronominal verbs in the corpus can be considered to conceal the presence of social actors but such verbs are not of interest here. The pronominal verbs in the French corpus which have the analyst as their true subject are *s'ajouter à* (1), *s'appliquer à* (1), *se classer* (1) and *s'enregistrer* (1).

Examples are given in context below

Le record de l'écart entre les espérances de vie des hommes et des femmes **s'enregistre** à la Réunion

(F Text B 24)

A ces noyaux **s'ajoutent** les départements comprenant des grandes métropoles régionales, ainsi que la Savoie

(F Text C 300)

3.4.2.1.4 Passive Verbs and *On*

Passive verbs linked to the analytical framework⁸ in the corpora have a dual function they serve both to signal the role played by the analyst in producing the text, e g in carrying out the research, and they simultaneously distance the analyst from the text by omitting the agent of the verbs

A secondary function of the passive verbs in the corpora is to give some sort of signal to the reader, either to point out that supplementary information can be found in the accompanying graphic material, e g *can be found*, or to warn the reader that an analytical procedure is more complex than it might appear, e g *it should be borne in mind that* or *ne doivent pas être confondus* The reader and not the analyst is the subject of such verbs

Passives with the analyst as agent appear considerably more frequently in the English corpus than in the French corpus Their infrequent use in the French corpus is compensated for by the use of *on* Like passives, *on* is an important device for signalling the analyst's intervention The English equivalent *one* does not appear in the English corpus *On* has a deictic function in the texts If it refers only to the author, Kocourek (1982: 50) terms it *on de modestie*, if it refers both to the author and to the readers, it is termed *on inclusif* Both *on de modestie* and *on inclusif* are represented in the French corpus A high proportion of *on* constructions are completives

The fact that verbs with *on* function in much the same way as passives means that the verbs used in both types of device are often the same, e g *on estime que / est estimé*, or *on va présenter / est présente*

⁸The reader should note that this section deals only with passive verbs with the analyst as agent It does *not* refer to passives with social actors as their agent

In the French corpus the use of both *on* and of passives by the analysts to intervene in the texts is a particularly important feature of some of the *Encadrés*. The following extract from F Text C is particularly illustrative of the prominence of *on* in the *Encadrés*.

Indice annuel de divortialité

On classe les divorces prononcés pendant une même année civile selon la durée du mariage et **on les rapporte** successivement à la promotion de mariage dont ils sont issus. **on a** ainsi un taux de divorce pour chaque durée de mariage. **On additionne** ces taux pour avoir un indicateur global, **appelé** somme des taux.

(F Text C 297)

A second example is illustrative of the prominence of passives in the *Encadrés*.

La Classification Internationale Type de l'Éducation (CITE) n'est guère **utilisée** par les services statistiques nationaux. La formation continue s'est amplifiée sous de multiples formes. les sujets de cette formation **sont-ils comptés** comme des étudiants ou comme des actifs ou comme des personnes en quête d'emploi?

(F Text D 334)

Passives in the English corpus are not concentrated in any particular section of the texts.

The finite and non-finite passives with the analyst or reader as agent in the French and English corpora, as well as the verbs with *on* as subject in the French corpus, are listed below.

French Primary Corpus

Finite Passives (15)

être comptabilisé (1), être compté (1), être confondu (1), être estimé (2), être interrogé (1), être modifié (1), être organisé (1), être pratiqué (1), être présenté (1), être pris en compte (1), être tiré de (1), être utilisé (1), être ventilé (1), être visé (1)

Verbs with *On* as Subject (30)

additionner (1), aller présenter (1), appeler (2), assister à (3), avoir (1), calculer (1), classer (1), connaître (1), demander (1), disposer de (1), s'efforcer (1), entendre (1), estimer (1), mesurer (1), observer (2), se pencher (1), prendre en compte (1), rapporter (1), se référer (1), retenir (1), retrouver (2), savoir (1), tenir compte de (1), voir (1), vouloir unifier (1)

Non-Finite Passives (34)

appelé (1), compte tenu de (1), défini (2), effectué (1), employé (1), enregistré (4), estimé (2), étudié (3), examiné (1), interrogé (1), observé (7), obtenu (1), opéré (1), pratiqué (1), présenté (2), rapporté (1), réalisé (1), retenu (1), utilisé (1), vu (1)

English Primary Corpus

Finite Passives (51)

be assumed (1), be attributed to (1), be borne in mind (1), be carried out (1), be designed (1), be discussed (2), be estimated (2), be expected (11), be found (4), be given (1), be included (1), be known (1), be made (1), be projected (18), be seen (1), be shown (3), be used (1)

Non-Finite Passives (36)

analyzed (1), broken down (1), compiled (1), covered (1), expected (1), found (1), interviewed (2), listed (1), observed (1), produced (1), projected (3), recorded (1), selected (1), shown (19), surveyed (1)

Finite passives and verbs with *on* as subject together account for 9.4 % of all finite verbs in the French primary corpus, while finite passives account for 7 % of finite verbs in the English primary corpus. The percentage of **non-finite** passives as a proportion of all non-finite verbs is significantly higher in both corpora: 14.9 % in the French corpus and 13.1 % in the English. The preference for non-finite passive

analytical constructions probably stems from the fact that they further obscure the text producers' presence in the texts by relegating reference to their role to an inconspicuous subordinate clause

As is the case for many categories of verbs in the corpora, the French corpus has a higher number of *unique* analytical verbs (45) than the English corpus (27)

By far the most frequently-occurring passive verb (finite and non-finite together) in the French corpus is *observé* (7 times), followed by *enregistré* and *estimé* (4 times each), and *étudié* and *présenté* (3 times each). No other passive form occurs more than twice. In the English corpus on the other hand, three passive forms dominate: *projected* (21), *shown* (22), and *expected* (11). *Found* appears five times. No other passive form appears more than twice. The most frequently occurring passive forms therefore do not correspond in terms of their meaning across the corpora.

The verbs linked with the analyst's presence in the corpora tend to occur in particular semantic categories, and the concentrations of these verbs in the different categories is not the same across the corpora. Passives in the English corpus are concentrated in two semantic categories: verbs used by the analyst to point the reader to tables and charts within the texts (26), the verbs being *shown* (19), *be shown* (3), *be listed* (1), *be included* (1), *be given* (1) and *be covered* (1) (the only verb in the French corpus used in this way is *présenter* (*on va présenter* (1), *être présenté* (1), *présenté* (2)), and verbs used by the analyst to make predictions and estimates (36), the verbs used to express this meaning being *be projected* (18), *projected* (3), *be expected* (11), *expected* (1), *be assumed* (1), *be estimated* (2). In the French corpus, only the verb *estimer* (*on estime* (1), *être estimé* (2), *estimé* (2)) expresses this meaning. A third, less important category in the English corpus is verbs used by the analyst to signal to the reader where additional information can be found. The only verb appearing in this category is *found* (*be found* (4), *found* (1)). No verbs in the French corpus have this function.

In the French corpus the passives and verbs with *on* as subject occur across a broader spectrum of semantic categories. The most important category consists of verbs where the analyst makes an observation (there are 21 such verbs in the French corpus and only 3 in the English corpus). The most important verb in this category is *observé* (7) and *on observe* (2), followed by *enregistré* (4), *on assiste à* (3), *on retrouve* (2), *on connaît* (1), *on l'a vu* (1) and *vu* (1). In the English corpus *observed*, *recorded* and *be seen* appear only once each.

A second, less important semantic category in the French corpus consists of verbs used by the analyst when making classifications and calculations. These verbs are as follows in the French corpus: *on additionne* (1), *on calcule* (1), *on classe* (1), *être comptabilisé* (1), *être compté* (1), *opéré* (1), *être pratiqué* (1), *pratiqué* (1). The only such verb in the English corpus is *be made* (1).

Another category in the French corpus consists of verbs of analysis: *étudié* (3), *examiné* (1), *on mesure* (1), *on se penche* (1), *on se réfère* (1). The only verb of analysis in the English corpus is *analyzed* (1).

Various other verb groups in the corpora have similar meanings, e.g. *employé* (1), *retenu* (1), *être utilisé* (1), *utilise* (1), and *be used* (1) are more or less interchangeable in certain contexts.

The most important point to be retained from this comparison of the corpora is that the bulk of the verbs relating to the analyst have divergent functions in the two corpora. In the English corpus the main group of verbs is concentrated in two categories: verbs used by the analyst to point the reader to tables and charts within the texts, and verbs used to make estimates and predictions. In the French corpus a large proportion of the verbs linked with the analyst's presence occur in the category of verbs of observation. Furthermore, the French corpus has a higher proportion of such verbs than the English corpus, signalling a greater degree of intervention by the analyst in the texts of the French corpus.

3.4.2.1.5 Nominalizations with Total Agent Deletion

In addition to passives associated with the analyst, there are a small number of nominalizations involving total agent deletion, particularly in the French corpus, which function in a similar way to the passives. An example of such a construction is given below

Les données présentées ici résultent de la **comparaison** des deux
enquêtes sur les loisirs réalisées par l'Insee
(E Text A 214)

In this instance the comparison was done by the analyst. Nominalizations with total agent deletion are concentrated in the *Encadrés* of the French corpus. The passive nominal groups with the analyst as their agent are *la comparaison* (1), *la formulation des questions* (2), *le découpage en catégories socioprofessionnelles* (1), *l'analyse par âge au décès* (1). In the English corpus the only passive nominal group with the analyst as agent is the demonstrative noun phrase *this comparison* (1).

3.4.2.2 The Social Actors

Verbs with social actors as subject are an important category of verbs in both corpora, although they occur to a greater degree in the English corpus. The importance of these verbs lies in the fact that social statistics texts are about real people, about their actions and states. Verbs such as *jouer*, *être d'accord*, *be aged* and *to attend* represent actions and states without the intervention of the statistician's tools. The analyst can only interpret an action or state after (s)he has recorded exactly what that action/state is.

Verbs with social actors as subject tend to fluctuate more from text to text than other verb types in the corpora because they do not form part of the common core of verbs characterising all of the texts, which comprises verbs relating to the analyst's

presence (Section 3.4.2.1) and ‘statistical’ verbs (Section 3.4.2.3). The same fluctuation from text to text is true of verbs which occur with social *activities* or *states* as subject, but this phenomenon unfortunately cannot be discussed further due to space constraints. The verbs with social actors as subject are dependent on the subject matter of the text in question, and so they change as the subject matter does.

Verbs with social actors as subject account for 30 % of all finite verbs in the English corpus, but just 20.8 % in the French corpus. They account for 36 % of non-finite verbs in the French corpus, and for 43.3 % of non-finite verbs in the English corpus. These proportions are considerably higher than those for finite verbs. (The counts in both instances include both pronominals and passives with social actors as their real subject or agent). There is little convergence in the frequencies of occurrence of these verbs within each corpus or across the corpora. The frequencies of occurrence of finite verbs with social actors as subject in the French corpus are as follows: F Text A 31 %, F Text B 10.5 %, F Text C 22.5 %, and F Text D 12.1 %. In the English corpus the corresponding frequencies of occurrence are: E Text A 27.7 %, E Text B 24.1 %, E Text C 26.2 %, E Text D 45.3 %. What is most significant on a comparative basis is the small proportion of finite verbs with social actors as subject in F Texts B and D (particularly F Text D) relative to E Texts B and D.

The reason behind this huge dichotomy between E Text D and F Text D is that although both texts deal with education, they deal with different aspects of the subject. E Text D looks at education in the U.K. alone, while F Text D **compares** educational participation rates in a number of developed countries. So in the latter text, a major subject type is **geographical entities** and the **emphasis** of the discussion is on the differences between these countries in terms of their **cumulative** educational participation rates, whereas in E Text D, by not making international comparisons, the author is free to concentrate directly on the actions/states of the social subjects themselves, and so they often assume subject position in the text.

A second possible reason for the relatively low proportion of verbs with social actors as subject could be that the French corpus is more concerned with **interpreting** or **analysing** people's actions/states, whereas the English corpus is often content to **describe** them

A third possible reason for the predominance of verbs with social actors as subject in the English corpus can be found in the literature on contrastive stylistics. According to Chuquet and Paillard (1987: 141) "le repère privilégié de l'énoncé en anglais est l'élément animé (le plus souvent animé-humain)". The authors say that while there is little difficulty in French in placing an inanimate subject with an animate verb, this is not the case in English. An animate verb must normally have an animate subject in English, which means that animate subjects have greater prominence in English than in French.

The finite and non-finite verbs in both corpora with social actors as subject or agent are listed below. Despite the lower overall **frequency** of verbs with social actors as subject in the French corpus, the **variety** of these verbs is somewhat greater than in the English corpus. There are 113 unique verbs (finite and non-finite) with social actors as subject in the French corpus and only 94 in the English corpus. Only two verbs with social actors as subject appear ten times or more in the French corpus (finite and non-finite instances together). These are *avoir* (11) and *être* (19). Seven verbs with social actors as subject appear ten or more times in the English corpus. They are *be* (72), *enter* (10), *be granted* (10), *have* (22), *leave* (15), *spend* (14) and *take* (12). This difference between the corpora concurs with the general trend for French social statistics writers to use a far wider variety of verbs of all kinds than English social statistics writers.

French Primary Corpus - Finite (142)

accroître (3), s'adresser à (1), être ajouté (1), aller (4), appartenir (1), appliquer (1), assister à (2), avoir (7), bavarder (1), être choisi (1), combler (1), compter (2), connaître (1), consacrer (3), conserver (1), constituer (1), être contraint (1), creuser (1), déclarer (1), être découpé (1), délaisser (1), demander (3), demeurer (1), dépasser (1), devenir (2), disposer de (1), divorcer (2), écouter (1), être équipé (1), estimer (1), s'estomper (1), être (19), évoluer (1), être exécuté (1), exercer (1), faire (1), se faire (1), se féminiser (2), fréquenter (1), jouer (3), lire (4), se maintenir (1), s'orienter (1), parcourir (1), être partagé (1), participer (1), parvenir (2), être passé (1), peser (1), peupler (1), se porter (1), posséder (2), poursuivre (1), pratiquer (3), être pratiqué (1), préférer (1), être pris en compte (1), être présenté (1), être privé (1), être prononcé (2), rajeunir (1), rattraper (2), reconnaître (2), réduire (1), regarder (3), régler (1), réparer (1), répondre (1), être repoussé (1), résider (1), résister (1), rester (2), être retenu (1), être scolarisé (1), sortir (1), souhaiter (1), soumettre (1), supporter (1), être tenu (1), rester tenu (1), être tranché (1), vieillir (3), voir (2), se voir (1)

French Primary Corpus - Non-Finite (82)

s'accorder (1), aller (4), améliorer (1), être amorcé (1), assurer (1), être attaché à (1), avoir (4), être célébré (4), conduire (1), constater (1), contracter (1), déclarer (1), être dispensé (2), disposer (1), divorcer (2), écouter (2), énoncer (1), être équipé (3), s'équiper (1), exercer (1), exposer (1), être exprimé (1), former (1), habiter (1), être imposé (1), invoquer (1), se limiter (1), lire (2), être lu (1), se livrer (1), être maintenu (1), être marié (1), minorer (1), obtenir (2), s'orienter (1), être passé (1), être peuplé (2), pratiquer (1), être pratiqué (3), être préféré (1), prendre (1), être prévu (1), être prononcé (3), prouver (1), réclamer (1), recourir (1), réduire (1), regarder (1), régler (1), être rémunéré (1), représenter (1), résider (1), rester (1), être scolarisé (2), sortir (1), soumettre (1), subir (1), être vendu (1), être versé (1), visiter (1)

English Primary Corpus - Finite (219)

be accepted (3), account for (5), achieve (2), age (1), allocate (1), arrive (1), attend (4), be awarded (2), be (61), blame (1), choose (1), cohabit (4), be considered (1), continue (1), contribute (1), be dealt with (1), declare (1), be defined (2), designate (1), be designed (3), divorce (1), encourage (1), be encouraged (1), enjoy (2), enrol (1), enter (10), be entitled to (3), be established (2), form (4), be found (1), gam (4), go (1), be granted (5), have (20), hire (2), be hired (2), hold (1), be intended (1), be introduced (3), be launched (1), leave (7), be lent (2), listen (2), live (3), be made (4), be matched (2), offer (1), be perceived (1), petition (1), read (2), receive (2), remarry (1), be rented (2), be required (1), retain (1), spend (10), be spent (1), sponsor (1), start (1), stay (1), support (1), take (3), tend (1), be transformed (1), undertake (1), use (1), watch (1), wish (1)

English Primary Corpus - Non-Finite (119)

be accepted (1), attend (2), be attended (1), be awarded (2), be (11), come from (1), be consumed (1), contribute (1), be distributed (1), divorce (3), be employed (1), be expected (1), be experienced (2), be filed (2), follow (1), further (1), gam (3), be granted (5), have (2), be headed by (3), be hired (2), hold (2), improve (1), be launched (1), leave (9), listen (3), live (2), be lost (1), be made (1), marry (2), move (2), be opened (1), participate (4), petition (1), prove (1), put (1), qualify (1), read (2), be received (1), remain (1), reside (1), return (1), seek (2), set up (1), be spent (4), start (2), stay (1), study (2), take (6), be taken (3), be used (3), be valued (1), view (1), visit (1), watch (3), be worked (3)

A comparison of the verbs with social actors as subject across the two corpora reveals some convergence between them, e.g. *lire* and *read*, *résider* and *live*, *regarder* and *watch*, and so on. However, the only reason for even the small convergence of the verbs between the corpora is that the texts were chosen deliberately to coincide broadly in terms of their subject matter.

When the verbs with social actors as subject are compared with the verbs having the analyst as their subject (Section 3.4.2.1) it emerges that there is hardly any overlap between them. This reflects the very different functions of these two verb types, despite the fact that the subject or agent in both cases is human.

As regards the **subjects** of the verbs with social actors as subject, the single most frequently-occurring subject in the French corpus is *ceux*. Other subjects which appear fairly frequently (but often only in one or two of the texts) are socio-economic groups, age groups and more general nouns. The main subjects are

les adultes, les agriculteurs, les plus aisés, les plus assidus, les cadres, les plus diplômés, les époux, les étudiants, les femmes, les filles, les Français, les garçons, les générations, les gens, les habitants, les hommes, les individus, les jeunes, les ménages, les personnes (âgées), la population (some instances), les promotions, le public (some instances), les spectateurs

In the English corpus, the most frequently-occurring subjects are those with one of the following nouns as head: *men*, *women*, *people*, *the population*, *students*, or simply *those*. Other subjects are

adults, Americans, the Arts Councils, authors, boys, Britons, businesses, cable operators, children, citizens, commentators, couples, employees, the ethnic minority / immigrant groups, fathers, girls, the Government, graduates, households, males and females, migrants, oil companies, the overseas-born, partners, persons, pupils, the Registrars General, residents, school leavers, the United Kingdom-born, the United Nations, visitors, year olds

Many of these subjects concur across the corpora

3.4.2.3 The Statistical Framework

A basic feature of both the French and English primary corpus is that social phenomena are described from a statistical point of view. Quantitative analysis is uppermost in the texts, whether or not a qualitative analysis is subsequently offered.

It is therefore to be expected that the statistical framework will have a constant presence in the texts of the corpus, especially in terms of 'statistical' vocabulary. The very division of social actors according to sex, age group, educational qualifications, marital status, sports participation, etc. is done for purposes of statistical comparison. This section concentrates in particular on statistical noun groups and statistical verbs in the corpora.

There are two types of statistical **noun groups** in the corpora. The first of these encompasses **nouns of motion**, e.g. *la croissance, la baisse, these changes, a decline*. The second group of statistical nouns consists of **quantifying nouns**, e.g. *le taux, la proportion, the rate, the number*. These nouns appear either in isolation or they premodify a social state/activity, e.g. *the number of divorces doubled*. Alternatively they may quantify specific groups of social actors, e.g. *la proportion des individus qui regardent la télé est de 86%*.

Statistical **verbs** include both **verbs of motion**, e g *to increase, decrease, remain stable*, and **quantifying verbs**. Quantifying verbs are relational verbs: a large proportion of them consist of various forms of *être / be*. These verbs relate a quantified social phenomenon to a specific or non-specific quantity, e g *le taux de participation est de 94%* (specific quantity), *l'accroissement a été négatif* (non-specific quantity).

Some of the texts of the social statistics corpus are more statistical than others. E Text D, for example, does not have a high proportion of statistical verbs relative to the other texts of the English corpus. This is because it is a fairly qualitative text, with considerable emphasis being placed on explaining educational concepts (examination systems in particular), leaving less room for statistical analysis. An interesting fact is that the *Encadrés* in the French corpus contain hardly any or sometimes no statistical analysis. This relates to their primarily explanatory function. The *Encadrés* of F Text C, for example, contain no statistical verbs whatsoever. The main text, on the other hand, contains a large number of statistical statements.

Statistical verbs account for approximately 24 % of all verbs (finite and non-finite) in the French corpus and for 28 % of verbs in the English corpus. The next four sections examine and compare the statistical noun and verb groups in the corpora.

3.4.2.3.1 Nouns of Motion

Noun of Motion	No of Occurrences
accélération	1
accroissement	8
augmentation	10
baisse	26
changement	4
chute	2
croissance	22
déclin	2
dégradation	1
diminution	4
évolution	20
fléchissement	2
flexion	1
gain	3
hausse	10
montée	1
mouvement	9
poussee	1
progression	5
rarefaction	1
recul	1
réduction	6
regain	1
stabilization	2
stagnation	1
Total Nouns of Motion	144
Total Unique Nouns of Motion	25

Table 3.8(a) Nouns of Motion in the French Primary Corpus

Noun of Motion	No. of Occurrences
change	10
decline	10
decrease	1
drop	1
fall	6
growth	11
increase	33
reduction	1
rise	5
Total Nouns of Motion	78
Total Unique Nouns of Motion	9

Table 3 8(b) Nouns of Motion in the English Primary Corpus

Tables 3 8(a) and 3 8(b) show that there are far fewer nouns of motion in the English primary corpus than in the French. The most frequently occurring nouns of motion in the French corpus are *baisse* (26), *croissance* (22) and *évolution* (20). *Increase* appears 33 times in the English corpus, but other nouns of motion appear rather less frequently: *growth* (11), *change* (10), and *decline* (10). The relatively small number of nouns of motion in the English corpus relative to the French is due in part to the fact that nouns of motion are often the head noun of demonstrative noun phrases, e.g. (*cet accroissement*, *cette baisse*), and such demonstrative noun phrases appear much less frequently in the English corpus than in the French corpus (see Section 3.5.1.2). Thus, it follows that there are fewer nouns of motion in the English corpus.

3.4.2.3.2 Verbs of Motion

The finite and non-finite verbs of motion appearing in the French and English corpora are listed in Tables 3 9(a) and 3 9(b) below.

Verb of Motion	No of Occurrences
s'accélérer	2
accroître	2
s'accroître	5
s'amenuiser	1
s'amplifier	2
s'atténuer	2
augmenter	12
baisser	1
chuter	6
croître	3
décroître	1
diminuer	10
doubler	4
évoluer	6
multiplier	2
passer de à	9
progresser	4
se ralentir	2
réduire	6
régresser	3
remonter	1
se stabiliser	3
stagner	2
tomber	1
tripler	3
Total Verbs of Motion	93
Total Unique Items	25

Table 3 9(a) Verbs of Motion in the French Primary Corpus

Verb of Motion	No. of Occurrences
change	4
climb	1
decline	8
decrease	6
double	4
drop	2
fall	29
grow	6
half	1
increase	37
lessen	1
quicken	1
rise	29
treble	1
triple	1
Total Verbs of Motion	131
Total Unique Items	15

Table 3.9(b) Verbs of Motion in the English Primary Corpus

Tables 3.9(a) and 3.9(b) show that while there are a greater number of *nouns* of motion in the French corpus than in the English corpus, there are fewer *verbs* of motion. Nonetheless, the French corpus has more *unique* verbs of motion than the English corpus. The most common verbs of motion in the English corpus are *increase* (36), *fall* (29) and *rise* (29). In the French corpus, on the other hand, no verb of motion appears more than twelve times (*augmenter*).

The smaller number of unique verbs of motion in the English corpus means that the translator into English of a social statistics text might need to adopt a simpler style in the TL to reflect this difference between parallel corpora. Thus, for

example, *s'accélérer* would be better rendered by *increase* or *rise* rather than by *accelerate*, and *s'atténuer*, *décroître*, *diminuer*, *chuter* and *tomber* should be translated by *fall*, *decline*, or *decrease*. This is not to say that the English corpus never deviates from the small set of frequently-used motion verbs: verbs such as *climb* and *drop* do appear occasionally.

3.4.2.3.3 Quantifying Nouns

The quantifying nouns appearing in the corpora are given in Tables 3 10(a) and 3 10(b) below

Item	No. of Occurrences
le chiffre	7
la fréquence	11
le niveau	13
le nombre	29
la proportion	21
la part	7
le rapport	1
la taille	2
le taux	37
la valeur	6
Total	134

Table 3 10(a) Quantifying Nouns in the French Primary Corpus

Item	No of Occurrences
amount	2
figure	26
level	29
number	68
pace	1
percentage	11
proportion	56
rate	48
size	6
Total	248

Table 3.10(b) Quantifying Nouns in the English Primary Corpus

The biggest point of contrast between the tables is that quantifying nouns appear almost twice as often in the English corpus as in the French corpus. However, this is not an indication in itself that statistical statements occur more frequently in the English corpus. Quite often the head noun of a nominal group incorporates a quantifying noun in its semantic make-up and this is particularly the case in the French corpus. Examples of this phenomenon are *la fécondité reste à* (F Text B 16), *la mortalité infantile est assez proche actuellement des taux métropolitains* (F Text B 24), *le divorce par consentement mutuel diminue* (F Text C 299), where the implicit quantifying noun in each case is *le taux*. Such nouns have not been counted in Table 3.10(a) above.

The main quantifying nouns in the French corpus are *le taux* (37), *le nombre* (29) and *la proportion* (21). *Le niveau* (13) and *la fréquence* (11) appear considerably less frequently. In the English corpus, on the other hand, *the number* (68), *the proportion* (56) and *the rate* (48) predominate, with *the level* (29), *the figure* (26) and *the percentage* (11) appearing less frequently.

3.4.2.3.4 Quantifying Verbs

In the French corpus the main finite quantifying verb is *être* (43), while *rester* (16) and *dépasser* (8) appear rather less frequently. In the English corpus the main finite quantifying verb is *to be* (51). The next most important quantifying verb *remain* appears only 9 times, while *stand at* and *vary* occur six times each. The full list of finite quantifying verbs is given below for both corpora. When a non-specific quantity is given after the verb, the verb is usually modified by a comparative or superlative adjective such as *plus élevé que* or *higher (than)*, or, with certain verbs such as *rester*, by a non-comparative adjective, e.g. *élevé* or *important* without the comparative element (*plus, moins, -er, etc.*)

French Primary Corpus (102)

atteindre (8), avoisiner (1), comporter (1), constituer (1), demeurer (1), dépasser (11), devenir supérieur à (1), être (43), laisser place à une stagnation (1), se maintenir (3), monter à (1), montrer une stabilité (1), rejoindre (1), représenter (2), rester (16), se situer à (1), se stabiliser (2), stagner (2), varier (2), voisiner (1)

English Primary Corpus (101)

account for (10), amount to (2), average (1), be (51), exceed (1), fluctuate (1), make up (2), nett (1), peak (2), range from to (1), reach (3), remain (9), represent (3), stand at (6), total (2), vary (6)

The corpora also contain some non-finite quantifying verbs which overlap with the lists for the finites. The non-finite quantifying verbs in the French corpus are *atteindre* (4), *dépasser* (1), *devenir supérieur à* (1), *être* (4), *représenter* (1), *rester* (1) and *varier* (1). In the English corpus they are *be* (7), *reach* (5), *remain* (3), *represent* (1) and *stand at* (5).

The lists above show once again that the English corpus has fewer unique finite and non-finite quantifying verbs (16) than the French corpus (20). This difference is not, however, as pronounced as for other verb types. There is considerable semantic overlap of these quantifying verbs across the corpora. The verbs

atteindre, avoisiner, être (with definite quantities), *monter à, se situer à, voisiner, amount to, be* (with definite quantities), *range from to, reach, stand at* and *total* all have more or less the same meaning (they can all be replaced by some form of *être / be* with little loss in meaning) Another group comprises the verbs *constituer, représenter, account for, make up* and *represent* A third group consists of the verbs *dépasser, devenir supérieur à, être* and *be* (with comparative adjectives of superior degree, e g *supérieur, higher, greater*) and *exceed* A fourth group consists of the verbs *demeurer à, être stable, laisser place à une stagnation, montrer une stabilité, rester stable, se stabilizer, stagner, be stable* and *remain stable* Finally, the verbs *varier, fluctuate* and *vary* constitute a distinct group

Comparative and superlative adjectives have a big role to play in the statistical framework, when they appear after ‘empty’ verbs such as *être* and *be* Examples already seen above are *être supérieur, be higher, be greater* The adjective can of course be one of inferior degree, e g *être inférieur, être plus faible, be lower*, or it can express similar degree (*être la/la/les même(s), be the same/similar*)

3.5 Cohesion in the Corpus

This section focuses on two very important aspects of the Hallidayan model of cohesion discussed in Chapter 2 **reference** and **lexical cohesion** Section 3.5.1.1 examines various personal reference devices in the corpora, while Section 3.5.1.2 concentrates on demonstrative reference, with special emphasis on demonstrative noun phrases Cohesion established through the use of coordinators, subordinators and sentence connectors (**conjunction**) has already been analyzed in Section 3.4.1 **Ellipsis** of retrievable elements appears frequently in the corpus as an aid to informativity and effectiveness but it is difficult to quantify and so will not be discussed here

3.5.1 Reference Devices

According to Halliday and Hasan (1976 31)

There are certain items in every language which have the property of reference, that is to say, instead of being interpreted semantically in their own right, they make reference to something else for their interpretation. In English these items are personals, demonstratives and comparatives

Reference may be exophoric or endophoric. Exophoric reference signals that an item is interpretable by recourse to the context of situation, and as such it is not cohesive. Endophoric reference, on the other hand, is a textual relation: the identity of the item is to be found within the text. Endophoric reference may be either anaphoric or cataphoric: cataphoric reference concerns text reference forward, while anaphoric reference concerns text reference backwards. By far the most common type of endophoric reference is anaphoric reference, although cataphoric reference does occasionally occur, e.g.

chaque jour où **il** regarde la télévision, **un adulte urbain** y consacre en moyenne 2 h 10 quotidiennement
(F Text A 213-214)

The classification of reference into personal, demonstrative and comparative reference can be applied to French as well as to English. The following are examples of personal, demonstrative and comparative reference devices in the French and English corpora

Personal Reference

■ les Français ont **accru la part de leur revenu ... qu'ils consacrent aux loisirs**. Ils l'ont fait d'ailleurs essentiellement pendant la première moitié de la période. (F Text A 213)

■ Table 10 8 shows that **the percentage of video recorder households who hired cassettes in the week prior to being interviewed** in 1988 has declined by one percentage point since 1986 In 1988 it stood at 29 per cent (E Text A 155)

Demonstrative Reference

■ le vieillissement se poursuit, surtout après 2006 du fait de l'entrée des générations du baby-boom dans la classe **des personnes âgées de 60 ans ou plus** A l'horizon 2020, ce **groupe d'âge** comptera pour 23 % de la population totale (F Text B 25)

■ **The proportion of school pupils who stay on for one extra year tends to be higher in Scotland than in England and Wales.** This is mainly due to the 'conscription effect' (E Text D 56)

Comparative Reference

■ A nouveau, les ruptures se produisent surtout au début du mariage, mais elles atteignent maintenant leur maximum **plus tôt** - et ce maximum est trois fois **plus élevé** que dans les mariages des années 1950 (F Text C 298)

■ There were over 64 thousand grants of British citizenship in 1988, almost **the same** as in 1987, and 19 thousand **more than** in 1986 (E Text B 32)

Personal reference devices are examined in Section 3 5 1 1 below, while Section 3 5 1 2 examines demonstrative reference in the corpora Comparative reference has already been discussed in detail in Section 3 4 1 3 so it will not be examined further here

Both personal and demonstrative reference devices are important text-forming devices in the corpora But they can be problematic According to Kocourek (1982 40)

Le pronom et le déterminant sont des moyens précieux et indispensables de la cohérence et de l'abrègement du texte Leur inconvénient est pourtant qu'ils donnent aisément occasion à l'équivoque gênante, sinon trompeuse

The ambiguity inherent in personal and demonstrative pronouns in particular means that they are little used in scientific texts. On the other hand, possessive, demonstrative and definite determiners are not as ambiguous as personal pronouns because they combine anaphoric reference with lexical (or semantic) cohesion. They would therefore be expected to appear more often than personal pronouns in a scientific corpus. The analysis over the coming pages tests this hypothesis.

3.5.1.1 Personal Reference

Tables 3.11 and 3.12 provide frequency counts of subject and object personal pronouns in the corpora.

Subject Personal Pronoun	No. of Occurrences
je	-
tu	-
il ⁹	35
elle	19
on	32
nous	-
vous	1
ils	12
elles	3
Total	102

Table 3.11(a) Subject Personal Pronouns in the French Primary Corpus

⁹The figures for *il* include both anaphoric *il* and 'dummy' *il*

Subject Personal Pronoun	No of Occurrences
I	-
you	-
he	-
she	-
it ¹⁰	24
one	-
we	-
you	-
they	17
Total	41

Table 3.11(b) Subject Personal Pronouns in the English Primary Corpus

Direct Object Personal Pronoun	No of Occurrences
me	-
te	-
le	7
la	1
nous	-
vous	-
les	3
Total	11

Table 3 12(a) Direct Object Personal Pronouns in the French Primary Corpus

¹⁰The instances of the personal pronoun *it* include both anaphoric *it* and 'dummy' *it*

Indirect Object Personal Pronoun (Unstressed)	No	Indirect Object Personal Pronoun (Stressed)¹¹	No
me	-	moi	-
te	-	toi	-
lui	2	lui	2
		elle	-
nous	-	nous	-
vous	-	vous	-
leur	2	eux	2
		elles	-
Total	4	Total	4

Table 3 12(b) Indirect Object Personal Pronouns in the French Primary Corpus

Object Personal Pronoun	No of Occurrences
me	-
you	-
him	-
her	-
it	2
us	1
you	-
them	2
Total	5

Table 3 12(c) Object Personal Pronouns in the English Primary Corpus

¹¹The stressed personal pronouns sometimes appear in subject position, in apposition with unstressed forms. However, such forms, although common in speech, would seem to be incompatible with a formal, written register. In the social statistics corpus stressed personal pronouns do not appear in subject position at all, they appear only in indirect object position. The categorizations of personal pronouns used are taken from Judge and Healey 1990 55-57

A comparison of the subject and object personal pronouns appearing in the French and English corpora shows that neither first nor second person singular personal pronouns appear and that first and second person plural personal pronouns are almost non-existent. *Vous* appears once in the French corpus, and *us* appears once in the English corpus. **Only third person personal pronouns are significant in the corpora.** According to Kocourek (1982: 49), scientific papers exhibit

une restriction frappante du système de **personnes** du verbe et en conséquence aussi du système des pronoms personnels. On constate l'influence de deux facteurs : de la communication écrite et du souci de l'impersonnalité.

He goes on to say that the first person singular and plural (apart from what he calls *nous de modestie*) are hardly ever used. Neither *tu* nor *vous* are used because the addressee is never addressed directly. Furthermore, *je* is only used in less formal texts and in texts which were written to be spoken. Authors keep their distance by using *nous* (not found in this corpus) and *on*.

Personal pronouns appear a total of 121 times in the French corpus and only 46 times in the English corpus. This difference between the corpora is created largely by the frequent use of *on* in the French corpus. *On* differs from the other third person personal pronouns in that it is *exophoric* (it has generalized human reference), and is therefore not cohesive, whereas the other third person pronouns (apart from 'dummy' *il / it*) are **anaphoric**. The difference between the corpora is also due partly to the use of *il* in 'dummy' constructions such as *il y a / avait*, while the English equivalent *there* is not a personal pronoun. Nevertheless, the divergence between the corpora in terms of their frequency of usage of personal pronouns is still significant: even when the usages of *on* and of *il* corresponding to *there* are removed, personal pronouns still occur twice as often in the French corpus as in the English corpus. The reason for this difference between the corpora is unclear. It was hypothesized that the increased number of personal pronouns in the French corpus might be accountable for in terms of more

intrasentential than *intersentential* reference in that corpus, the former type of reference being less potentially ambiguous than the latter. This hypothesis was based on Kocourek's (1982: 42) assertion that

L'emploi des pronoms est naturellement plus fréquent et moins ambigu dans les phrases où le pronom d'une proposition renvoie à l'antécédent qui appartient à la proposition précédente de la même phrase

However, this hypothesis was disregarded when it was found upon examination that personal pronominal reference is divided equally between *intersentential* and *intrasentential* reference in both corpora. A second hypothesis is that the greater amount of pronominal reference in the French corpus could relate to the fact that "languages in which nouns are marked for gender permit a greater density of pronominal reference than those such as English which are restricted to the single pronoun *it* for reference to all animate nouns" (Hatim and Mason 1990: 201)

Tables 3.13(a) and 3.13(b) provide frequency listings of various **possessive determiners** in the corpora.

Possessive Determiner	No
mon / ma	-
ton / ta	-
son / sa	10/8
notre / nos	1/0
votre / vos	-
leur / leurs	24/5
Total	48

Table 3.13(a) Possessive Determiners in the French Primary Corpus

Possessive Determiner	No.
my	-
your	-
his	-
her	-
its	9
one's	-
our	-
your	-
their	27
Total	36

Table 3.13(b) Possessive Determiners in the English Primary Corpus

Possessive determiners appear somewhat more frequently in the French than in the English corpus. As is the case with the personal pronouns, only third person possessive determiners are significant in the corpora. *Notre* appears once in the French corpus as a modifier of *pays*, in this case it has a deictic function corresponding to *in this country* in the English corpus.

3.5.1.2 Demonstrative Reference

Three types of demonstrative reference devices are examined in the corpora: demonstrative pronouns, demonstrative determiners, and definite determiners. The demonstrative pronouns appearing in the corpora are listed below.

Demonstrative Pronoun	No
celui(-ci/-là)	16
celle(-ci/-là)	10
ceux(-ci/-là)	15
celles(-ci/-là)	3
ceci	4
cela	2
ce ¹²	19
Total	69

Table 3 14(a) Demonstrative Pronouns in the French Primary Corpus

Demonstrative Pronoun	No
this	9
that	8
these	4
those	44
Total	65

Table 3 14(b) Demonstrative Pronouns in the English Primary Corpus

There is no significant difference between the corpora in terms of their frequency of usage of demonstrative pronouns

Demonstrative noun phrases are a very strong cohesive device in the corpora. They combine anaphoric reference with partial ellipsis and semantic cohesion (often lexical cohesion as well). They are more precise reference devices than pronouns, which partially explains their frequent usage in scientific writing in general. The social statistics corpus is no exception to this rule.

¹²The instances of *ce* do not include *ce* as the empty subject of a cleft sentence, nor do they include *ce* at the head of a demonstrative noun phrase.

The frequencies of occurrence of demonstrative determiners in the French and English corpora are given in Tables 3 15(a) and 3 15(b) below The tables show that demonstrative determiners appear rather more frequently in the French than in the English corpus

Demonstrative Determiner	No
Ce / Cet	24
Cette	30
Ces	23
Total	77

Table 3 15(a) Demonstrative Determiners in the French Primary Corpus

Demonstrative Determiner	No
This	25
That	1
These	12
Those	1
Total	39

Table 3 15(b) Demonstrative Determiners in the English Primary Corpus

This difference between the corpora shows that French writers are much less hesitant to use a demonstrative noun phrase than their English counterparts, in social statistics writing at least Judge and Healey, in their *Reference Grammar of Modern French* (1991 36), state that this is the case for other text types as well, and give an explanation of this difference between the languages in terms of the non-specificity of the definite article in French

It has been noted that the French definite article is often used to translate the English zero article. This is because it is frequently used to express the generic rather than the specific. The definite article being no longer associated solely with the specific, it is somewhat less definite in its connotations than its English equivalent. The consequence of this is the frequent use of the demonstrative adjective - which is always specific - to translate the English definite article, particularly in legal and administrative texts.

What this means in terms of translation is that translators should attempt to translate demonstrative determiners in French social statistics texts by some means other than a demonstrative determiner where other means exist. And indeed other means do exist as will be demonstrated in Chapter 4 (Section 4.5.1.2).

The overall counts for demonstrative pronouns, possessive determiners and demonstrative determiners provided in Tables 3.13 to 3.15 proves the hypothesis formed at the beginning of this section that these reference devices are used more often than personal pronouns in the social statistics corpus. There are 194 demonstrative pronouns, possessive determiners and demonstrative determiners altogether in the French corpus, and only 121 personal pronouns. The figure for the English corpus is 140 demonstrative pronouns, possessive determiners and demonstrative determiners, and just 46 personal pronouns.

In a demonstrative noun phrase, the nominal group may constitute a repetition of a preceding nominal group, it may be a more general term (a superordinate) or it may have extended text reference. The latter two types of reference are the most common types in both corpora. Examples of each of the three types are given below.

Population changes in the age group 16 to 19 are shown in Chart 1.3 and illustrate the projected decline in number of **this section of the population**. **This decline** is almost entirely attributable to previous trends in the number of births.

(E Text B 18)

La part des étrangers parmi les étudiants atteint, en France, 10,4 % en 1987 contre 5,2 % en 1970 Comme en Allemagne, **cette progression** est due aux immigrés
(F Text D 333-4)

In the English language example above, the demonstrative noun phrase *this section of the population* is a superordinate of the nominal group *the age group 16 to 19*. *This decline* is a repetition of *the (projected) decline* in the previous sentence. In the French example we see an instance of extended text reference: *cette progression* has as its referent the entire sentence which precedes it. Extended text reference thus contributes to **efficiency** in the corpora: an entire clause, sentence, or even paragraph is summarized in a single noun phrase. Extended text reference by demonstrative noun phrases also requires more cognitive processing in order to discover their antecedents. The majority of demonstrative noun phrases in both corpora with nouns of motion as their head noun constitute **nominalizations** of previously cited verb phrases. This is also true of definite noun phrases with nouns of motion as their head noun, but to a lesser degree.

A large proportion of the demonstrative noun phrases in the corpora occur in particular semantic categories. In the French corpus the most important of these are

- nouns of motion (23), e.g. *ce recul, cette baisse, cette progression, cette évolution*
- quantifying nouns (7), e.g. *cette proportion, ces taux*
- geographical entities (7), e.g. *ces deux pays, ces trois départements*
- pastimes (5), e.g. *cette activité, ce genre de spectacle*
- social actors (5), e.g. *ces groupes sociaux, ces derniers (les agriculteurs)*
- divorce types (5), e.g. *ce type de procédure, ce cas (la demande acceptée)*

In the English corpus the most important semantic categories are

- nouns of motion (8), e.g. *this increase, these changes*
- quantifying nouns (7), e.g. *this proportion, these figures*
- social actors (7), e.g. *this age group, these earlier immigrants*
- time periods (4), e.g. *this period, that date*

Nouns of motion are by far the most important category of nouns entering into demonstrative noun phrases in the French corpus, and they are also marginally the most important category in the English corpus. These semantic categories of demonstrative noun phrases correlate with specific types of reference: repetition, reference through use of a superordinate, or extended text reference. Nouns of motion involve extended text reference, and quantifying nouns involve all three types of reference, while the remaining categories isolated in the examples above mainly involve reference through the use of superordinates. In addition to the nouns of motion, a number of demonstrative noun phrases not mentioned in the groups above involve extended text reference, examples of these are *ces tendances* / *these trends*, *cette comparaison* / *this comparison*, *ce phénomène*, *ces hypothèses*, *ces questions*, *this topic*, *this legislation*.

Demonstrative noun phrases constitute an important device for thematizing an antecedent rhematic noun phrase or verb phrase, or even the subject matter of an entire section of text. They are therefore an important device in terms of Functional Sentence Perspective. In a few instances in both corpora the demonstratives are not internally cohesive: they constitute instances of exophoric reference. In the English corpus there are two instances of *this country*, denoting The United Kingdom. There is no reference to a previous occurrence of *The United Kingdom* in the text; it belongs to the context of situation. The author assumes either that the readers are British or that they know that *Social Trends* is a British publication and that the figures refer to social trends within the United Kingdom. In the French corpus, this type of exophoric reference does not appear (except in the case of the possessive determiner *notre* in *notre pays*), but there are three instances of exophoric demonstrative reference: *ces vingt dernières années* (2) and *ce volume* (1).

The third type of demonstrative reference in the corpora is that produced by **definite noun phrases**. In *Cohesion in English* (1976: 70-74), Halliday and Hasan identify two endophoric uses of the definite article, a cataphoric and an anaphoric use. The definite article is **anaphoric** when the information which identifies it is

recoverable from the *preceding* text. There are numerous examples of the anaphoric definite article in the French and English corpora. In the examples below, the definite noun phrase is emboldened and its antecedent is italicised.

D'une promotion à la suivante, *les divorces ont augmenté* pour toutes les durées du mariage, y compris parmi les couples les plus anciens. En termes relatifs **la hausse** a été d'autant plus forte que la durée du mariage était ancienne.

(F Text C 298)

Chart 1.10 shows that in England and Wales *the number of births per thousand women aged over 20 peaked* in the early 1960s while for those aged 15-19 **the peak** was in 1971.

(E Text B 28)

In each case the information required for the interpretation of the nominal group is retrievable from the preceding text. The examples above show that definite noun phrases have a cohesive function similar to that of demonstrative noun phrases. However, it does appear that some demonstrative noun phrases can refer to significantly longer stretches of text than can definite noun phrases. Demonstrative noun phrases such as *ce phénomène* frequently have as their antecedent a preceding paragraph or section, whereas definite noun phrases usually have as their antecedent a noun phrase or clause within the same sentence, or occasionally in the preceding sentence, but not a longer stretch of text.

In **cataphoric** definite noun phrases, the definite article and the head noun both refer forward to the remainder of the noun phrase for their specification. An example of cataphoric *la* in the French corpus is *l'analyse par âge au décès* (F Text B 21). The definite article signals that the criteria for identifying WHICH analysis is recoverable from the nominal group in which the definite article occurs. So it is the elements **modifying** *l'analyse* that define this head noun. Cataphoric noun phrases are only cohesive within the noun phrase and are therefore not of great interest as reference devices. However, the fact that they often constitute **complex noun phrases** in the primary corpus means that they are of interest from

a text-linguistic point of view They contribute to informativity, economy and effectiveness in the social statistics corpus Quirk et al (1979 932) note this function of the noun complex noun phrase

By means of the structures that have been developed in the noun phrase, we can take an indefinitely wide range of grammatical and semantic data which have either been previously established in the discourse or which can be assumed as knowledge held in common between speaker / writer and hearer / reader, and then express them or refer to them with greatly reduced explicitness and consequently increased economy

The following example illustrates the ability of the complex noun phrase to effectively condense a large amount of information

Sans autres indications, il est difficile d'interpréter **la hausse de 11 % à 17 % de la proportion d'individus qui participent régulièrement à au moins une association**
(F Text A 215)

The head noun *la hausse* combines with other noun groups and a relative clause to promote **efficiency** in the text

According to Halliday and Hasan (1976 73) "there is a commonly held belief that the typical function of *the* is the anaphoric one that it invariably specifies by reference back in the text" However, "it is probably true that purely anaphoric reference never accounts for a majority of instances in pragmatic speech *the* is primarily exophoric, and in most other varieties of spoken and written English its predominant function is cataphoric " What Halliday and Hasan do not tackle is whether anaphoric *the* is used more frequently as a reference device than demonstrative determiners in specific varieties of English The question should also be posed as to whether the definite article in English is used anaphorically more frequently than its French equivalents, given that the French definite article is less specific (because it is more generally used) than the English definite article, and that demonstrative determiners are used more often in French than in English

writing. Unfortunately it is beyond the scope of this study to tackle these questions, and so specific counts of anaphoric definite determiners in the corpora have not been given.

3.6 Conclusions

This chapter has highlighted many of the similarities and differences that exist between the texts of the French and English primary corpora. The main findings on a contrastive level are listed in point form below.

- The overall average sentence length of the corpora is similar, being 25 words for the French primary corpus and 26.2 words for the English primary corpus. These sentence lengths are somewhat lower than those for scientific writing as a whole, approximately 29 words for both languages. The overall finite clause structure of the corpora is almost identical. Both corpora also have an identical ratio of verbs to running text.
- The French primary corpus has far more unique items than the English primary corpus, despite its smaller size. It also has a far greater number of unique *verbs* than the English corpus, and a closer examination of specific verb types, in particular of verbs of motion and verbs having social actors as their subject, bears out this finding.
- The indicative mood and declarative sentence type predominates in both sub-corpora.
- The present tense predominates in the French primary corpus (73.9 %), while in the English corpus the past simple tense (49.8 %) is the most important tense, followed by the present simple tense (33.5 %).

■ 58.2 % of subordinate clauses in the French primary corpus are relative clauses, and only 24.7 % are adverbial clauses, while the opposite obtains in the English primary corpus: only 34.5 % of subordinate clauses are relative clauses and 44.5 % are adverbial clauses

■ The French corpus has far more sentence connectors (91) than the English corpus (53)

■ The semantic relations of comparison and opposition are more important in the English primary corpus than in the French primary corpus. Conversely, cause and consequence are expressed more often in the French corpus. This difference stems from an imbalance of text types across the sub-corpora, the French corpus is more concerned with **analysing** social change than the English corpus. The authors of the English primary corpus are often content to **describe** social trends. Nevertheless, the surface expression of these semantic relations in the two sub-corpora is very similar.

■ The most important devices used in the French primary corpus to signal intervention by the analyst are passives and *on* constructions. *Nous* is not used. Passives are the device most often used in the English primary corpus to signal intervention.

■ Both sub-corpora have a similar person system: the usage of personal pronouns and possessive determiners is restricted almost entirely to the third person.

■ The French primary corpus uses far more personal pronouns than the English corpus. (Even when exophoric *on* and impersonal *il / it* are excluded from the count, the French corpus still has twice as many personal pronouns as the English corpus.)

- Devices relating to the analyst and to the statistical framework recur in all the texts of each sub-corpus because these nouns and verbs constitute part of the vocabulary common to all social statistics texts. Verbs associated with the social actors, on the other hand, change as the subject matter does, and although they are an important verb category, they do not form part of the common core of social statistical verbs. The same dominant groups of social actors do, however, reappear in many texts, e.g. *men and women, boys and girls, couples, persons, x-year olds, and those*

- There is a higher number of nouns of motion in the French primary corpus, but a higher number of verbs of motion in the English primary corpus. The use of a noun of motion as subject often leads to an **interpretation**, e.g. *cette croissance est due à*, whereas verbs of motion are used purely to **record** change, hence the greater usage of nouns of motion in the more analytical French corpus

- Finally, the French primary corpus has far more demonstrative noun phrases (77) than the English corpus (39). 23 demonstrative noun phrases have nouns of motion as their head noun in the French corpus, as opposed to just 8 in the English corpus

The findings of this chapter have a number of implications for both translation and LSP teaching. In terms of translation, the following recommendations are made

- First and foremost, the apparently narrower vocabulary range of English social statistics should be kept in mind by the translator. **Verbs of motion** are a good example of this difference - only two French verbs of motion appear ten or more times (*augmenter* 12, *diminuer* 10) in the primary corpus, while three English verbs of motion appear at least 29 times (*increase* 31, *fall* 29, *rise* 29)

■ Secondly, the translator should not be tempted to translate every sentence connector in a French social statistics text by its English equivalent because in English social statistics the logical relations between sentences are often not made explicit. This is a difference which probably applies to all kinds of writing in French and in English, it is not specific to expository social statistics.

■ Thirdly, demonstrative noun phrases should not always be translated by demonstrative noun phrases. A definite noun phrase or some other device will often suffice in English social statistics. Again this difference between the corpora is the case for other sublanguage text types as well.

■ Finally, when searching for translation equivalences, the translator could make use of the listings of parallel expressions identified in the analysis, for example devices expressing cause and consequence or devices relating to the analyst.

In terms of LSP teaching, a common core of expressions which characterise every social statistics text has been isolated in the primary corpus. Exhaustive listings have been supplied of verbs relating to the analyst, nouns and verbs of motion and quantifying verbs and nouns. Lists of the exponents of many semantic relations at intrasentential and intersentential level have also been compiled (with special emphasis on comparison / opposition and cause / consequence). These listings would be useful in teaching students how to present any type of statistical information, or to read social statistical texts.

Chapter 4

Analysis of the Secondary Corpus

4.1 Introduction

In Chapter 3 the language of analytical / descriptive social statistics writing in French and English was described in detail using a non-translated corpus of approximately 11,000 words for each language. In addition, some guidelines were provided for the translation of texts from this sublanguage text type on the basis of the analyses.

Chapter 4 tests the results found in Chapter 3. It asks firstly whether the descriptive work carried out on the primary corpus is representative of social statistical writing in general or whether its representativeness is limited only to itself, and secondly, it seeks to test the translation guidelines provided on the basis of a corpus of *non-translated* parallel texts on a *translated* text.

A secondary corpus for analysis is introduced in this chapter. This secondary corpus consists of a series of extracts from a book by the French sociologist Martine Segalen, and of their published English **translation**. The extracts belong to the same sublanguage text type as the original corpus (or at least *intuitively* they appear to, since there is no precise definition of what exactly a social statistics text is)¹³

The reason for testing the descriptions of social statistics writing on an extended corpus is that a 23,000 word bilingual corpus is not a very large one on which to make definitive assertions about the language of a sublanguage text type, especially when all the texts of each corpus have the same institutional origin and are all of the same text variety (semi-academic research papers).

¹³I possess no precise gauge of how to classify a text as being social statistical or not. I cannot say, for example, that if there are x occurrences of nouns of motion, of quantifying nouns or verbs, or of specific quantities per hundred words of text, then the text is a social statistics text, and any text not meeting these criteria cannot be classified as social statistical. The classification of a text as belonging to the domain of social statistics is largely intuition-based.

The potential usefulness of the translation guidelines in an authentic translation context is tested in order to ascertain whether the guidelines are applicable to translator training and LSP teaching in the sublanguage of social statistics

The analysis carried out in the remainder of this chapter mirrors that implemented in Chapter 3. Section 4.2 introduces the secondary corpus and compares it with the primary corpus. Section 4.3 examines a variety of quantifiable linguistic features in the secondary corpus. Section 4.4 investigates how coherence is established in the secondary corpus and Section 4.5 looks at some of the surface exponents of cohesion in the corpus.

The reader may wonder how it is possible to *simultaneously* test the representativeness of the secondary corpus and the translation guidelines. Surely, one might say, the secondary corpus must first be representative of the language of the primary corpus before the guidelines can be applied to it, i.e. establishing representativeness is logically *prior* to any application of the guidelines to the secondary corpus. This is certainly the case, and it is true that at the analysis stage the question of representativeness *was* tackled before the application of the guidelines to the secondary corpus, but at the write-up stage it was considered that for ease of comparison with the results of the primary corpus, Chapter 4 should have the same structure as Chapter 3. Hence the notion of representativeness and the application of the guidelines are not separated in the presentation of the results.

4.2 The Secondary Corpus

The secondary corpus consists of a series of extracts from a 1981 book by the French author Martine Segalen called *Sociologie de la famille*. It also includes the corresponding English language extracts from the 1987 translation of this book, *Historical Anthropology of the Family*, by J.C. Whitehouse and Sarah Matthews.

The French extracts amount to approximately 2,300 words in total, as do their English translations. The secondary corpus is thus approximately four times smaller than the primary corpus.

The secondary corpus is similar to the primary corpus in many respects but there are also some significant differences between them.

The first major point of contrast between the primary and secondary corpus is that while the primary corpus is a bilingual corpus of parallel **non-translated** texts, the secondary corpus consists of a set of authentic French text extracts **translated** into English. The second difference between the primary and the secondary corpus is that the latter corpus is taken from a **book** rather than from a collection of papers.

A third difference between the primary and secondary corpora is that while the text type balance is uneven in the primary corpus, with the English primary corpus being more descriptive and the French primary corpus being more analytical, there is no such imbalance in the secondary corpus, since the texts in both languages have the same content. In fact, the French primary corpus and the secondary corpus (both languages) are very similar in terms of their relative weightings of descriptive and analytical text, whereas the English primary corpus differs quite significantly from the other three in this respect.

A fourth major difference between the Insee / CSO texts and Martine Segalen's book is that while statistics have a constant presence in the former publications, in *Sociologie de la famille* we often find long passages which are concerned only with **qualitative** description and explanation, in these passages Martine Segalen makes little use of statistics, except in secondary texts (graphs and tables). In her explanation of kinship relations, for example, Segalen makes hardly any use of statistics, relying heavily on social commentaries of the time, and such stretches of text cannot rightly be described as belonging to the domain of social statistics but to the broader domain of sociology. However, certain parts of the book rely more heavily on statistics and can be classified as belonging to the sublanguage of social

statistics. Extracts for the secondary corpus are taken from these more heavily statistical parts of Segalen's book. These extracts are reproduced in Appendices C and D.

4.3 Surface Linguistic Features

4.3.1 Sentence Length

The average sentence length for the French secondary corpus is 27.3 words, while that for the English translation is 24.3 words. This compares with an average sentence length of 25 and 26.2 words for the French and English primary corpora respectively. The considerable difference between the SL and TL texts in the secondary corpus stems from the fact that the SL extracts have many long sentences punctuated by colons and semi-colons, which are often broken down into several separate sentences in the translation, e.g.

La proportion de célibataires a crû au XVIII^e siècle, de 6 à 7 % dans les générations nées vers 1765, le célibat définitif atteint 12 % chez les femmes nées cent ans plus tard, la hausse s'accélère ensuite jusqu'à un maximum de 14 % chez les femmes nées vers 1790, une longue baisse, moins rapide que la croissance du XVIII^e siècle, ramène les générations nées vers 1850 au niveau de celles nées vers 1760

(Segalen 1981 105)¹⁴

The proportion of people who never married increased during the century. In the generation born around 1765, it was between 6 and 7 per cent for women and rose to 12 per cent for women born ten years later and reached a maximum of 14 per cent for those born around 1790. Thereafter, there was a long decline in numbers, slower than the rise in the eighteenth century, which brought back the level of those born around 1850 to that of those born around 1760.

(Segalen 1987 113)

¹⁴There appears to be a mistake in the French original text here: it makes more sense for 'cent ans' to read as 'dix ans', which is the assumption that Whitehouse and Matthews make in their version.

4.3.2 Finite Clause Structure

The finite clause structure of the sentences of the French and English secondary corpus is given in Tables 4.1(a) and 4.1(b)

Subordinate Clauses->	0	1	2	3	4	Total
Main Clauses 1	34	17	3	-	1	55
2	12	8	2	-	-	22
3	3	1	3	-	-	7
4	1	-	-	-	-	1
Total	50	26	8	-	1	85

Table 4.1(a) Finite Clause Structure of the Sentences of the French Secondary Corpus

Subordinate Clauses->	0	1	2	3	4	Total
Main Clauses 1	44	20	7	-	1	72
2	13	2	1	5	-	21
3	3	-	-	-	-	3
Total	60	22	8	5	1	96

Table 4.1(b) Finite Clause Structure of the Sentences of the English Secondary Corpus

A comparison of the tables reveals that there is no homogeneity of clause structure across the texts of the French and English secondary corpus. For example, just 40 % of the SL sentences are simple sentences compared to 45.8 % in the translation. Furthermore, 9.4 % of the SL sentences have more than two main clauses compared to just 3.1 % in the TL. These differences relate to the large number of long sentences in the SL punctuated by semi-colons and colons which are rendered by several separate sentences in English. (See the previous section for an example of

such a sentence and its translation) This explanation does not, however, account for the far greater proportion of sentences in the TL with more than two subordinate clauses (1.2 % in the SL and 6.25 % in the TL)

It may be concluded that in terms of their finite clause structure the French and English secondary corpora are divergent Nor is there any convergence across the primary and secondary corpora in terms of their overall finite clause structure For example, 56.4 % of sentences in the French primary corpus and 57 % in the English primary corpus are simple sentences, compared to only 40 % of sentences in the French secondary corpus and 45.8 % in the English secondary corpus The primary corpus is therefore somewhat simpler than the secondary corpus

Although the results of the finite clause analysis of the primary corpus show remarkable homogeneity across the two languages for expository social statistics, the results from the secondary corpus are not at all homogeneous It can be concluded that either a) homogeneity of clause structure does not exist in expository social statistics, or b) that it does exist but that the secondary corpus deviates from this homogeneity, which would call into question the classification of the secondary corpus as a representative sample of expository social statistics writing

4.3.3 Finite and Non-Finite Verbs

Table 4 2 gives the frequencies of occurrence of finite and non-finite verbs in the primary and secondary corpora

	Fr Prim	Eng Prim	Fr Sec	Eng Sec
Total No of Words in Corpus	10,626	11,729	2,323	2,333
No of Finite Verbs	682	729	170	180
Finite Verbs · Words	1 15 6	1 16 1	1 13 6	1 12 9
No of Non-Finite Verbs	228	275	40	51
Non-Finite Verbs : Words	1 46 6	1 42 6	1 58	1 45 7
Total No of Verbs	910	1,004	210	231
Verbs : Words	1 11 7	1 11 7	1 11 1	1 10 1

Table 4 2 Finite and Non-Finite Verb Ratios in the Primary and Secondary Corpora

Table 4 2 shows that while the French and English primary corpora each have one verb form (finite or non-finite) for every 11 7 words of running text, the figure for the French secondary corpus is somewhat lower, at one verb for every 11 1 words, while that for the English secondary corpus is lower again (one verb for every 10 1 words) This means that the secondary corpus is more verbal than the primary corpus The lower number of both finite and non-finite verbs in the French than in the English secondary corpus means that the French texts use non-verbal expressions to a higher degree than the translations Nominalizations are a form of non-verbal expression frequently rendered by a verb clause in the translation, e g

- la croissance de -> was increasing
- on observe des taux en baisse faible -> The rates fell slowly
- la formation des couples -> the way couples are made up
- l'introduction de -> were introduced

In addition, the significantly higher number of non-finites in the English secondary corpus reflects a tendency for the translators to render a finite clause(s) in French by a non-finite clause(s) in English, as in the example below

Après 1945, le taux de fécondité oscille entre 2,65 et 3 naissances par femme , culmine en 1964 à 2,90, régresse régulièrement jusqu'aux environs de 1,85, valeur autour de laquelle il se stabilise depuis 1976
(Segalen 1981 148)

After 1945, it was between 2.65 and 3 in France, reaching 2.9 in 1964 and then gradually falling to around 1.85, stabilising around this figure since 1976

(Segalen 1987 160)

The ensuing fall in the numbers of finite verbs in the English secondary corpus is largely made up for by the translation of verbless expressions in the SL extracts by finite verb clauses in the TL extracts (See section 4.3.5 below on unique finite verbs for an example of this)

4.3.4 Unique Items

The French secondary corpus has 2,012 unique items whereas the English secondary corpus has only 1,579¹⁵. This constitutes a significant difference between corpora of similar size and parallel content. Coupled with similar results from the primary corpus, these results show that French social statistics consistently has a broader vocabulary than English social statistics. Section 4.3.5 below examines this phenomenon in greater detail.

¹⁵Reservations about the validity of unique item counts using Wordcruncher have already been expressed in Section 3.3.4. Therefore the results shown here should be accepted with caution.

4.3.5 Unique Verbs

There is a smaller number of unique finite verbs in the English secondary corpus (67) than in the French secondary corpus (89). This is in spite of a higher total number of finite verbs in the English translation (180) than in the original French extracts (170). These findings bear out the results for the primary corpus: the French primary corpus has 244 unique finites whereas the English primary corpus has just 149.

When the non-finite verbs are taken into consideration, the difference between the corpora is even more pronounced: the number of unique verbs (finite and non-finite together) rises by 20 to 109 in the French secondary corpus and by just 14 in the English secondary corpus to 81.

In the secondary corpus, the difference between the SL extracts and the translation lies partly in the fact that the translated text relies far more heavily than the original on usage of the verb *to be*. The French text uses finite *être* (excluding passives) a total of 38 times, whereas in the translation *to be* is used a total of 56 times.

If we examine the occurrences of *être* and *to be* in the secondary corpus, two main translation patterns emerge which account for the greater usage of *to be* in the translation. The first is that many semantically 'rich' verbs in the French secondary corpus are rendered by *to be* (plus an adjective or NP) in the English corpus, e.g.

- caractérisait -> was a feature of
- ces taux se situaient -> the birth rate was
- le taux oscille entre -> it was between
- s'ajoutait aux causes -> an additional cause was
- la descendance nette se chiffrait -> the net number of children was
- cela a constitué une étape -> this was one stage

Of course, this type of simplification in translation occasionally occurs in the opposite direction, with *être* being rendered by a richer verb in English, e.g.

- est un puissant facteur de limitation des naissances -> acted as a powerful brake on the number of births
- sont étrangers à la ville -> came from outside the town

The second reason for the higher number of occurrences of finite forms of *be* in the translation is that French non-verbal expressions are often rendered by a finite clause with *to be* in the English translation. This accounts in part for the larger number of subordinate clauses and hence the higher number of verbs in the English secondary corpus. Examples of this translation procedure in context are

- Les auteurs américains de l'après-guerre ont souligné plusieurs corrélations -> Post-war American commentators have stressed **that there are** many correlations
- Si l'on compare ces résultats avec ceux d'une enquête réalisée en 1971, on observe le bond en avant de sa progression, de 10,5 % à 31 % -> if these findings are compared with those of a survey conducted in 1971, it is clear **how pre-eminent it now is, since the figures are** 10.5 % and 31 % respectively [it = the pill]
- en réaction, la nuptialité et les naissances sont restreintes -> The result **was that** both marriage and birth rates were restricted
- La proportion , encore légèrement supérieure à la moyenne au début du siècle, lui est inférieure à la fin -> The proportion **was** slightly above average at the beginning of the century **but below it** at the end

In this final example the first French verbless clause becomes a finite verb clause in the translation, and the second **finite verb** clause is rendered by a **verbless** clause. Thus the opposite procedure also occurs in the corpus.

The greater reliance on the use of *to be* is not simply a feature of Whitehouse and Matthew's translation: it is also found in the primary corpus. The French primary corpus uses finite *être* 165 times, whereas the English primary corpus uses finite forms of *to be* 212 times.

These findings point to a greater simplicity in English than in French social statistics writing. In their translation, Whitehouse and Matthews have used simpler verbs than were present in the original, and so have respected the greater simplicity that appears to exist in English social statistics writing in general. Thus they do not, for example, translate *osciller* by *oscillate* or *s'atténuer* by *to attenuate*.

4.3.6 Mood

As is the case for the primary corpus, the vast majority of sentences in the secondary corpus are indicative in mood, for both French and English. Unlike the primary corpus, however, all the sentences of the secondary corpus are declarative.

4.3.7 Tense Distribution

Tables 4.3(a) and 4.3(b) provide a tense breakdown of finite verbs in the French and English secondary corpus.

Tense	French Secondary Corpus
Present	113
Imperfect	30
Perfect	20
Future	1
Pluperfect	3
Conditional Present	1
Conditional Past I	1
Total Verbs	170

Table 4.3(a) Tense Breakdown of the French Secondary Corpus

Tense	English Secondary Corpus
Past Simple	98
Present Simple	54
Present Perfect	13
Past Progressive	3
Pluperfect	3
Present Progressive	1
Present Perfect Progressive	1
Future	4
Conditional Present	2
Conditional Past I	1
Total Verbs	180

Table 4 3(b) Tense Breakdown of the English Secondary Corpus

The present tense predominates in the French secondary corpus, while the past tense is the dominant tense in the English corpus, followed by the present simple tense. Tables 4 4(a) and 4 4(b) record the percentages of verbs appearing in the three dominant tenses for the French and English secondary corpora respectively.

Tense	French Secondary Corpus
Present	66 45 %
Imperfect	17 65 %
Perfect	11 8 %
Total	95 9 %

Table 4.4(a) Percentage Breakdowns of the Three Most Important Tenses in the French Secondary Corpus

Tense	English Secondary Corpus
Past Simple	54 45 %
Present Simple	30 %
Present Perfect	7 2 %
Total	91 65 %

Table 4.4(b) Percentage Breakdowns of the Three Most Important Tenses in the English Secondary Corpus

In the French secondary corpus, 95 9 % of all finite verbs are in one of the three main tenses (present, perfect, or imperfect). This percentage is exactly the same as that observed in the French primary corpus. However, the breakdown into the individual tenses shows some variations in tense usage across the corpora, especially in terms of perfect tense usage. 66 45 % of the verbs in the French secondary corpus are in the present tense (compared to 73 9 % in the primary corpus), 17 65 % in the imperfect (3 8 % in the primary corpus), and 11 8 % in the perfect (18 2 % in the primary corpus). Other past tenses hardly appear at all.

The reader should note the concurrence across the French primary and secondary corpora in terms of the dominance of the present tense. While not ignoring the fact that the corpora show very different results in terms of their frequency of usage of the imperfect tense, it should be pointed out that the prominence of the imperfect in the French secondary corpus is derived purely from just one of the passages chosen for the corpus. This passage discusses the limitations on population growth in the eighteenth century as ongoing past actions, and accounts for 21 of the 30 imperfects used (70 % of imperfects), or 12 4 % of finite verbs in the secondary corpus.

In the English secondary corpus, on the other hand, the simple past tense is the predominant tense, accounting for 54 45 % of finite verbs. It accounts for 49 8 % of verbs in the primary corpus. The second most important tense is the present

simple tense, at 30 % in the English secondary corpus, as compared to 33.5 % in the English primary corpus. The only other tense appearing in any significant numbers is the present perfect tense. It accounts for 7.2 % of verbs in the English secondary corpus and 10.55 % of verbs in the English primary corpus. In the secondary corpus the perfect tense is used mainly after *since* and to refer to twentieth century events. Together these three tenses account for 91.65 % of verbs in the English secondary corpus and 93.8 % of verbs in the primary corpus.

The most important point to note on a comparative level is the dominance of the past simple tense in both of the English corpora, followed by the simple present tense, whereas the present tense predominates in both of the French corpora. The present tense predominates in the French secondary corpus for two reasons, the most important one being that reference to the past (including the distant past) is very often made in the present tense (the present historic), although it may also be made in the past tenses, whereas in the English secondary (and primary) corpus past reference is always made in the past tense, usually in the simple past. The present historic does not appear in the French primary corpus.

However, the present tense applied to the past is not always a present historic. In the French secondary corpus Segalen always uses the present tense when discussing the results of recent surveys. She views the **survey** not as a static event located in **past** time but rather as a **set of results** which have **current validity**. In the English translation, on the other hand, Whitehouse and Matthews interchange between reference to the survey as a past event (past tense) and as a set of results which are valid *now* (present tense). This difference in outlook between French and English social statistics is also a feature of the primary corpus. An example of the tense switch in translation in the secondary corpus is given below.

C'est dans le Nord-Pas-de-Calais et en Midi-Pyrénées que les conjoints **sont** le plus souvent originaires de la même région, mais c'est dans la région parisienne que les mélanges **sont** les plus fréquents, constate C. Gokalp. Il n'en reste pas moins qu'**aujourd'hui** plus de la moitié des couples **sont** encore originaires du même département.

(Segalen 1981 133)

The Nord/Pas-de-Calais and the Midi-Pyrénées areas **were** those in which both spouses most frequently **came** from the same region, and it **was** in the Paris area that there **were** the most 'mixed' couples, as Catherine Gokalp notes in 'Le Réseau familial'. However, the fact remains that **today** half of all married couples still **come** from the same department.

(Segalen 1987 144)

A second, less important reason for the dominance of the present tense in the French secondary corpus is that observations made by the analyst are generally in the present tense, e.g. *sont confirmés, on observe*. The same is true of the English secondary corpus, e.g. *are taken into account, it is true to say that*.

4.4 Coherence in the Secondary Corpus

As in the primary corpus, coherence in the secondary corpus is established through the interrelation of a recurring set of core textual participants by various semantic relations. This section examines firstly the semantic relations between clauses and sentences in the French and English secondary corpus and goes on to investigate the linguistic devices associated with the main textual participants: the analyst, the social actors and the statistical framework. Comparisons are made throughout with the results from the primary corpus.

4.4.1 The Expression of Semantic Relations in the Secondary Corpus

The same semantic relations are present in the secondary corpus as are found in the primary corpus. This section is concerned first and foremost with a detailed analysis of the semantic relations expressed by coordinators and subordinators linking finite clauses (4.4.1.1), and by sentence coordinators (4.4.1.2). Consideration is also given to the two core semantic relations in the secondary corpus: comparison / opposition (4.4.1.3) and cause / consequence (4.4.1.4).

4.4.1.1 Semantic Relations Expressed through Clause Coordinators and Subordinators

The coordinators and subordinators linking clauses in the secondary corpus are listed below in Figures 4.1 and 4.2 for French and English respectively.

Figure 4.1 Coordinators and Subordinators at Clause Junctions in the French Secondary Corpus (85)

1. C O O R D I N A T O R S (39)

1(a) Syndetic Coordinators - Coordinating Conjunctions (11)

Item	Relation Type	No
et	addition	5
mais	concession	4
ou	alternation	1
ou bien	alternation	1

1(b) Asyndetic Coordinators (28)

Item	No.
,	12
,	9
,	5
()	1
-	1

S U B O R D I N A T O R S (46)

2(a) Subordinating Conjunctions (11)

Item	Relation Type	No.
au fur et à mesure que	time	2
au moment où	time	1
parce que	cause	1
si	condition	6
tandis que	opposition	1

2(b) Relative Pronouns (19)

Item	No
dont	2
laquelle	1
où	1
que	1
qui	14

2(c) Completives (16)

Item	No
que	16

Figure 4.2 Coordinators and Subordinators at Clause Junctions in the English Secondary Corpus (84)

1 C O O R D I N A T O R S (27)

1(a) Syndetic Coordination - Coordinating Conjunctions (21)

Item	Relation Type	No
and	addition	19
but	concession	2

1(b) Asyndetic Coordination

Item	No
	2
()	4

2 S U B O R D I N A T O R S (57)

2(a) Subordinating Conjunctions (20)

Item	Relation Type	No
as	time	3
as	cause	1
as	anaphoric	3
before	time	1
if	condition	8
since	cause	1
when	time	2
whereas	opposition	1

2(b) Relative Pronouns (16)

Item	No
that	1
that / which elided	1
which	6
at which	1
in which	1
in which / that elided	1
who	3
of whom	1
why	1

2(c) Completives (21)

Item	No.
that	21

A comparison of the **coordinators** in Figures 4.1 and 4.2 above reveals that the SL and TL texts differ greatly both in terms of their frequency of usage of coordinators, and in their respective weightings of syndetic and asyndetic coordinators. The French secondary corpus has far more coordinators than the English, and furthermore has many more asyndetic than syndetic coordinators, whereas the opposite is true of the English corpus. These differences relate to two trends in translation:

- In the French secondary corpus, a number of long sentences with many clauses punctuated by colons, semi-colons and commas are broken down into smaller sentences in the TL, thereby reducing the overall **number of coordinators** in the English corpus.
- Asyndetic coordination between clauses in the SL extracts is frequently replaced by syndetic coordination in the translation, i.e. punctuation marks are replaced by conjunctions in the TL. This is in keeping with findings in contrastive stylistics (see, for example, Chuquet and Paillard 1987, Chapter 6). Judge and Healey (1991: 390) also note this trend in translation from French to English.

In translations from French into English, English clauses are often linked by 'and', where in French they are simply juxtaposed.

The secondary corpus differs greatly from the primary corpus in both these respects. Firstly, the French primary corpus has more or less the same proportion of coordinators as the English primary corpus, and secondly the corpora do not differ significantly in their relative weightings of syndetic and asyndetic coordinators. The results from the secondary corpus are therefore not applicable to all social statistical texts.

As regards **subordinators** in the secondary corpus, a comparison of the SL extracts with their translation shows that the larger number of subordinators in the TL (57 as opposed to 46 in the French secondary corpus) stems from the following trends:

■ Non-finite clauses and verbless expressions in the SL are sometimes rendered by an adverbial clause in English (6 times), e g *compte tenu de* -> *if* *are taken into account*

■ Verbless expressions in the SL are also sometimes translated by a completive clause (4 times), e g *en réaction* -> *The result was that*

The French primary and secondary corpora both exhibit the same preference for relative clauses over adverbial clauses, although the difference is not so pronounced in the French secondary corpus 58.2 % of subordinate clauses in the French primary corpus are relative clauses, compared to 41.3 % in the French secondary corpus Just 24.7 % of subordinate clauses in the French primary corpus are adverbial clauses, compared to 23.9 % in the French secondary corpus In the English corpora, on the other hand, the preference is for adverbial clauses (44.5 % of subordinate clauses in the English primary corpus and 35.1 % in the English secondary corpus) compared to 34.5 % of relative clauses in the English primary corpus and 28 % in the English secondary corpus Reasons for this difference between French and English social statistics texts have already been given in Section 3.4.1.1 in terms of differences in the syntactic organization of French and English

The various subordinating conjunctions in the French secondary corpus and their English translations are as follows

- *parce que* -> *as* (1)
- *si* -> *if* (5)
- *au moment où* -> *when* (1)
- *tandis que* -> *whereas* (1)
- *au fur et à mesure que* -> *as* (2)
- *si* -> *when* (1)

A number of subordinating conjunctions appear in the English secondary corpus as translations of non-finite and verbless clauses from the SL

- compte tenu de -> if is/are taken into account (2)
- dans l'hypothèse de -> if we imagine
- En suivant -> As we examine

4.4.1.2 Semantic Relations Expressed through Sentence Connecters

The various link words between the sentences in the French and English secondary corpus as well as the semantic relations they express are given in Tables 4 5(a) and 4 5(b)

Item	Relation Type	No.
au contraire	opposition	1
aussi	addition	1
d'autre part	enumeration	1
de plus	addition	1
donc	conclusion	1
d'une part	enumeration	1
également	addition	2
en effet	cause	1
en fait	opposition	1
enfin	enumeration	2
en outre	addition	1
ensuite	time	1
toutefois	concession	1
Total		15

Table 4 5(a) Sentence Connecters in the French Secondary Corpus

Item	Relation Type	No.
also	addition	4
however	concession	3
in fact	opposition	1
on the one hand	enumeration	1
on the other	enumeration	1
thereafter	time	1
Total		11

Table 4 5(b) Sentence Connecters in the English Secondary Corpus

A comparison of the lists reveals that the French secondary corpus has more sentence connectors than the English 15 as opposed to 11 in the translation. This is in keeping with the results for the primary corpus (91 sentence connectors in the French corpus and just 53 in the English) although the difference is rather more pronounced in the primary corpus. Like the primary corpus, the French secondary corpus also has a greater number of unique sentence connectors than the English secondary corpus. The results further demonstrate a tendency for analytical French social statistics texts to make the relationships between sentences more explicit than English texts of the same sublanguage text type.

The dominant relation types expressed by the sentence connectors in the secondary corpus are addition (5 in the SL and 4 in the TL texts), enumeration - a type of addition - (4 in the SL and 2 in the TL texts), and concession / opposition (3 each in the SL and TL texts). Concession / opposition and addition / enumeration also predominate in the primary corpus, with cause / consequence as an additional important relation.

The tendency for French social statistics to have more sentence connectors than English social statistics is the opposite of that found for intrasentence coordination in the corpora. Intrasentence coordination in the French secondary corpus is much more

loose than that in the English secondary corpus, i.e. the French texts use much more asyndetic coordination between clauses than do their translations. In relation to intersentence coordination, on the other hand, the French secondary corpus is much more likely to use an explicit link than the English secondary corpus. The primary corpus concurs with the secondary corpus in terms of the greater frequency of usage of sentence connectors in French than in English social statistics, but there is no demonstrable preference for asyndetic coordination over syndetic coordination in the French primary corpus.

4.4.1.3 The Expression of Comparison and Opposition

Like the primary corpus, comparison / opposition is the most important semantic relation in the secondary corpus. However, very few clause coordinators or subordinators or sentence connectors express this relation. This is because the relation of comparison exists between units at levels lower than the clause in the secondary corpus, mainly between nominal groups. As is the case for the primary corpus, comparison is expressed through a variety of word classes in the secondary corpus: adjectives, adverbs, quantifiers, nouns and verbs, with adjectives by far the most important group.

4.4.1.3.1 The Expression of Superiority and Inferiority

The comparative adjectives in the secondary corpus overlap significantly with those used in the primary corpus. The French comparative adjectives are

- inférieur(1), supérieur (3), moindre (1)
- moins nombreux (1), moins rapide (1)
- plus élevé (1), plus faible (1), plus fine (1), plus fort (2), plus fréquent (1), plus grand (1), plus marqué (1), plus tard (1), plus tardif (1), plus varié (1)

For English the comparative adjectives in the secondary corpus are

- greater (2), higher (3), later (2), lesser (1), lower (2), slower (1),
- more evident (1), more marked (2), more sophisticated (1)

There are also a small number of superlative adjectives in the secondary corpus *le plus proche* (1), *le plus fréquent* (1) and *le plus bas* (1) for French and *the highest* (2), *the most likely* (1) and *the lowest* (1) for English

Comparative and superlative adverbs are used infrequently in the secondary corpus. The only instances are *le plus souvent* (1), *most frequently* (1) and *le plus vraisemblablement* (1)

Finally, only one comparative quantifier is used in the secondary corpus *elles en avaient beaucoup moins encore [d'enfants]* -> *they had far fewer [children]*

Comparatives and superlatives are used with fairly even frequency in the French primary corpus and in the secondary corpus for both languages. They are used much more frequently in the English primary corpus. This relates to the more analytical nature of the French primary corpus and of the secondary corpus: the analyst is not content merely to describe and compare social trends, there is also a strong component of causal analysis.

4.4.1.3.2 Other Devices for the Expression of Comparison and Opposition

The adjective *le/la/les même(s)* -> *the same* appears a total of 14 times each in the French and English secondary corpus. It is used to establish equivalence between nominal groups.

Other adjectives of comparison / opposition are *comparable* (1), *concordant* (1), *différent* (1), *identique* (1), *inégal* (1), *original* (= *différent*), *variable* (1), *varié* (1) and *voisin* (1) in the French secondary corpus, and *comparable* (1), *corresponding* (1), *different* (3), *differing* (1), *distinct* (1) and *identical* (1) in the English secondary corpus

The nouns used to express comparison / opposition in the secondary corpus are *la comparaison* / *the comparison* (once each), *les corrélations* / *correlations* (once each), *difference* (1) and *variety* (1) The verbs of comparison are *comparer* / *be compared with* (once each), and *vary* (1)

Thus comparison / opposition is expressed through a variety of word classes in the secondary corpus, and the forms of expression of this relation are very similar in the primary and secondary corpora

4.4.1.4 The Expression of Cause and Consequence

As in the primary corpus, cause / consequence is the most important relation in the secondary corpus after comparison and opposition Apart from subordinating conjunctions, this relation is expressed through prepositions, including complex ones, nouns and verbs The nouns which express cause and consequence in the French secondary corpus are *causes* (1), *les conséquences* (1), *un facteur* (2), *les raisons* (2), and *en réaction* (adverbial) (1) In the English secondary corpus the list is *cause* (1), *factor* (1), *reason* (2) and *result* (1)

The prepositions expressing causality in the French secondary corpus are *avec* (1), *consécutivement à* (1), *par* (2) and *en raison de* (5) In the English secondary corpus they are *as a result of* (1) and *by* (1)

As in the primary corpus, cause and consequence are expressed through a large number of verbs in the secondary corpus. In the French corpus these verbs are

entraîner (2), expliquer (2), imposer (1), induire (1), influencer (1), lié à (1), limiter (1), parvenir à (1), ramener (1), réduire (1), unir (1)

The verbs expressing causality in the English secondary corpus are

act as (1), attached to (1), bring (2), have an effect on (1), be ended by (1), explain (1), be explained by (1), given (1), impose (1), lead to (1), limit (1), mean (3), produce (1), reduce to (2)

The extract reproduced below demonstrates just how important the relation of cause / consequence is in the secondary corpus. It is through the medium of *verbs* that this relation is most often expressed in the extract. Causes are highlighted in italics and results in bold.

Des pratiques religieuses respectées **imposaient la continence pendant certains moments du calendrier.** *Les pratiques culturelles d'allaitement prolongé* **entraînaient généralement une suspension provisoire de la fécondité.** *Les conditions économiques, temporaires ou structurelles,* **influençaient le régime alimentaire et entraînaient chez la femme des périodes d'aménorrhée ou induisaient des fausses couches.** *Pour toutes ces raisons* **les femmes n'avaient pas un enfant par an pendant vingt-cinq ans de mariage, mais douze ou quinze tout au plus.**

(Segalen 1981 150)

Religious practices **imposed continence during certain periods of the church year, and cultural practices of extended breast-feeding generally meant a temporary suspension of fertility.** *Economic conditions of both a temporary and a structural nature* **had an effect on diet and caused periods of amenorrhoea or miscarriages.** *For all these reasons,* **women did not have a child a year for twenty-five years of married life, but twelve or fifteen children altogether at the very most.**

(Segalen 1987 161-162)

When all the devices (clause coordinators and subordinators, sentence connectors, verbs, nouns and complex prepositions) which express the relations of cause and consequence in each corpus were added together, it was found that the relative density of items expressing cause and consequence is almost identical in the French primary and in the secondary corpus (both languages), whereas expressions of cause appear only half as often in the English primary corpus. This fact yet again demonstrates the dominance of the relation of comparison in the English primary corpus to the detriment of expressions of cause.

4.4.2 Linguistic Devices Relating to the Core Textual Participants in the Secondary Corpus

4.4.2.1 The Analyst

Like the primary corpus, the secondary corpus uses modal devices, impersonal *il / it*, pronominal verbs, passive constructions and *on* to signal the analyst's intervention in the text. However, in addition to these devices, both secondary corpora use *nous / we* to refer to the analyst devices, and the English secondary corpus furthermore uses *one* to the same effect. All of these devices are examined in the coming sections.

4.4.2.1.1 Modal Devices

Modal devices do not have a strong presence in the secondary corpus. There are no modal adjuncts whatsoever, and there are only five modal auxiliaries in the French secondary corpus, and five in the English secondary corpus. As in the primary corpus, certainty rather than uncertainty is the dominant mood of the texts.

Modal verbs can express either obligation, ability or likelihood in the secondary corpus (This is also the case in the primary corpus) There are no modal auxiliaries of obligation in the French secondary corpus, and only one in the English secondary corpus *it should be noted that*, which, like the completive *it should be borne in mind that* in the primary corpus, is used to give **advice** to the reader, rather than to express strong obligation

There is only one modal of ability / permission relating to the analyst in the secondary corpus *we can also see that* There is also one modal of ability / permission relating to the possible or probable actions of **social actors** *Théoriquement, chacun peut épouser chacune* -> *Theoretically, any male and female can marry each other*

Modals of likelihood appear four times in the French secondary corpus and twice in the English secondary corpus They are used to formulate hypotheses of cause, e.g. *peut expliquer* -> *can be explained*, *on peut penser que* -> *one might think that*

In the secondary corpus, Martine Segalen frequently uses the modal verb *pouvoir* in conjunction with *on* Thus we find *on peut expliquer* , *on peut estimer que* , and *on peut penser que* (twice) in the extracts These four constructions are translated in four different ways

- *On peut expliquer* -> *can be explained*
- *On peut estimer que* -> OMISSION
- *On peut penser que* -> *One might think that*
- *et on peut penser que* -> *and it seems that*

The four examples express the analyst's opinion with varying degrees of certainty They show that in translation there is certainly no one-to-one correspondence between *peut* and *can*

Modal devices relating to the analyst appear considerably more frequently in the French primary corpus than in the English primary corpus. They appear with equal frequency in the French and English secondary corpus.

4.4.2.1.2 Impersonal *il* / *it*

Impersonal *il* / *it* appears frequently in the secondary corpus, but is not always used as an impersonal device. Impersonal *it* is much more common in the English translation than it is in Segalen's original extracts. Impersonal *il* appears three times as an analytical device in the French secondary corpus.

- *il est vrai que* -> it is true to say that
- *il n'en reste pas moins que* -> the fact remains that
- *il n'en est rien* -> this was certainly not true

Impersonal *it* appears a total of six times in the translation, once as a translation of impersonal *il* as in the example above, and three times as a translation for *on*, e.g. *on observe que* -> *it is clear that*. In the remaining two cases it translates a first person plural imperative *notons que* -> *it should be noted that*, and a verbless clause *rien d'étonnant à ce que* -> *it is not surprising to find that*.

4.4.2.1.3 Pronominal Verbs

The vast majority of pronominal verbs have no function in concealing the analyst's role in the secondary corpus, but occasionally pronominals do have such a function, e.g.

- *le taux de fécondité, qui s'exprime en nombre moyen de naissances vivantes par femme* -> the fertility rate, which gives the average number of live births per woman

4.4.2.1.4 Passive Verbs, *Nous* and *On*

The most important types of construction relating to the analyst's presence in the secondary corpus are passives, *on* / *one* and *nous* / *we* constructions. These are devices which to a large extent have the same function and are therefore often interchangeable. The verbs used in conjunction with these devices in the secondary corpus are listed below.

French Secondary Corpus

Finite Passives (2)

être confirmé (1), être interrogé (1)

Verbs with *On* as Subject (17)

comparer (1), compter (1), constater (1), dire (1), enregistrer (1), estimer (1), expliquer (1), observer (4), penser (2), tenir compte de (3), voir (1)

Verbs with *Nous* as Subject (4)

noter (2), savoir (1), voir (1)

Non-Finite Passives (6)

compte tenu (3), enquêté (1), énuméré (1), réalisé (1)

English Secondary Corpus

Finite Passives (12)

be compared (1), be confirmed (1), be explained (1), be given (1), be included (1), be noted (1), be questioned (1), be said (1), be taken into account (4)

Verbs with *One* as Subject (2)

notice (1), think (1)

Verbs with *We* as Subject (7)

examine (1), imagine (1), know (1), mention (1), note (1), see (2)

Non-Finite Passives (3)

conducted (1), given (1), surveyed (1)

Verbs relating to the analyst's presence appear slightly more often in the French than in the English secondary corpus, and considerably more often in the secondary than in the primary corpus. They account for 13.5 % of finite verbs in the French secondary corpus, and for 11.7 % in the English secondary corpus. They account for just 9.4 % of finite verbs in the French primary corpus and for 7 % in the English primary corpus. Non-finite passives, on the other hand, account for 15 % of non-finites in the French secondary corpus but only 5.9 % in the English secondary corpus, while the figure is 14.9 % in the French primary corpus, and 13.1 % in the English primary corpus. The proportion of verbs relating to the analyst in the French corpora is in both instances slightly higher than that in the corresponding English corpus. The significantly higher overall proportion of analytical verbs in the secondary corpus relates to Martine Segalen's constant intervention in the texts to relate statistics to her overall argument.

There are 19 unique verbs relating to the analyst in the French secondary corpus, and 18 in the English secondary corpus. This verb group does not therefore follow the general trend for verb groups in the French corpora to have a greater number of unique verbs than corresponding verb groups in the English corpora.

Considerable overlap exists between the primary and secondary corpora in terms of the verbs used in conjunction with passives, *we/nous* and *on/one*. Of the 19 unique verbs relating to the analyst in the French secondary corpus, 10 also appear in the primary corpus. However, only 6 of the 18 unique verbs with the analyst as subject or agent in the English secondary corpus concur with those used in the primary corpus.

Verbs relating to the analyst frequently occur in conjunction with modal auxiliaries, e.g. *on peut penser que* -> *one might think that*.

The procedures used to translate devices associated with the analyst in the secondary corpus were examined. The following are the main trends in translation.

■ Passive verbs are usually translated by passives in the secondary corpus (7 times) On two occasions a passive finite is translated by a passive finite, e g *sont confirmés* -> *have been confirmed*, on two further occasions, a non-finite passive is translated by a finite passive, e g *compte tenu de* -> *if is taken into account*, and on three occasions a non-finite passive is rendered by a non-finite passive in translation, e g *enquête* -> *surveyed* Finite passives in the English corpus are almost always translations of *on*

■ *On* is six times translated by a finite passive construction in the secondary corpus, e g *si l'on compare* -> *if are compared* On a further six occasions it is not translated at all It is twice translated by *one*, e g *on observe* -> *one notices*, once by *we* and twice by *it*, e g *on dit volontiers que* -> *it is often said that* The use of *one* as a translation for *on* in the secondary corpus is unusual, authors of English scientific texts rarely make use of this device because its usage is severely restricted in English

■ *Nous* is translated by *we* on two occasions in the secondary corpus, e g *nous savons que* -> *we know that* It is translated once by impersonal *it*, and on the fourth occasion it is omitted in translation *We* is used on a further five occasions in the English secondary corpus, in four instances it translates a device only indirectly relating to the analyst, e g *dans l'hypothèse d'une absence de limitation des naissances* -> *If we imagine an absence of birth control*, and on the fifth occasion it is a translation of *on*

The analysis of devices relating to the analyst presented above shows that the secondary corpus differs from the primary corpus in several respects, particularly in the higher frequency of usage of such devices by Martine Segalen than in the *Données Sociales / Social Trends* texts, in her usage of *nous*, and in the usage of *we* and *one* by the translators The higher frequency of usage of devices relating to the analyst in the French secondary corpus probably relates to the overall rhetorical purpose of Martine Segalen's book to present a coherent argument in favour of her hypothesis

The usage of *we* and *one* in the English secondary corpus, and of *nous* in the French secondary corpus contrasts with their absence in the primary corpus, and indicates that the primary corpus is not representative of the entire range of devices relating to the analyst that are available to translators. This probably stems from the fact that the French and English primary corpora were produced in an institutional setting with stylistic guidelines which prohibit the use of *nous* and *we*. The usage of *one* in the English secondary corpus is probably due to the influence of the SL text on the translators, it is unlikely that it represents normal usage in English social statistics.

3.4.2.1.5 Nominalizations with Total Agent Deletion

There are two corresponding instances in the French secondary corpus and in the translation where a nominal group has the analyst as its true agent. These are

- **La comparaison** avec la situation contemporaine est éclairante -> **The comparison** with the present situation is illuminating
- **Les analyses socio-économiques** font apparaître les caractéristiques suivantes
-> **Socio-economic analyses** show the following characteristics

The translation retains the passive nominal group

4.4.2.2 The Social Actors

Like the primary corpus, verbs with social actors as their subject constitute a significant verb subgroup in the secondary corpus. The finite and non-finite verbs with social actors as their subject or agent are listed below

French Secondary Corpus

Finite Verbs with Social Actors as Subject / Agent (39)

appartenir à (1), atteindre (2), avoir (5), être célébré (1), se conclure (1), être contracté (1), être désiré (1), donner (1), s'élever (1), épouser (1), être (9), faire (1), se faire (1), habiter (1), se marier (2), procréer (1), être refusé (1), répondre (1), souhaiter (1), survivre (1), travailler (1), utiliser (1), être utilisé (1), venir (1), vouloir (1)

Non-Finite Verbs with Social Actors as Subject / Agent (18)

atteindre (1), avoir (4), célébrer (1), cesser (1), cohabiter (1), se consacrer (1), contracter (1), défricher (1), entrer (1), se marier (1), procréer (1), travailler (3), vivre (1)

English Secondary Corpus

Finite Verbs with Social Actors as Subject / Agent (39)

be (6), be celebrated (1), be chosen (1), come (4), be contracted (2), have (6), live (1), be made up (1), marry (5), reach (2), be reached (1), state (1), stay (1), stop (1), take (1), use (2), be used (2), work (1)

Finite Verbs with Social Actors as Subject / Agent (30)

celebrate (1), come (1), contract (2), enter (1), go (1), have (1), improve (1), live (3), look (1), marry (4), produce (1), reach (1), share (1), survive (1), take (1), want (4), work (5)

The lists show that while the frequencies of occurrence of finite verbs with social actors as subject / agent are broadly the same across the French and English secondary corpora, the frequencies of occurrence of non-finite verbs diverge greatly there are only 18 French non-finites with social actors as subject / agent, whereas the figure for the English secondary corpus is 30. The reason for the larger number of non-finites with social actors as subject or agent in the English secondary corpus is that noun phrases and relative clauses are sometimes translated by non-finite verbs, e.g.

- le célibat définitif -> those never marrying
- le taux d'activité des femmes -> the percentage of women working
- le nombre des enfants qui survivaient à leurs parents et procréaient eux-mêmes -> the number of children surviving their parents and producing children themselves
- 96 % des femmes qui ne veulent plus d'enfant -> 96 per cent of women not wanting more children

The lists also show that there are 32 unique verbs (*finite* and *non-finite*) with social actors as subject / agent in the French secondary corpus and only 23 in the English corpus. This difference is similar to that observed in the primary corpus: there are 113 unique verbs in the French primary corpus and only 94 in the English primary corpus.

Finite and non-finite verbs with social actors as subject account for 27.1 % of all verbs in the French secondary corpus and for 29.9 % in the English secondary corpus, compared with 24.6 % in the French primary corpus and 33.7 % in the English primary corpus. Unlike the primary corpus, the English secondary corpus therefore only has a marginally greater number of verbs with social actors as subject than the French secondary corpus. Thus Paillard and Chuquet's assertion that English has a greater preference for animate subjects than French does not really hold true for the translated corpus.

The groups of social actors which appear repeatedly in the secondary corpus as the subjects of verbs with social actors as subject are

- les célibataires -> people / those never marrying / who never married / bachelors
- les hommes -> men
- les femmes -> women
- les générations -> those / the generation
- les époux / les épouses / les conjoints / les couples / les partenaires -> spouses / married people / (marriage) partners / husbands / wives
- les parents -> parents
- les enfants -> children

These give a fair indication of the subject matter of the secondary corpus opposing groups, particularly men and women, are compared over time, and the actions and states of individual groups are compared at different time points

4.4.2.3 The Statistical Framework

This section examines the four types of device most closely associated with the statistical framework nouns and verbs of motion and quantifying nouns and verbs Together these verbs account for 20.9 % of all verbs in the French secondary corpus, and for 18.2 % in the English secondary corpus Both of these figures are somewhat lower than those for the primary corpus (French 24 %, English 28 %)

4.4.2.3.1 Nouns of Motion

The nouns of motion appearing in the secondary corpus are listed in Tables 4.6(a) and 4.6(b) below

Noun of Motion	No. of Occurrences
accélération	1
accroissement	1
augmentation	2
baisse	6
changement	2
croissance	2
évolution	3
hausse	2
progression	1
remontée	1
Total Nouns of Motion	21
Total Unique Nouns of Motion	10

Table 4.6(a) Nouns of Motion in the French Secondary Corpus

Noun of Motion	No of Occurrences
change	2
decline	2
fall	3
growth	1
increase	5
rise	2
Total Nouns of Motion	15
Total Unique Nouns of Motion	6

Table 4 6(b) Nouns of Motion in the English Secondary Corpus

Tables 4 6(a) and 4 6(b) demonstrate that, like the primary corpus, the French secondary corpus has more nouns of motion than the English secondary corpus. It also has more unique nouns of motion. The nouns of motion used in the secondary corpus are the same as those used in the primary corpus. The only new addition is *remontée* in the French secondary corpus.

4.4.2.3.2 Verbs of Motion

Tables 4 7(a) and 4 7(b) below show the verbs of motion that appear in the secondary corpus.

Verb of Motion	No of Occurrences
s'accélérer ¹⁶	2
s'accentuer ³	1
s'accroître	1
s'atténuer	1
augmenter	3
baisser	1
chuter	1
croître	1
décroître	1
diminuer	1
passer (de a)	3
ramener ¹⁷	1
reduire	2
regresser	1
se renforcer ³	1
se stabiliser	1
Total Verbs	22
Total Unique Items	16

Table 4 7(a) Verbs of Motion in the French Secondary Corpus

¹⁶*S'accélérer*, *s'accentuer* and *se renforcer* differ from the other verbs of motion in that they have a **noun of motion** as their subject, whereas the other verbs (excluding *ramener*) have a **quantifying noun** as their subject, e g *le taux*, *le nombre*

¹⁷ In the context in which it appears in this corpus, *ramener* has the meaning of *reduce*. The quantifying noun group is the **object** rather than the subject of the verb

Verb of Motion	No of Occurrences
bring back	1
change	1
decrease	2
fall	5
increase	5
reduce	2
rise	3
stabilize	1
Total Verbs	20
Total Unique Items	8

Table 4 7(b) Verbs of Motion in the English Secondary Corpus

The tables show that like the primary corpus, the English secondary corpus has fewer unique verbs of motion than the French. As is the case for nouns of motion, most of the verbs of motion in the secondary corpus also appear in the primary corpus.

4.4.2.3.3 Quantifying Nouns

Tables 4 8(a) and 4 8(b) provide frequency counts of quantifying nouns in the French and English secondary corpora

Item	No of Occurrences
le chiffre	2
la fréquence	3
le niveau	2
le nombre	8
la proportion	3
le taux	9
la valeur	2
Total	29

Table 4.8(a) Quantifying Nouns in the French Secondary Corpus

Item	No of Occurrences
degree	1
figure	5
frequency	2
level	2
number	18
pace	1
percentage	3
proportion	3
rate	15
Total	50

Table 4 8(b) Quantifying Nouns in the English Secondary Corpus

Table 4 8(a) shows that the main quantifying nouns used in the French secondary corpus are *le taux* (9) and *le nombre* (8). Other quantifying nouns appear to a moderate degree. They are *la proportion* (3), *la fréquence* (3), *le chiffre* (2), *le valeur* (2) and *le niveau* (2). In the English secondary corpus the main quantifying nouns used are *number* (18), followed by *rate* (15), *figure* (5), *proportion* (3), *percentage* (3), *frequency* (2) and *level* (2). *Pace* and *degree* appear once each. The high frequency of usage of the quantifying nouns *le taux* and *le nombre* in the French secondary corpus, and of *rate* and *number* in the English secondary corpus concurs with the results from the primary corpus for both languages. However, *proportion* is used to a high degree in the English and French primary corpora but only to a moderate degree in the secondary corpora. On no occasion is *frequency* used in the English primary corpus (although it appears relatively frequently in the French), but it is used twice in the English secondary corpus. *Rate* is the preferred option in the primary corpus. The different usages of *proportion*, *taux / rate*, and *nombre / number* in the corpora are as follows. *proportion* is used to quantify social actors in terms of their actions and states in both French and English, whereas *taux / rate* quantifies the social actions and states themselves. *Nombre / number* may quantify either social actors or their actions / states.

What stands out most when the overall frequencies of occurrence of quantifying nouns in the French primary and secondary corpus are compared is the almost identical relative frequency of occurrence of quantifying nouns across the corpora. Thus, the French primary corpus has 1 quantifying noun for every 84.3 words of running text while the ratio of quantifying nouns to total words in the French secondary corpus is 1:80.1. The same is true of the English primary and secondary corpus. The ratio of quantifying nouns to total words in the English primary corpus is 1:47.3 words, while for the English secondary corpus it is 1:46.6 words.

Overall, the English texts in both the primary and the secondary corpus have almost twice as many quantifying nouns as either of the French corpora. This is due to a phenomenon previously noted in relation to the primary corpus. French social statistics often uses a single noun to incorporate both the quantifying noun and the quantified noun group, whereas English social statistics uses a noun for each of these elements. Examples of this phenomenon in the secondary corpus are

- la mortalité -> usually translated by *the death rate* but occasionally also by *mortality*
- la natalité -> the birth rate
- le célibat chez les femmes -> the proportion of unmarried women
- la descendance définitive -> the final number of offspring

4.4.2.3.4 Quantifying Verbs

Etre is by far the most frequently used quantifying verb (finite and non-finite) in the French secondary corpus (12 times), followed by *atteindre* (three times), and *s'élever*, *se situer*, *osciller*, *culminer*, *devenir*, *se stabiliser* and *se chiffrer* (once each). By contrast the English secondary corpus uses far fewer unique quantifying verbs. *be* is used 17 times, *reach* is used four times, and *vary* once. Thus various quantifying verbs in the French secondary corpus are translated by forms of *to be* in the secondary corpus, e.g. *ces taux se situaient aux alentours de* -> *the birth rate was around*. *Osciller entre* is rendered by *be between* and *se chiffrer à* by *be*. This once again demonstrates the broader vocabulary range of the French secondary corpus.

4.5 Cohesion in the Secondary Corpus

4.5.1 Reference Devices

4.5.1.1 Personal Reference

Tables 4 9 and 4 10 give frequency counts of subject and object personal pronouns in the French and English secondary corpus

Subject Personal Pronoun	No of Occurrences
je	-
tu	-
il	9
elle	5
on	18
nous	3
vous	-
ils	3
elles	1
Total	39

Table 4 9(a) Subject Personal Pronouns in the French Secondary Corpus

Subject Personal Pronoun	No. of Occurrences
I	-
you	-
he	-
she	-
it	19
one	2
we	7
you	-
they	3
Total	31

Table 4 9(b) Subject Personal Pronouns in the English Secondary Corpus

Direct Object Personal Pronoun	No of Occurrences
me	-
te	-
le	4
la	-
nous	-
vous	-
les	-
Total	4

Table 4 10(a) Direct Object Personal Pronouns in the French Secondary Corpus

Indirect Object Personal Pronoun (Unstressed)	No	Indirect Object Personal Pronoun (Stressed)	No.
me	-	moi	-
te	-	toi	-
lui	1	lui	-
		elle	-
nous	-	nous	-
vous	-	vous	-
leur	-	eux	2
		elles	-
Total	1	Total	2

Table 4 10(b) Indirect Object Personal Pronouns in the French Secondary Corpus

Object Personal Pronoun	No of Occurrences
me	-
you	-
him	-
her	1
it	2
us	-
you	-
them	2
Total	5

Table 4 10(c) Object Personal Pronouns in the English Secondary Corpus

The tables show, as expected, that the only **anaphoric** personal pronouns in the secondary corpus are third person forms. The **exophoric** pronouns *on / one* and *nous / we* also appear. It is this wider variety of exophoric pronouns alongside their greater frequency of occurrence in the secondary corpus that constitutes the major

difference between the primary and secondary corpora with respect to personal pronoun usage

The density of personal pronominal reference is in relative terms twice as great in the French secondary corpus as it is in the French primary corpus and in the English secondary corpus it is close to four times as great as that of the English primary corpus (the English primary corpus contains far fewer personal pronouns than does the French) The difference between the primary and secondary corpora lies partly in the very different frequencies of occurrence of *on* / *one* and *nous* / *we* in the corpora *on* and *nous* account for 54 % of all subject personal pronouns in the French secondary corpus, and just 31 % in the French primary corpus *One* and *we* account for 29 % of subject personal pronouns in the English secondary corpus, while they do not appear at all in the primary corpus The higher density of exophoric pronouns relating to the analyst in the secondary corpus relates to the greater degree of intervention by the analyst in that corpus than in the primary corpus

Possessive Determiner	No
mon / ma	-
ton / ta	-
son / sa	2/2
notre / nos	-
votre / vos	-
leur / leurs	5/2
Total	11

Table 4 11(a) Possessive Determiners in the French Secondary Corpus

Possessive Determiner	No
my	-
your	-
his	1
her	1
its	2
one's	1
our	2
your	-
their	6
Total	13

Table 4 11(b) Possessive Determiners in the English Secondary Corpus

As is the case with the personal pronouns, only third person possessive determiners are significant in the secondary corpus, although *our* appears twice in the translation. The results are in keeping with those for the primary corpus.

4.5.1.2 Demonstrative Reference

In parallel with the analysis procedure used in the primary corpus, this section first examines demonstrative pronouns in the secondary corpus, followed by an examination of demonstrative and definite determiners. The frequencies of occurrence of **demonstrative pronouns** are given in Tables 4 12(a) and 4 12(b) below.

Item	No of Occurrences
celui(-ci/-là)	1
celle(-ci/-là)	1
ceux(-ci/-là)	1
celles(-ci/-là)	3
ceci	-
cela	1
ce ¹⁸	-
Total	7

Table 4 12(a) Demonstrative Pronouns in the French Secondary Corpus

Item	No of Occurrences
this	8
that	4
these	-
those	17
Total	29

Table 4 12(b) Demonstrative Pronouns in the English Secondary Corpus

The frequency count reveals that the English secondary corpus has a far greater tendency to use demonstrative pronouns than has the French corpus. This stems largely from the frequent use of *those* meaning *people* in English social statistics. In the secondary corpus *those* is often a translation for *les générations*, and this accounts largely for the high frequency of demonstrative pronouns in the English secondary corpus.

¹⁸The instances of *ce* do not include *ce* as the empty subject of a cleft sentence, nor do they include *ce* at the head of a demonstrative noun phrase.

In the primary corpus, on the other hand, the frequency of occurrence of demonstrative pronouns is similar for the two languages. This is because the high usage of *those* in the English primary corpus as a generalized pronoun meaning *people* is offset to some extent by a similar use of *ceux* in the French primary corpus (although not to the same extent as in the English corpus). It is also offset in the overall counts by the frequent usage of the neuter pronoun *ce*.

The frequencies of occurrence of **demonstrative determiners** in the secondary corpus are given in Tables 4 13(a) and 4 13(b) below. The tables show that demonstrative determiners appear rather more frequently in the French than in the English secondary corpus, as was the case for the primary corpus: there is one demonstrative determiner for every 179 words of running text in the SL extracts as opposed to one for every 259 words in the translation. The relative frequency of occurrence of demonstrative determiners in the French secondary corpus is somewhat lower than in the French primary corpus, while that in the English secondary corpus is slightly higher than in the English primary corpus. The reason for this difference is not known.

Demonstrative Determiner	No. of Occurrences
ce / cet	-
cette	6
ces	7
Total	13

Table 4 13(a) Demonstrative Determiners in the French Secondary Corpus

Demonstrative Determiner	No of Occurrences
this	4
that	2
these	3
those	-
Total	9

Table 4.13(b) Demonstrative Determiners in the English Secondary Corpus

The most obvious question arising from the lower number of demonstrative determiners in the English secondary corpus than in the French original is why were demonstrative determiners in the SL not translated by demonstrative determiners in the TL? An examination of all instances of demonstrative noun phrases in the secondary corpus, plus their translations, provides the solution to this question

- **cette augmentation** -> **this** increase
- **cette mobilité** -> **this** mobility
- **cette homogamie géographique** -> **this** geographic homogamy
- **cette homogamie géographique** -> geographic homogamy
- **ces phénomènes** -> such phenomena
- **ces faits** -> **these** findings
- **la grande secousse politique et sociale**-> **that** great political and social upheaval
- **ces taux (de natalité)** -> it (the birth rate)
- **à la même époque** -> in **that** year
- **valeur autour de laquelle il se stabilise** -> stabilising around **this** figure
- **ce taux de natalité** -> OMISSION
- **ces raisons** -> **these** reasons
- **ces naissances nombreuses** -> the kind of high number of births we have mentioned
- **ces résultats** -> **these** findings
- **cette contraception moderne** -> the pill
- **cette situation de la démographie** -> the demographic situation

The above list shows that only in six cases is a demonstrative noun phrase (DNP) in the French original translated by a demonstrative noun phrase into English. The number of instances of demonstrative noun phrases is too small to make any generalizations but a large number of alternative translation techniques are used,

among which we find DNP -> NP with or without a definite determiner, demonstrative determiner -> such, DNP -> personal pronoun, DNP -> omission, demonstrative determiner -> recall device (we have mentioned) Furthermore, in three instances a DNP is present in the translation where none exists in the original

Like the primary corpus, the majority of demonstrative noun phrases in the secondary corpus involve extended text reference, e g *ces résultats* -> *these findings* However, there are also some superordinates, e g *cette contraception moderne* (= *la pilule*) A large number of the demonstrative noun phrases in the primary corpus fall into the semantic category of nouns of motion, only one of the demonstrative noun phrases in the secondary corpus can be said to fit into this category *cette augmentation* -> *this increase* The most important semantic category of demonstrative noun phrases in the secondary is those which have quantifying nouns as their head noun, e g *ces taux* -> *the birth rate, this figure, ce taux de natalité*

Like demonstrative noun phrases, some **definite noun phrases** in the secondary corpus refer anaphorically to a previous noun or verb phrase, or to some higher level unit, e g

A un certain moment historique, nous avons vu la femme cesser de travailler au-dehors pour se consacrer à ses enfants et à son foyer cela a constitué une étape dans la promotion de la femme Les chiffres de l'emploi féminin ont eu tendance à baisser du début du siècle jusque dans les années 1960 A partir de 1962, **la situation** s'inverse
(Segalen 1981 218)

At a certain point in time, women stopped going out to work and stayed at home to look after their children and their houses, and this was one stage on the way of improving their lot The number of working women tended to fall from the beginning of the century to the 1960s Since 1962, **the situation** has been changing
(Segalen 1987 234)

In this example *situation* is semantically but not lexically cohesive

As in the primary corpus, cataphoric **definite** noun phrases are often complex noun phrases, e g *Les chiffres de l'emploi féminin* -> *The number of working women*

4.6 Conclusions

Chapter 4 has shown that the **descriptions** of the language and semantics of a parallel non-translated corpus of analytical social statistics texts given in Chapter 3 also apply largely to an extended **translated** corpus, although there are a number of differences between the corpora. Furthermore, the guidelines for translation established on the basis of the linguistic analysis of the primary corpus are relevant in an authentic translation situation, i e these guidelines are put into practice by the translators of *Sociologie de la famille*

To recap briefly, the main similarities and differences between the primary and secondary corpora are outlined in point form below

- In both the primary and secondary corpus, the English texts have a smaller number of unique items than the French texts
- The indicative mood and declarative sentence type predominate in both corpora
- The present tense predominates in both French corpora, while the simple past tense followed by the present simple tense predominates in the English corpora
- Asyndetic coordination between clauses predominates in the French secondary corpus, while syndetic coordination between clauses predominates in the English secondary corpus. In the primary corpus, on the other hand, the balance between syndetic and asyndetic coordination is not significantly different across the languages
- Both French corpora have greater numbers of sentence connectors than the English corpora

■ A similar set of core semantic relations exists in all the social statistics texts for both languages comparison / opposition, cause / consequence, addition, time, concession, condition, and purpose However, the relative weightings of the most important relations in the corpora are not the same Cause / consequence is more important in the French primary corpus and French and English secondary corpora than it is in the English primary corpus, while comparison is a more dominant semantic relation in the latter corpus than it is in the other corpora

■ There is a similar set of core textual participants in both the primary and secondary corpora for both languages These are the analyst, the social actors, and the statistical framework, plus social actions and states, countries, and social institutions The linguistic devices associated both with the analyst's presence and with the statistical framework are part of the common core of linguistic devices present in all social statistics texts but the language associated with the other participants changes with each new text and so is not part of the common core

■ The person system used in the texts differs somewhat across the corpora While only third person pronouns are important as **anaphoric** reference devices in both the primary and secondary corpora, **exophoric** reference devices differ significantly across the corpora The French secondary corpus uses both *nous* and *on* to refer to the analyst's presence, the French primary corpus uses only *on*, the English secondary corpus uses both *we* and *one*, and the English primary corpus uses neither of these

■ Both English corpora exhibit a reduced usage of demonstrative noun phrases compared with the French corpora

■ The secondary corpus has a higher density of personal pronouns than the primary corpus for both languages, while within the primary corpus the French texts have more personal pronouns than the English texts So there is no homogeneity across the corpora in terms of their relative density of personal pronouns

The main guidelines for translation are as follows

- French social statistics has a richer vocabulary range than English social statistics
The translator should bear in mind this major difference between the languages when embarking upon a translation in this subject domain

- In translation from French to English, sentence connectors in the SL texts need not necessarily be translated, juxtaposition of sentences is often a better option

- Demonstrative noun phrases in French should not always be translated by a DNP in English social statistics, this is especially the case where a definite noun phrase would suffice

- One further guideline for translation can be established on the basis of the translation techniques used in the secondary corpus asyndetic coordination (punctuation marks) between finite clauses in the SL is often replaced by syndetic coordination (coordinating conjunctions) in the translation. However, the primary corpus does not exhibit this feature so it cannot be considered to be a valid translation strategy, although a preference for asyndetic coordination in French writing in general and for syndetic coordination in English has been observed in contrastive stylistics

To conclude this chapter, it must be pointed out that the translation guidelines are not hard and fast translation rules. In her preface to Chuquet and Paillard's *Approche Linguistique*, J. Guillemain-Flescher (p. 3) points out that

Trop souvent la généralisation des tendances est interprétée comme une systématisation absolue. Il n'en est rien, la spécificité d'un texte échappe nécessairement à la généralisation et les choix qui se situent à ce niveau ne peuvent se résoudre que localement.

Chapter 5

Conclusions

5.1 Summary of Work

In this thesis the language of a corpus of parallel texts in French and English was examined and compared. The texts are representative of the same sublanguage (social statistics) and text type (mainly conceptual exposition). They also derive from parallel institutions and publications in France and the U.K. (*Données Sociales* is published by the Insee, the French national statistical body, and *Social Trends* is published by the CSO, the British Central Statistical Office). Finally, both corpora consist of academic (or semi-academic) articles. The overall aims of researching this thesis were as follows: to establish guidelines for the translation of texts from a specific sublanguage text type from French into English, to investigate other potential applications of the project, e.g. in the domain of foreign language teaching/learning, and to examine whether or not contrastive textology using *non-translated* parallel texts is a useful research method.

To these ends various aspects of the language of the corpora were examined. The analysis in Chapter 3 started with an investigation of sentence length and clause coordination and subordination patterns across the texts of the primary corpus. This gave an indication of the complexity of the sublanguage although such analyses only really become meaningful when they are compared with results for academic articles of the same text type in other sublanguages, or with different text types within the same sublanguage.

Following this, an analysis of the unique items in the primary corpus showed that French social statistics has a much broader vocabulary than English social statistics. Various examples of this broader vocabulary were given. It was concluded that the translator of such texts from French into English would have to take this difference into consideration when translating.

The tense patterns followed in the texts were also compared. It was found that French social statistics uses mainly the present tense and that English social statistics uses mainly the past simple tense followed by the present tense. This phenomenon

is linked to a different perspective on the part of the authors in the two languages the French authors often consider the results of recent surveys to have current validity and therefore refer to them in the present tense, whereas the English authors generally consider such surveys as past events, and so refer to the results of them in the past simple tense

Attention was next focused on some semantic features of the texts Coherence was shown to be produced both by links between clauses and sentences and by the recurrence of a core set of textual participants The coordinators and subordinators used to link clauses and sentences were examined It was found that the French primary corpus was far more likely to use subordinating relative clauses than the English primary corpus and that the English corpus was more likely to use subordinating adverbial clauses As regards intersentential connection, the French authors were much more likely to use explicit connectors than their English counterparts This led to the second translation guideline, which was that the translator should not force an explicit link between sentences when the meaning of the text is preserved in the absence of such a link This examination was followed by an analysis of two core semantic relations in the texts of the primary corpus comparison and causality Linguistic devices associated with comparison were shown to occur much more frequently in the English than in the French primary corpus Conversely, linguistic devices associated with cause and consequence were shown to occur much more frequently in the French corpus It was concluded that this difference was due to a difference in the text type mix of the corpora rather than to some inherent difference between the sublanguages

This section was followed by an analysis of the language associated with the core textual participants the analyst, the social actors and the statistical framework It was found, as expected, that the English primary corpus preferred using passives to refer to the analyst's presence, whereas the French primary corpus used a combination of passives and *on* constructions Notably, *nous* / *we* were not used in either corpus and this was assumed to relate to the fact that Insee and CSO conventions prohibit their use (or at least advise against them in their stylistic

guidelines) Modal constructions were not an overriding feature of either corpus. This was seen to relate to the definite mood of the corpora: the analysts confidently predict future trends and assess causes of social phenomena.

The analysis of the devices associated with the social actors showed that the same set of core social actors appeared in all the texts, e.g. *men, women, those*. However, the verbs associated with these social actors changed from text to text as the subject matter changed. The French primary corpus was shown to have a far wider variety of verbs associated with social actors than the English primary corpus, even though the English corpus had more social actors in subject position. This last difference demonstrates a fact observed by researchers in contrastive stylistics: the English language usually requires an *animate* subject with an animate verb, whereas French can use *inanimate* subjects alongside animate verbs.

The analysis of the statistical framework (the third core textual participant) concentrated on two types of nouns and two verb types in the primary corpus: nouns and verbs of motion, e.g. *augmenter, baisser, increase*, and quantifying nouns and verbs, e.g. *le taux, the number, to reach*. It was shown that the French primary corpus used a far wider variety of these nouns and verbs, even though it often had fewer actual occurrences. The smaller variety of items in the English corpus has implications for translation, e.g. the verb of motion *increase* is approximately six times as likely to occur as *grow*, and *fall* is five times as likely to occur as *decrease*, so the translator should use these as core verbs rather than constantly searching for alternatives, i.e. repetition of verbs in the TL is not indicative of bad style.

The final section of Chapter 3 investigated some cohesive devices in the primary corpus. Reference was examined in detail and it was found that the French corpus used far more pronouns than the English corpus. This probably relates to the fact that French has masculine and feminine forms of the personal pronouns whereas English does not, which means that the third person personal pronouns are more definite in French than in English. The analysis of personal reference was followed by an analysis of demonstrative reference in the corpora. The main conclusion from

this investigation was that French social statistics, like many other varieties of French, uses a greater proportion of demonstrative noun phrases than English. This was found to be linked to the reduced specificity of the definite article in French as compared to the English definite article. It constituted the third translation guideline: the translator should not necessarily translate a demonstrative noun phrase in French by a demonstrative noun phrase in English.

Chapter 4 extended the analysis carried out in Chapter 3. A secondary corpus was introduced, this time consisting of parallel *translated* texts (French SL and English TL extracts). This chapter had a dual aim: to see if the same syntactic and semantic features of the primary corpus were also applicable to an extended non-Insee, non-CSO-produced corpus (i.e. to see if the secondary corpus was representative of the primary corpus), and to see if the translation guidelines established on the basis of the primary corpus could be extended to this secondary translated corpus. At the analysis stage the notion of representativeness was tackled first, because if the secondary corpus had been found to be unrepresentative of the primary corpus, then the translation guidelines could evidently not have been tested against it. The secondary corpus was found to be representative of the language of the primary corpus with a few notable divergences, especially in the use of both *nous* and *we*, and also of *one* in the English translation. The translation guidelines were tested against this secondary corpus and were found to hold true, i.e. the TL extracts had a smaller variety of words than the SL extracts, the TL extracts used fewer sentence connectors than the SL extracts, and the TL extracts used fewer demonstrative noun phrases than the SL extracts. Alternative methods were found to compensate for the non-translation of many of the demonstrative noun phrases.

5.2 Problems Encountered

1. 'Parallel' Texts

The empirical research for this thesis was begun early in 1992 with a corpus of texts from *Economie et Statistique* (rather than with the final corpus from *Données Sociales*). I performed some analysis on the French corpus without firstly locating a parallel English corpus, because I assumed that a parallel corpus would be easy to find. Problems arose, however, when I began the search for an English corpus. I examined a large number of sociology journals, but these journals usually contained only evaluative texts (most of the journals had a specific political slant, e.g. feminist, Marxist), and many of them consisted not of social statistics texts but of sociology texts with no or hardly any statistical component. I then wrote to the Office of Population Censuses and Surveys (OPCS) in London, and was informed that neither the OPCS nor the CSO (Central Statistical Office) publishes an equivalent of *Economie et Statistique*. I also visited the Irish CSO library, but again to no avail. I concluded at that stage that there is no 'equivalent' of *Economie et Statistique* in the English-speaking world. So the problem of parallel texts was problematic to begin with.

Then came the idea of using *Données Sociales* and *Social Trends*. These seemed initially to constitute almost perfectly parallel publications, both published by the national statistical bodies of each country, both having similar subdivisions by subject, such as population, employment, etc. (even though it could be seen immediately that the Insee texts consisted of *articles* complete with abstract and bibliography, whereas the C.S.O. texts did not take this format). Most importantly, they both appeared to deal in the same way with similar subjects, i.e. non-evaluatively, unlike many of the sociology journals previously encountered.

Upon closer scrutiny, however, the corpora were found not to be perfectly parallel. Firstly, the French texts were aimed at a more specialised target audience (some concepts dealt with in the *Encadrés* of the French corpus were difficult for a non-

specialist (like myself) to grasp, whereas nothing in the English corpus posed such a challenge) The second important difference between the corpora was that the French authors seemed to probe their subjects more deeply than their English counterparts They were often concerned with causal explanations, whereas the English authors were more often than not content to compare the social situation for a given year with that of previous years This difference was seen to reflect both the more specialised audience and the specific aims of the editors of the two publications

Do the slightly different aims of the respective publications and the somewhat higher degree of specialization of the French language target audience mean that the texts are not parallel? These differences certainly had an impact on the language used, especially in terms of the greater usage of expressions of cause and consequence and the higher degree of intervention on the part of the analyst in the French corpus, and also in terms of the presence of *Encadrés* in that corpus How may the effects of these differences be identified and neutralised? If we admit that the texts are not parallel, or at least that they are not fully parallel, then must we conclude that Hartmann's notion of parallel texts is at the very least an imperfect concept? And where would such a conclusion leave the results of this thesis? If a fairly extensive study and comparison of all of the English and French language sociology journals, journals of economics and of statistics, as well as combinations of these, indicated that *Données Sociales* and *Social Trends* were as close as one could get to parallel texts, then the very notion of parallel texts is problematic

However, although non-parallelisms may obstruct an *immediate* goal, from a more *global* viewpoint they ought to be celebrated as a reflection of cultural diversity In social statistics, the conventions governing not so much the writing of texts (the surface structure) as the actual *pursuit of research* are different in English and French (i.e. French social statistics is analytical whereas English social statistics is descriptive), and these differences should be viewed not just as an irritation to the pursuit of linguistic analysis but as culturally enriching diversity We should be thankful that cultures are different and that translation mediates between them and enriches them in the process It is probably the case that perfect parallelism rarely

occurs in the real world, and a search for one of those rare occurrences therefore would not reflect the real world. For this reason it is necessary for linguists to work on imperfectly parallel texts. Indeed, if perfect overlap existed between cultures and perfect parallelism existed between texts, then the world would be an extremely boring place!

2 Of what relevance are the linguistic descriptions and translation guidelines for the trainee and practising translator or for the foreign language learner or teacher? What can the study of non-translated parallel texts tell us that contrastive stylistics has not already told us?

Despite its many critics, the statistical analysis of corpora of text can benefit both the translator and the language learner. For example, it can be useful in determining that in a particular semantic category of words, a certain word(s) is statistically more likely to be used than another. The example that immediately springs to mind is that of verbs and nouns of motion and quantifying nouns where the statistical likelihood of 3 or 4 different items appearing is much higher than any other choice. Findings such as this can certainly benefit translator and foreign language learner alike.

But in other respects statistical analyses are not quite so helpful. For example, statements such as the following are hardly of use to the translator: 'French social statistics, like the language in general, has a greater tendency to use subordinate *relative* clauses, whereas English is more likely to use a subordinate *adverbial* clause, so the translator should strive to use a large number of adverbial clauses and a low number of relative clauses'. Similarly, if we calculate the average sentence length of the social statistics corpus to be approximately 25 words, there seems to be little point in instructing the trainee translator or foreign language learner to make his/her average sentence length 25 words long in the translation of an expository social statistics text. At the same time, however, it might be worthwhile to point out to the trainee translator or language learner that there is a *tendency* in French and English social statistics for sentences to be of similar length. Furthermore, while it would be

ridiculous to say 'French social statistics uses X per cent of present tense forms and English social statistics uses only Y per cent, but Z per cent of simple past tense, so the translator should make sure to translate a large number of present tense forms by past tense verbs', it would be very useful for students to be familiar with the tendency, even if they don't respect the figures in their work

In addition to the statistical analysis, the extensive *descriptive* work carried out for this thesis has great potential benefit for both translators and language learners. The descriptions provide an extensive comparative inventory of the language of the corpora, particularly of the semantic relations in the texts and of the verbs and nominal groups associated with the social actors and statistical framework. Such descriptive work could prove an invaluable aid both to students of translation and to intermediate language students because a) it would help them to understand the dynamics of social statistics texts in a way that straight intuition probably does not, and b) it provides a model of how they might analyse and understand the dynamics and texture of other registers they are called upon to translate or study. In other words, this thesis provides at least some of the building blocks of a framework of analysis which trainee translators or language students could then apply to other registers

Furthermore, just as the framework of analysis presented in this thesis has a contribution to make to language students and students of translation, so too it can be of use to *teachers* of French language and translation skills

The second question asked at the beginning of this section is what this thesis can tell us about translation that contrastive stylistics has not already told us. In order to answer this question, we need to examine the guidelines carefully

The most important guideline established is that French social statistics uses a far broader vocabulary than English social statistics. This is indeed an important finding, and one that contrastive stylistics could not have told us. Only statistical analysis could *prove* what the analyst might have hypothesized after reading the texts

The second guideline is that French social statistics uses a much higher number of explicit sentence connectors than English social statistics. This finding was made using a text linguistic-based analysis of the corpora. I have not to date discovered any reference to sentence connectors in contrastive stylistics which shows that this is the case for the French language in general, which I suspect it is. This is because although French contrastive stylistics has for a long time recognised the importance of corpora, it has not performed statistical analyses of these corpora. It is my contention that quantitative analyses of corpora can shed light on issues that qualitative analysis alone cannot. The guideline for the translator in this instance would not be 'we only found one sentence connector per X words in English social statistics compared with 1 per Y words in French social statistics, so you should copy these ratios'. Rather, the guideline should be that the translator should not force an explicit connection in translation where intuitively it would not appear natural in English.

The third and final guideline is that English social statistics uses fewer demonstrative noun phrases than French, so the translator should not necessarily translate a demonstrative noun phrase in French by a demonstrative noun phrase in English. This is a finding already made in contrastive stylistics.

The conclusion is, therefore, that although the analysis of parallel texts can tell us things about translation that contrastive stylistics cannot, in the final analysis, the list of these things is rather short. In fact, the statistical analysis and description of non-translated parallel texts can only tell us a limited number of things about translation since we don't have any actual translation examples. Hence the introduction of a translated corpus in Chapter 4 of the thesis to test the guidelines. However, the important advantage of using non-translated parallel texts is that not only can we be certain that the second language has not been influenced by the language structures of the first, but non-translated texts also allow us to observe text-linguistic norms and features in the two languages prior to any translation activity.

5.3 Future Work

Analyses such as the one carried out in this thesis could prove very fruitful in the future if more sophisticated analyses were performed and if the corpora were extended to cover much larger bodies of text. Had I had more time, I would have done some analysis of macrostructure and especially of functional sentence perspective (FSP) in the corpora. However, such an analysis, if performed properly, would have constituted an M A in itself. Certainly one way of expanding the analysis would have been to introduce a broader range of text types into it. The most obvious examples would have been to examine some evaluative parallel text in the two languages, and to examine some texts of the hortatory text type, e.g. a text using statistics to incite the government to action on a particular issue. However, to do this would have required much more analysis time and a much larger overall corpus. A second way of expanding the work would be to compare non-evaluative journal articles such as those taken from *Données Sociales* and *Social Trends* with evaluative academic articles, extracts from books, newspaper articles, dissertations, reports, etc. Such an analysis would help to establish with greater certainty the semantic core of the domain of social statistics.

Finally, more work needs to be carried out on the notion of parallel corpora, e.g. on how much difference between corpora is permissible before they are no longer 'parallel'. It would appear on reflection that the ideal parallel corpus hardly exists, which is probably a good thing!

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Appendices

Appendix A

The French Primary Corpus

Extracts from *Données Sociales 1990*

French Text A

Vingt ans de développement des loisirs

Olivier CHOQUET
Insee

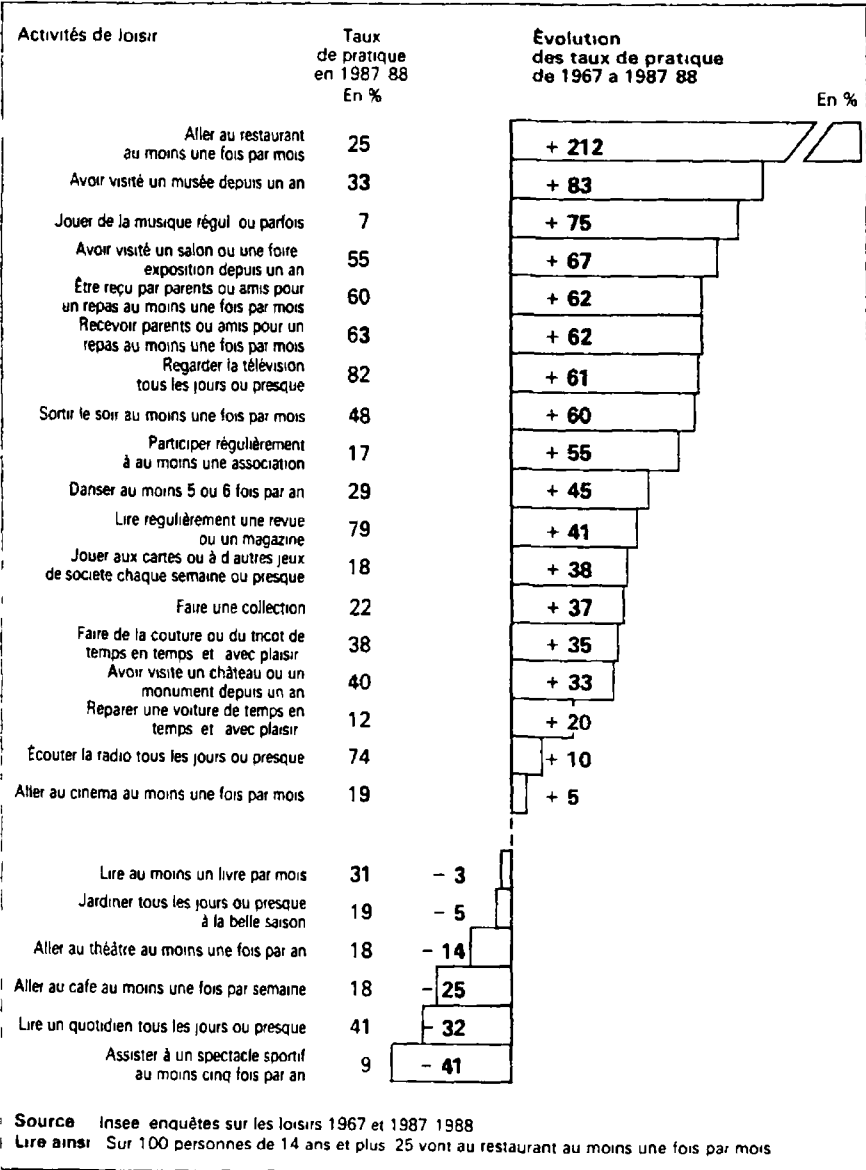
Les vingt dernieres annees ont ete tres favorables a la pratique des loisirs, a la fois par la hausse du pouvoir d'achat des menages et par la baisse de la duree du travail des salaries. Mais tous les loisirs n'ont pas connu la même evolution. La télévision, qui ne touchait que la moitié de la population, a maintenant presque achevé sa diffusion. La croissance de ce loisir, a la fois quotidien et de longue durée, a des consequences sur l'ensemble des autres loisirs. Dans un contexte général de développement de toutes les activités, les loisirs qui stagnent ou baissent sont surtout ceux que, par son contenu, la télévision concurrence directement : la lecture et les spectacles.

De 1967 date de la première enquête sur les loisirs de l'Insee à 1987, début de la seconde, le revenu disponible par personne a augmenté de 59 % en francs constants. Durant la même période la durée du travail des employés et ouvriers a diminué de 6 heures par semaine. Disposant de plus de temps libre, les Français ont accru la part de leur revenu (lui-même en hausse) qu'ils consacrent aux loisirs. Ils l'ont fait d'ailleurs essentiellement pendant la première moitié de la période : depuis dix ans, la part des loisirs dans le budget des ménages stagne.

Une présence massive : la télévision

En 1967, 57 % des ménages étaient équipés d'un téléviseur et 51 % des individus qu'ils appartiennent ou non à un foyer équipé regardaient la télévision « tous les jours ou presque ». Vingt ans plus tard, le taux de possession est de 94 % et le même taux d'audience de 83 %. Dans les ménages équipés, la proportion des individus qui la regardent tous les jours ou presque est même de 86 %. On mesure mieux l'impact de cette évolution sur l'ensemble des loisirs quand on se penche sur les durées d'écoute : chaque jour ou il regarde la télévision, un adulte urbain y consacre

Figure 1 - La plupart des loisirs ont progressé en vingt ans



MOIS CIES

EMPLOI DU TEMPS

LOISIRS

FRATILQUES CULTURELLES

en moyenne 2 h 10 quotidiennement duree qui a elle meme augmente de 20 mn entre 1975 et 1986

Les personnes agees les moins equipees il y a vingt ans ont non seulement ratrape leur retard mais sont devenues les telespectateurs les plus assidus. Les habitants des communes rurales ont egalement comble leur retard. Les disparites sociales d'equipement qui ont toujours ete remarquablement faibles se sont encore atteneues. Ce sont maintenant les cadres et les professions liberales qui restent a la traine. De facon generale les plus diplomes sont les plus reticents a regarder la television tous les jours ils sont aussi ceux qui comptent le plus de refractaires a s'equiper.

Loisir quotidien et de longue duree la television concurrence les autres loisirs par le temps qu'on lui consacre. Mais par le contenu de ses emissions elle peut egalement rivaliser avec d'autres loisirs ainsi le cinema par les films qu'elle diffuse.

LES ENQUÊTES SUR LES LOISIRS

Les donnees presentees ici resultent de la comparaison des deux enquetes sur les loisirs realisees par l'Insee. Lors de la premiere 6 637 personnes furent interrogees pendant le dernier trimestre de l'annee 1967. Pour la seconde qui s'est etalée de mai 1987 a mai 1988 10 872 personnes ont repondu au questionnaire. Dans les deux cas l'echantillon etait representatif de l'ensemble de la population de 14 ans et plus resident en France.

Dans les deux cas le questionnaire etait organise de la meme maniere une suite d'activites de loisir objets de questions sur l'intensite et les modalites de leur pratique. La formulation des questions est souvent identique d'une enquete a l'autre mais il y a des exceptions soit parce qu'on a voulu unifier le mode de questionnement a l'interieur de la derniere enquete soit parce que le degre de finesse des nomenclatures d'activite a ete modifie. Tous les indicateurs d'evolution presentes ici sont issus de questions identiques ou tres proches.

La formulation des questions traitant de l'intensite des differentes pratiques est du type « a quelle frequence pratiquez vous cette activite ? ». Ce sont en somme les habitudes de l'enquete qui sont visees. Les reponses obtenues sont relativement imprécises. Elles surestiment generalement les pratiques probablement les enquetes se referent moins a une pratique moyenne qu'a une semaine ou un mois type hors vacances maladie et empachements divers. Parfois au contraire le caractere peu legitime d'une activite comme le cafe peut inciter certains a minorer leur pratique. Quoi qu'il en soit il convient de considerer les estimations de l'enquete comme des ordres de grandeur.

La lecture des journaux quotidiens est un exemple ou ces deux modes de concurrence (temps et contenu) jouent conjointement. Lire regulierement un quotidien prend un temps substantiel pour une information proche de celle des journaux televises (et aussi des informations que diffusent les radios). Effectivement c'est un des seuls loisirs dont la pratique a chute en 20 ans. La proportion de ceux qui lisent le journal tous les jours est passee de 60 % a 41 %. Les jeunes surtout delaissent les quotidiens. Les agriculteurs et plus generalement les habitants des communes rurales resistent mieux que les autres mais precisement la concurrence de la television est ici moins forte puisqu'elle ne traite guere des nouvelles locales contrairement aux journaux regionaux.

Dans la mesure ou elle repond a un besoin d'evasion que satisfont egalement les emissions de fiction la lecture de livres - activite de longue duree - subit a plein la concurrence de la television. De fait a tout niveau de diplome la lecture de livres decroit. Et c'est seulement parce que les individus tres diplomes qui sont aussi les plus gros lecteurs sont devenus plus nombreux que la proportion de ceux qui lisent au moins un livre par mois est restee stable autour de 30 %.

En fait cette stabilite est la resultante de mouvements contrastes. Les jeunes sont moins nombreux a lire les personnes agees plus nombreuses tandis que le taux de lecture aux ages intermediaires n'a pas evolue. Moins de femmes que d'hommes lisaient des livres en 1967 aujourd'hui c'est l'inverse. Peut-etre est-ce du surtout a l'augmentation de la pratique des plus ages - qui sont majoritairement des femmes.

Le seul type de lecture a s'etre developpe est celui des magazines et des revues. 79 % de la population en lit regulierement au moins un contre 56 % en 1967. La concurrence de la television est sans doute moins forte ici. D'une part le contenu des revues est souvent specialise tandis que les emissions televisees s'adressent de preference au plus grand nombre. D'autre part plus aisement que pour les livres la lecture de revues peut etre decoupee sans pour autant que le contenu se perime rapidement comme celui des quotidiens. Lus dans les interstices de la vie quotidienne les magazines echappent mieux a la contrainte de temps que fait peser la television. Peut-etre en outre s'est-il produit un phenomene de substitution des livres et des quotidiens vers les revues. Les

mouvements de prix relatifs ont bien joue dans le sens d'un deplacement de la demande favorisant les revues au detriment des quotidiens mais pas au detriment des livres car les prix de ces derniers ont relativement moins augmente que ceux des autres medias ecrits.

La proportion de ceux qui ecoutent la radio tous les jours a legerement cru de 67 % a 74 %. Mais il est difficile de mesurer les consequences de cette evolution tant sont variees les facons d'ecouter la radio (sans parler du contenu des emissions) du simple bruit de fond jusqu'a l'ecoute attentive. Aujourd'hui 95 % du temps passe a ecouter la radio l'est en pratiquant une autre activite par exemple en prenant un repas ou en conduisant une voiture. De sorte que la television malgre le temps libre qu'elle accapare n'a pas evince la radio.

Parmi les autres loisirs generalement pratiques chez soi tous ceux pour lesquels on dispose d'indicateurs d'evolution sont egalement en croissance la musique (7 % jouent au moins de temps en temps d'un instrument aujourd'hui au lieu de 4 % il y a vingt ans) les collections (ceux qui en constituent une sont passes de 16 % a 22 %) et les jeux de cartes ou de societe (13 % y jouaient chaque semaine contre 18 % en 1988). Le developpement de la television n'a pas completement unifie les loisirs de la population.

Certaines activites sont a la frontiere du loisir. Le bricolage par exemple peut n'etre pratique que par necessite. Aussi a-t-on demande aux enquetes leur sentiment a propos de certaines activites plaisir ou corvee ? Le nombre de ceux qui reparent leur voiture « avec plaisir » n'a pas evolue (malgre la croissance du parc automobile), par contre la couture « avec plaisir » est une activite dont le succes a ete croissant. La pratique du jardinage est reste stable excepte chez les agriculteurs ou elle est en baisse. Mais pour ces derniers l'industrialisation de leur profession est sans doute a l'origine de cette desaffection.

Les spectacles en baisse

La television propose regulierement des films des pieces de theatre et des rencontres sportives. Par son contenu elle concurrence directement le cinema le theatre et les spectacles sportifs. En revanche ce n'est pas par son poids dans l'emploi du temps qu'elle fait sentir son influence car pour la plupart des

gens quelques mordus du cinema mis a part aller au spectacle est une activite rare

Le cinema offre l'image d'une pratique stable si l'on se refere au pourcentage d'individus y allant au moins une fois par mois. Or le nombre des spectateurs est passe durant la meme periode de 210 millions a 135 millions. Cette baisse est due en grande partie a une diminution du nombre des spectateurs les plus assidus lesquels pesent d'un grand poids sur un indicateur comme le nombre de billets vendus que certains ne representant par exemple que 1 % de la population allant naguere au cinema toutes les semaines n'y aillent plus que tous les mois et 22 millions d'entrees disparaissent. Un autre facteur de baisse (non verifiable ici) pourrait etre la moindre frequentation des jeunes de moins de 14 ans.

Le public du theatre a legerement diminue. Ceux qui y vont au moins une fois par an etaient 21 % et ne sont plus que 18 %. Les plus assidus (une fois par mois au moins) sont aussi proportionnellement moins nombreux (de 25 % a 15 %). Plus que les autres ce sont les jeunes qui ont reduit leur frequentation du theatre entrainant un vieillissement du public. Cette desaffection des jeunes affecte egalement les spectacles sportifs, mais dans un contexte de crise plus forte. 16 % de la population des plus de 13 ans assistait a ce genre de spectacle au moins cinq fois par an en 1967. 20 ans plus tard ils ne sont que 9 %.

pourtant les gens sortent plus le soir

30 % des personnes interrogees en 1967 declaraient sortir le soir au moins une fois par mois. Vingt ans apres la meme proportion est de 48 %. Cette croissance concerne tout le monde jeunes et vieux urbains et ruraux. Si il en est ainsi malgre la baisse des spectacles c'est que toutes les autres activites susceptibles d'etre pratiquées le soir sont en forte croissance : danse, restaurant, repas chez des parents ou des amis.

En vingt ans la proportion de personnes declarant aller danser au moins 5 ou 6 fois par an est passee de 20 % a 29 %. Cette evolution evidemment la meme pour les hommes et pour les femmes concerne de facon a peu pres egale toutes les categories socioprofessionnelles, tous les niveaux de diplome, tous les types de commune. En revanche la population des danseurs vieillit bien que

les jeunes demeurent et de loin ceux qui pratiquent le plus.

Un quart de la population va maintenant au restaurant par plaisir au moins une fois par mois, proportion qui a triple en vingt ans. Le developpement de la restauration rapide en elargissant l'offre a surement une part dans ce changement. Personne n'est reste a l'ecart de cette evolution. Les plus assidus sont toujours les milieux aises des grandes villes. Les receptions de parents ou d'amis pour un repas ont connu une evolution parallele et presque aussi forte. Dans ce domaine egalement les plus aises sont les plus actifs, mais les differences sont moindres que pour le restaurant.

La frequentation des cafes est une des rares activites de loisir qui aient regresse sensiblement. Il y a vingt ans le public du cafe etait essentiellement masculin. C'est beaucoup moins vrai aujourd'hui, tandis que la part des hommes qui y vont au moins une fois par semaine chutait de 42 % a 26 %, celle des femmes passait de 8 % a 10 %. Les femmes qui frequentent les cafes sont plutot actives, jeunes, diplomees et urbaines. C'est une pratique liee a l'activite professionnelle dont le fort developpement depuis 20 ans explique que les femmes aient pu accroître leur frequentation alors que celle des hommes chutait. Le profil des hommes allant au cafe tend d'ailleurs a se rapprocher de celui des femmes. Pour eux aussi c'est une activite de plus en plus liee a l'activite professionnelle. Par ailleurs la part des simples consommateurs par opposition a ceux qui bavardent ou jouent est restee stable. C'est le cafe en tant que lieu de sociabilite et de loisirs qui regresse. La television, notamment n'est plus un motif de frequentation des cafes.

Le monde des associations est varie. Il va du club sportif aux associations de coproprietaires en passant par les mouvements militants. Sans autres indications il est difficile d'interpreter la hausse de 11 % a 17 % de la proportion d'individus qui participent regulierement a au moins une association. Certaines associations ont pu voir leur public diminuer et d'autres croître. Les cas d'augmentation seraient surtout ceux des clubs du 3^e age et des clubs sportifs c'est-a-dire d'associations dont l'adhesion n'est que la condition necessaire a certaines activites. L'augmentation du nombre d'adherents est donc plutot a situer dans un contexte de hausse generale des loisirs et non comme une information sur la sociabilite des Fran-

çais allant dans le meme sens que la croissance des invitations pour un repas.

Un autre groupe de loisirs est forme des activites de plein air. La croissance de la pratique sportive est sensible quoique variable selon les types de sport. Quant a la chasse et a la peche la premiere semble regresser legerement et la seconde etre stationnaire.

Les spectacles mis a part les manifestations impliquant deplacement hors du foyer parfois assez loin ont connu un succes croissant. C'est ainsi qu'a augmente la proportion de Français avant depuis un an visite un chateau ou un monument (de 30 % a 40 %), un salon ou une foire-exposition (de 33 % a 55 %), un musee (de 18 % a 33 %). La frequentation accrue des musees est due a l'augmentation generale du niveau d'instruction mais elle est vraie aussi (dans une moindre mesure) a niveau egal. L'amelioration du niveau de vie des menages a joue son role dans ces evolutions mais aussi leur plus grande mobilite. Le taux de possession de voiture est passe de 52 % a 75 % durant ces vingt dernieres annees.

Des differences qui s'amenuisent

En matiere de loisirs hommes et femmes ont souvent evolue parallelement. Quand ce n'est pas le cas c'est toujours dans le sens d'une croissance plus forte (ou d'une moindre degradation) de la pratique des femmes. De sorte que celles-ci ont comparativement aux hommes des loisirs plus diversifies maintenant qu'autrefois. Spectacles television (faiblement), lecture de livres et de revues, frequentation des cafes, tels sont les principaux loisirs dont le public s'est feminise.

Sortie le soir, restaurant et musique sont des activites de jeunes dont le public a encore rajeuni au cours des vingt dernieres annees. Mais il s'agit la d'exceptions. Tous les autres loisirs ont connu soit la stabilite de l'age de leurs pratiquants soit plus souvent encore un deplacement vers les plus ages. Ces derniers cas concernent aussi bien des activites plutot pratiquées par les personnes agees qui ont donc creuse l'ecart par rapport aux plus jeunes (television, jardinage, lecture de quotidiens) que des loisirs preferes par les jeunes et pour lesquels on assiste a une reduction des ecart (cinema, theatre, spectacles sportifs, lecture de livres, bricolage automobile, vie associative, visite de monuments).

La reduction des disparites est d ailleurs avec la croissance presque generale des loisirs, un des enseignements principaux de cette comparaison des comportements a vingt ans de distance. Certaines categories de population avaient naguere moins de loisirs que d autres et l ecart s est attenu. C est vrai, on l a vu pour les femmes vis-a-vis des hommes et pour les plus de 60 ans vis-a-vis des jeunes. Cela se verifie aussi pour la campagne vis-a-vis de la region parisienne (aux exceptions pres que constituent les sorties le soir, le cafe et le res-

taurant) et pour les ouvriers vis-a-vis des cadres (cafe et cinema exceptes).

La traduction en termes concrets de ces changements n est pas simple. Plus de loisirs ne signifie pas toujours plus de temps de loisir. Une pratique plus diversifiee peut s accompagner d'une reduction de la duree de certaines activites. Par ailleurs, des evolutions globales pourraient cacher des mouvements discordants, par exemple entre femmes actives et femmes inactives. C'est surement le cas de tous ceux qui ont ete con-

traints de reduire leurs pratiques de loisirs a la suite d une chute brutale de revenu due au chomage.

Si les pratiques anciennes evoluent, des pratiques nouvelles apparaissent, comme la microinformatique (7 % des menages possedent un micro-ordinateur), certains usages du Minitel (dont disposent 10 % des menages) et certaines utilisations de la television liees au magnetoscope, parmi les 18 % de menages qui en possedent un. ■

Pour en savoir plus

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Voir aussi dans ce volume

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BOZON M. *Les loisirs forment la jeunesse*, chapitre 5.

POPULATION ET GROUPES SOCIAUX

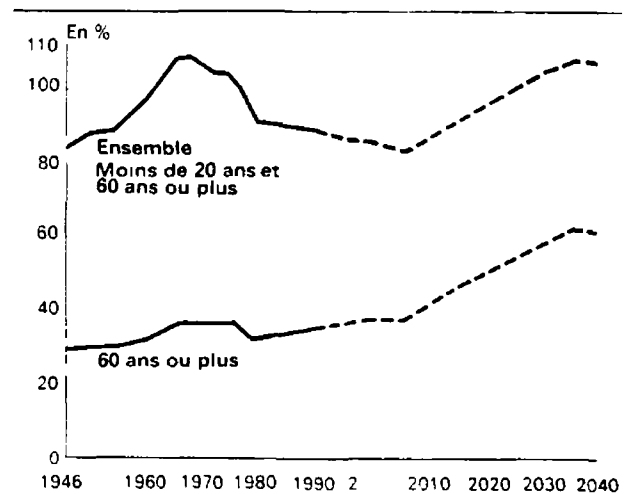
Debut 1989, la population française atteint 55 996 000 habitants, soit un accroissement de 246 000 personnes en un an. Cette augmentation est due au seul mouvement naturel (excédent des naissances sur les décès), le mouvement migratoire étant estimé voisin de zéro. La France occupe ainsi la 4^{ème} place de l'Europe des douze pour la croissance de sa population, après l'Espagne, le Portugal et les Pays-Bas.

Le nombre de naissances cesse de chuter, et l'indice de fécondité se maintient autour de 1,8 enfant par femme, niveau cependant trop bas pour assurer le remplacement des générations. De son côté le nombre de décès diminue, en raison de la baisse de la mortalité qui se traduit par un gain d'espérance de vie.

Moins de naissances, moins de décès : la population vieillit (mais la France n'a plus comme dans les années cinquante le premier rang mondial pour la proportion des personnes âgées). Toutefois, l'évolution de la population dépendra de celle de la fécondité : déclin si la fécondité reste à 1,8 enfant

par femme ou a fortiori, diminue, continué dans la croissance si elle remonte pour dépasser 2,1 enfants.

Évolution du nombre de personnes de moins de 20 ans et de 60 ans ou plus pour 100 personnes de 20 à 59 ans



Source : Insee.
Référence : Projection de population totale pour la France 1985-2040, collections de l'Insee, série D, n° 113, novembre 1986.
Lire ainsi : Du 1^{er} janvier de 1990 à 2040, projection de la population. Hypothèses : mortalité tendancielle et fécondité de 1,8 enfant par femme.

DONNÉES SOCIALES 1990

La baisse de la nuptialité s'est arrêtée. Il semblerait que l'on assiste à une reprise des mariages, en particulier des premiers mariages. Cependant la tendance de fond reste à l'augmentation des divorces et des remariages. Cette tendance est générale en cas de maintien des comportements actuels, sur 100 mariages célébrés en France une année donnée, 30 se termineraient par un divorce (45 en Suède ou au Danemark).

Les Dom-Tom

1 600 000 habitants peuplent les Dom-Tom, dont les trois quarts en Guadeloupe, en Martinique ou à la Réunion. En vingt ans, les Dom-Tom ont connu une forte baisse de la fécondité et de la mortalité. Leur taux d'accroissement naturel reste près du triple de celui de la métropole. Malgré une forte migration vers le continent, la population s'accroît [Q. C. Dinh].

Les groupes sociaux

Le découpage en catégories socioprofessionnelles est un élément explicatif essentiel qui se retrouve tout au long de ce volume. Aussi est-il important de savoir ce que chaque catégorie recouvre non seulement des différences en termes de métier ou de caractéristiques liées au métier comme le salaire ou les diplômes, mais aussi en termes de mode de vie, qu'il s'agisse d'habiter la ville ou la campagne, de rester seul ou de former un couple, d'avoir plus ou moins d'enfants.

Ces groupes sociaux ne sont pas figés, et les évolutions enregistrées dans l'édition précédente se poursuivent, tant du point de vue des effectifs des groupes que de leur féminisation, entre 1982 et 1989 : diminution du nombre des ouvriers et des petits indépendants, croissance ralentie de celui des cadres, quasi-stabilisation de celui des employés et des professions intermédiaires, avec une proportion de femmes légèrement décroissante chez les ouvriers, stable ou croissante chez les autres salariés [Z. Djider].

La population française : la plus dynamique des quatre grands pays de l'Europe des douze

Quang Chi DINH

Insee

L'évolution démographique récente comporte peu de changements par rapport au régime observé depuis 1975 : maintien de la fécondité autour de 1,8 enfant par femme, montée des naissances hors mariage, baisse continue mais ralentie de la nuptialité, baisse soutenue de la mortalité se traduisant par un allongement de la vie moyenne d'un an tous les trois à quatre ans, vieillissement de la population.

Au 1^{er} janvier 1989, la France métropolitaine compte 55 996 000 habitants, soit 246 000 de plus qu'au 1^{er} janvier précédent. Cet accroissement résulte du seul mouvement naturel, c'est-à-dire de la différence entre 770 000 naissances et 524 000 décès enregistrés au cours de l'année 1988. L'excédent migratoire, faute de données fiables dans l'état actuel des informations disponibles, est estimé globalement nul depuis 1985. Rapportées à la population moyenne de l'année 1988, ces chiffres correspondent à un taux de natalité de 13,8 pour 1 000, de mortalité de 9,4 pour 1 000 et d'accroissement naturel de 4,4 pour 1 000. Le taux de croissance globale, 0,4 % l'an, est resté stable depuis 1975 (figure 1). Au sein de

l'Europe des 12, seuls l'Espagne, le Portugal et les Pays-Bas ont une croissance plus forte. Dans les années 80, l'accroissement naturel a été en moyenne négatif en Allemagne fédérale

et au Danemark. Des soldes migratoires nets positifs pour les mêmes années ont contribué à réduire, voire à annuler, comme au Danemark, l'évolution en baisse de la population totale (figure 2).

Figure 1 Evolution de la population totale depuis 1946

Année	Population totale au 1 ^{er} janvier	Variation au cours de l'année					Taux pour 1 000 habitants				
		Totale	par excédent naturel		par excédent migratoire	natalité	mortalité	Accroissement			
			Naissances N	Décès N D				naturel	migratoire	total	
1946	40 125 230	323 024	840 247	518 223	298 024	20,9	13,5	7,4	0,6	8,0	
1950	41 647 158	362 830	958 124	595 273	327 830	20,5	12,7	7,8	0,8	8,7	
1955	43 227 872	399 595	802 303	402 708	279 595	18,5	12,0	6,4	2,8	9,2	
1960	45 464 797	438 859	816 296	377 437	298 859	17,9	11,3	6,5	3,1	9,6	
1965	48 561 800	391 992 (a)	862 333	470 341	321 992	17,7	11,1	6,6	2,3	8,0	
1970	50 528 219	488 015	847 783	359 768	308 014	16,7	10,6	6,1	3,5	9,6	
1975	52 600 000	198 338	745 065	546 727	184 712	14,1	10,6	3,5	0,3	3,8	
1980	53 731 387	297 243	800 376	503 133	253 269	14,9	10,2	4,7	0,8	5,5	
1981	54 028 630	306 370	805 483	499 113	250 660	14,9	10,2	4,6	1,0	5,7	
1982	54 335 000	290 729	797 223	506 494	254 119	14,6	10,0	4,7	0,7	5,3	
1983	54 625 729	205 178	748 525	543 347	188 870	13,7	10,2	3,5	0,3	3,7	
1984	54 830 907	231 571	759 939	528 368	217 449	13,8	9,9	4,0	0,3	4,2	
1985	55 062 478	215 935	768 431	552 496	215 935	13,9	10,0	3,9	0,0	3,9	
1986	55 278 413	231 542	8 468	223 074	231 542	14,1	9,9	4,2	0,0	4,2	
1987	55 509 955	240 362	767 828	527 466	240 362	13,8	9,5	4,3	0,0	4,3	
1988	55 750 317	246 000	770 000	524 000	246 000	13,8	9,4	4,4	0,0	4,4	
1989 (b)	55 996 317										

a. Y compris un ajustement de 40 000 personnes et de 1968.

b. Provisoire.

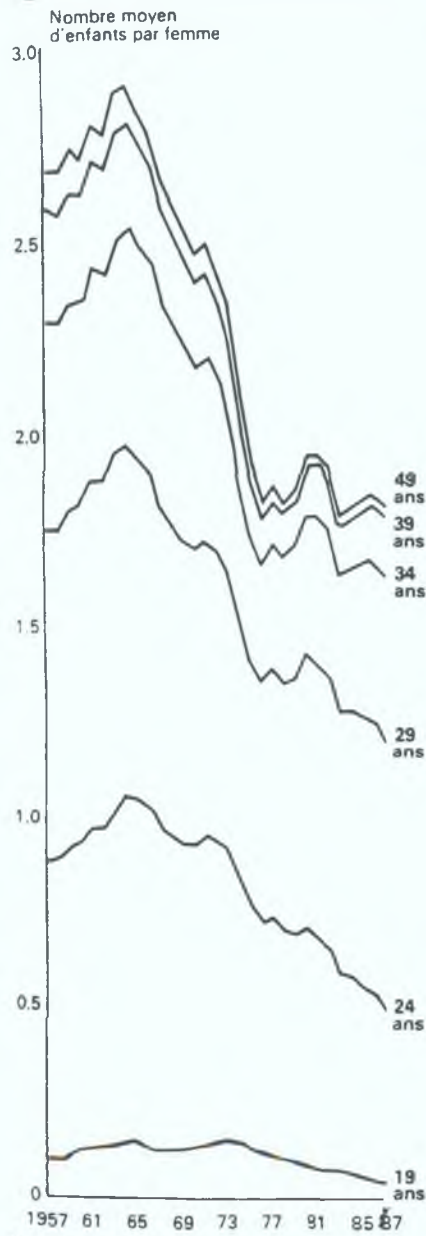
Source : Insee.

MOIS CETS
COMPARAISONS
INTERNATIONALES
DECES
DIVORCE
CONJUGES
SURVIVANCE DE
ECO DIE
MARIAGE
MORTALITE
NAISSANCES
POPULATION

Autant de naissances
et moins de décès

A 10 000 près, le nombre de naissances est resté stable au cours des cinq ou six dernières années. Il en est de même pour l'indice de fécondité estimé à 182 enfants pour 100 femmes en 1988. Ainsi après la baisse rapide des années 1964 à 1976, la fécondité s'est à peu près stabilisée autour de 1.8 enfant par femme (figure 3). Le maintien de la fécondité du moment en dessous du seuil de remplacement des générations, 2.1 enfants

Figure 3 - Taux de fécondité cumulé par âge de la mère (1957-1987)



Source : Insee.

DONNEES SOCIALES 1990

LES INDICATEURS SYNTHÉTIQUES

Pour mesurer l'intensité d'un phénomène (natalité, mortalité...) on calcule volontiers en démographie sa fréquence moyenne ou taux brut en rapportant le nombre total d'événements enregistrés sur la population moyenne pour la même période. L'inconvénient majeur du taux brut est que sa valeur dépend non seulement de l'intensité du phénomène qu'il est censé caractériser, mais aussi de la composition par âge de la population. Ainsi, à mortalité par âge égale, une population jeune aura un taux brut de mortalité plus faible qu'une population d'effectif égal mais comportant plus de personnes âgées.

Une méthode simple pour éliminer l'effet des structures par âge est de faire la somme des taux par âge : somme des premiers mariages réduits, somme des divorces réduits, somme des naissances réduites... Ceci revient à évaluer sur une génération fictive, en l'absence de mortalité, la somme totale des événements survenant à cette génération si, à chaque âge,

le taux de l'événement est identique à celui observé dans l'année. Pour souligner le caractère instantané des indicateurs ainsi définis, on les appelle aussi respectivement indicateur conjoncturel de nuptialité, de divorcialité, de fécondité. Ainsi, l'indice synthétique de fécondité de 181.6 enfants pour 100 femmes qui caractérise la fécondité des femmes françaises en 1987 signifie qu'une génération de 100 femmes qui auraient, à chaque âge, le même nombre d'enfants qu'ont eu 100 femmes de même âge réellement observées en 1987 aurait au total, à la fin de sa vie féconde, 181.6 enfants. De même une promotion de mariage qui divorcerait à chaque durée de mariage comme l'ont fait à durée égale les différentes promotions au cours de l'année 1987 verrait son effectif initial réduit de 31 %. D'une manière analogue, l'espérance de vie à la naissance est l'âge moyen au décès, ou vie moyenne, d'une génération fictive subissant à chaque âge la mortalité observée au cours de l'année.

Figure 2 - Des évolutions parallèles dans la plupart des pays industrialisés

Pays	Population totale 31.12.1990	Structure par âge (%)				Indice synthétique				Taux pour 1 000 habitants			
		0-14	15-64	65 ou +	Sexe	Repro¹	E14-1	E0F²	Q0³	natale	mortale	acc.nat	acc.tot
Année 1970													
Belgique	9 638	23.7	63.0	13.3	95	100.0	67.8	74.2	21.1	14.8	12.3	2.5	2.7
Danemark	4929	23.3	64.4	12.3	91	100.0	70.7	75.9	14.2	14.4	9.8	4.6	6.9
Espagne	33 779	27.8	62.5	9.7	100.0	283.5	70.4	76.2	28.1	19.6	8.3	11.3	10.5
France	50 772	24.0	62.6	13.4	91.9	240.8	68.3	75.9	18.2	16.8	10.7	6.1	9.6
Grèce	8 793	25.1	65.0	9.9	105.5	225.7	70.1	73.6	29.6	16.5	8.4	8.1	2.8
Irlande	2 950	31.0	58.1	10.9	103.5	362.7	66.8	73.5	19.5	21.8	11.4	10.4	9.3
Italie	53 822	24.4	65.0	10.6	100.7	242.5	69.0	74.9	29.6	16.8	9.6	7.2	5.1
Luxembourg	340	22.1	65.3	12.6	97.1	197.0	67.0	73.9	12.2	13.0	12.2	0.8	3.9
Pays-Bas	13 039	27.3	62.6	10.1	106.0	288.4	70.7	76.5	12.7	18.3	8.4	9.9	12.4
Portugal	9 044	19.4	71.8	8.8	109.1	275.9	64.2	70.8	55.5	20.0	10.2	9.7	-6.7
R.F.A. Allemagne	50 651	23.2	63.6	17.2	97.1	207.8	67.4	73.8	23.4	13.4	12.1	1.3	10.5
Royaume-Uni	55 632	24.1	63.1	12.8	100	242.7	68.7	75.0	16.5	16.2	11.8	4.4	4.2
CEE 12	303 389						68.9	75.1	24.1	15.4	10.6	5.8	7.0
Japon	124 345	24.0	68.9	7.1	104.1	214.1	69.3	74.7	13.1	15.6	6.6	12.2	
USA	103 235	28.5	61.6	9.9	104.0	243.0	67.4	74.8	20.0	19.3	9.4	9.9	12.8
URSS	242 757	30.9	61.4	7.7	110.3	240.0	68.0	74.0		17.1			
Année 1985													
Belgique	9 858	19.8	67.4	13.8	95.0	150.0	70.0	76.3	24.4	11.6	11.2	0.4	0.1
Danemark	5 114	19.4	66.5	15.1	87.0	121.7	71.6	77.5	13.9	10.5	11.4	-0.9	1.0
Espagne	36 505	23.1	64.9	12.0	94.7	150.0	71.5	78.5	31.7	11.7	8.0	3.7	4.2
France	55 170	21.2	65.8	13.0	94.7	150.0	71.5	79.7	30.3	13.9	10.0	3.9	4.0
Grèce	9 934	20.9	65.7	13.4	105.3	150.0	70.0	76.4	18.1	11.7	9.3	2.4	3.0
Irlande	3 540	29.2	60.0	10.8	103.5	243.5	70.1	75.6	31.8	17.6	9.4	8.2	0.1
Italie	57 141	19.3	67.8	12.9	101.0	114.0	71.4	78.1	10.3	10.1	9.5	0.6	2.1
Luxembourg	366	17.3	69.5	13.2	103.0	100.0	70.0	76.7	11.0	11.2	11.0	0.2	2.5
Pays-Bas	14 492	19.5	68.4	12.1	101.1	150.0	70.9	79.7	30.0	12.3	8.5	3.8	5.2
Portugal	10 157	23.5	64.5	12.0	105.7	155.9	70.3	77.1	17.8	12.8	9.6	3.2	5.5
R.F.A. Allemagne	61 024	15.1	70.1	14.8	93.5	100.0	71.2	77.8	8.9	9.6	11.5	-1.9	-0.5
Royaume-Uni	56 618	19.2	65.7	15.1	95.7	150.0	71.6	77.5	24.4	13.3	11.8	1.5	2.7
CEE 12	321 919	19.6	66.9	13.5			70.8	77.5	24.4	11.8	10.2	1.6	2.5
Japon	120 754	22.0	68.0	10.0	105.0	115.0	74.8	80.5	5.5	11.9	6.2	5.7	
USA	239 283	21.7	66.4	11.9	104.0	112.0	71.2	78.2	10.4	15.5	8.7	6.8	7.0
URSS	278 618	25.0	66.0	8.0	100.0	240.0	62.9	72.7	26.0	19.9	12.1	7.8	

- 1. Somme des premiers mariages réduits, pour 100 femmes
- 2. Somme des naissances réduites, pour 100 femmes
- 3. et 4. Espérance de vie à la naissance E (0,H) = masculine E : 1 : 2 : x féminine
- 5. Mortalité infantile, pour 1 000 nes vivants.

Source : Insee, Ineq, ONU, Eurostat

DONNEES SOCIALES 1990

par femme pendant une période relativement longue commence à inflechir en baisse la tecondite reelle des generations comme en temoignent les chiffres de la figure 4 La rarefaction des familles nombreuses traduite par la baisse des naissances de rang 3 ou plus a reduit la descendance finale des generations recentes malgre l'apport grandissant des naissances hors mariage C est une autre facette de la cohabitation sans mariage Sa diffusion de plus en repandue chez les jeunes [DESPLANQUES et de SABOU LIN meme volume chapitre 7] se repercute dans la baisse continue du nombre de premiers mariages comme dans celle de l'indice de primumptualite (figure 5)

Tous les pays de l'Europe Occidentale ainsi que divers pays developpes des autres continents sont egalement affectes par ce phenomene Il atteint meme ici ou la une ampleur inconcevable il y a seulement vingt ans (figure 2) Le maintien en regime permanent de la fecondite autour de 1,3 enfant par femme observee actuellement en Allemagne federale et en Italie par exemple signifierait une reduction de moitie des populations allemande et italienne dans moins de quarante ans

En France grace a une structure par age favorable a la natalite les generations nombreuses nees au cours de la periode du baby-boom parcourent actuellement l'age de fecondite (figure 6) - le nombre des naissances reste encore superieur a celui des deces Ce potentiel de croissance doit durer jusqu'a la fin du siecle [DINH 1987]

Figure 4 - Descendance des generations 1931-1953 par rang de naissance

Pour une femme					
ssances	Generation				
	1931	1938	1943	1948	1953
s mariage	0 173	0 153	0 154	0 172	0 215
rang 1	0 870	0 909	0 924	0 899	0 859
rang 2	0 654	0 681	0 644	0 633	0 613
rang 3	0 402	0 376	0 314	0 258	0 249
rang 4	0 224	0 178	0 123	0 082	0 073
ou +	0 292	0 184	0 111	0 069	0 063
Descendance finale	2 616	2 481	2 220	2 112	2 073

Les generations encore en cours de fecondite les naissances ont ete evaluees sur la base des aux observees aux ages en 1982

Source : ined

Line : De 1 000 femmes nees en 1931 est ne 173 enfants s a age 870 de rang 1 soit au a 2 616 enfants ou ans par femme

Figure 5 Indicateurs generaux de la situation demographique

Annee	Mariages 1 000	Indice synthetique de primumptualite		Divorces 1 000	Indice synthetique de fecondite		Taux de reproduction		Vie moyenne		Mortalite infantile 1 000 nes vivants
		masculine (a)	feminine (b)		de divorcialite (d)	de fecondite (e)	brute (f)	ette (g)	Hommes (h)	Femmes (i)	
1946	16 9	164 1	151 8	64 1	22 2	298 2	145 0	127 7	59 9	65 2	77 8
1950	31 1	92 4	93 6	34 7	11 4	293 0	143 0	133 0	63 4	69 2	51 9
1955	2 7	86 7	92 7	31 3	9 8	67 4	130 7	24 3	65 2	71 5	38 6
1960	19 9	92 8	102 5	30 2	9 5	272 7	133 4	28 6	67 0	73 6	27 4
1965	46 3	100 6	99 2	34 9	10 7	283 4	138 5	34 4	67 5	74 7	21 9
1970	3 7	91 5	92 0	38 9	11 8	247 2	120 3	17 0	68 4	75 9	18 2
1975	74 4	82 2	85 8	55 6	15 7	192 7	93 9	31 8	69 0	76 9	13 8
1980	44 4	68 9	70 7	81 1	22 3	194 5	94 7	32 9	70 2	78 4	10 0
1981	5 1	64 4	65 8	87 6	24 1	194 5	94 7	32 9	70 4	78 5	9 7
1982	12 4	63 4	64 8	93 9	26 0	191 2	93 1	31 4	70 7	78 9	9 5
1983	20 5	60 6	61 6	98 7	27 5	178 7	87 1	25 6	70 7	78 8	9 1
1984	14 4	56 2	57 1	104 0	29 2	190 7	98 1	26 6	71 2	79 3	8 3
1985	19 4	53 1	54 0	07 5	30 4	182 3	98 8	27 3	71 3	79 4	8 3
1986	5 7	52 1	53 0	108 4	31 1	184 3	99 8	28 3	71 5	79 7	8 0
1987	12 2	51 3	52 5	106 5	30 0	181 6	98 6	27 2	72 0	80 3	7 8

- a b Somme des premiers mariages reduits pour 100 (hommes ou femmes)
c Sources : Ministere de la Justice divorces prononces conversion des separations
d Somme des divorces reduits pour 100 mariages
e Somme des naissances reduites pour 100 femmes
f g Nombre de filles mises au monde par une generation de 100 femmes f en absence de mortalite g compte tenu de la mortalite
h Ou esperance de vie a la naissance en annees et dixiemes d'annee

Figure 6 - Repartition par age de la population totale au 1^{er} janvier 1989 et au 1^{er} janvier 2020

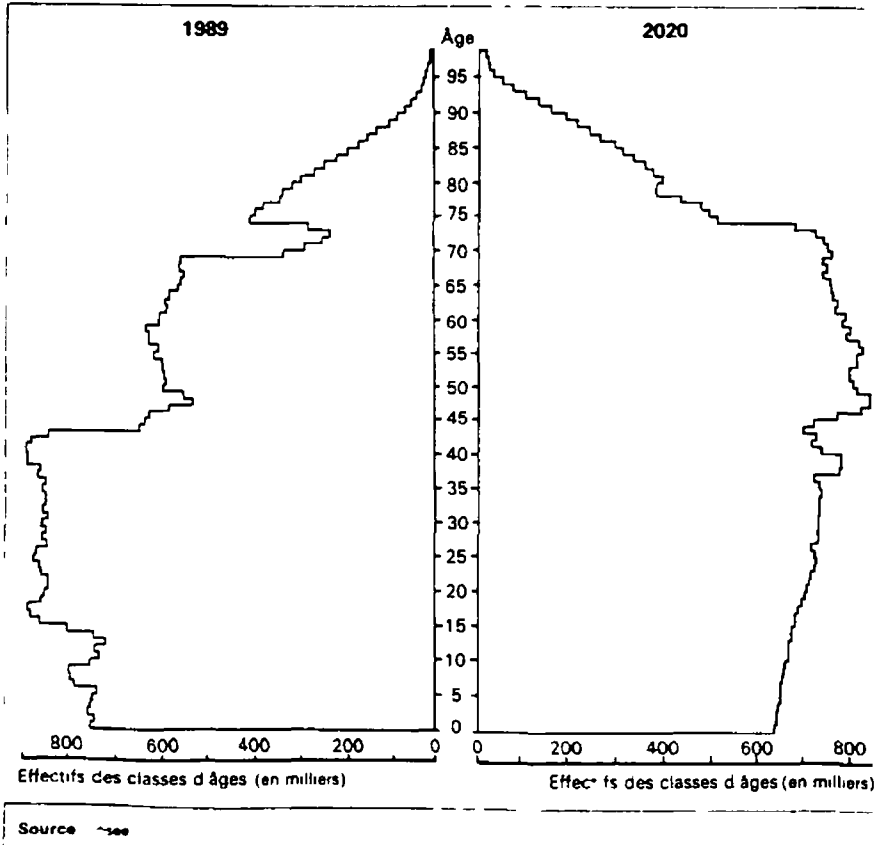
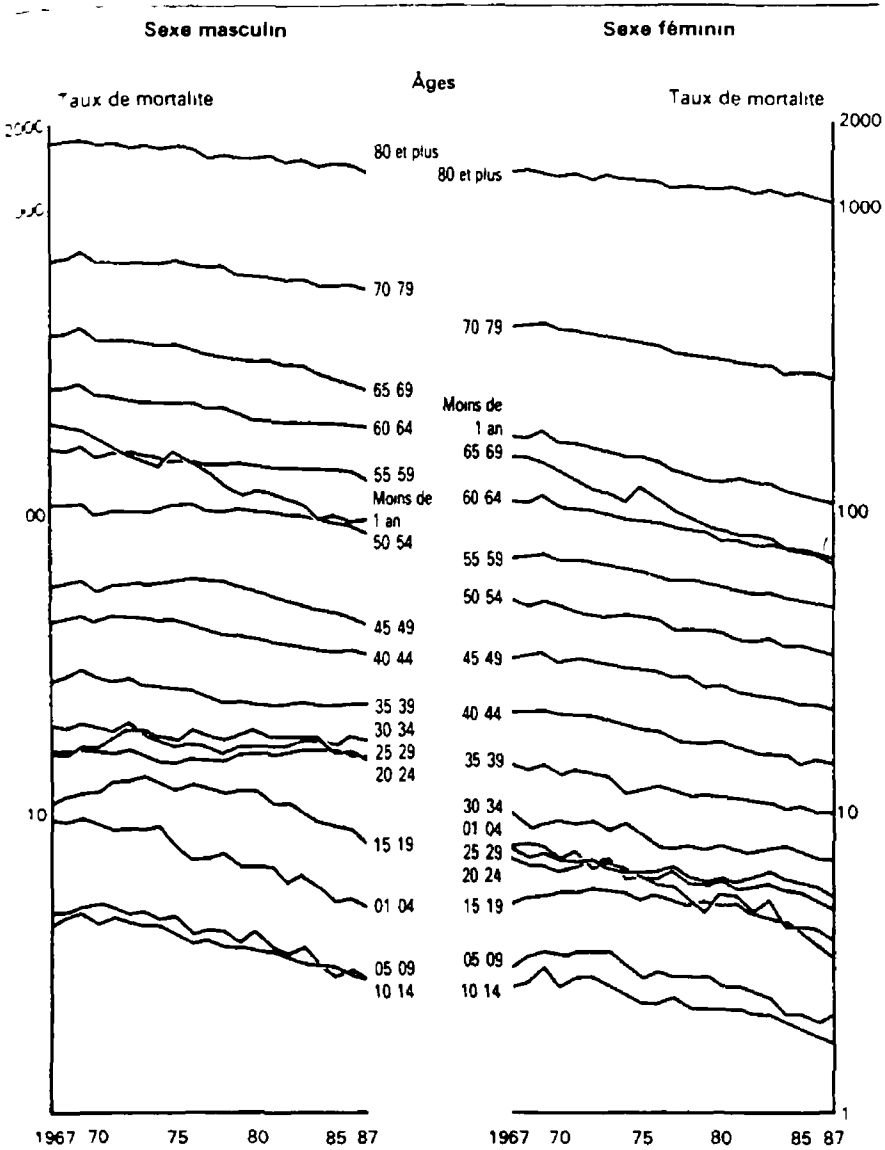


Figure 7 Évolution des taux de mortalité par sexe et âge
Nombre de decés pour 10 000 personnes de chaque groupe d'âges



Source : Insee

DONNÉES SOCIALES 1990

Depuis 1985 le nombre de décès diminue de 552 000 en 1985 à 524 000 en 1988 alors qu'au cours de la période quinquennale précédente le nombre moyen annuel avoisine 550 000. Or à mortalité par âge égale le nombre de décès devrait s'accroître d'une année sur l'autre du fait de l'augmentation de la population et surtout de son vieillissement. La baisse tendancielle de la mortalité qui s'est traduite depuis 1977 par un gain annuel moyen d'espérance de vie supérieur à 0,2 année se poursuit et semble même s'accélérer. Le gain par âge est variable. Entre 30 et 40 ans les taux de mortalité diminuent en moyenne de 2 % par an. En dehors de cet intervalle d'âge le rythme de baisse atteint le double (figure 7). Ainsi la forte réduction de la mortalité aux âges élevés est une nouvelle donne de la démographie française. Elle devient un facteur supplémentaire du vieillissement après la baisse de la fécondité.

L'espérance de vie dépasse 80 ans pour les femmes

L'espérance de vie à la naissance est estimée pour 1988 à 80,6 années pour les femmes et à 72,3 années pour les hommes. La France figure depuis 1987 parmi les quelques pays (Japon, Suède, Islande...) où la vie moyenne des femmes dépasse 80 ans. En revanche l'écart de plus de huit ans entre les vies moyennes des femmes et des hommes dépasse la valeur observée de cet écart dans la plupart des pays développés occidentaux (figure 2).

L'analyse par âge au décès montre que l'excès de surmortalité masculine française joue dès le début de l'âge adulte. Mais c'est surtout à partir de l'âge de départ à la retraite que l'écart est le plus accusé (figure 8). Les mortalités par tumeurs d'une part, par accidents, suicides et morts violentes d'autre part, en sont responsables (figure 9).

La mortalité infantile (7,7 décès d'enfants de moins d'un an pour 1 000 naissances vivantes en 1988) n'a jamais été aussi faible (le dixième du taux enregistré en 1946¹⁾). Elle est très proche des taux les plus bas observés dans le monde.

Le regain du mariage

Le nombre de mariages qui avait évolué en hausse depuis les années 60 jusqu'en 1972 (arrivée à l'âge du

Figure 8 - Parts attribuables aux divers groupes d'âges dans la différence de vie moyenne par sexe

Années 1980-1983

Pays	Différence e(f) - e(h)	Part attribuable au groupe d'âges						
		0-1	1-14	15-34	35-54	55-64	65-74	75 +
France	8,25	0,20	0,11	0,90	1,70	1,70	1,90	1,60
Moyenne 30 pays dev	6,60	0,20	0,12	0,70	1,30	1,40	1,60	1,20
Suède	6,16	0,10	0,07	0,60	1,00	1,20	1,70	1,60
Japon	5,63	0,10	0,11	0,50	1,00	1,00	1,40	1,40

Référence : Sex differentials in life expectancy and mortality in developed countries - United Nations Secretariat - 1988 in Population Bulletin of the United Nations n°25 - New York.
Lire aussi : En France, sur la différence de 8,25 années d'espérance de vie entre les hommes et les femmes 0,2 sont dues à la différence de mortalité infantile, 0,11 à la différence entre 1 et 14 ans etc.

DONNÉES SOCIALES 1990

Figure 9 - Parts attribuables aux divers groupes de causes de decès dans la difference de vie moyenne par sexe

Pays	Difference e(f) - e(h)	Part attribuable a la mortalite par						
		Maladie infect parasit	Tumeurs	Maladies du coeur et org	Maladies du syst respira	Accident Suicides Violences	Causes mal definies	Autres causes
France 1983	8 2	0 1	2 3	2 0	0 6	1 6	0 5	1 1
Moyenne 26 pays dev	6 8	0 1	1 2	2 7	0 6	1 3	0 2	0 7
Suede 1984	6 2	0 0	0 7	3 3	0 4	1 1	0 1	0 6
Japon 1984	5 9	0 1	1 7	1 7	0 7	1 1	0 0	0 6

Référence Sex differentials in life expectancy and mortality in developed countries United Nations Secretariat 1988 in Population Bulletin of the United Nations n° 25 New York

Lire ainsi: En France sur la difference de 8 2 années d'esperance de vie entre les hommes et les femmes 0 1 sont dues a la difference de mortalite par maladies infectieuses ou parasitaires etc

DONNEES SOCIALES 1990

Figure 10 Structure par sexe et age de la population au 1er janvier

Age	Hommes		Femmes		Total		Proportion		Proportion	
	1990	1980	1990	1980	1990	1980	1990	1980	1990	1980
0-4	1 250 000	1 300 000	1 300 000	1 350 000	2 550 000	2 650 000	14,5	14,5	14,5	14,5
5-9	1 200 000	1 250 000	1 250 000	1 300 000	2 450 000	2 550 000	14,0	14,0	14,0	14,0
10-14	1 150 000	1 200 000	1 200 000	1 250 000	2 350 000	2 450 000	13,5	13,5	13,5	13,5
15-19	1 100 000	1 150 000	1 150 000	1 200 000	2 250 000	2 350 000	13,0	13,0	13,0	13,0
20-24	1 050 000	1 100 000	1 100 000	1 150 000	2 150 000	2 250 000	12,5	12,5	12,5	12,5
25-29	1 000 000	1 050 000	1 050 000	1 100 000	2 050 000	2 150 000	12,0	12,0	12,0	12,0
30-34	950 000	1 000 000	1 000 000	1 050 000	1 950 000	2 050 000	11,5	11,5	11,5	11,5
35-39	900 000	950 000	950 000	1 000 000	1 850 000	1 950 000	11,0	11,0	11,0	11,0
40-44	850 000	900 000	900 000	950 000	1 750 000	1 850 000	10,5	10,5	10,5	10,5
45-49	800 000	850 000	850 000	900 000	1 650 000	1 750 000	10,0	10,0	10,0	10,0
50-54	750 000	800 000	800 000	850 000	1 550 000	1 650 000	9,5	9,5	9,5	9,5
55-59	700 000	750 000	750 000	800 000	1 450 000	1 550 000	9,0	9,0	9,0	9,0
60-64	650 000	700 000	700 000	750 000	1 350 000	1 450 000	8,5	8,5	8,5	8,5
65-69	600 000	650 000	650 000	700 000	1 250 000	1 350 000	8,0	8,0	8,0	8,0
70-74	550 000	600 000	600 000	650 000	1 150 000	1 250 000	7,5	7,5	7,5	7,5
75-79	500 000	550 000	550 000	600 000	1 050 000	1 150 000	7,0	7,0	7,0	7,0
80-84	450 000	500 000	500 000	550 000	950 000	1 050 000	6,5	6,5	6,5	6,5
85-89	400 000	450 000	450 000	500 000	850 000	950 000	6,0	6,0	6,0	6,0
90-94	350 000	400 000	400 000	450 000	750 000	850 000	5,5	5,5	5,5	5,5
95-99	300 000	350 000	350 000	400 000	650 000	750 000	5,0	5,0	5,0	5,0
100+	250 000	300 000	300 000	350 000	550 000	650 000	4,5	4,5	4,5	4,5

Source Insee

DONNEES SOCIALES 1990

Figure 12 - Projections de population totale au 1er janvier

Année	Total	0-14 ans	15-64 ans		65 ans et plus		Age moyen	Age médian
			1990	2010	1990	2010		
Mortalité tendancielle Fécondité 1,8								
1990	58 091	3,0	27,6	9,1	6,7	87,6	31,0	34,9
2000	57 883	2,5	25,7	2,4	6,8	35,5	37,8	31,5
2010	58 766	0,5	23,9	2,6	8,3	36,9	42,2	40,1
2020	58 664	0,8	22,6	2,5	8,2	34,9	50,9	42,0
Mortalité tendancielle Fécondité 2,1								
1990	61 144	4,2	27,2	2,0	6,7	89,4	37,9	36,7
2000	61 146	2,5	26,5	7	7,9	93,1	41,9	39,2
2020	62 589	2,2	25,5	2,5	7,7	100,0	49,0	39,4
Mortalité tendancielle Fécondité 1,5								
1990	61 739	7,4	24,2	8	7,0	88	37,8	39,2
2000	61 739	2,1	24,2	8	8,6	30,5	42,4	41,5
2020	61 385	2	24,2	8	8,8	33,8	42,8	44,6
Mortalité basse Fécondité 1,8								
1990	58 250	3	25,5	5	7,1	36,2	38,7	37,1
2000	58 250	2	23,6	5	9,0	39,0	44,4	40,6
2020	60 018	2	22,1	5	9,4	38,4	44,6	42,9
Mortalité basse Fécondité 2,1								
1990	61 488	5,0	27,1	4	7,0	30,5	38,9	36,9
2000	62 025	7,4	26,2	4,6	8,6	35,3	44,1	39,1
2020	66 055	3	25,0	4,8	8,8	33,3	52,4	40,2

DONNEES SOCIALES 1990

mariage des generations nombreuses de l'apres-guerre) etait en baisse constante depuis La baisse s'est arretee en 1987 avec 266 000 unions celebrees autant qu'en 1986 Un debut de reprise semble marquer 1988 avec 273 000 mariages et un indice de primumonialite en hausse par rapport a celui de l'annee precedente pour la premiere fois depuis quinze ans (figure 5) Cette evolution ne semble pas cependant modifier les tendances de fond observees anterieurement flechissement continu du nombre des premiers mariages augmentation reguliere des remariages

La crise du mariage se double par ailleurs d'une brutale acceleration de la divorcialite au cours des deux dernieres decennies la proportion annuelle des mariages rompus par un divorce estensee de 10 divorces pour 100 mariages en 1964 a 20 en 1977 et a 30 en 1985 (figure 5) Ceci signifie qu'en cas de maintien prolonge de ce comportement sur les 100 mariages celebres une annee donnee 30 se termineraient par un divorce (45 en Suede ou au Danemark)

Une certitude pour l'evolution future la France vieillit

Moins de naissances moins de decès la population ne peut que vieillir en retrecissant la base de la pyramide des ages la baisse de la natalite augmente l'importance relative de la population agee aux depens de celle des jeunes la part de la population adulte variant relativement peu (figure 10)

En l'espace d'un quart de siecle la proportion des 0-14 ans estensee de 34 % en 1965 a 28 % en 1989 celle des 60 ans ou plus de 17 % a 19 % Cependant le vieillissement est un

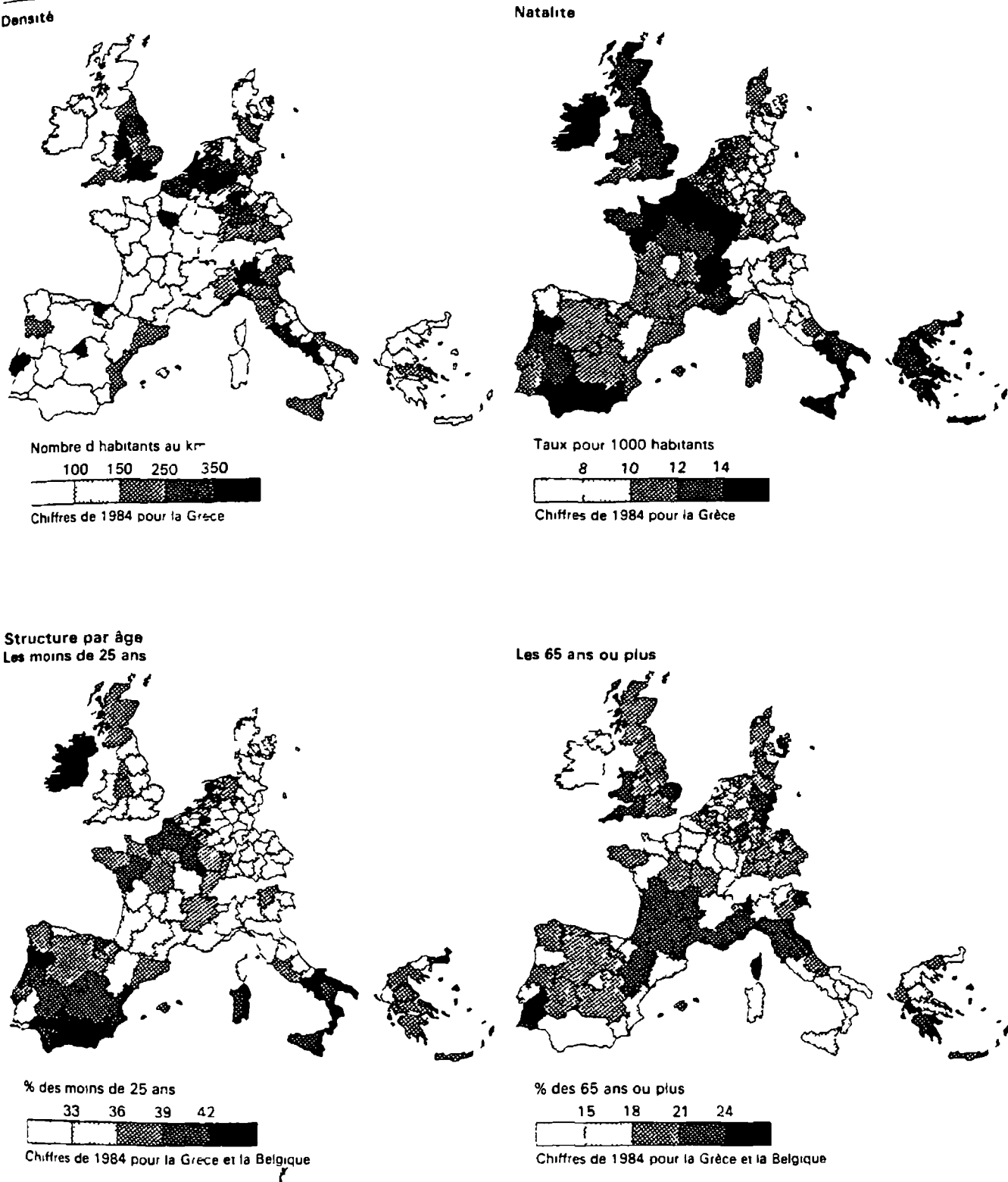
phénomène mondial. Si vers 1950 notre pays occupait le premier rang mondial, il se classe actuellement derrière le Royaume-Uni, le Danemark, la République fédérale d'Allemagne, la Belgi-

que et quelques autres pays encore (figures 2 et 11).

Les projections de population métropolitaine effectuées par l'Insee (DINH

1987) mettant en jeu quatre hypothèses de fécondité (1,5 - 1,8 - 2,1 et 2,4 enfants par femme) et deux hypothèses de mortalité (mortalité tendancielle et mortalité basse) montrent que dans tous

Figure 11 - Densité, natalité et structure par âge des pays de l'Europe des 12 en 1985



Source: Eurostat

LES DEPARTEMENTS ET TERRITOIRES D'OUTRE-MER

Figure 13 Population des departements et territoires d'outre-mer

	Dernier recensement	Population légale	Superficie	Densité hab/km ²
DEPARTEMENTS				
Guadeloupe	Mars 1982	328 400	1 780	185
Martinique	Mars 1982	328 566	1 100	299
Guyane	Mars 1982	73 022	91 000	0 8
Reunion	Mars 1982	515 814	2 510	206
COLLECTIVITES TERRITORIALES				
St Pierre et Miquelon	Mars 1982	6 041	242	25
Mayotte	Juil 1979	47 246	374	126
TERRITOIRES				
Nouvelle Calédonie	Avril 1983	145 368	19 058	7 6
Polynésie française	Oct 1983	166 753	4 000	41 7
Wallis et Futuna	Fév 1983	12 408	255	49

Source : Insee - Recensement de la population

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Figure 14 Indicateurs generaux de la situation demographique des DOM TOM en 1982

	Pour 100 personnes				
	Guadeloupe	Guyane	Martinique	Reunion	Nouvelle Calédonie
Structure par âge					
00 19 ans	45 8	42 2	43 6	49 0	47 0
20 59 ans	43 7	50 5	44 9	44 0	46 8
60 ans ou +	10 5	7 3	11 5	7 0	6 2
Vie moyenne (1981 1983)					
Hommes	68 0	65 3	71 9	64 6	
Femmes	75 3	73 8	76 1	73 5	
Mortalité infantile (p 1 000 nes vivants)					
1975	35	45	28	26	35
1980	18	33	20	16	27
1985	17	20	12	10	
1987 (p)	18	24	11	10	
Fecundité (enfants femme)					
1970	4 62	4 10	4 65	4 62	
1975	3 83		3 24	3 74	4 10
1980	2 56	3 90	2 21	3 05	3 60
1985			2 81	2 87	
1987 (p)			2 52		
Taux démographiques (p 1 000 habitants)					
Natalité					
1975	25 2	25 6	20 5	27 6	30 9
1980	19 7	28 1	16 5	24 2	26 4
1985	20 2	30 0	17 4	24 1	
1987 (p)	20 3	30 4	19 0	22 3	
Mortalité					
1975	7 0	7 0	6 7	6 6	6 9
1980	6 7	6 6	6 5	6 4	7 3
1985	7 0	5 8	6 5	5 6	
1987 (p)	6 7	6 3	6 4	5 5	
Accroissement naturel					
1975	18 2	18 6	13 8	21 0	24 0
1980	13 2	21 5	10 0	17 8	19 1
1985	13 4	24 2	10 8	18 5	
1987 (p)	13 7	24 1	12 5	16 8	

p Provisoire

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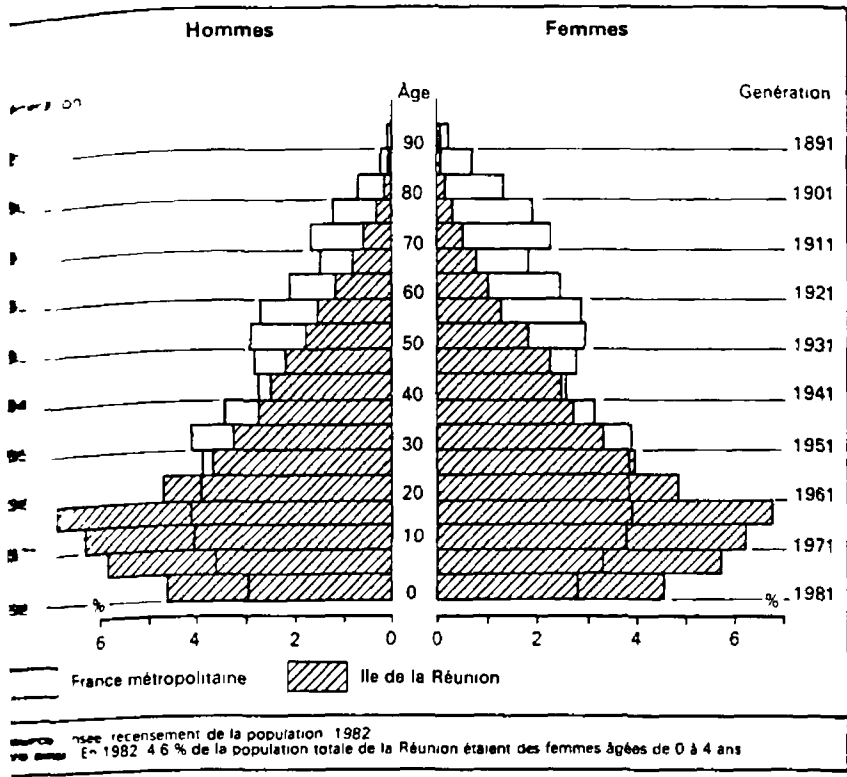
L'étendue et l'importance démographique des DOM TOM lors des derniers recensements ressortent de la figure 13. C'est un ensemble d'unités administratives aux statuts divers (quatre départements d'outre-mer (DOM), trois territoires d'outre-mer (TOM) et deux collectivités territoriales d'outre-mer) peuplé de 1 600 000 habitants dont près des trois quarts résident dans les seuls départements de la Guadeloupe, de la Martinique et de la Réunion. Par leur peuplement important et dense, par l'insularité qui leur confère une grande homogénéité de comportement, ces trois départements sont plus proches, sur le plan démographique, des départements de l'hexagone que les autres unités, plus faiblement peuplées (Guyane, Mayotte, Saint-Pierre-et-Miquelon, Wallis-et-Futuna) ou plus marquées par la pluralité ethnique (Nouvelle Calédonie, Polynésie française).

L'évolution démographique récente des DOM TOM attire l'attention par la baisse rapide de la mortalité, de la fécondité et par l'accroissement de la population malgré une forte émigration vers la métropole. En moins de 20 ans (1970-1987), le taux de natalité est tombé de 30 à 20 p 1 000. Ces valeurs indiquent une fécondité élevée, compte tenu de la grande jeunesse de la population (figures 14 et 15) (le profil par âge de la population réunionnaise est représentatif de celui des autres DOM). Avec une mortalité relativement faible (6 à 8 p 1 000) en raison précisément de la structure par âge, l'accroissement naturel est resté nettement positif et soutenu (12 à 24 p 1 000) soit plus du triple du niveau métropolitain. Sans l'émigration en métropole (HEMERY et MARIE 1987) ce rythme de croissance aurait fait doubler la population en un demi-siècle. L'émigration a généré un déficit en hommes important aux Antilles, moins apparent à la Réunion. Le rythme paraît néanmoins se ralentir ces dernières années. Cette vision globale ne s'applique pas à la Guyane où les indicateurs montrent une relative stabilité.

L'évolution est encore plus saisissante vue à travers les mesures intrinsèques de la fécondité et de la mortalité. En vingt ans, l'indice synthétique de fécondité a chuté de moitié, passant de 5 à 6 enfants par femme vers la fin des années 60 à 2 5 en 1987 (Réunion). L'accroissement de la vie moyenne est également remarquable : l'espérance de vie à la naissance dépasse les 73 ans pour les femmes dès le début des années 1980, alors que vers 1965 elle se situait autour de 65 ans. Pour les hommes, le progrès a été moindre, comme en métropole. Le record de l'écart entre les espérances de vie des hommes et des femmes s'enregistre à la Réunion, où il dépasse même les valeurs métropolitaines. Même cause, même effet : l'alcoolisme est le moteur de ce différentiel.

La mortalité infantile est assez proche actuellement des taux métropolitains, alors que vers 1970 elle était cinq fois supérieure. Cette baisse témoigne d'un effort spectaculaire d'équipement collectif et social pour améliorer l'état sanitaire dans ces territoires.

Figure 15 - Repartition par sexe et âge comparée de la population de la métropole et de la Réunion



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les cas la population française continuera à croître jusqu'à la fin du siècle. Après l'an 2000 le sens de la croissance dépend du cheminement de la fécondité : le déclin dans les hypothèses 1, 8 ou 1, 5 ; la continuité dans la croissance si la fécondité se redresse à 2, 1 ou 2, 4. Quoiqu'il en soit, le vieillissement se poursuit, surtout après 2006 du fait de l'entrée des générations du baby-boom dans la classe des personnes âgées de 60 ans ou plus. À l'horizon 2020, ce groupe d'âge comptera pour 23 % (hypothèse 2, 4) à 28 % (hypothèse 1, 5) de la population totale, soit un Français sur quatre (figures 6 et 12).

Pour en savoir plus

DINH G. (1987) L'évolution démographique de 1980 à 2020 : l'évolution et la perspective à moyen terme. *Démographie*, 24, 1, 63-74.

HIMEL S., MARIE C. (1988) La population de l'OMM (OMC) et de la région tropicale. *Démographie*, 25, 1, 63-74.

Voir aussi dans ce volume

DESPLANQUES G., SABOULIN M. de Lespaulhes. (1990) La population de la Réunion.

Une nouvelle phase pour le divorce ?

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Le nombre des divorces tend à se stabiliser vers le milieu des années 1980 après avoir augmenté de façon continue depuis une vingtaine d'années. Le divorce par consentement mutuel a cessé de progresser quelques années après son instauration en 1976. Il représente la moitié des divorces prononcés, l'autre moitié correspondant au traditionnel divorce pour faute. Cette stabilité générale s'accompagne de disparités géographiques encore fortes : la fréquence du divorce et l'importance du consentement mutuel varient beaucoup d'un département à l'autre.

Le divorce a commencé à s'accroître en France comme dans beaucoup d'autres pays européens dans la deuxième moitié des années 1960. Le nombre de divorces a augmenté de moitié de 1970 à la réforme de 1975 puis encore de moitié de 1975 à 1980.

Vers une stabilisation du divorce ?

Depuis 1980 la croissance s'est fortement ralentie et a tout récemment laissé place à une stagnation voire à une baisse (figure 1). Ainsi en 1987 le nombre des divorces a diminué pour la première fois en France depuis des décennies. Cette tendance récente reflète certes la baisse des mariages que l'on connaît depuis une quinzaine d'années mais aussi l'évolution de la fréquence du divorce elle-même. En effet l'indice annuel de divortialité* après avoir presque triple de 1970 à 1985 s'est stabilisé depuis cette date autour de 30,5 divorces pour 100 mariages.

Depuis une trentaine d'années on assiste au fil des promotions de mariage* à une transformation progres-

Figure 1 - Le divorce se stabilise

Divorces directs effectifs et somme des taux* de 1970 à 1987

Année du jugement	Nombre de divorces	Indice d'évolution (base 100 1970)	Somme des taux*	Indice d'évolution (base 100 1970)
1970	37 447	100	11,3	100
1971	40 066	107	12,0	106
1972	43 362	116	12,8	113
1973	46 047	123	13,4	118
1974	51 840	139	14,8	131
1975	54 306	145	16,0	141
1976	59 190	158	16,5	146
1977	70 019	187	19,4	172
1978	72 903	195	20,2	178
1979	77 207	206	21,2	187
1980	79 689	213	22,5	199
1981	86 159	230	23,8	211
1982	92 348	247	25,6	227
1983	97 070	259	27,1	240
1984	102 432	274	28,8	255
1985	105 962	283	30,0	265
1986	106 709	285	30,6	271
1987	104 997	280	30,5	270

* Pour un effectif initial de 100 mariages

■ Estimation

Source : Ministère de la Justice - enquête divorce de 1970 à 1978 - à partir de 1981 : répertoire général civil. Lire ainsi : En 1987 104 997 divorces ont été prononcés, soit 2,8 fois plus qu'en 1970. Si les taux de divorce selon l'ancienneté du mariage étaient ceux de l'année 1987 sur 100 mariages 30,5 seraient rompus par divorce.

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MOTSCLES

DIVORCE
LEGISLATION
MARIAGE
PENSION ALIMENTAIRE

Indice annuel de divortialité

On classe les divorces prononcés pendant une même année civile selon la durée du mariage et on les rapporte successivement à la promotion de mariage dont ils sont issus, or a ainsi un taux de divorce pour chaque durée de mariage. On additionne ces taux pour avoir un indicateur global appelé somme des taux, qui élimine les variations de la démographie des mariages et qui donne une idée de l'évolution conjoncturelle de la divortialité.

Le son me des taux est un indicateur conjoncturel, dont les valeurs ne doivent pas être confondues avec l'intensité du divorce dans les promotions.

Promotion de mariage

On entend par promotion l'ensemble des couples ayant contracté leur mariage une année civile donnée.

sive du modele de divorce. La promotion 1950 dont l'histoire s'est deroulee pendant une periode de stabilite du divorce est un bon terme de reference (figure 2) [BLAYO FESTY 1976]. D'une promotion a la suivante les divorces ont augmente pour toutes les durees du mariage y compris parmi les couples les plus anciens. En termes relatifs la hausse a ete d'autant plus forte que la duree du mariage etait ancienne. Ainsi chez les couples formes dans les annees 1960 la frequence du divorce a augmente pendant les premieres annees de mariage et s'est maintenue ensuite pratiquement au meme niveau jusqu'a vingt ou vingt cinq ans de mariage. Ceci differait nettement du modele precedent caracterise par une diminution des ruptures a partir d'un maximum atteint autour de 6-8 ans de mariage.

Des divorces plus frequents et plus precoces

L'apparition d'un troisieme modele se dessine a present. A nouveau les ruptures se produisent surtout au debut du mariage mais elles atteignent maintenant leur maximum plus tot - vers la quatrieme annee d'union - et ce maximum est trois fois plus eleve que dans les mariages des annees 1950. La frequence des ruptures devrait ensuite chuter rapidement a mesure que la duree des unions augmente. De l'ampleur de cette chute dependra la proportion finale de mariages rompus par un divorce dans les nouvelles promotions. Naturellement cette proportion est encore tres largement indeterminee. On sait neanmoins que parmi les mariages celebres en 1980 9,6 % ont deja ete rompus par un divorce apres sept ans d'union. Le niveau atteint par la promotion de 1970 - 5,8 % d'unions rompu apres la meme duree et 17 % apres 17 ans de mariage - permet de penser que la proportion de divorces depassera sans doute 25 % chez les couples maries au debut des annees 1980.

Le consentement mutuel ne progresse plus depuis 1981

Apres un delai de mise en place de la loi de 1975 instaurant les differents cas de divorce les comportements evoluent peu depuis le debut des annees 1980 [MUNOZ PEREZ 1985, 1987]. En 1987 le consentement mutuel represente 51 % des divorces dont 37 % pour la demande conjointe et 14 % pour la

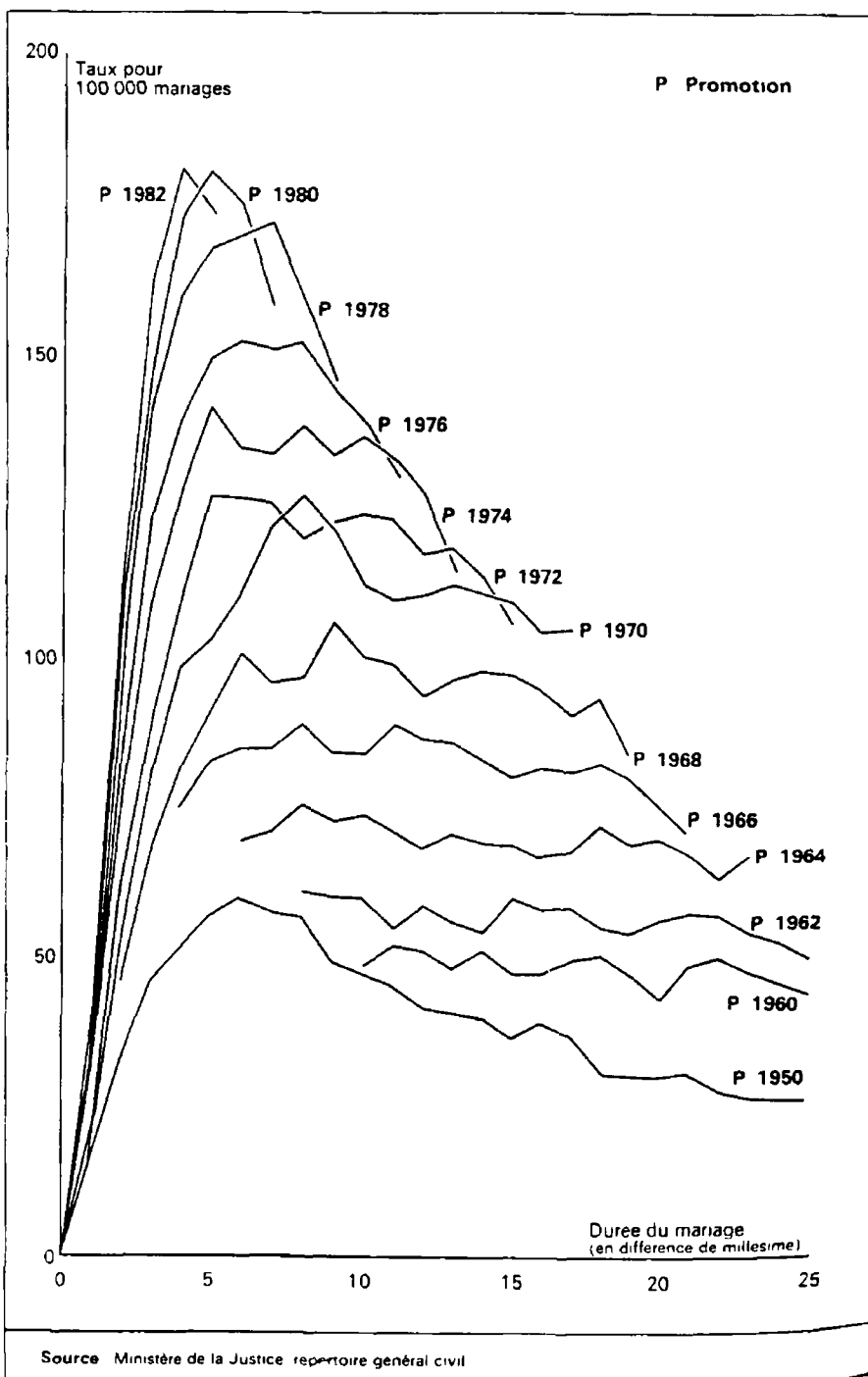
demande acceptee. Les cas de rupture de la vie commune etant rares les divorces pour faute constituent encore presque la moitie de l'ensemble. Cette permanence est inattendue pour ceux qui estimaient que l'extension du divorce devait s'accompagner d'une diminution de sa dimension conflictuelle. Probablement le comportement spontane des couples n'est pas le seul facteur en jeu. Certaines contraintes imposees par la procedure sur demande conjointe ainsi

que les pratiques judiciaires doivent etre aussi prises en compte.

Un choix different suivant le moment de la rupture

Le consentement mutuel fortement majoritaire au debut du mariage (65,1 % des divorces prononces avant 5 ans) cede peu a peu la place a la pro-

Figure 2 - Des divorces plus precoces
Taux de divorce dans les promotions



LES CAS DE DIVORCE

La réforme du divorce, entrée en vigueur le 1^{er} janvier 1976, offre le choix entre plusieurs cas de divorce formant ce qu'on appelle le divorce à la carte. Au traditionnel divorce pour faute, est ajoutée le consentement mutuel ou deux formes de demande conjointe et demande acceptée et la rupture de la vie commune.

Le divorce pour faute

Volontairement maintenu dans l'arsenal juridique, le divorce pour faute suppose qu'un des époux fasse la preuve des faits imputables à l'autre, qui constituent une violation grave et renouvelée des devoirs et obligations du mariage et rendant intolérable le maintien de la vie commune (art. 242 Code civil).

Lorsque le divorce est prononcé aux torts partagés, chacun des époux peut demander une prestation compensatoire* à l'autre (contrairement au système antérieur). Lorsqu'il est prononcé aux torts exclusifs d'un époux, celui-ci est privé d'un certain nombre de prerogatives et peut même se voir réclamer des dommages et intérêts.

Le divorce par consentement mutuel

La demande conjointe

Ce cas permet aux époux de divorcer sans avoir à exposer au juge les motifs de leur demande. En revanche, ils doivent lui soumettre une convention définitive dans laquelle ils règlent toutes les conséquences de leur sépa-

ration. Cela les oblige à s'accorder, avant le prononcé du divorce, non seulement sur la garde des enfants, le montant de la prestation compensatoire* mais encore sur le partage de tous leurs biens mobiliers ou immobiliers. Le caractère définitif de ce règlement a pour but d'éliminer toute source de conflit ultérieur.

La demande acceptée

Ce cas emprunte quelques traits aux deux précédents. Il se rapproche de la demande conjointe car les deux époux sont d'accord sur le principe du divorce, mais il partage avec le divorce pour faute l'absence d'entente sur les effets du divorce. Le seul accord auquel les époux doivent parvenir porte donc sur le constat objectif de l'échec de leur union. Chacun reconnaît qu'il existe un ensemble de faits rendant intolérable le maintien de la vie commune. Ce double aveu leur évite d'avoir à prouver la faute de l'autre. Leur désaccord sur les conséquences du divorce est tranché par le tribunal qui applique alors les règles du divorce pour faute aux torts partagés.

La rupture de la vie commune

Des lors que la vie commune a cessé depuis au moins six ans, en raison d'une séparation de fait ou d'une altération des facultés mentales d'un conjoint, l'autre peut demander le divorce. En contrepartie de sa liberté, l'époux demandeur doit supporter toutes les charges du divorce et reste entièrement tenu au devoir de secours* envers son conjoint.

* * *

Dans un cadre juridique ouvrant largement la voie aux aménagements judiciaires, le choix

du cas de divorce ne saurait être réduit au seul comportement des couples, les uns "responsables" et divorçant sans drame, les autres attachés à la notion de faute et se livrant un duel judiciaire.

Les différences existant entre cas de divorce ne doivent pas masquer en effet leur caractère d'interchangeabilité. La flexibilité des règles juridiques permet en effet d'obtenir des résultats très semblables en recourant à des procédures distinctes. Ainsi, les époux qui souhaitent obtenir un divorce aux torts partagés, c'est-à-dire sans coupable et sans sanction, peuvent s'orienter vers la demande acceptée ou vers la faute. Dans le premier cas, chacun reconnaît que les faits invoqués procèdent de l'un et de l'autre; dans le second, que les torts sont partagés. La similitude entre les deux procédures est encore plus grande lorsqu'en cas de faute les époux demandent au tribunal de se limiter à constater qu'il existe des faits constituant une cause de divorce sans avoir à énoncer les torts et griefs des parties (art. 241 I du Code civil).

De même, dans le cas des divorces amiables, les praticiens du droit et les époux peuvent préférer la demande acceptée ou la faute plutôt que la demande conjointe. Cette dernière présente l'avantage de réduire les frais de procédure (avocat unique) mais comporte des inconvénients: délai de réflexion imposé aux époux et obligation de régler la liquidation du régime matrimonial avant le prononcé du divorce. Dans les autres cas, les difficultés liées à la liquidation sont repoussées à la phase de l'après-divorce.

cedure pour faute, celle-ci dépasse 50 % des cas à partir de 20 ans de mariage. De même, aux durées très élevées, la rupture de la vie commune cesse d'être négligeable puisqu'elle est à la source de plus d'un divorce sur dix après 35 ans de mariage. Lorsque la durée de l'union est plus longue, le divorce par consentement mutuel diminue, surtout par augmentation de la demande conjointe; le divorce par demande acceptée reste à peu près stable: de 14 % à 15 % - jusqu'à 25 ans d'union et ne diminue que légèrement ensuite.

Prestation compensatoire

Indemnité versée à l'un des époux sous la forme d'un capital ou d'une rente mensuelle par l'époux qui a des revenus supérieurs. Elle est destinée à compenser, autant qu'il est possible, la différence que la rupture du mariage crée dans les conditions de vie respectives.

Devoir de secours

Obligation née du mariage par laquelle un des époux est tenu d'assurer la subsistance de l'autre. Elle est exécutée par le versement d'une pension alimentaire. Le devoir de secours ne subsiste après la dissolution du mariage que dans le cas du divorce pour rupture de la vie commune.

Ces différences tiennent probablement à la composition des familles, et notamment à la part des couples avec enfants mineurs, qui varie de 39 % pour le divorce par rupture de la vie commune à 72 % pour le divorce pour faute, la demande conjointe et la demande acceptée occupant une position intermédiaire (63 % et 70 % respectivement).

L'initiative du divorce surtout féminine

Lorsque la demande est présentée par un seul époux, l'initiative du divorce revient majoritairement à la femme. Elle est l'auteur de la demande dans un peu plus de sept cas sur dix. Cette prépondérance féminine est plus marquée dans les divorces pour faute que dans les divorces pour demande acceptée (respectivement 75 % et 65 % en 1987). Dans les divorces pour rupture de la vie commune, contrairement aux craintes exprimées lors des débats parlementaires, l'initiative revient presque autant aux femmes qu'aux hommes.

Une hausse plus forte dans les départements où le divorce était peu répandu

De 1975 à 1982, la fréquence des divorces a augmenté de 62 %. La hausse a été très variable, de 3 % à 144 % suivant le département. Dans les vingt départements où la fréquence du divorce atteignait les valeurs les plus faibles en 1975, les taux ont doublé en moyenne, alors que dans les vingt départements enregistrant les fréquences les plus élevées, la hausse n'a été que de moitié (figure 3). Les disparités géographiques s'estompent donc légèrement.

Mais les écarts restent très importants

Dans l'ensemble, on retrouve malgré quelques reclassements, la même opposition entre les deux moitiés du pays séparées grosso modo par une ligne allant de Caen à Marseille, en passant par Lyon, des taux souvent plus élevés que la moyenne à l'Est, des taux plus

faibles à l'Ouest. Les disparités et la hiérarchie entre les départements se sont donc maintenues (figure 4). Le divorce est particulièrement fréquent dans la région Ile-de France et dans les deux départements voisins de la Champagne ou en 1982 les taux dépassent 75 divorces pour 10 000 femmes mariées. Des niveaux comparables sont atteints par plusieurs départements de l'Est et du Sud-Est. A ces nouveaux s'ajoutent les départements comprenant des grandes métropoles régionales ainsi que la Savoie.

À l'extrême opposé, le divorce demeure peu répandu en Bretagne et dans certains départements proches ainsi que dans bon nombre des départements de l'Auvergne et du Midi-Pyrénées. Cet ensemble de faible divortialité coïncide largement avec celui de 1975. Il correspond aux zones traditionnelles de pratique religieuse et/ou de caractère très rural [BAILLON *et alii* 1981, BOIGEOL *et alii* 1984].

Les cas de divorce
peu de changements

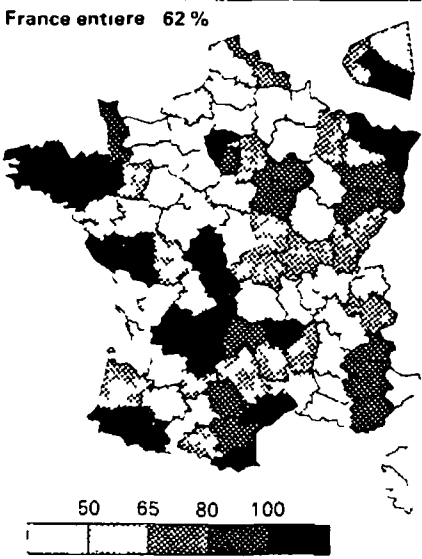
En 1987, le consentement mutuel reste beaucoup plus répandu dans la moitié Sud du pays, en particulier à l'Est de la vallée du Rhône jusqu'aux frontières suisse et italienne (figure 5). Un deuxième noyau moins important est formé par plusieurs départements du Languedoc-Roussillon et du Midi-Pyrénées. Dans les autres cas, il s'agit de départements isolés.

Dans les départements où l'on pratique le moins ce type de procédure, le choix se porte sur le divorce pour faute. La rupture de la vie commune reste partout très marginale et ne dépasse pratiquement jamais 2 % des divorces. Le divorce pour faute est choisi plus souvent dans le centre du pays et dans les départements voisins des frontières belge et allemande du Nord-Pas-de-Calais à l'Alsace, ainsi que dans certains départements de la région parisienne.

Aucun des facteurs allant de pair avec la fréquence des ruptures ne semble associé à la géographie des cas de divorce. Ainsi, dans les deux grandes zones traditionnelles de pratique religieuse, l'Ouest et le Massif Central, les comportements sont hétérogènes. La

Figure 3 - Une hausse plus importante à l'Ouest

Evolution du taux de divorce pour 10 000 femmes mariées de 1975 à 1982 (en %)

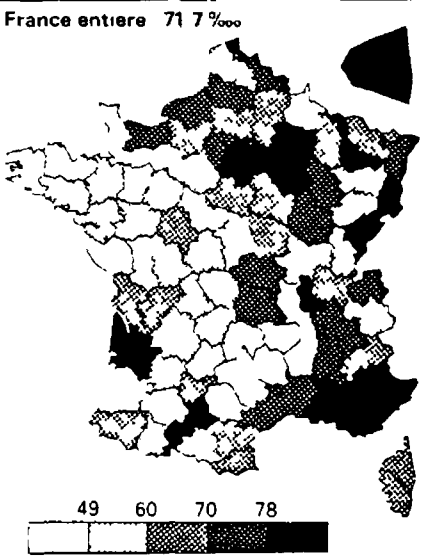


Source : Ministère de la Justice, enquête Divorce et répertoire général civil

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Figure 4 - Mais une divortialité plus forte à l'Est

Taux de divorce pour 10 000 femmes mariées en 1982 (en %)



Source : Ministère de la Justice, répertoire général civil, Insee, recensement de la population de 1982

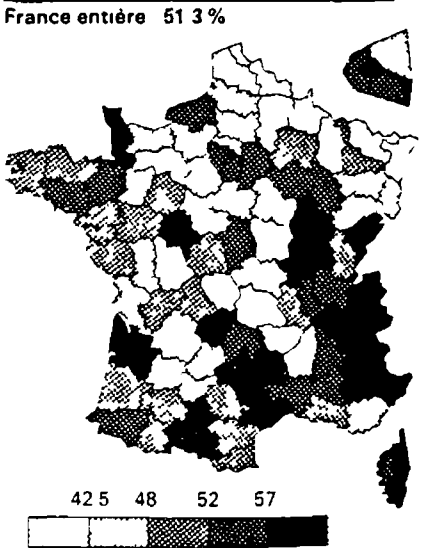
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Mayenne et l'Ardeche avec des proportions de divorce pour faute de 53,7 % et 60,1 % s'opposent au Morbihan et à l'Aveyron (42,6 % et 34,9 %). On retrouve la même hétérogénéité au sein des départements ruraux. La Lozère et l'Ardeche, la Creuse et la Corrèze ont des comportements très contrastés.

Toutefois, la fréquence du divorce pour faute est plus élevée dans les régions à forte densité ouvrière (c'est le cas de certains départements du Nord, de l'Est et de la région parisienne). De même, la taille des villes semble jouer un rôle sur le choix du cas de divorce. Dans bon nombre des départements qui comprennent deux ou plusieurs tribunaux, les variations entre juridictions sont importantes et le plus souvent le consentement mutuel est moins fréquent dans les petites ou moyennes villes que dans les grandes. C'est le cas par exemple dans le Bas-Rhin de Saverne (25,9 % des divorces par consentement mutuel) et de Strasbourg (42,2 %) dans le Doubs entre Montbéliard (52 %) et Besançon (67,3 %) dans la Gironde de Libourne (48,2 %) et Bordeaux (66,4 %) ou dans l'Isère de Vienne (45,5 %) et Grenoble (72 %).

Figure 5 - Plus de consentement mutuel dans le Sud-Est

Proportion de divorces par consentement mutuel pour 100 divorces prononcés en 1987



Source : Ministère de la Justice, répertoire général civil

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Pour en savoir plus :

BAILLON B., COSTE C., LECHE N., GILLES J.,
MUNOZ F., REZ B. (1984) :
Evolution des divorces en France, 1975-1982.
Revue de la Démographie, 21, 1, 1-10.
BOIGEOL J., TESTA P. (1984) :
Les divorces en France, 1975-1982.

BOIGEOL J., COMMAILLE J., LECHE N.,
PEREZ B., COSTE C., LECHE N.,
LUCAS J.,
MUNOZ F., REZ B. (1984) :
Les divorces en France, 1975-1982.

MUNOZ F., REZ B. (1984) :
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Revue de la Démographie, 21, 1, 1-10.
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Les divorces en France, 1975-1982.

La scolarité après 16 ans

Joseph DEBIZET

Insee

L'enseignement devient un enjeu primordial pour les grands pays modernes. Depuis la fin des années soixante, la scolarisation des filles après 16 ans s'est amplifiée, faisant un bond prodigieux en Espagne, l'accès à l'enseignement supérieur a souvent doublé, les pays de culture occidentale et de taille plus petite suivent le mouvement (Belgique, Danemark, Pays-Bas, Suède, Suisse) et parfois le précédent. La compétition entre nations s'amorce dès l'école.

Les chiffres qui suivent, malgré leur hétérogénéité et leur caractère approximatif, décrivent ces mouvements sans pour autant fonder une appréciation quelconque sur la qualité des enseignements dispensés.

Presque tous les grands pays industriels du monde ont retenu la seizième année revêlue comme terme de la scolarité obligatoire. Ils l'ont fait à des époques différentes. Des sept pays examinés, seules l'Espagne et l'Italie semblent ne pas l'avoir encore adoptée.

LA SCOLARISATION DE 17 À 24 ANS

La progression des effectifs scolarisés de 17 à 24 ans a été très importante en Espagne, en RFA et en France, moyenne en Italie, elle est restée faible aux États-Unis et surtout au Royaume-Uni (figure 1).

La poussée démographique explique une part de cette progression due surtout au développement de la scolarisation. Actuellement, dans quatre des sept pays étudiés, 40 % des jeunes âgés de 17 à 24 ans poursuivent des études. Les États-Unis sont parvenus à ce taux dès avant 1970 et le Japon à la même période en était peu éloigné, si bien que seuls ces deux pays connaissent alors un enseignement supérieur de masse. Aujourd'hui, la France et l'Allemagne de l'Ouest les ont rejoints, tandis que l'Espagne semble devoir très rapidement y parvenir grâce à un effort amorcé bien avant 1975.

Seul le Royaume-Uni se retrouverait avec un effort de scolarisation inférieur à celui du début des années 70. Mais le conditionnel employé ici est de prudence, car l'organisation de la formation initiale diffère sensiblement d'un pays à l'autre. Peut-être en meilleure position à la fin des années soixante que la France et l'Allemagne de l'Ouest, le Royaume-Uni semble s'être laissé forttement distancer aujourd'hui.

Les États-Unis maintiennent leurs taux de scolarisation aux niveaux atteints à la fin des années soixante, mais la flexion récente, surtout pour les gar-

Figure 1 - Les effectifs scolarisés entre 17 et 24 ans progressent

	Chiffres absolus		Taux de scolarisation en %		Variation %
	v. 1970	v. 1987	v. 1970	v. 1987	
France	1 700	2 747	26,4	42,1	+ 61,6
RFA	1 609	3 482	26,3	41,7	+ 116,4
Espagne	500	1 658	10,7	31,9	+ 231,6
Royaume-Uni	1 913	2 066	30,2	27,5	- 8,0
Italie	1 318	1 746	20,7	25,0	+ 32,5
Japon	—	4 848	—	38,4	—
États-Unis	10 880	12 400	39,9	39,8	- 14,0

Source : 10 France 1968, RFA 1970, Espagne 1969, Italie 1971, Royaume-Uni 1972, États-Unis 1970.
11 France 1987, RFA 1986, Espagne 1986, Italie 1987, Royaume-Uni 1986, Japon 1980, États-Unis 1987.

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MOTIS CLÉS

COMPARAISONS
INTERNATIONALES
DISCIPLINES ÉTUDIÉES
ENSEIGNEMENT SUPÉRIEUR
ÉTUDIANTS
FORMATION CONTINUE
SCOLARISATION

considérée peut être à la croissance économique donne l'impression d'un plafond qui aurait été atteint

En Espagne, en France, en RFA et en Italie, le fait marquant est la scolarisation très rapide des filles, comme aux USA d'ailleurs. Il y a plus de filles étudiantes que de garçons en France et en Espagne pour le dernier pays le nombre des filles âgées de 17 à 24 ans et scolarisées a été multiplié par 3,4 au cours de la période étudiée. Le coefficient est de 7,7 pour celles âgées de 21 à 24 ans.

Seul le Japon maintiendrait encore un écart très défavorable aux filles en matière de scolarité.

De 17 à 20 ans les filles ont rattrapé les garçons

À 17 ans, tant pour les garçons que pour les filles, les taux de scolarisation sont de niveau comparable en République Fédérale d'Allemagne, en France, au Japon et aux États-Unis, et égaux pour

chaque sexe. En Espagne, les taux se sont accrus considérablement, surtout pour les filles : près de 60 % de filles de 17 à 20 ans sont scolarisées en 1987 contre 11 % en 1969. Pour les jeunes anglais du même âge, ils sont restés stables, du moins pour les étudiants à temps plein*. Il est vrai que pour eux, les données sont tirées des recensements de 1971 et de 1981 dans lesquels la notion d'« étudiant » s'entend des « full-time students » à l'exclusion des « part-time students », ce qui tend à exclure une partie des effectifs de la formation professionnelle initiale et bien sûr tous les étudiants exerçant simultanément un métier (figure 2).

À l'âge de 18 ans, le taux de scolarisation fléchit aux États-Unis. En Italie et en Espagne, celui des filles progresse fortement et a rejoint celui des garçons sans atteindre encore les niveaux allemand et français (figure 3).

À 19 et 20 ans, les taux voisinent, en fin de période étudiée, pour les États-

Unis, le Japon, la France et la RFA. Le taux des filles tend à devenir supérieur à celui des garçons, sauf au Japon (figure 4).

De 21 à 24 ans avantage aux garçons

À 21-24 ans, les garçons conservent l'avantage. Mais d'ores et déjà, la France et l'Espagne ont plus de filles scolarisées que de garçons. La RFA est en passe de parvenir à la même situation. L'Italie aussi. Aux États-Unis, on observerait plutôt un coup de frein à la scolarisation des filles après une forte progression au cours des années 70. L'écart entre filles et garçons reste considérable au Japon en faveur de ces derniers. Le manque d'informations empêche de voir dans quelle mesure la scolarisation des filles ressemble à celle qu'on observe en Europe Occidentale. Au Royaume-Uni, l'élitisme et la sélection pour l'entrée à l'Université pourraient expliquer la faiblesse des taux et

Figure 2 - Taux de scolarité à 17 ans

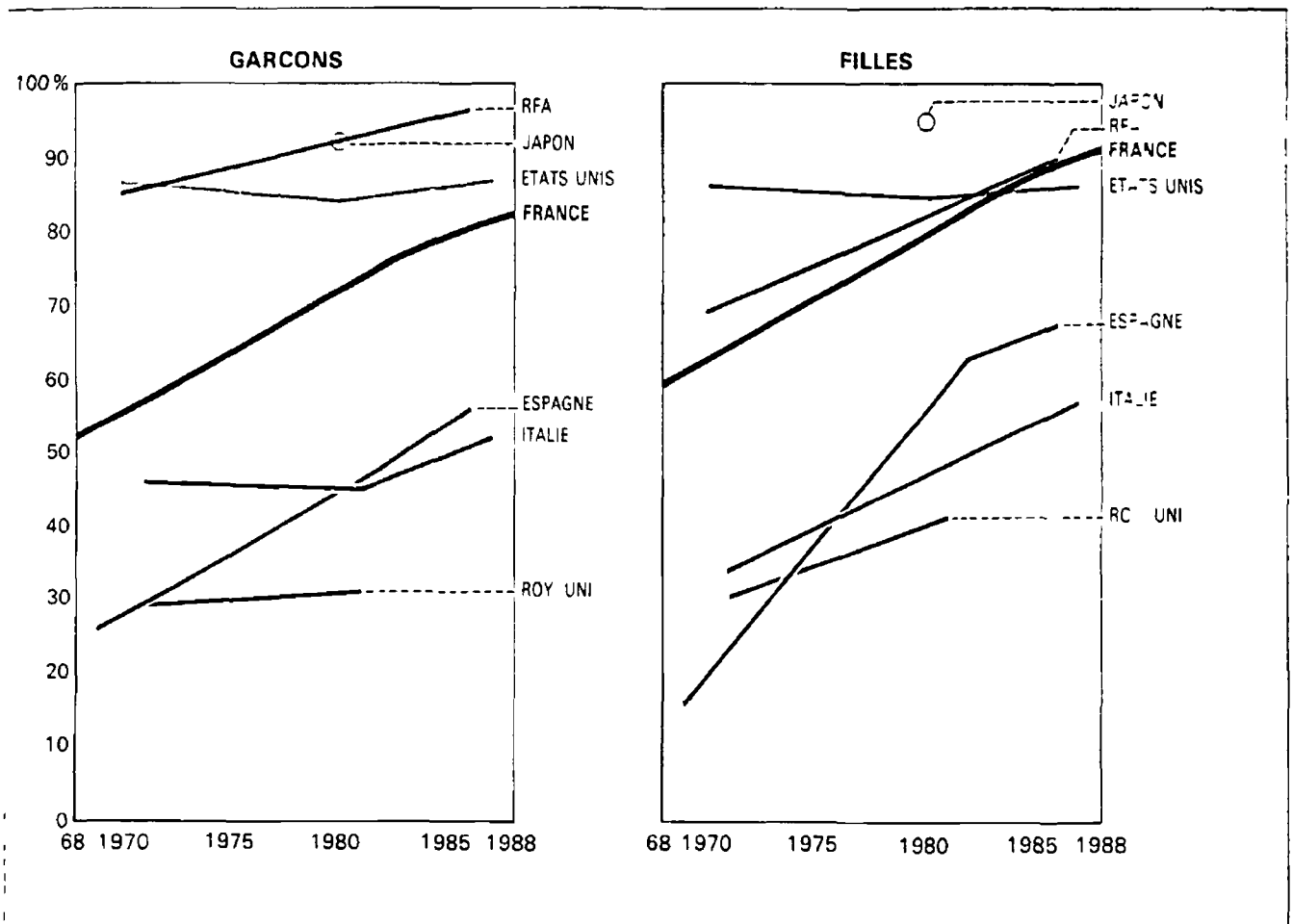
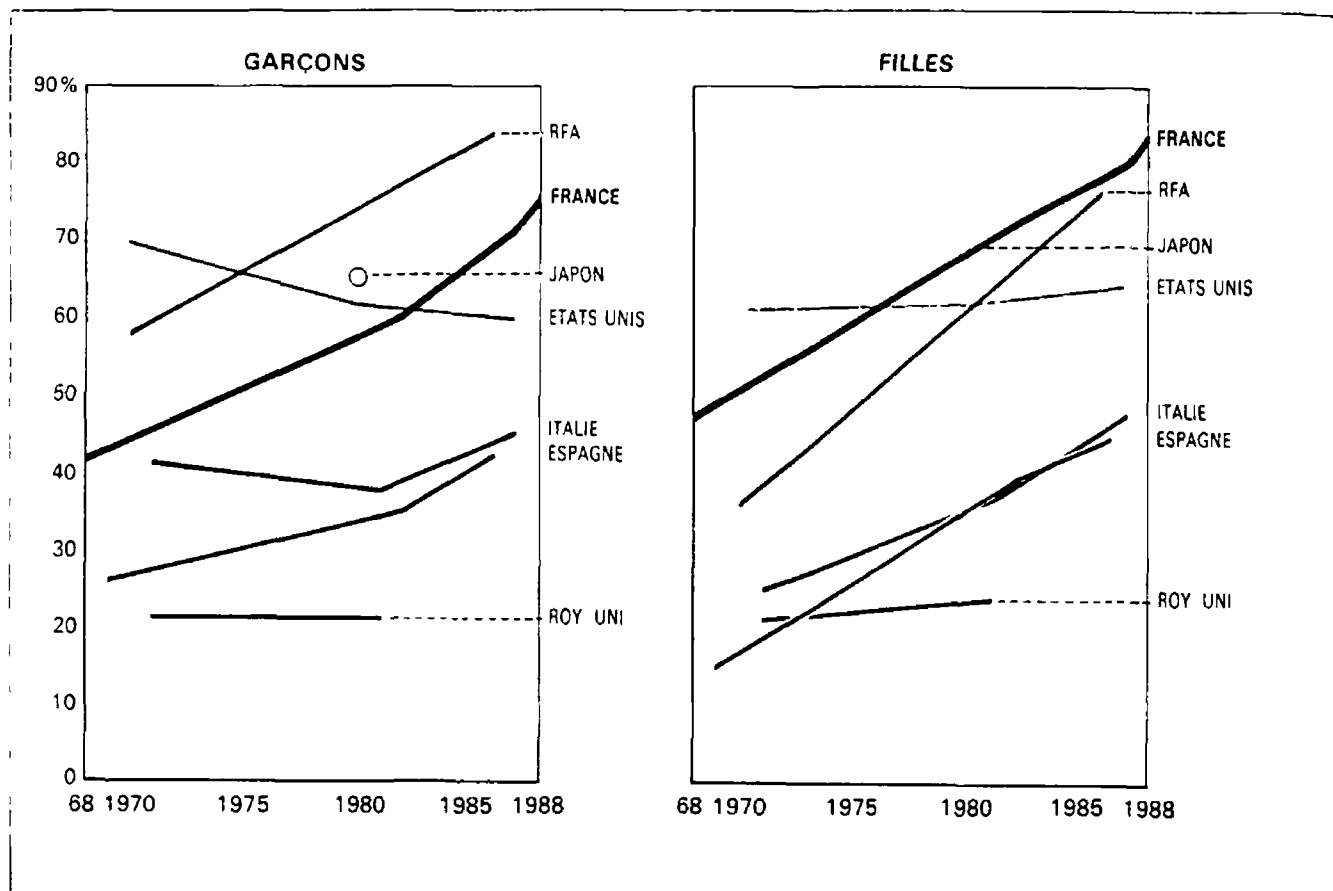
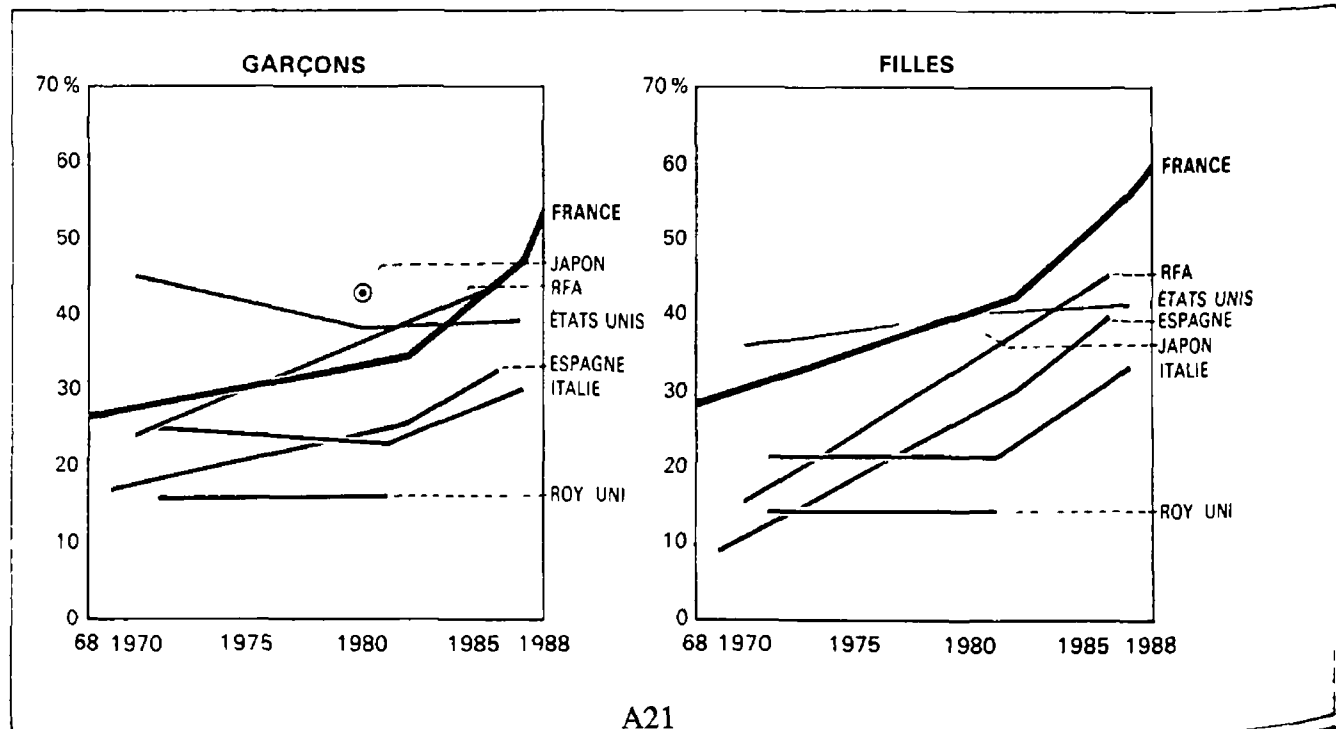


Figure 3 - Taux de scolarité à 18 ans



DONNÉES SOCIALES 390

Figure 4 - Taux de scolarité à 19-20 ans



A21

DONNÉES SOCIALES 390

L'absence de progression des taux féminins par rapport à celle des taux masculins (figure 5)

L'ENSEIGNEMENT SUPERIEUR (3^e DEGRE)

L'expression « enseignement du troisième degré » est internationalement retenue pour désigner la formation dispensée après l'achèvement des études secondaires (2^e degré)

Aux Etats-Unis et au Royaume-Uni les statistiques de l'enseignement supérieur sont présentées en distinguant les étudiants à temps plein (full-time) et les étudiants à temps partiel (part-time). Les autres pays ne retiennent pas cette distinction. Pays-Bas et Suède mis à part.

Aux Etats-Unis le nombre des étudiants garçons à temps plein n'a augmenté que de 3 % sur 15 ans, ce qui traduit un flechissement de l'ordre de 8 % si l'on prend en compte la croissance démographique. Ce recul s'est accéléré depuis 1980. La croissance des effectifs à temps plein de l'enseignement supérieur s'est faite avec les filles (+ 50 %). Le fait marquant reste cependant la rapide augmentation du nombre des étudiants à temps partiel : 43,5 % pour les garçons, 141,7 % pour les filles.

Au Royaume-Uni le nombre des étudiants à temps plein ne s'accroît que de 25 % pour les garçons et de 50 % pour

les filles. Celui des étudiants à temps partiel progresse respectivement de 57 % et de 500 %. Les deux tiers des « temps partiel » ont dépassé 25 ans. Aux Etats-Unis cette proportion monte à 73 %.

Dans ces deux pays les chiffres des étudiants à temps partiel recouvrent essentiellement la formation continue supérieure qui n'est pas très bien cernée dans les autres. En France on estime que la formation continue supérieure concerne chaque année environ 300 000 personnes.

Etudiants de l'enseignement supérieur âges de 17 à 24 ans

La figure 6 donne approximativement l'importance des étudiants du troisième degré âges de 17 à 24 ans parmi les scolarisés des mêmes âges. La France apparaît en troisième position après les Etats-Unis et le Japon. L'Espagne devance la République Fédérale d'Allemagne. En Amérique et en Allemagne la séparation entre temps des études et temps professionnel n'est pas aussi tranchée qu'en France. C'est pourquoi les étudiants y sont plus âgés, la formation continue y apparaît plus développée. Au Royaume-Uni l'élitisme et le nombre closus pourraient expliquer les taux faibles et pratiquement inchangés depuis vingt ans.

Etudiants à temps plein et étudiants à temps partiel

Les données du Royaume-Uni incluent les étudiants à temps plein et à temps partiel, comme celles des Etats-Unis. Mais elles ne sont pas toujours ventilées selon les critères souhaitables ici. En principe, les chiffres du Japon de la France et de l'Allemagne de l'Ouest ne retiennent que les étudiants à temps plein qui suivent dans une institution sélectivement rémunérée ou non. Les chiffres de l'Italie comprennent les étudiants, fuient qu'on des étudiants dont les études ne suivent pas le plan normalement prévu. Toutefois, ces champs de recensement des formations mal définies.

Les cohortes d'étudiants se féminisent : les effectifs des filles ont doublé en France, au Royaume-Uni, aux Etats-Unis et au Japon. Ils ont triplé en Allemagne Fédérale et ont été multipliés par huit en Espagne, tout ceci en une période bien inférieure à celle d'une génération.

Aux Etats-Unis et en France les filles sont plus nombreuses que les garçons dans l'enseignement supérieur. En Espagne les deux sexes parviennent à l'égalité. En Allemagne Fédérale, malgré la prodigieuse expansion de leurs effectifs, les filles ne sont que deux pour trois garçons, comme en Italie. Au Japon le rapport est d'une fille pour deux garçons, au Royaume-Uni il est de quatre filles pour dix étudiants.

La part des étrangers parmi les étudiants atteint en France 10,4 % en 1987 contre 5,2 % en 1970. Comme en Allema-

Figure 5 - Taux de scolarité à 21-24 ans

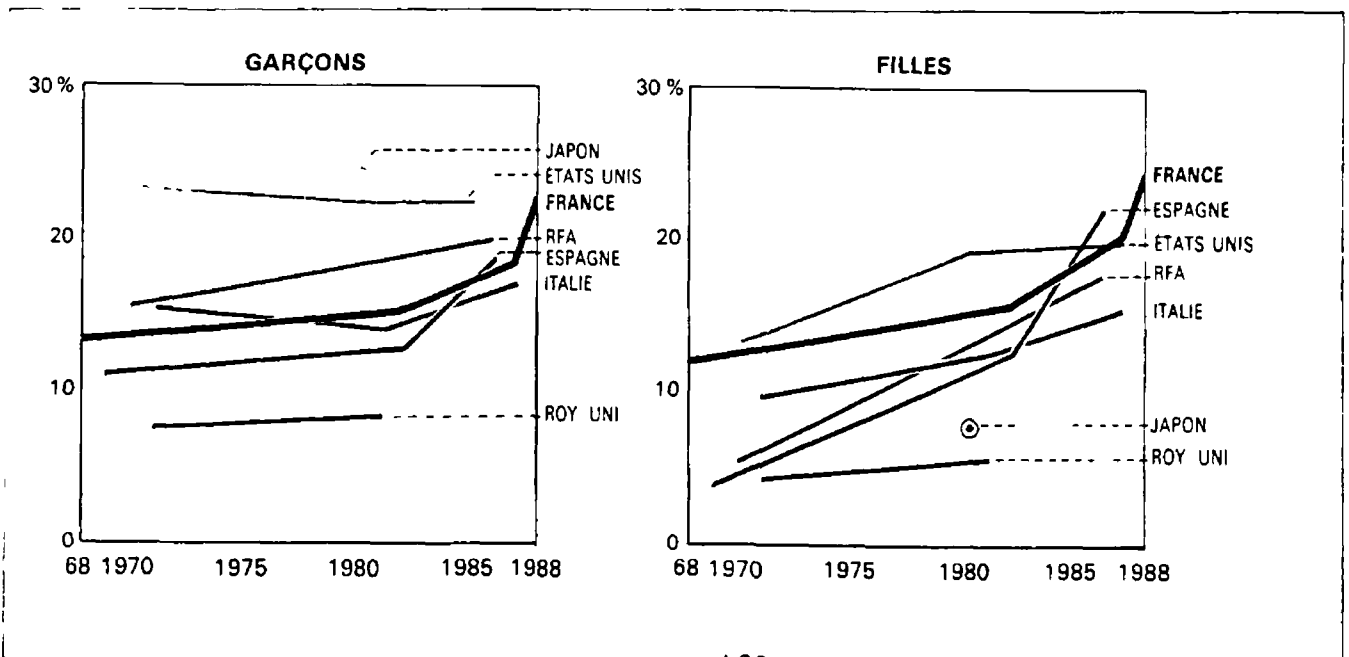


Figure 6 L'enseignement superieur (3^e degre) progresse
Proportion de scolarises et proportion d etudiants
du troisieme degre dans la tranche d ages 17 a 24 ans revolus

	En pourcentage			
	vers 1970		vers 1987	
	scolarises	dont 3 ^e degre	scolarise	dont 3 ^e degre
France	25.4	10	42.1	15
RFA	26.3	7	41.7	11
Espagne	30.7	4	31.9	12
Royaume Uni	30.2	7	27.5	8
Italie	20.7	—	25.0	—
Japon	—	14	38.4	18 ¹
Etats Unis	39.9	21	39.9	23 ²

1. Pour le Japon, il s'agit de l'annee 1980.
2. Si l'on ne retient pour 1987 que les etudiants a temps plein, on a 18.2 au lieu de 23.

Lire ainsi: En France pour l'annee 1987, sur 100 jeunes de 17 a 24 ans, 42 sont scolarises dont 15 dans l'enseignement superieur.

gne, cette progression est due aux immigrants. Aux Etats-Unis et au Royaume Uni, les chiffres ne concernent que les immigrants non-residents. Mais la tendance depuis 1986 est a la reduction des etrangers dans les universites francaises. L'importance des etrangers dans le troisieme degre est encore plus elevee en Suisse (15.1 %) et en Belgique (12 %).

Après 24 ans

La proportion d'etudiants ages de 25 ans ou plus revele a quel point les systemes d'enseignement superieur different. On revient aux etudes superieures aux Etats-Unis, en Allemagne de meme avec une tendance a faire durer plus longtemps une formation initiale. Au Royaume Uni, les effectifs d'etudiants a temps plein ne comportent que 13 % de 25 ans et plus, parmi les sujets de nationalite anglaise. Partout, les etudiants etrangers sont en general nettement plus ages que les etudiants autochtones (figure 9).

Pour la France, si l'on tenait compte de la formation continue superieure, la proportion des 25 ans et plus serait de l'ordre de 40 %, restant tres eloignee de la proportion suedoise, 58 %.

Ces donnees semblent aussi montrer que l'engouement des jeunes retraits pour la reprise d'etudes universitaires est plus developpe hors de France et que la formation permanente en cours de vie active va a quelques longueurs d'avance ou bien s'adresse davantage aux universites plus en osmose que chez nous avec le tissu economique ambiant.

Figure 7 - Proportion de filles
parmi les etudiants

	En pourcentage	
	Vers 1970	Vers 1987
Etats Unis	41.2	53.2
France	44.2	51.1
Danemark	—	49.7
Espagne	25.3	49.5
Belgique	—	48.3
Italie	37.9	45.2
Suede	—	43.6
Royaume Uni	33.0	41.8
RFA	34.6	41.1
Pays Bas	—	41.0
Japon	27.7	36.3
Suisse	—	32.1

Figure 8 - Proportion d'etrangers
dans l'enseignement superieur
vers 1987

	En pourcentage
Suisse	5.1
Belgique	2.0
France	0.4
Royaume Uni	5.9
RFA	5.2
Etats Unis	4.7
Italie	2.7
Pays Bas	1.9
Japon	0.6

SOURCES UTILISEES

FRANCE
Recensements de la population de 1968 et 1982
Enquetes Emploi de 1982 a 1988
Documents du SPRESE, service statistique du ministere de l'Education nationale

REPUBLIQUE FEDERALE D'ALLEMAGNE
Recensement de la population de 1970
Revue "Bildung und Kultur" du Statistisches Bundesamt de Wiesbaden de 1969 a 1987

ESPAGNE
Recensements de la population de 1970 et de 1980
Revue "Estadística de la Enseñanza en España" 1969-1986

ITALIE
Recensements de la population de 1971 et 1981
"Annuario statistico italiano"
Revue "Rivelazione della forza di lavoro"

ROYAUME UNI
Recensements de la population de 1971 et 1981
Revue "Social Trends" n° 9 a 19
Annual abstracts of statistics

JAPON
Recensement de la population de 1980
Statistical yearbook

ETATS UNIS
Statistical abstracts of U.S.A.
Recensements de la population de 1970 et de 1980
Digest of education 1987 et 1988

LA QUALITE DES SOURCES

Toutes les sources pechent par l'absence d'homogeneite. La Classification Internationale Type de l'Education (CITE) n'est guere utilisee par les services statistiques nationaux. Les classements pratiques correspondent a des usages locaux. Trop d'evenements sont survenus depuis 1968 pour que les concepts utilises par un pays donne aient conserve la meme acception. La formation continue s'est amplifiee sous de multiples formes, les sujets de cette formation sont ils comptes comme des etudiants ou comme des actifs ou comme des personnes en quete d'emploi? La notion d'etudiant concerne-t-elle seulement l'etudiant a temps plein a l'exclusion des etudiants a temps partiel et des etudiants des cours du soir? L'etudiant qui exerce simultanement un emploi est-il toujours comptabilise de la meme facon? Y a-t-il des doubles comptes?

Il n'est pas possible de lever ces hypotheses pour quelque pays que ce soit. Les courbes de scolarite que l'on va presenter integrent toutes ces questions. Neanmoins, on s'est efforce de retenir pour chaque pays les donnees les plus homogenes avec celles des autres. Des extrapolations ont ete pratiquees pour actualiser les taux de scolarite de certains pays (Espagne, Italie, Etats Unis...). Ce qui importe est de faire ressortir l'ampleur des mouvements qui se sont produits dans ces pays depuis la fin des annees soixante.

Figures 9 Proportion des étudiants ages de 25 ans et plus dans l'ensemble des étudiants

	En %	
	vers 1970	vers 1987
France	29 0	30 1
RFA	28 9	46 3
Espagne	22 0	28 9
Italie		
Royaume Uni	27 0	35 2 ¹
Japon		
Etats Unis	27 8	41 6 ¹
Belgique		
Danemark		
Pays Bas		25 2
Suede		58 1
Suisse		45 3

¹ Ces taux englobent les étudiants full time et part time
Lire ainsi : En France en 1987 sur 100 étudiants du troisième degré 30 ont plus de 24 ans révolus

DONNÉES SOCIALES 1990

LES DISCIPLINES
SUIVIES PAR LES ETUDIANTS

Les classements opérés dans la figure 10 sont fragiles : tous les pays ne procèdent pas de la même manière : ainsi la biologie ou la pharmacie sont parfois classées en médecine et non en science. La pluridisciplinarité en forte expansion gêne le classement. En outre si les données de l'Allemagne de l'Ouest et du Royaume Uni recouvrent la quasi totalité de l'enseignement supérieur il n'en est pas de même pour les autres pays.

On retiendra la faiblesse de l'ingénierie et de la technologie en France face à la République Fédérale d'Allemagne : la position prépondérante en tous pays des sciences administratives, économiques et sociales et l'importance des études littéraires en France.

Figure 10 - Les disciplines suivies par les étudiants

	France 1987	Belgique 1987	Espagne 1984	Italie 1987	Roy Uni 1987	Japon 1987	Etats Unis 1982
Education	1 7	-	8 6	1 8	10 3	7 6	6 7
Médecine sante	15 6	-	11 9	11	6 5	6 6	12 0
Ingenierie et technologie	6 2	-	10 5	9 0	18 3	15 6	11 3
Agriculture forets veterinaires	0 4	-	1 5	2 6	1 0	3 4	2 4
Sciences	16 7	-	9 9	9 7	15 6	3 4	7 0
Administration gestion sciences sociales	28 8	2 7	35 1	38 9	29 2	38 9	33 0
Architecture urbanisme environnement	3 0	2	3 0	6 2	3 9	4 3	
Langues litterature	29 6		17 9	19 1	5 5	14 9	10 6
Arts musique dessin et	1 0		1 6	1 4	9 4	2 5	
Autres				6 1	0 3	2 8	17 0
Total	100	100	100	100	100	100	100
Rec : ventile correspondant (milliers)	1 010	-	856	95	891	1 806	10 919
Effectifs totaux du 3 ^e degré (milliers)	1 350		900	1 60	912	2 597	2 44
Etudiants pour 1000 habitants	24 4		23 5	0 2 ^a	17 1 ^b	21 4	29 3

a. Il s'agit d'une estimation
b. Si l'on ne considérait que les étudiants full time on aurait seulement 10 8
c. Ce taux concerne les étudiants full time avec les part time il serait de 52 %

A signaler : 22 6 pour la Belgique, 25 3 pour le Danemark, 28 2 pour les Pays Bas, 23 4 pour la Suede, 18 0 pour la Suisse par 1000 habitants

Lire ainsi : En France sur 1 010 milliers d'étudiants dont on connaît la discipline étudiée, 1 7 % sont en sciences de l'éducation

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Appendix B

The English Primary Corpus

Extracts from *Social Trends 1990*

Chapter 10: Leisure



Availability of leisure time

- In 1988, retired men had the most leisure time per week (92 hours) and women in full-time employment had the least (31 hours) *(Chart 10 1)*
- In the United Kingdom 99 per cent of full-time manual employees were entitled to four or more weeks holiday in 1988 Whereas in 1961 97 per cent were entitled to only 2 weeks *(Chart 10 2)*

Social and cultural activities

- During the second quarter of 1989, the peak listening time to radio was between 8 00 am and 8 30 am The peak viewing time for television was between 9 00 pm and 9 30 pm *(Chart 10 5)*
- In a typical week in 1988, 29 per cent of households with a video cassette recorder hired a pre-recorded video tape *(Table 10 8)*
- In 1955, for every resident of the United Kingdom there were on average 23 visits to the cinema In 1988, there were less than 1½ visits *(Chart 10 9)*
- In 1988 Blackpool Pleasure Beach was the most popular tourist attraction with free admission Madame Tussaud's was the most popular charging an admission *(Table 10 15)*

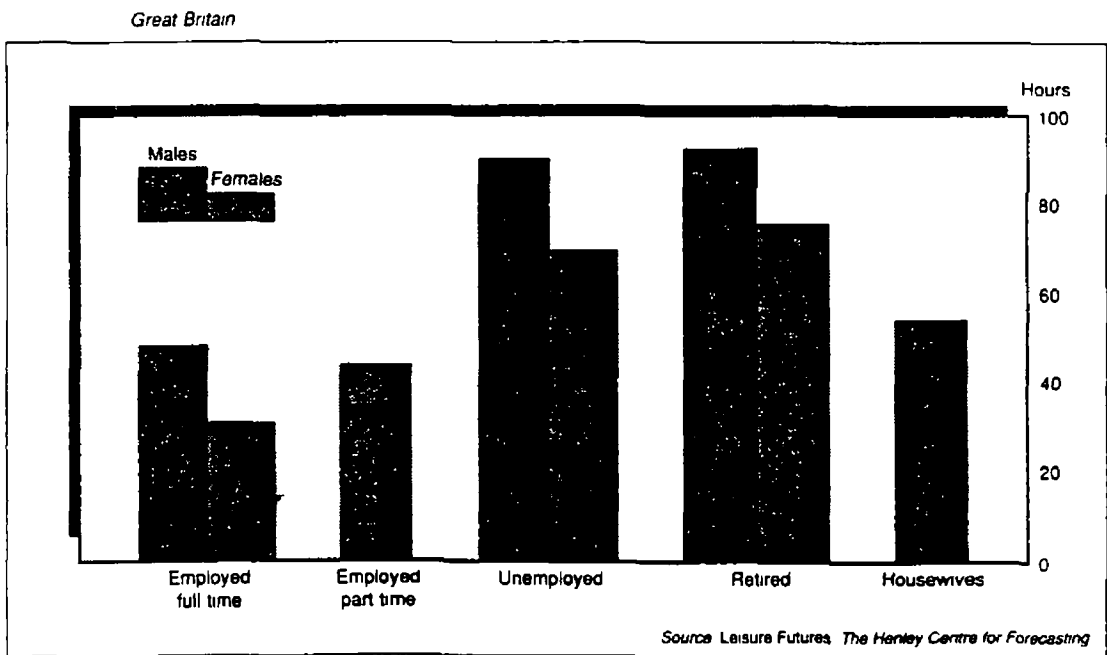
Holidays

- Around four out of every ten adult residents of Great Britain did not take a holiday away from home in 1988, the same proportion as in 1971 The proportion taking two or more holidays each year increased from about one in six in 1971 to around one in four in 1988 *(Chart 10 18)*

Resources

- Households in the United Kingdom spent on average nearly 17 per cent of their total expenditure on leisure items in 1987 *(Table 10 22)*

10.1 Leisure time in a typical week by sex and employment status, 1988



Availability of leisure time

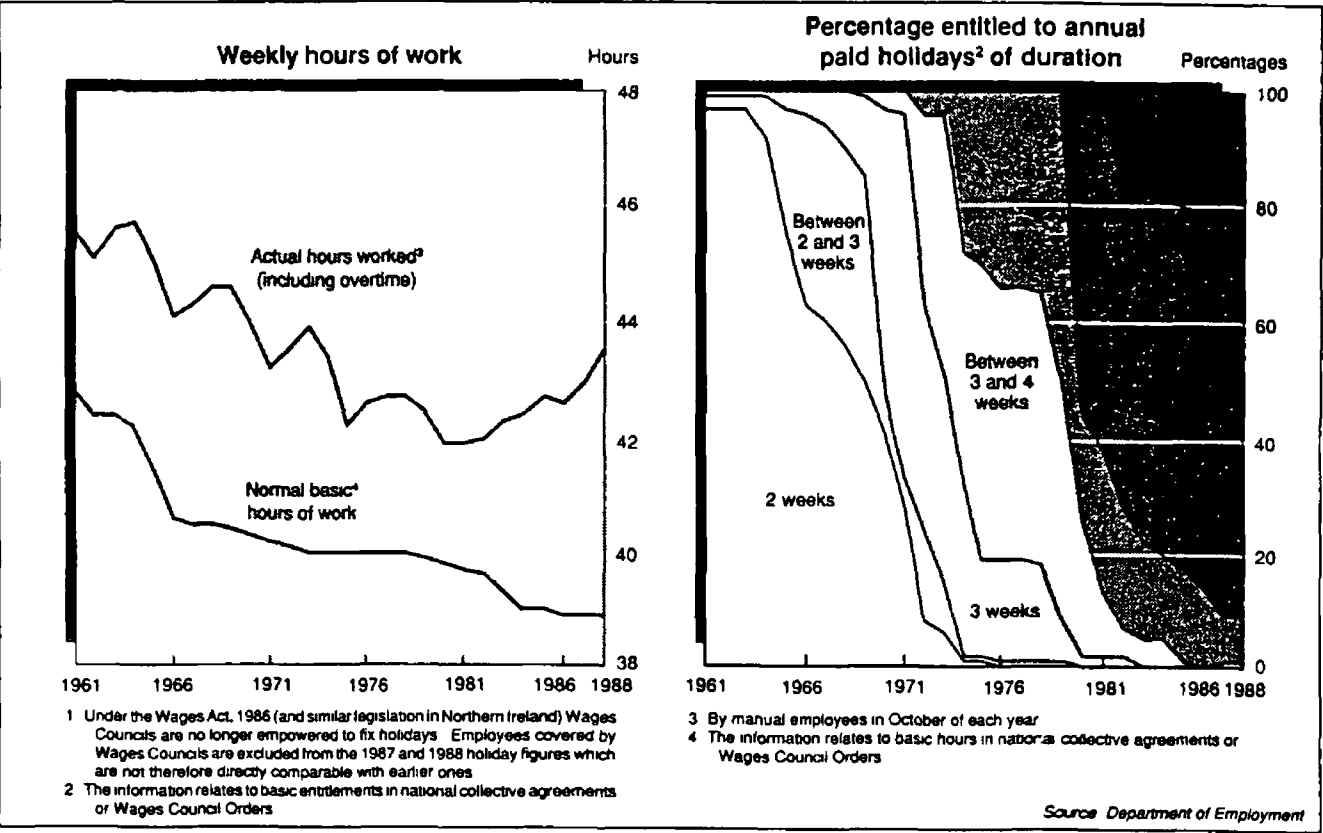
Chart 101 (on the previous page) illustrates the amount of leisure time available to people during a typical week in 1988. Of all the categories of people shown in the chart, retired men had the most leisure time with 92 hours per week, followed by unemployed men with 90 hours per week. The corresponding figures were women were 75 hours for those retired and 69 hours for those unemployed an increase of 7 hours since 1987. Women in full-time employment enjoyed 31 hours of leisure time per week, whilst similarly employed men spent 48 hours at leisure. It is generally regarded that women enjoy less leisure time because they spend more time on essential activities such as house cleaning, everyday cooking and shopping for essentials, although they spend less time in paid employment.

The trend over the past 25 years or so has been towards a reduction in basic working hours and an increase in holiday entitlement (Chart 102). However,

actual hours worked have fluctuated widely since 1961. The general trend since 1981 has been an increase. In the 1960s a basic 40 hour working week became more common, and since then there has been a slow but continuous fall in normal basic hours of work. Over the period 1961 to 1988 the normal basic weekly hours worked by full-time manual employees fell from 42.8 to 38.9 hours and actual weekly hours worked from 45.5 to 43.5. Average holiday entitlement with pay has been steadily increasing since the 1960s. In 1961, 97 per cent of full-time manual employees had a basic entitlement of only 2 weeks. By 1970 over half had an entitlement of 3 weeks or more and this had risen to 98 per cent by 1980. There were relatively few changes in holiday entitlements during the period of income policies between 1975 and 1978, but subsequently there was a general move towards a 4 week minimum, and by 1988 99 per cent of full-time manual employees were entitled to 4 weeks or more, and 24 per cent to 5 weeks or more.

10.2 Weekly hours of work and paid holidays¹: full-time manual employees

United Kingdom



Social and cultural activities

Participation in many of the social and cultural activities shown in Table 10.3 is more common among people in non-manual than manual socio-economic groups. In general, participation levels differ little between men and women, except in certain activities (needlework and knitting for females and DIY for males) which are often perceived as

being single sex activities. The annual averages in the table mask strong seasonal variations in some of the activities. For instance it is certain that persons interviewed in the quarter from July to September were more likely to have visited the seaside during the previous four weeks than during any of the other quarters. The other main seasonal activities are visiting historic buildings and outings to parks.

10.3 Participation¹ in selected social and cultural activities by socio-economic group² and sex, 1986

Great Britain

Percentages and numbers

	Professional employers and managers	Intermediate and junior non manual	Skilled manual and own account non professional	Semi skilled and unskilled manual	Full time students	All males ³	All females ³	All persons ³
Percentage in each group								
engaging in each activity in								
the 4 weeks before interview								
Open air outings								
Seaside	8	9	6	6	6	6	8	7
Parks	4	5	3	3	3	3	4	4
Country	4	4	2	2	1	3	3	3
Entertainment, social and cultural activities								
Going out for a drink ⁴	58	54	61	51	63	65	47	55
Going out for a meal	65	57	39	32	55	47	47	47
Dancing	10	12	9	10	24	9	12	11
Visiting historic buildings/ sites/towns	14	13	7	6	8	9	10	9
Going to the cinema	9	10	6	4	31	8	8	8
Going to the theatre/ opera/ballet	9	8	3	2	8	4	6	5
Going to fairs/amusement arcades	5	5	4	3	6	4	5	4
Going to museums/art galleries	6	5	2	2	7	4	4	4
Amateur music/drama	5	5	2	1	11	4	3	4
Home based activities								
Listening to records/tapes ⁴	70	73	63	58	96	69	65	67
Reading books ⁴	68	71	45	47	81	52	64	59
Gardening ⁴	54	44	44	38	17	47	39	43
House repairs/DIY ⁴	55	37	50	29	22	54	27	39
Needlework/knitting/dressmaking ⁴	16	40	12	31	19	3	48	27
Sample size (= 100%) (numbers)	2 969	5 940	4 048	5 088	603	8 891	10 338	19 209

1 Annual averages of participation of people aged 16 and over

2 Full time students are covered separately

3 Includes armed forces and persons who have never worked. These are excluded from the analysis by socio-economic group

4 The high participation levels are partly attributable to the fact that these items were prompted (see Appendix Part 10 General Household Survey)

Source: General Household Survey

Generally people spend far more time watching television than listening to radio (Table 10.4). In 1988 the average weekly time spent watching television

was 25 hours and 21 minutes per person, which meant that people aged 65 and over watched about 50 per cent more television than the average viewer

10.4 Television and radio average viewing and listening per week, by age

United Kingdom

Hours and minutes and percentages

	Television viewing					Radio listening				
	1984	1985	1986	1987	1988	1984	1985	1986	1987	1988
Age groups										
(hours mins per week)										
4-15 years	16 10	19 59	20 35	19 14	18 34	2 46	2 24	2 12	2 07	2 13
16-34 years	18 16	21 36	21 10	20 03	20 36	11 42	11 42	11 24	11 18	11 40
35-64 years	23 24	28 04	27 49	27 25	27 17	9 59	9 43	9 56	10 16	10 33
65 years and over	29 50	36 35	36 55	37 41	37 25	8 01	8 04	8 27	8 44	8 49
All aged 4 years and over	23 03	26 33	25 54	25 25	25 21	8 44	8 40	8 40	8 52	9 12
Reach¹										
(percentages)										
Daily	74	79	78	76	77	46	43	43	43	43
Weekly	90	94	94	93	94	81	78	75	74	73

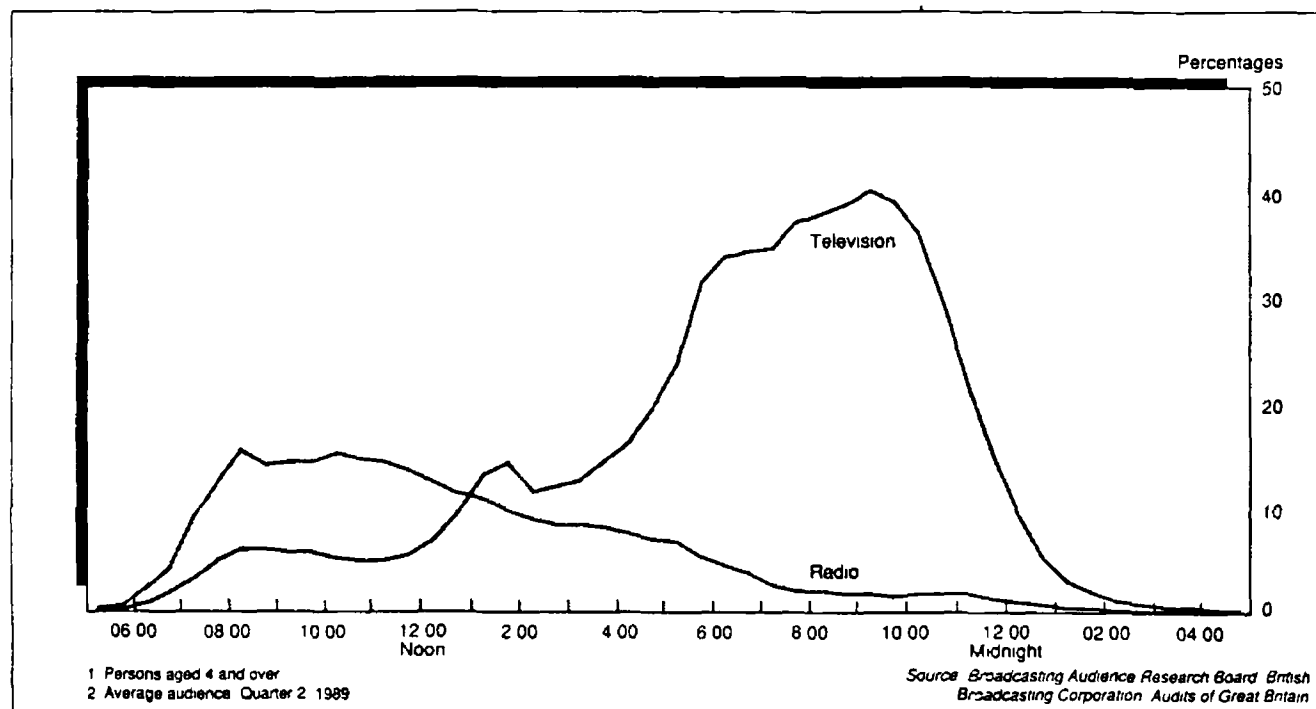
1 Percentage of UK population aged 4 and over who viewed television for at least three consecutive minutes or listened to radio for at least half a programme over a day (averaged over 7 days) or a week

B3

Source: Broadcasters' Audience Research Board
British Broadcasting Corporation
Audits of Great Britain

10.5 Radio and television audiences¹ throughout the day, 1989²

United Kingdom



Generally television viewing has declined steadily since 1985. The only age group whose viewing had increased between 1987 and 1988 was the 16-34 year olds which increased by over half an hour per week. The average time people spent listening to radio in 1988 was 9 hours and 12 minutes, an increase of 20 minutes since 1987 and 32 minutes up on 1986.

The amount of time spent watching television increases with age in each year shown in Table 10.4, while radio listening consistently peaks at ages 16 to 34. In 1988 young people under 16 spent about half an hour per week less listening to the radio than they did in 1984, although this was an increase of 6 minutes on the 1987 figure. Generally, for all age groups, the average listening figure for 1988 is the highest since 1982, when people listened to 10 hours of radio per week on average.

Not surprisingly, audiences for radio and television vary considerably at different times during the day (Chart 10.5). Between 8 am and 8.30 am an average 15.5 per cent of the United Kingdom population aged 4 or over listened to the radio in the second quarter of 1989, while 40.3 per cent watched television between 9 pm and 9.30 pm. Despite daytime television, radio is still more popular during the morning with television attracting more viewers from about 1.00 pm. Figures from the BBC Broadcasting Research Department show that the size of the potential audience of those people available to view in the daytime is very large. At the lunchtime peak it represents around half of the total UK population - about 26 million people. Even during mid-mornings and mid-afternoons it amounts to well over 20 million people.

B4

The number of cable television franchises for homes in Britain in 1989 is estimated to be 7 million. This represents an increase of 4.7 million on the figure for 1987, which in contrast was only 0.1 million higher than the figure for 1985 of 2.2 million. Cable operators can offer subscribers home banking and shopping, reduced rates for telephone calls and access to data bases and video-conference networks in addition to television channels.

10.6 Television programmes¹ by type, 1981-82 and 1987-88

United Kingdom

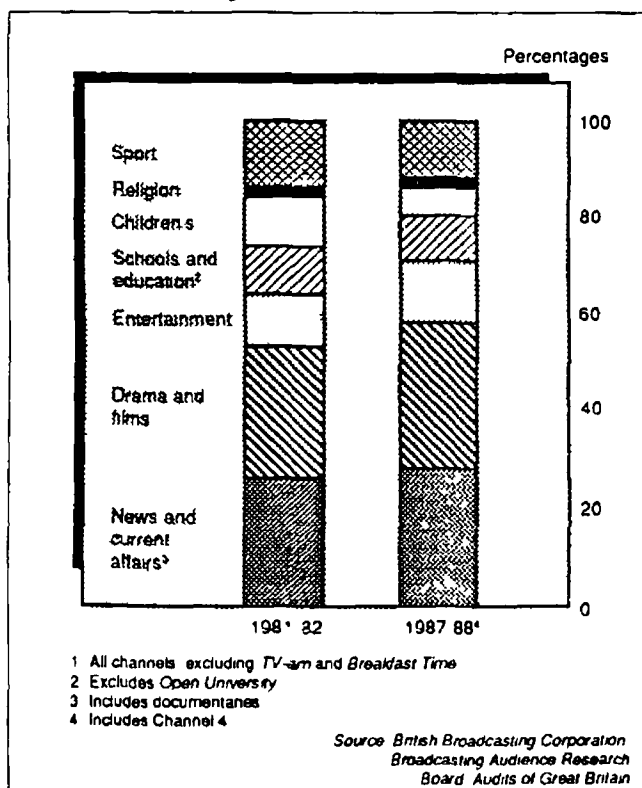
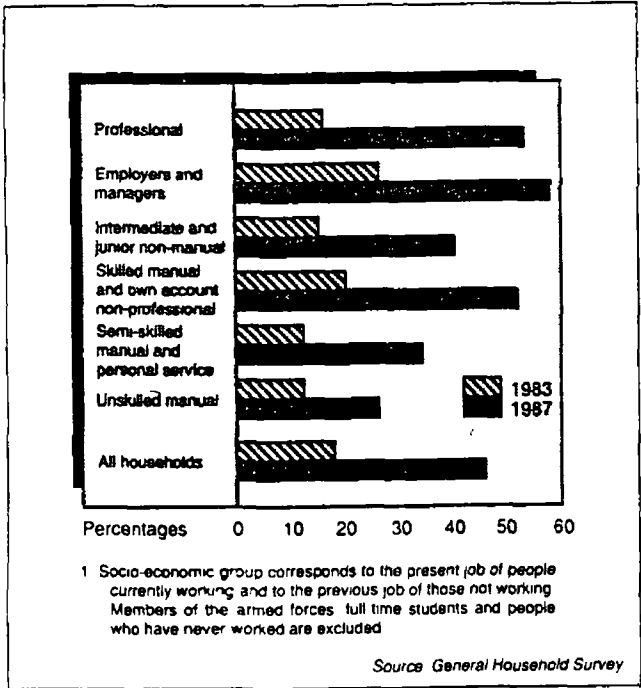


Chart 10 6 shows the percentage of television programmes broadcast broken down into seven basic categories. The figures are based on the number of hours viewing produced by the major TV companies, including Channel 4 in 1987/88. The figures do not include *Breakfast Time* or *TVAM*. In 1981/82 Children's programmes made up 10 per cent of all TV broadcasts, in 1987/88 they made up just 6 per cent. Sports programmes went down from 14 to 12 per cent whilst drama and films rose from 27 to 30 per cent. The data for news and current affairs includes documentaries.

10.7 Households with a video cassette recorder by socio-economic group¹ of head of household, 1983 and 1987

Great Britain



Since 1979 video has been transformed from a specialised branch of communications technology to a mass domestic market. Chart 10 7 illustrates the substantial increase from 18 to 46 per cent in the proportion of households in Great Britain with a video cassette recorder (VCR) over the period 1983 to 1987. General Household Survey data for 1987 showed that availability of VCRs varied widely by socio-economic group, for example, 58 per cent of

households headed by an employer or manager had the use of a VCR compared to 34 per cent of households headed by a semi skilled manual and personal service worker and only 26 per cent of those headed by an unskilled manual worker. Further data from the 1987 survey showed that 72 per cent of those households containing a couple with two or three children had the use of a VCR, compared to only 5 per cent of single person households aged 60 and over.

Table 10 8 shows that the percentage of video recorder households who hired cassettes in the week prior to being interviewed in 1988 has declined by one percentage point since 1986. In 1988 it stood at 29 per cent although the highest proportion shown, of 31 per cent, occurred in 1987. The table also shows that although the actual number of tapes hired per week rose by around 700,000 between 1986 and 1988, the average number of tapes hired per week has declined in each year shown. Other statistics produced by the British Videogram Association using quarterly surveys show that around 70 per cent of tapes are rented from specialist video shops and only 7 per cent are rented from newsagents. They also show us that some 85 per cent of tapes are hired out for just one night and only 27 per cent are hired out at the weekend.

10.8 Hiring of pre-recorded video cassette tapes

United Kingdom

	1986	1987	1988
Domestic video population ¹ (millions)	9.66	11.00	12.20
Hiring of video tapes ² Percentage hiring tapes during previous 7 days	30	31	29
Average number of tapes hired per week	2.24	2.07	2.02
Number of tapes hired per week (millions)	6.5	7.1	7.2

1 Estimated number of households in possession of at least one video cassette recorder based on a survey of 13 000 households during each quarter.
2 Figures refer to households.

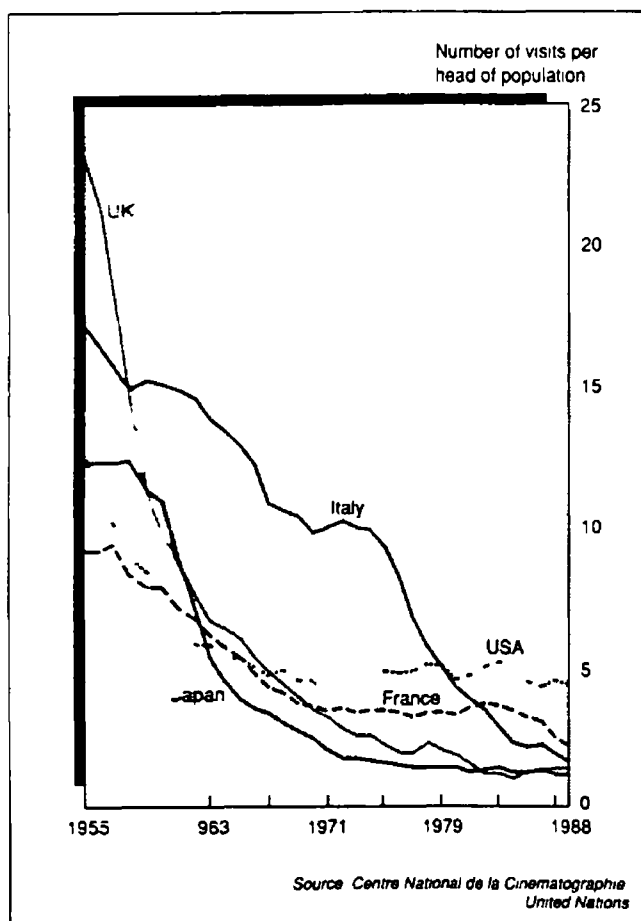
Source: British Videogram Association

General Household Survey 1987

General Household Survey

The seventeenth edition of this annual publication from the Office of Population Censuses and Surveys can be obtained from Government bookshops and through good booksellers.

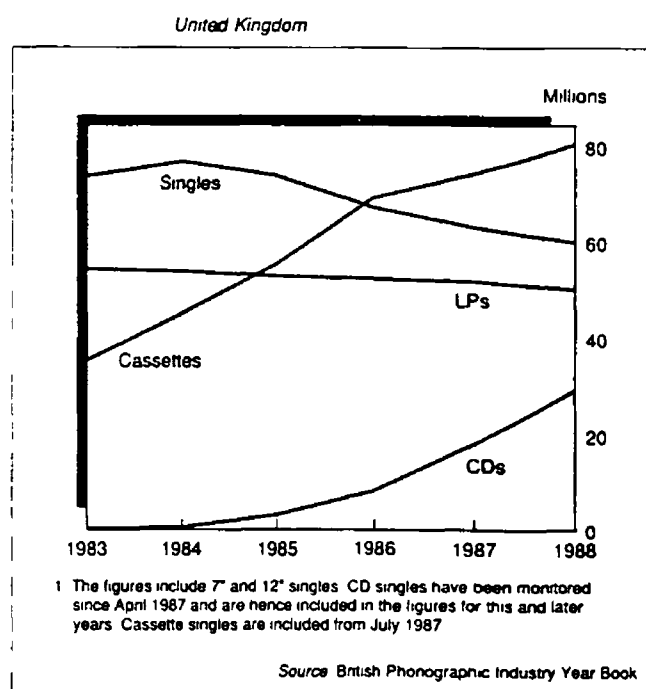
10.9 Cinema attendance selected countries



In the United Kingdom in 1955 the annual rate of visits to the cinema stood at 23 per person. In 1988 the rate stood at 14 visits per person during the year. The downward trend is repeated for all countries shown in Chart 10.9, although the most outstanding decline occurred in the United Kingdom. In the USA in 1983 the rate of cinema attendance was 5.1 visits per person - this was the highest rate since 1965, but has not been matched since. Americans have been the most prolific cinema attenders since 1979. In 1988 the rate for the USA stood at 4.4, while the second highest, France, was half this figure at 2.2. The wide availability of video cassette recorders (see Tables 10.7 and 10.8) does not appear to have turned people away from the cinema in this country. The attendance rate in the United Kingdom has risen each year since 1984 when it stood at an all time low of just under one visit per person per year.

Chart 10.10 gives a comparison between United Kingdom sales of long play albums (LPs), cassettes, singles and compact discs (CDs) for the six years to 1988. While vinyl discs, particularly singles, have decreased in popularity, cassette sales have risen by two and a quarter times since 1983. Compact disc sales stood at 0.3 million units in 1983 and have climbed steadily to 29.2 million in 1988 - a rise of 60 per cent on 1987. CD sales in the United Kingdom in 1988 netted revenue of 167.9 million. In the USA CD sales growth is even more impressive - from 0.8 million units in 1983 to 149.7 million in 1988, almost

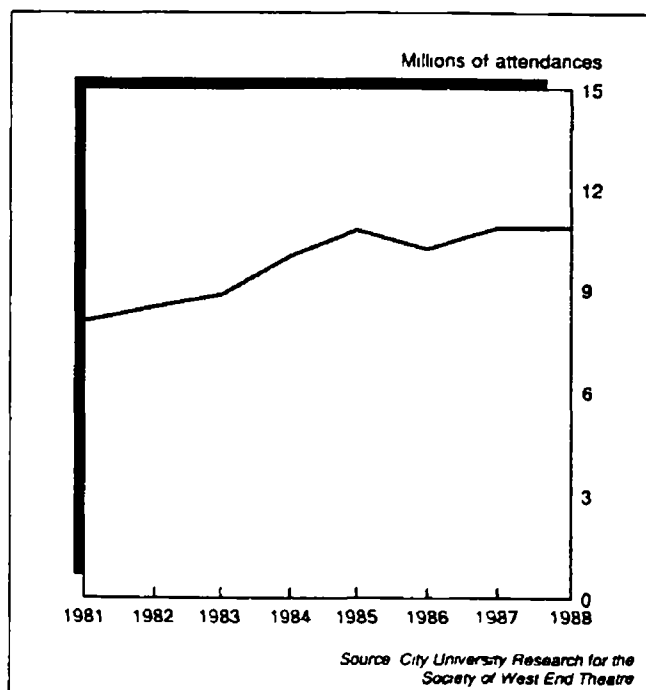
10.10 Trade deliveries of LPs, cassettes, compact discs and singles¹



a 190-fold increase. Lower priced CD players and the introduction of mid price and budget discs have made the format much more widely accessible and it is projected that CD trade deliveries may secure a 40 per cent share of the total long-play market within three or four years.

The number of West End theatre attendances has increased for each of the years shown in Chart 10.11 except for 1986, when the figure fell to 10.2 million attendances from 10.8 million in 1985. The total attendance figure then recovered in 1987 and was matched in 1988 at 10.9 million visits. Data compiled

10.11 Attendances at West End theatre performances



by City University through two major West End audience surveys estimate the highest proportion of attenders to have come from the age group 25-34 in both 1982 and 1986, the fewest being in the age groups 55-64 and 65 and over. The average age of all those surveyed was 36 in 1982 and 34 in 1986.

Table 10.12 shows that between 1971 and 1988 *The Sun* increased its readership from 8.5 to 11.3 million, taking over from the *Daily Mirror* as the most widely read daily newspaper in Great Britain. In 1988 it had an average issue readership equal to a quarter of the adult population. Men are generally more likely to read newspapers than women, while a slightly higher proportion of adults read Sunday newspapers than daily morning national newspapers. Readership of Sunday newspapers has fallen between 1971 and 1988. Only the *Sunday Telegraph* and *Sunday Times* have increased their readerships over the period. The most popular national Sunday newspaper in 1988 was the *News of the World* with an average issue readership equivalent to 29 per cent of the adult population. The *Financial Times* had the highest number of readers per copy (3.7) of all the newspapers shown in the table, however the *Sporting Life* had the largest number of readers per copy of any national newspaper with 4.7 in 1988, though its readership was only 426 thousand.

The age profile of readers of those general and women's magazines with the highest readership is given in Table 10.13. The *Radio Times* and *TV Times* are the most popular of the general weeklies in Great Britain, both with an average issue readership of a fifth of the adult population. On average, 37 per cent of the population aged 15 or over read a general weekly magazine in 1988, the proportion decreased with age, falling from 45 per cent among 15 to 24 year olds to 30 per cent of those aged 65 and over. Of the general magazines listed, only *Weekly News* has a readership which increases up to retirement age. *Practical Motorist* had the highest number of readers per copy of any general monthly in 1988, at 17.4 although it did not have a particularly high total readership (around 1.3 per cent of the adult population).

Between 1971 and 1988 readership of the most popular women's magazines fell substantially. *Woman*, for example, had a readership figure of 8 million in 1971 and only 3.3 million in 1988. *Prima*, launched in 1986, was the most popular monthly magazine for women in 1988. The most popular women's magazine in the age group 65 and over in 1988 was *Woman's Weekly* with 10 per cent, the most popular for 15 to 24 year olds was *Woman's Own*.

10.12 Reading of national newspapers by sex and by age, 1988

Great Britain

	Percentage of adults reading each paper in 1988			Percentage of each age group reading each paper in 1988				Readership ¹ (millions)		Readers per copy (numbers)
	Males	Females	All adults	15-24	25-44	45-64	65 and over	1971	1988	1988
Daily newspapers										
<i>The Sun</i>	27	23	25	34	25	24	7	8.5	11.3	2.7
<i>Daily Mirror</i>	22	17	19	21	19	21	17	13.8	8.7	2.8
<i>Daily Mail</i>	10	9	10	8	9	11	10	4.8	4.3	2.4
<i>Daily Express</i>	10	9	10	8	8	12	12	9.7	4.3	2.6
<i>Daily Star</i>	9	6	7	10	8	6	4		3.3	3.3
<i>The Daily Telegraph</i>	7	5	6	4	5	8	7	3.6	2.7	2.4
<i>The Guardian</i>	4	2	3	3	4	3	1	1.1	1.3	2.9
<i>Today</i>	4	3	3	4	4	3	1		1.5	3.3
<i>The Times</i>	3	2	2	2	3	3	2	1.1	1.1	2.5
<i>The Independent</i>	3	2	2	3	3	2	1	—	1.1	2.9
<i>Financial Times</i>	2	1	2	2	2	2	—	0.7	0.8	3.7
<i>Any daily newspaper</i> ²	70	64	67	68	65	71	64			
Sunday newspapers										
<i>News of the World</i>	30	28	29	38	30	27	21	15.8	13.2	2.5
<i>Sunday Mirror</i>	21	18	20	22	20	20	16	13.5	8.9	3.1
<i>The People</i>	18	16	17	16	17	19	17	14.4	7.8	2.9
<i>Sunday Express</i>	13	12	13	9	10	16	17	10.4	5.7	2.7
<i>The Mail on Sunday</i>	12	12	12	3	14	12	6	—	5.3	2.8
<i>The Sunday Times</i>	9	8	8	9	10	9	4	3.7	3.8	2.8
<i>Sunday Telegraph</i>	6	5	5	4	5	6	6	2.1	2.3	3.3
<i>The Observer</i>	5	4	5	5	6	5	2	2.4	2.1	2.8
<i>Any Sunday newspaper</i> ³	74	71	73	73	72	76	69			

¹ Defined as the average issue readership and represents the number of people who claim to have read or looked at one or more copies of a given publication during a period equal to the interval at which the publication appears.

² Includes the above newspapers plus the *Daily Record*.

³ Includes the above newspapers plus *The Sunday Post* and *Sunday Mail*.

Source: National Readership Surveys, 1971 and 1988. Joint Industry Committee for National Readership Surveys. Circulation Review. Audit Bureau of Circulation.

10.13 Reading of the most popular magazines. by sex and by age, 1988

Great Britain

	Percentage of adults reading each magazine in 1988			Percentage of each age group reading each magazine in 1988				Readership ¹ (millions)		Readers per copy (numbers)
	Males	Females	All adults	15-24	25-44	45-64	65 and over	1971	1988	1988
General magazines										
TV Times	19	21	20	22	22	19	18	9.9	9.1	3.0
Radio Times	19	21	20	21	21	19	18	9.5	9.0	2.9
Reader's Digest	14	4	14	9	15	17	14	9.2	6.4	4.0
Smash Hits	3	4	4	14	2	-	-		1.7	2.6
Exchange and Mart	5	2	3	5	5	3	1		1.6	7.4
What Car	6	1	3	6	4	2	1		1.6	11.3
Women's magazines²										
Woman's Own	3	17	10	11	11	10	8	7.2	4.6	4.1
Woman	2	13	7	7	9	7	5	8.0	3.3	3.2
Woman's Weekly	2	12	7	4	6	8	10	4.7	3.1	2.5
Best	2	9	6	8	7	5	3		2.6	2.2
Prima	1	9	5	7	8	4	2		2.5	2.3
Family Circle	2	9	5	4	7	6	3	4.4	2.4	3.4

1 See Table 10.12 footnote 1

2 The age analysis for women's magazines includes male readers

Source: National Readership Surveys 1971 and 1988. Joint Industry Committee for National Readership Surveys. Circulation Review. Audit Bureau of Circulation.

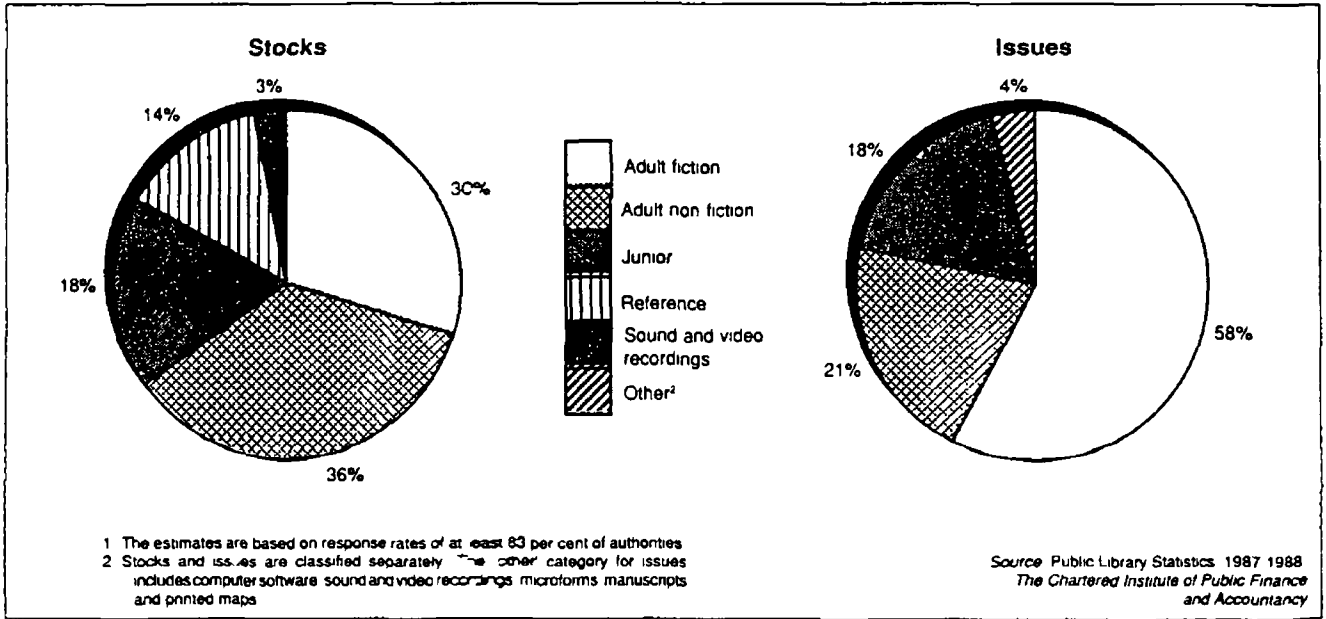
Public libraries in the United Kingdom held 135 million books in stock at the end of March 1987. During the year 1987/88 over 594 million issues were made. Adult fiction books accounted for almost 58 per cent of all issues, but only 30 per cent of all stock (Chart 10.14).

The Public Lending Right (PLR) system enables payments to be made from central government funds to United Kingdom authors whose books are lent out from public libraries. Payments are annual and are

proportionate to the number of times that the book is lent out during the year, and continue until 50 years after the author's death. According to a 1988 report published by the Registrar of Public Lending Right, 46 per cent of PLR payments are made to authors aged 60 and over, and only 7 per cent to those aged under 40. In 1988-89 about a third of the £3,500,000 distributed under PLR will go to authors of general and romantic adult fiction. One third of the money goes in payments of less than 600. No author can receive more than £6,000.

10.14 Public libraries: percentage of stocks and issues by major type¹, 1987-88

United Kingdom



10.15 Attendances at the most popular tourist attractions

Great Britain		Millions			
	1981	1986	1987	1988	
Attractions with free admission					
Blackpool Pleasure Beach	7.5	6.5	6.5	6.5	
British Museum	2.6	3.6	3.7	3.8	
Albert Dock Liverpool		2.0	3	3.5	
National Gallery	2.7	3.2	3.5	3.2	
Science Museum	3.8	3.0	3.2	2.4	
Pleasure Beach Gt Yarmouth				2.3	
Tate Gallery	0.9	1.1	1.7	1.6	
Pleasureland Southport			1.1	1.5	
Bradgate Park	1.2	1.2	1.2	1.2	
Stapeley Water Gardens Cheshire		1.0	1.0	1.0	
Attractions charging admission					
Madame Tussauds ¹	2.0	2.4	2.4	2.7	
Alton Towers	1.6	2.2	2.3	2.5	
Tower of London	2.1	2.0	2.3	2.2	
Blackpool Tower		1.4	1.5	1.5	
Natural History Museum ²	3.7	2.7	1.6	1.4	
London Zoo	1.1	1.2	1.3	1.3	
Kew Gardens	0.9	1.1	1.3	1.2	
Magnum Leisure Centre Irvine		1.3	1.1	1.1	
Thorpe Park	0.6	1.1	1.1	1.0	
Flamingo Land North Yorkshire		0.9	0.9	1.0	

1 1988 figure not comparable with previous years

2 Admission charges were introduced in April 1987

Source: British Tourist Authority

Table 10.15 shows the most popular tourist attractions in Great Britain. In recent years Blackpool Pleasure Beach has been the most popular attraction among those without an admission charge, with an estimated 6½ million visitors each year. Madame Tussaud's continued to be the most popular attraction in 1988 amongst those with an admission charge. Its attendance figure had risen by 300,000 since 1987. Alton Towers had also increased its attendance figure from 2.3 million in 1987 to 2.5 million in 1988. The only other attraction shown charging admission with an improved attendance figure was Flamingo Land in North Yorkshire. The 1988 attendance figure for The Natural History Museum (for which Admission charges were introduced in April 1987) at 1.4 million is almost half its 1986 total.

In 1963 there were some 900 museums in the United Kingdom. In 1989, Museums Year, there were approximately 2,500. In 1988 Britain's listed sites attracted 154.3 million visitors, an increase of 5 per cent on 1987.

Some of the most popular attractions to have opened since 1981 are outside London, the Jorvik Viking Centre in York, the Mary Rose Exhibition in Portsmouth, and the National Museum of Photography in Bradford as well as the Burrell Collection in Glasgow and the Albert Dock development in Liverpool. Innovative displays making

use of the latest film and tape technology and computer-controlled animated exhibits have made a significant contribution to the success of many of the attractions opened since 1981.

Table 10.16, from the General Household Survey (GHS), shows the sports in which at least 3 per cent of adults in Great Britain took part in the most popular quarter of 1986 and the corresponding figures for past years when the GHS covered this topic. Walking, which includes rambling and hiking, has been the most popular sporting activity for each of the years shown. Between 1977 and 1986 the proportion of the population participating in swimming increased by around a third. Snooker, billiards and pool have become increasingly more popular over the years shown, with 11 per cent of all adults participating in 1986. Darts has decreased in popularity with around a quarter less participating in 1986 than in 1977. Keep fit and yoga, which is predominantly a female sporting activity, has increased its popularity from one per cent of all adults taking part in 1977 to 4 per cent in 1986. The figure for women, however, was 6 per cent in 1986 compared with 1 per cent of men.

10.16 Participation in the most popular¹ sporting activities

Great Britain		Percentages			
	1977	1980	1983	1986	
Percentage engaging in each activity in the 4 weeks before interview (most popular quarter)					
Walking — 2 miles or more ²	22	22	23	23	
Swimming	13	14	17		
Snooker/billiards/pool	6	7	10	11	
Darts	10	8	9	7	
Keep fit/yoga	1	2	3	4	
Golf	4	3	3	4	
Fishing	4	3	4	3	
Football	3	3	3	3	
Squash	2	3	3	3	
Tennis	3	3	3	3	
Cycling	1	2	3	3	

1 Activities are listed in descending order of participation rates for all adults aged 16 or over in the most popular quarter for each activity in 1986

2 Includes rambling and hiking

Source: General Household Survey

Over 4 million people attended Scottish Football League games in 1988/89, an increase of 1.1 million on the 1981/82 figure but still 466 thousand short of the 1971/72 figure (Table 10.17). Spectator attendance at English Football League matches have in contrast fallen by 10.7 million since 1971/72.

Some commentators have blamed violence and crowd trouble for the steep drop in attendances, yet during the 1987/88 season there were on average only 7 arrests or ejections from grounds for every 10,000 spectators. Attendances in the 3 major European cup competitions totalled 5.2 million in 1988/89, an increase of 187 thousand on the previous season. Three quarters of a million people attended test and county cricket matches in 1988, compared with almost a million in 1981. This comparison does not, however, take into account the number of test matches or play lost due to bad weather. An estimated 4.7 million people attended horse racing events in 1988 – a million more than in 1981. In contrast the estimates for attendances at greyhound racing show a decline of 15 per cent over the same 2 years and 41 per cent since 1971.

10.17 Spectator attendance¹ at selected sporting events

	Thousands		
	1971/72	1981/82	1988/89
Football League (England & Wales)	28 704	21 900	18 000
Greyhound racing	8 800	6 100	5 400
Horse racing	4 200	3 700	4 700
Scottish Football League	4 521	2 961	4 055
Rugby Football Union (England)	700	750 ⁷	2 000
Motor sports ²		1 300	1 500
Rugby Football League ³	1 170	1 226	1 626
Test and County cricket	984	994	751
English basketball ⁴	2	85	238
Motorcycle sports ⁵		20	30
Scottish basketball ⁶	9	14	11

1 Estimated

2 Car and kart racing only

3 League matches only

4 National league cup and championship matches only

5 Excluding speedway

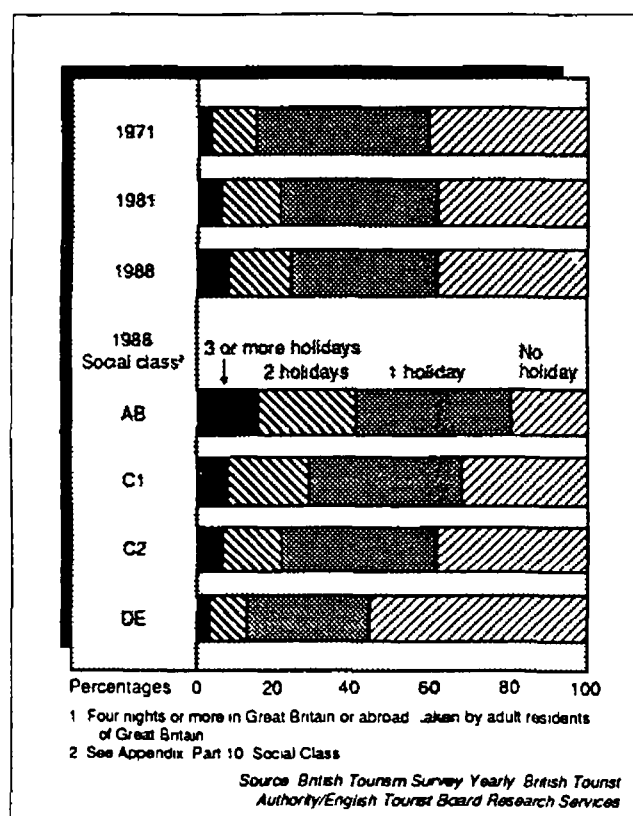
6 National league and cup matches only

7 1982 season

Source: Organisations concerned

Holidays

10.18 Number of holidays¹ per year by social class



The proportion of adult residents of Great Britain not taking any holiday was virtually the same in 1988 as in 1971, at about 40 per cent (Chart 10.18). However, there has been a general trend for an increasing number of people to take more than one holiday each year. The proportion of adults taking two holidays a year increased from 12 per cent in 1971 to 16 per cent in 1988. Taking holidays varies considerably by social class, in 1988 55 per cent of adults in social classes D and E did not have a holiday compared with only 20 per cent in classes A and B, while 16 per cent of those in classes A and B, but only 3 per cent in

classes D and E, had more than two holidays. According to the British Tourist Authority, Britons are increasingly choosing an activity holiday in Britain for their second break. These include hot-air ballooning, climbing, walking, potholing and hang-gliding whilst the more offbeat include everything from 'Dracula hunts' to 'murder weekends' and fighting mock battles.

The total number of overseas holidays taken by UK residents trebled between 1976 and 1988 to reach 21 million holidays (Table 10.19). The proportion of

10.19 Holidays¹ by destination

	Millions and percentages			
	1976	1981	1986	1988
Domestic holidays taken by residents of Great Britain (millions)	75	72	71	73
Of which holidays of 4 or more nights	38	40	39	38
Destination of holidays abroad taken by residents of the United Kingdom (percentages)				
Austria	2	3	3	3
Belgium or Luxembourg	3	2	3	2
France	20	27	21	18
Germany (Fed. Rep.)	2	3	2	2
Greece	5	7	8	8
Irish Republic	6	4	2	3
Italy	7	6	4	3
Netherlands	3	2	2	2
Spain ²	30	22	31	31
Switzerland	2	2	2	2
All in Europe	91	87	91	88
United States	2	5	3	4
Other countries	7	8	6	7
Total (= 100%) (millions)	7	13	18	21

1 A holiday is defined as a visit of 1 or more nights made for holiday purposes. Business trips and visits to friends and relatives are excluded.

2 From 1981 includes Balearic and Canary Isles but in earlier years only includes Balearic Isles.

Source: International Passenger Survey, Department of Employment; British Tourism Survey monthly, British Tourist Authority

10.20 Accommodation used on holidays in Great Britain of four or more nights

Great Britain		Percentages and numbers				
	1971	1976	1981	1986	1988	
Accommodation used (percentages)¹						
Licensed hotel/motel	17	16	17	20	20	
Unlicensed hotel/boarding house etc	18	11	7	7	6	
Friend s/relatives home	27	25	26	23	22	
Caravan	19	21	18	21	23	
Rented accommodation	10	11	14	13	12	
Holiday camp/village	6	6	6	9	8	
Camping	8	7	7	3	4	
Paying guest in private house	4	3	3	1	2	
Other	4	4	5	5	7	
Sample size (= 100%) (numbers)	2 869	2 269	2 155	1 950	3 008	

¹ Percentage columns do not add up to 100 since more than one type of accommodation may have been used

Source British Tourism Survey Yearly
British Tourist Authority

holidays taken in Greece have increased from 5 per cent in 1976 to 8 per cent in 1988. The number of holidays taken in the USA has increased sharply from 114 thousand in 1976 to 875 thousand, or 4 per cent of all overseas holidays, in 1988. Spain remains the most popular holiday destination, attracting about the same proportion of holiday visits as in 1976, although there was a marked shift away from Spain in 1981. Domestic holidays in Britain increased to 73 million in 1988, although there was a decline in the number of holidays of four or more nights. In June 1989 there were 1.4 million employees in employment in tourism related industries in Great Britain – a rise of 37 thousand on June 1988. A further 206 thousand people were shown by the Spring 1988 Labour Force Survey to be employed in tourism-related industries on a self employed basis.

Overseas visitors spent around £6.2 billion in the United Kingdom during 1988.

Table 10.20 shows the type of accommodation used on holidays in Britain for selected years. Whilst the percentage of adults staying in licensed hotels has increased steadily since 1971, to 20 per cent in 1988, the proportion staying in unlicensed hotels or boarding houses has dropped considerably – to a third of its 1971 level. The proportional popularity of caravan holidays has increased since 1981 by nearly 30 per cent, although the 1981 figure was down by almost 15 per cent on 1976. In contrast camping holidays have become comparatively less popular over the period shown with only 4 per cent in 1988 – representing half of the 1971 figure.

Resources

The Arts Councils of Great Britain and Northern Ireland were established to develop and improve the knowledge, understanding and practice of the arts, to increase their accessibility to the public and to advise and co-operate with government departments, local authorities and other organisations. Table 10.21 shows how the Arts Councils allocate their government grant-in-aid. Total expenditure amounted to over £154 million in 1988-89, of which 24 per cent went to National Companies (theatre, ballet and opera). The proportion of expenditure on Regional Arts Associations has increased four-fold between 1971-72 and 1988-89 to 20 per cent of the total.

Business sponsorship is making an increasing contribution to the funding of the arts. In 1975-76 only a handful of major businesses sponsored the arts and the level of sponsorship was estimated at just over ½ million. However more businesses are being encouraged to sponsor the arts following the establishment in 1976 of the Association for Business Sponsorship of the Arts, an independent organisation dedicated to raising more commercial sponsorship for the arts. The introduction in 1984 by

10.21 Arts Council expenditure

United Kingdom		Percentages and £ thousand			
	1971	1981	1987	1988	
	- 72	- 82	- 88	- 89	
National companies ¹	29	27	22	24	
Regional Arts Associations	5	11	20	20	
Art	5	6	3	3	
Drama	20	18	14	13	
Music	20	19	17	16	
Dance	4	4	5	5	
Literature	2	2	1	1	
Other ²	15	12	18	18	
Total (= 100%)					
(£ thousand)	12 096	83 028	144 239	154 657	

¹ Includes the English National Opera in London and on tour, the National Theatre (in three auditoria), the Royal Opera and the Royal Ballet Companies in London and on tour, and the Royal Shakespeare Company in Stratford-on-Avon and in London. In 1988-89 the figure includes £2.4 million which was a capital grant made to enable the Royal Opera House to purchase Floral Street.

² Includes arts centres and community projects (including the South Bank Board) training in the arts, incentive funding and general operating costs.

Source: Annual Report, Arts Council of Great Britain
Arts Council of Northern Ireland

the government of its Business Sponsorship Incentive Scheme (BSIS) which offers matching grants for new sponsorship has brought over 900 businesses into arts sponsorship. Although the main source of sponsorship is still the banks, oil companies and insurance, medium and small sized businesses all over the country are now starting to sponsor artistic activities.

The Government is encouraging arts organizations to increase audiences and maximise their income through better marketing. In 1987, 22 awards were made to arts organizations for original or unusual marketing projects under a one year experimental Arts Marketing Scheme. In 1988-89, the Government supported a distance learning package (instructional video and work book) and a programme of training courses for top management. They are also contributing to Business in the Arts, an organisation

set up by the private sector to encourage businesspersons to put their talents and professional skills at the disposal of arts organizations on a voluntary basis, to improve the quality of business management in the arts.

In 1987 households in the United Kingdom spent 16.7 per cent of their total expenditure on the leisure-based items shown in Table 10.22. This compares to 15.6 per cent in 1983 and 16.1 per cent in 1982. Alcoholic drink consumed away from home accounted for £6.23 of average household expenditure per week in 1987, some 20 per cent of all expenditure on leisure items. The corresponding figure for 1983 was 23 per cent and for 1986 21 per cent. Although 11 pence per week was spent on cinema admissions in 1987 and only 9 pence spent in 1983 - the actual proportion spent on cinema admissions fell during the period.

10.22 Household expenditure on selected leisure items

United Kingdom		£ and percentages					
	1981	1982	1983	1984	1985	1986	1987
Average weekly household expenditure on (£)							
Alcoholic drink consumed away from home	5.39 ²	6.13 ²	5.04	5.30	5.76	5.93	6.23
Meals consumed out ¹		2.37	2.92	3.18	3.54	4.38	4.70
Books, newspapers, magazines, etc.	2.00	2.14	2.29	2.42	2.59	2.73	2.93
Television, radio and musical instruments	3.26	3.55	3.91	4.36	4.17	4.85	5.02
Purchase of materials for home repairs, etc.	1.57	1.97	2.35	2.66	3.09	3.08	2.96
Holidays	3.08	3.99	4.07	4.28	4.98	5.39	7.17
Hobbies	0.08	0.08	0.10	0.08	0.08	0.06	0.10
Cinema admissions	0.14	0.10	0.09	0.09	0.09	0.10	0.11
Dance admissions	0.12	0.12	0.12	0.13	0.12	0.12	0.15
Theatre, concert, etc. admissions	0.17	0.18	0.22	0.20	0.23	0.29	0.33
Subscriptions and admission charges							
to participant sports	0.43	0.41	0.42	0.53	0.62	0.71	0.78
Football match admissions	0.06	0.06	0.08	0.05	0.08	0.08	0.11
Admissions to other spectator sports	0.02	0.02	0.02	0.03	0.03	0.04	0.05
Sports goods (excluding clothes)	0.26	0.24	0.31	0.47	0.31	0.37	0.42
Other entertainment	0.24	0.25	0.26	0.30	0.30	0.41	0.48
Total weekly expenditure on above	16.82 ³	21.60	22.21	24.08	25.98	28.54	31.52
<i>Expenditure on above items as a percentage of total household expenditure</i>							
	13.4	16.1	15.6	15.8	16.0	16.0	16.7

1 Eaten on the premises, excluding state school meals and workplace meals.
2 Including home consumption.
3 The total for 1981 is not comparable with later years since the figure for the category 'Meals consumed out' is not available.
Source: Central Statistical Office, from Family Expenditure Survey.

DEPARTMENT OF TRANSPORT

NATIONAL TRAVEL SURVEY REPORT

The only comprehensive, national source of travel information — linking different kinds of travel with the characteristics of travellers and their families. The NTS provides a picture of personal travel, particularly in terms of people and the distance they travel. It emphasises those characteristics of people and their households that have most effect on their extent of travel.

AN ANALYSIS OF PERSONAL TRAVEL

English Text B

Chapter 1: Population



Population structure and changes

- In 1988 the population of the United Kingdom was 57.1 million and is expected to reach 60 million by the year 2011 *(Table 1.2)*
- The population aged between 16 and 19 is projected to decline from 3.5 million in 1988 to 2.9 million by 2001 *(Chart 1.3)*

Births and deaths

- In the United Kingdom there were 788 thousand live births and 649 thousand deaths in 1988. Between 1971 and 1988 the annual number of deaths remained about the same. The number of live births fell appreciably in the 1970s but has since risen more slowly so that in 1988 it was still 13 per cent lower than in 1971 *(Table 1.9 and Table 1.13)*

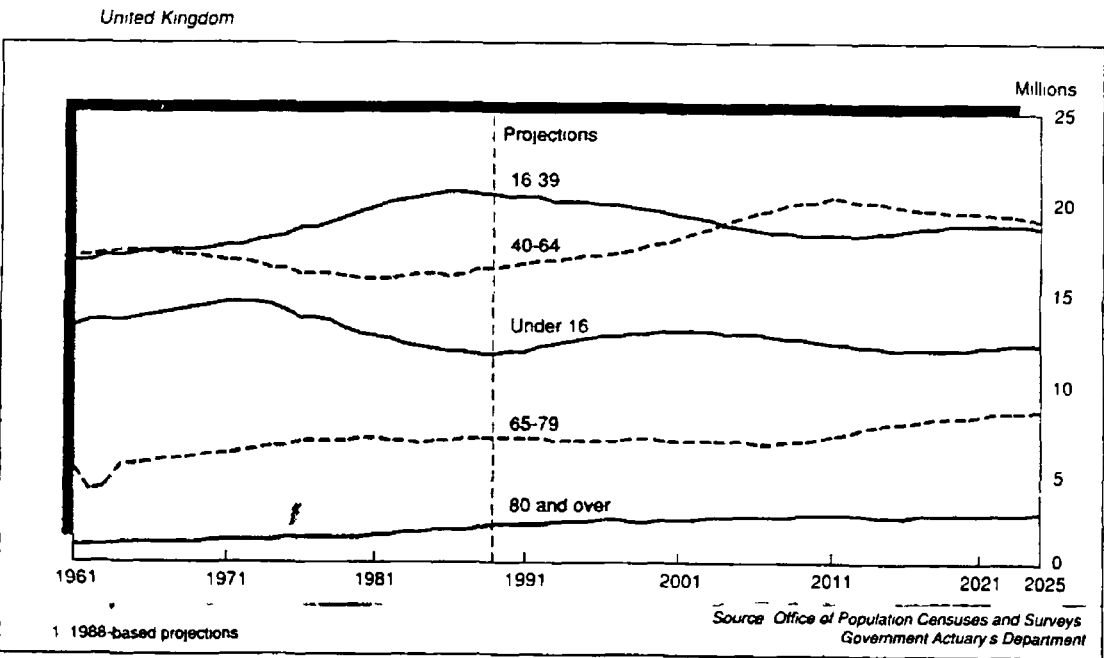
Migration

- Over the years 1983-1987, more migrants (including British citizens) entered the United Kingdom than left it. However, in 1988 more people left than entered, as generally in 1974-1982 *(Table 1.14)*
- In 1988 49 thousand people subject to immigration controls were accepted for settlement in the United Kingdom *(Chart 1.16)*
- There were nearly 65 thousand grants of British citizenship in 1988, about the same number as in 1987 *(Table 1.17)*

International comparisons

- In 1986 the Federal Republic of Germany had a population of 61 million, the largest population of the EC countries *(Table 1.19)*
- The United Kingdom population aged 70 and over is expected to increase by 11 per cent between 1985 and 2000, compared with an increase of 18 per cent over the EC as a whole *(Chart 1.20)*

1.1 Population by selected age bands



1.2 Age and sex structure of the population¹

United Kingdom

Millions

	Under 16	16 – 39	40 – 64	65 – 79	80 and over	All ages
Mid year estimates						
1951			15.9	4.8	0.7	50.3
1961	13.1	16.6	16.9	5.2	1.0	52.8
1971	14.3	17.5	16.7	6.1	1.3	55.9
1981	12.5	19.7	15.7	6.9	1.6	56.4
1986	11.7	20.6	15.8	6.8	1.8	56.8
1988	11.5	20.4	16.2	6.9	2.0	57.1
Males	5.9	10.3	8.0	2.9	0.6	27.8
Females	5.6	10.1	8.2	3.9	1.4	29.3
Mid year projections²						
1991	11.7	20.2	16.5	6.9	2.2	57.5
1996	12.5	19.8	17.0	6.8	2.4	58.5
2001	12.8	19.2	18.0	6.7	2.5	59.2
2006	12.6	18.4	19.4	6.6	2.6	59.6
2011	12.1	18.1	20.2	7.0	2.7	60.0
2025	12.1	18.6	19.0	8.5	2.9	61.1

1 See Appendix Part 1 Population and population projections

2 1988 based projections

Source Office of Population Censuses and Surveys
Government Actuary's Department

Table 1.2 illustrates that the population of the United Kingdom grew steadily between 1951 and 1971 but since then the overall total has grown more slowly. The pace of growth is projected to quicken slightly over the next 20 years. The age structure of the population has changed more perceptibly in recent years, with a lower proportion of children aged under 16 in 1988 than in 1971, and a higher proportion aged 65 to 79. The proportion of the population aged 80 and over has risen steadily since 1961 and a slow steady growth is projected to continue in the years up to 1995 (see also Chart 1.1). More detailed information on population projections can be found in Table 1.8 and in the Appendix (Part 1 Population and population projections).

The number of people aged 80 and over (2 million in 1988) is now nearly 50 per cent greater than in 1961. The size of this age group is expected to increase to 2.9 million by the year 2025. The number in 1988 represented 3½ per cent of the population compared with nearly 2 per cent in 1961. After a slow steady increase in the younger working population (16-39) from 16.6 million in 1961 to 20.4 million in 1988 the numbers are projected to decline gradually from 20.2 million in 1991 to 18.6 million in 2025 when they will form just over 30 per cent of the total population. The older working population (40-64) is projected to continue a gradual rise whilst the pensionable population is projected to grow slowly for the next 10 or so years and then grow more

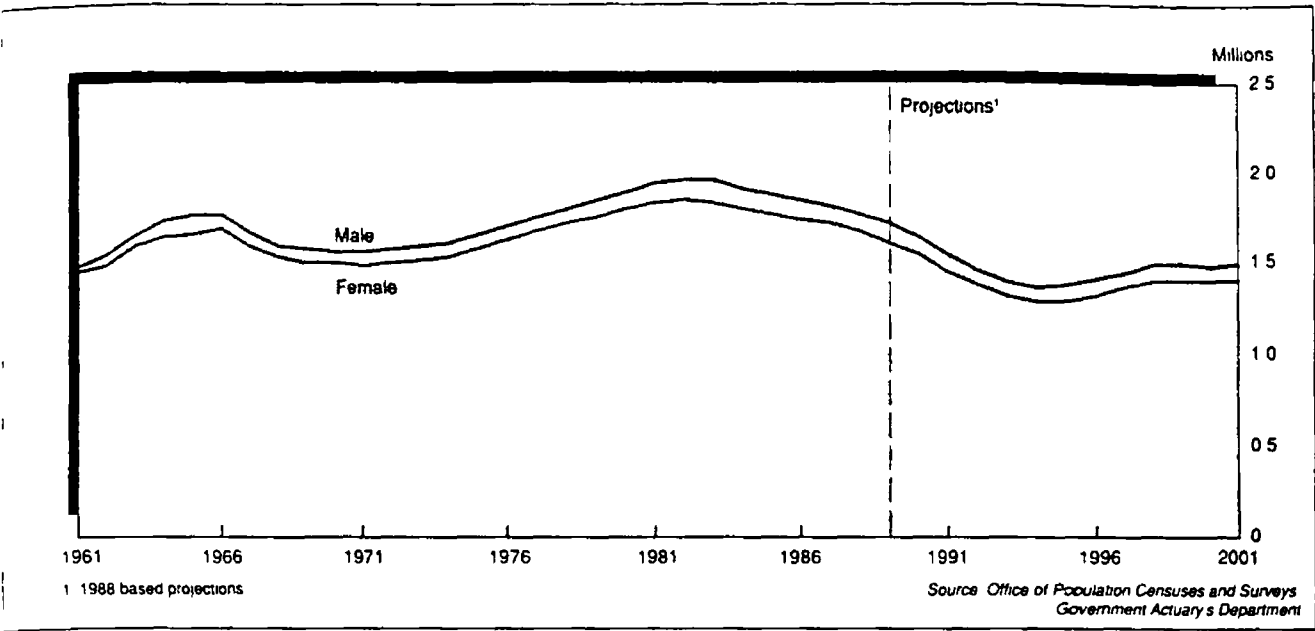
quickly after that. Within broad age ranges, the balance is projected to shift towards the older ages. At the lower end of the age range, those aged under 16 formed 20 per cent of the population in 1988 and by 2025 this proportion is projected to be broadly the same again - having risen and fallen a little in the intervening years.

Population changes in the age group 16 to 19 are shown in Chart 1.3 and illustrate the projected decline in number of this section of the population. This decline is almost entirely attributable to previous trends in the number of births. Thus the peak in the number of 16 to 19 year olds reached in the early 1980s reflects the high number of births in the mid-1960s, while the trough projected in the mid-1990s arises from the low births experienced in the late 1970s (see also Table 1.9). These projected changes will have an effect on the flow of young persons into higher education and into the work force and could lead to consequent problems as the labour market will need to adjust. An influx of a large number of young persons can lead to high youth unemployment while a scarcity of school leavers may result in increased economic activity amongst older persons and married women.

Table 1.4 and Chart 1.5 use combined data from the 1985, 1986 and 1987 Labour Force Surveys. About 4.5 per cent of the population in Great Britain were

1.3 Population in the age group 16-19 by sex

United Kingdom



from the ethnic minority groups (Table 1.4). Of the ethnic minority population, about two thirds were either from the West Indian/Guyanese, Indian or Pakistani ethnic groups. Most of the ethnic minority groups have markedly different age structures from that of the White population, for example, 21 per cent of the White population was aged 60 and over compared with 7 per cent of the West Indian/Guyanese ethnic group, the highest proportion of the ethnic minority groups. Correspondingly children form a smaller proportion of the White population than they do of the ethnic minority populations. As the ethnic minority population ages, however, these differences are expected to lessen.

A larger proportion of the White population are married (over a half) than are single. Within many ethnic minority groups the position is reversed. The higher ratio of single people in the ethnic minority groups reflects the greater numbers in the younger age groups. This topic is also discussed in Chapter 2: Households and Families. Chart 1.5 illustrates the marked difference in age structure between the United Kingdom-born and the overseas-born members of the ethnic minority population. Different immigrant groups arrived in the United Kingdom in different decades. Most of the overseas born entered the United Kingdom as young adults, or as dependents while the United Kingdom-

1.4 Population by ethnic group, age and marital status, 1985-1987

Great Britain

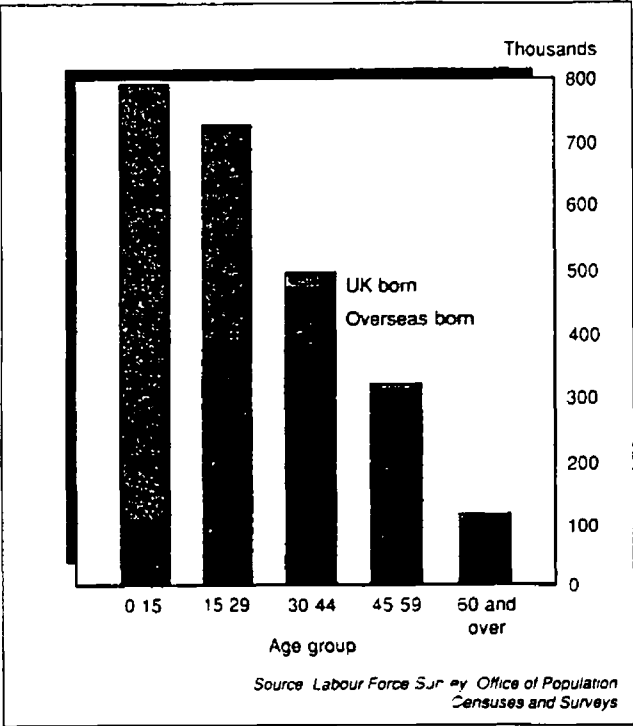
Percentages and thousands

	Ethnic group											All ethnic groups
	White	West Indian or Guyanese	Indian	Pakistani	Bangla desh	Chinese	African	Arab	Mixed	Other	Not stated	
Age group												
0-15	20	25	31	43	50	29	26	21	55	27	29	21
16-29	22	33	27	25	21	25	31	36	26	27	23	22
30-44	20	15	24	18	14	30	29	27	10	30	18	20
45-59	17	19	13	12	14	10	11	11	6	11	13	16
60 and over	21	7	5	2	1	5	4	6	3	4	16	20
Marital status												
Single	38	59	45	54	59	48	52	43	77	46	49	38
Married	51	33	51	44	40	48	40	51	19	49	42	51
Separated	1	2	-	-	-	1	3	2	1	2	1	1
Divorced	3	5	1	-	-	-	3	2	3	2	2	3
Widowed	8	2	3	1	1	3	3	2	1	2	6	7
Total (thousands) (= 100%)	51 333	521	745	404	111	120	105	71	255	141	570	54 376

Source: Labour Force Survey combined data for 1985 to 1987 inclusive
Office of Population Censuses and Surveys

1.5 Ethnic minority population by age and whether UK-born or overseas-born, 1985-1987

Great Britain



born are the first or second generation children of these earlier immigrants. Consequently, 64 per cent of the United Kingdom-born ethnic minority population were aged under 15 and only 4 per cent were aged over 29. In contrast, less than 7½ per cent of the overseas-born ethnic minorities were aged under 15 while almost 64 per cent were aged above 29.

Chart 1.6 compares annual population growth rates in different parts of the United Kingdom between 1981 and 1988 with those projected for the period between 1988 and 2001. Between 1981 and 1988 there was population growth in most non-metropolitan areas. Growth in East Anglia was over 1 per cent per annum, but growth in Wales and the non-metropolitan parts of the north of England was more modest (with a fall in the rest of the North). In Scotland there was a population fall. The populations of all metropolitan areas fell, reflecting the movement of people from urban to suburban or more rural areas. The greatest rate of fall was in Merseyside.

Population changes between 1988 and 2001 are projected broadly to continue the trends observed between 1981 and 1988, with continued growth projected in several areas, particularly East Anglia and the South East and South West of England. The population of Greater London is projected to continue to change little between 1988 and 2001.

1.6 Population changes by region

United Kingdom

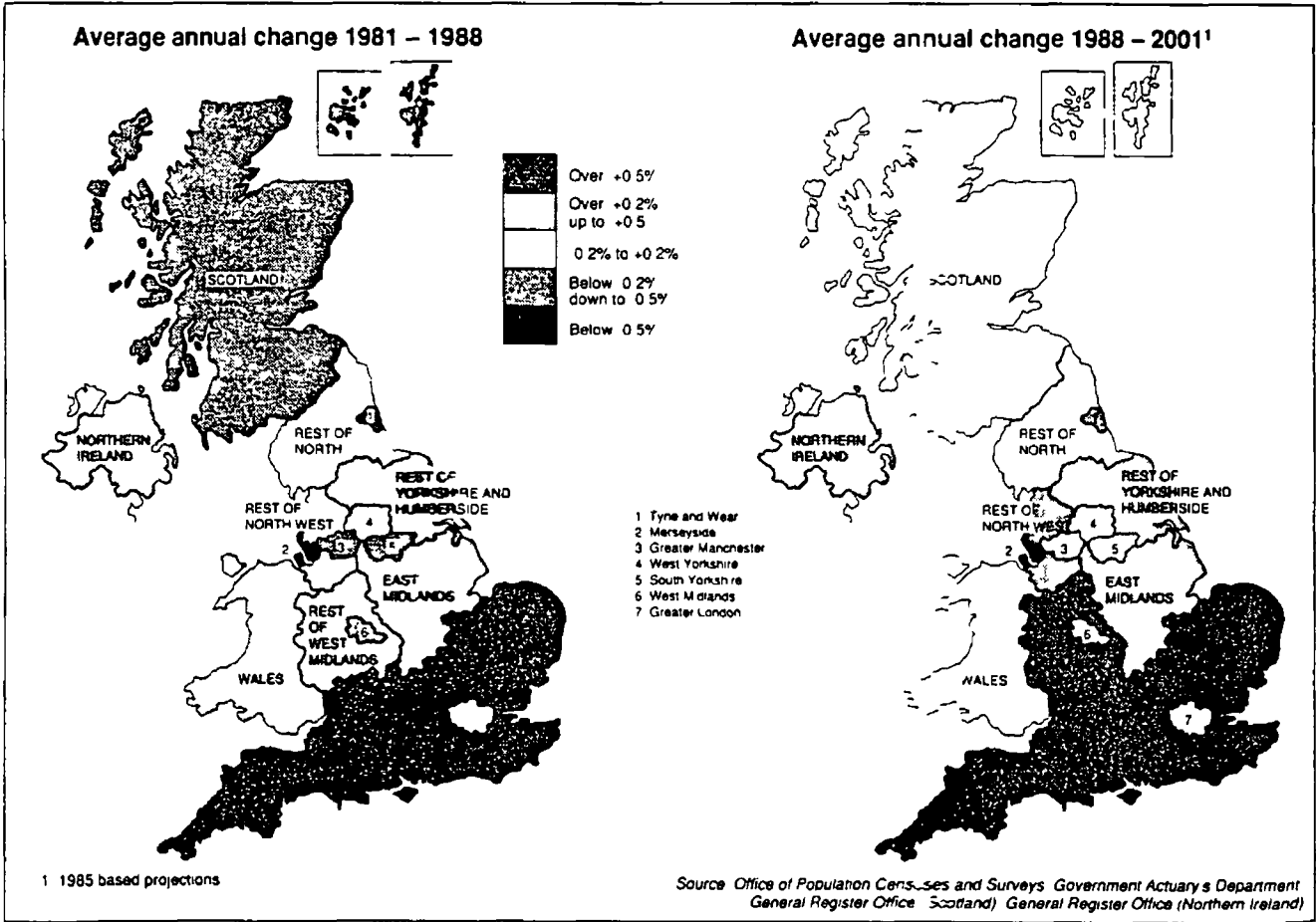


Table 17 shows the population moves between different parts of the United Kingdom at regional level that is the standard regions of England, plus Wales, Scotland and Northern Ireland. These statistics of movement of doctors patients between family practitioner committees (FPCs), in England and Wales and area health boards (AHBs) in Scotland, are used to estimate internal migration patterns in the United Kingdom. Because the likelihood of moving varies with age, increases or decreases over time in the number of moves are partly the result of changes in the population size and distribution by age. Moves by people aged 15-64/59, ie adults of working age, account for a larger proportion of the total number of moves than their share of the population. In 1988, three quarters of the moves were by those in this age band while their proportion of population was 63 per cent. In recent years the proportion of moves in this age group has increased faster than the corresponding increase in the share of population. A slight decline in the proportion of moves at younger ages, from 21 per cent in 1979 to 17 per cent in 1988 broadly reflects a similar decline in the proportion of population at those ages. The older age group on the other hand, shows an increase which reflects a growing tendency to move at retirement, since the proportion of population at these ages has remained the same over the last ten years.

More detailed information on the regional variations within the United Kingdom can be found in the CSO publication *Regional Trends*.

1.8 Population changes and projections¹

United Kingdom

United Kingdom							Thousands
	Population at start of period	Average annual change					Overall annual change
		Live births	Deaths	Net natural change	Net civilian migration	Other adjustments ²	
Census enumerated							
1901-11	38 237	1 091	624	467	- 82		385
1911-21	42 082	975	689	286	- 92		194
1921-31	44 027	824	555	268	- 67		201
1931-51	46 038	785	598	188	+ 25		213
Mid year estimates							
1951-61	50 290	839	593	246	- 9	+ 15	252
1961-71	52 807	963	639	324	- 32	+ 20	312
1971-81	55 928	736	666	70	- 44	+ 17	42
1981-87	56 352	738	657	80	+ 12	+ 4	96
1987-88	56 930	788	651	137	- 4	+ 3	135
Projections³							
1988-91	57 065	801	646	156		0	156
1991-96	57 333	835	649	186		0	186
1996-2001	58 462	801	654	148		0	148
2001-06	59 201	743	653	89		0	89
2006-11	59 648	725	657	68		0	68
2011-16	59 989	747	668	78		0	78
2016-25	60 381	776	695	81		0	81

¹ See Appendix Part 1. Population and population projections.

² Changes in numbers of armed forces plus adjustments to reconcile differences between estimated population change and the figures for natural change and net civilian migration.

³ 1988 based projections.

Source: Office of Population Censuses and Surveys
Government Actuary's Department

1.7 Internal migration, moves between Wales, Scotland, Northern Ireland and standard regions of England¹ by age

Thousands

	15-64 Male		65+ Male		All ages
	0-14	15-59 Female	60+	Female	
1979	176	617		61	855
1980	172	636		63	871
1981	152	592		62	807
1982	157	603		68	830
1983	157	622		68	846
1984	150	629		68	846
1985	155	656		72	883
1986	171	733		82	985
1987	176	767		87	1 030
1988	177	788		84	1 049

¹ Data are based on patient movements recorded by the National Health Service Central Registers at Southport and Edinburgh and the Central Services Agency in Belfast. Data for years until 1983 were based on a sample and from 1984 on 100 per cent counts.

Source: Office of Population Censuses and Surveys

Table 18 shows how the different factors which determine the total size of the United Kingdom population - births, deaths and migration - have changed since 1901 and how they are projected to change up to the year 2025. Between 1987 and 1988 the population increased by 135 thousand, this increase was similar to those in the two previous years, but greater than the average increase experienced in the period 1981-84. While the future population loss due to deaths is assumed to remain fairly stable until the year 2011, with deaths rising slowly after that date, births are projected to rise until the mid-1990s, then to fall until around 2011 and to rise again thereafter. Moderate overall growth is projected to produce a population of slightly over 59 million by 2001 and slightly over 60 million by 2016.

Births and Deaths

1.9 Live births and age of mother

United Kingdom

	Total live births (thousands)	Crude birth rate ¹	General fertility rate ²	Total period fertility rate ³	Mean age of mother at birth (years)
1951	797	15.9	73.0	2.15	28.4
1956	825	16.1	78.8	2.36	28.0
1961	944	17.9	90.6	2.80	27.6
1964	1 015	18.8	94.1	2.95	27.2
1966	980	17.9	91.5	2.79	26.9
1971	902	16.1	84.3	2.41	26.4
1976	676	12.0	61.3	1.74	26.7
1977	657	11.7	58.9	1.69	26.8
1981	731	13.0	62.1	1.81	27.2
1986	755	13.3	61.1	1.78	27.7
1987	776	13.6	62.3	1.82	27.1
1988	788	13.8	63.2	1.84	27.2
Projections⁴					
1991	826	14.4	66.7	1.89	27.6
2001	768	13.0	64.5	2.00	28.4
2011	732	12.2	64.0	2.00	27.7
2025	772	12.6	68.7	2.00	28.1

1 Total births per 1 000 population of all ages

2 Total births per 1 000 women aged 15-44. Includes also births to mothers aged under 15 and 45 and over

3 The average number of children which would be born per woman if women experienced the age specific fertility rates of the period in question throughout their child bearing life span

4 1988 based projections

Source: Office of Population Censuses and Surveys
Government Actuary's Department

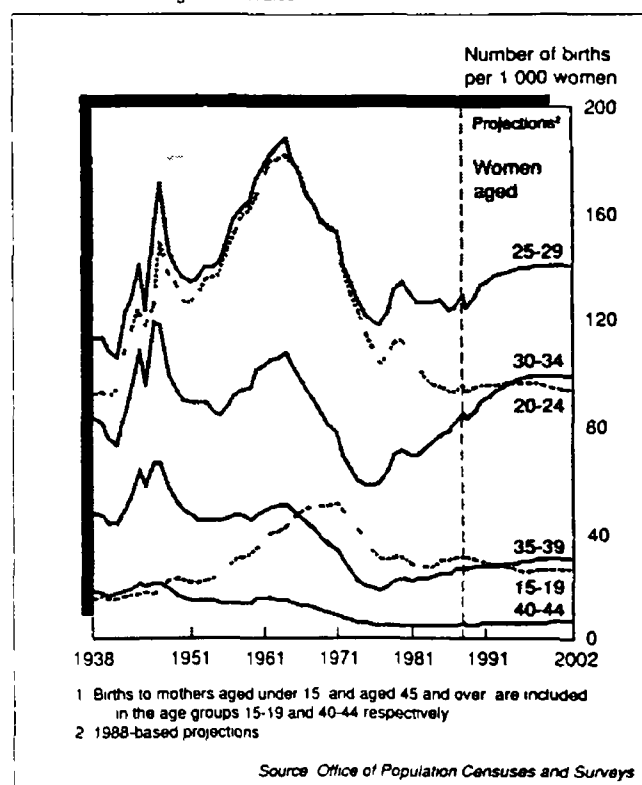
There were 788 thousand live births in the United Kingdom in 1988 (Table 1.9), 20 per cent more than the trough in 1977 but over 22 per cent fewer than the post-1950 peak year for births in 1964. These changes are reflected in the crude birth rate (that is births per thousand population) and the other measures of fertility shown in the table, the crude birth rate in 1988, at nearly 14 births per thousand population, was 27 per cent lower than the 1964 peak of nearly 19 births per thousand population, but still about 18 per cent higher than the trough in 1977.

Chart 1.10 shows that in England and Wales the number of births per thousand women aged over 20 peaked in the early 1960s while for those aged 15-19 the peak was in 1971. Since then birth rates have fallen, and in 1988 for all women except those aged 15-19 birth rates were lower than they were in 1950, particularly amongst women aged 35-39 (down 45 per cent) and 40-44 (down 65 per cent). Since the trough in the mid 1970s birth rates for women over 25 have generally risen, and are projected to continue their rise into the next century, but those for women aged 20-24 are projected to remain stable and those for the under 20s to decrease slightly. Chapter 2 Households and Families gives details of live births by age of mother.

Births to mothers born outside the United Kingdom fell from 12.3 per cent of all live births in Great Britain in 1981 to 11.1 per cent in 1988, this was however the same as the figure in 1971 (Table 1.11). Similarly the proportion of births to mothers born in the New

1.10 Live births by age of mother¹

England & Wales



Commonwealth and Pakistan (NCWP), which had risen from 5.3 per cent in 1971 to 7.8 per cent in 1981, fell to 6.8 per cent in 1988. Over this period the percentage of births to mothers born in the Irish

1.11 Live births by country of birth of mother

Great Britain

Thousands and percentages

	Live births (thousands)			
	1971	1981	1987	1988
Area/country of birth of mother				
United Kingdom	773.3	617.3	663.8	675.5
Percentage of all live births	88.9	87.7	88.8	88.9
Outside United Kingdom				
Irish Republic	22.5	8.6	6.2	6.7
Old Commonwealth	2.7	2.6	2.8	2.9
New Commonwealth and Pakistan				
India	13.7	12.6	10.2	9.7
Pakistan and Bangladesh	8.5	17.0	18.3	17.8
Caribbean	12.6	6.3	4.6	4.2
East Africa	2.2	6.7	7.3	7.1
Rest of Africa	3.0	3.6	4.0	4.3
Other New Commonwealth	6.2	8.4	8.6	8.8
Total New Commonwealth and Pakistan	46.2	54.6	53.0	52.0
Other European Community	20.4	6.1	7.4	7.6
Rest of the world		14.1	14.4	14.9
Total with mother born outside UK	91.8	86.0	83.9	84.2
Not stated	4.8	0.2	0.1	0.1
Total live births	869.9	703.5	747.8	759.8

Source: Office of Population Censuses and Surveys

1.12

Fertility rates and births outside marriage by country of birth of mother

England & Wales

Rates and percentages -

	Estimated total period fertility rates ¹					Percentage of births outside marriage				
	1971	1981	1986	1987	1988	1971	1981	1986	1987	1988
Area/country of birth of mother										
United Kingdom	2.3	1.7	1.7	1.8	1.8	8.1	13.4	22.9	24.8	27.3
New Commonwealth and Pakistan										
India	4.1	3.1	2.9	2.7	2.8	1.7	1.2	1.7	1.8	2.0
Pakistan and Bangladesh	8.8	6.5	5.6	5.2	4.9	0.8	0.5	0.6	0.8	0.8
Caribbean	3.3	2.0	1.8	1.9	1.8	36.3	50.0	48.3	48.7	49.2
East Africa	2.4	2.1	2.0	2.0	2.0	3.7	2.4	3.4	3.8	4.9
Rest of Africa	3.8	3.4	2.8	3.2	3.6	4.6	13.0	22.1	25.0	27.2
Other New Commonwealth	2.6	2.0	2.0	1.9	2.0	5.2	6.3	9.9	10.5	11.1
Total New Commonwealth and Pakistan	3.8	2.9	2.9	2.8	2.8	11.9	8.4	8.4	9.0	9.5
Rest of the world	2.7	2.0	1.9	1.9	2.0	8.9	9.4	13.7	15.4	16.7
All countries	2.4	1.8	1.8	1.8	1.8	8.4	12.8	21.4	23.2	25.6

¹ See Table 1.9 footnote 3

Source: Office of Population Censuses and Surveys

Republic fell from 2.6 per cent of all live births in 1971 to 0.9 per cent in 1988. These trends partly reflect changes in the number of women of childbearing age born in different parts of the world. It is important to note, however, that birthplace does not necessarily equate with ethnic group. In particular, there are an increasing number of women from the ethnic minorities in the younger childbearing ages who were themselves born in this country (see also Chart 1.6) and births to such women would be included in the United Kingdom born mother category. Conversely, some women, although born in countries of the NCWP, are not of ethnic minority descent.

Overall fertility rates dropped between 1971 and 1981 in England and Wales, and have since remained roughly stable. However, rates for overseas-born women have in general continued to fall since 1981 (Table 1.12). The total period fertility rate (TPFR) for women born in Pakistan and Bangladesh, although still much higher than for women born in other countries, fell by 44 per cent between 1971 and 1988. Between 1971 and 1988 the percentage of births outside marriage to United Kingdom and Caribbean-born women increased by 19 and 13 percentage points respectively though the trends have been different, with the percentage of births

1.13

Death rates by age and sex

United Kingdom

Rates per thousand population and thousands

	Age						All ages	Total deaths (thousands)
	Under 1 ¹	1-14	15-39	40-59 females 40-64 males	60-79 females 65-79 males	80 and over		
1961								
Males	24.8	0.6	1.3	11.8	66.1	190.7	12.6	322.0
Females	19.3	0.4	0.8	4.9	32.2	136.7	11.4	309.8
1971								
Males	20.2	0.5	1.1	11.4	59.9	174.0	12.1	328.5
Females	15.5	0.4	0.6	4.8	27.5	132.9	11.0	316.5
1976								
Males	16.4	0.4	1.1	11.1	60.4	183.4	12.5	341.9
Females	12.4	0.3	0.6	4.7	28.0	140.8	11.7	338.9
1981								
Males	12.7	0.4	1.0	10.1	56.1	167.5	12.0	329.1
Females	9.6	0.3	0.5	4.4	26.4	126.2	11.4	328.8
1986								
Males	10.9	0.3	0.9	9.1	54.0	158.2	11.8	327.2
Females	8.1	0.2	0.5	3.7	25.7	120.5	11.5	333.6
1987								
Males	10.3	0.3	0.9	8.5	51.8	147.1	11.5	318.3
Females	7.9	0.2	0.5	3.6	25.1	113.7	11.2	326.1
1988								
Males	10.2	0.3	1.0	8.3	51.1	147.1	11.5	319.1
Females	7.7	0.2	0.5	3.5	24.9	114.9	11.3	330.0

¹ Rate per 1 000 live births

Source: Office of Population Censuses and Surveys

outside marriage to United Kingdom mothers continuing to rise while that for Caribbean mothers is now fairly stable. In contrast the very low proportions of births outside marriage to women from India, Pakistan and Bangladesh have remained almost constant over the same period. Chapter 2 Households and Families contains further details on births outside marriage.

There were just over 649 thousand deaths in the United Kingdom in 1988, a rise of 5 thousand over the 1987 total (Table 1.13). The crude death rate was

11.5 deaths per thousand population for males in 1987 and 11.3 for females, although this takes no account of the changing age structure of the population. There were declines in the death rate for all age groups and both sexes between 1961 and 1988 though men retained higher mortality rates than women at almost all ages. The most dramatic declines have occurred in the under 1 age group (where the rate has halved) and in the elderly (80 and over) where the rate has declined by a fifth. Chapter 7 Health and Personal Social Services gives information on life expectancy at different ages, causes of death and infant mortality.

Migration

Estimates of the effect of overseas migration on the size of the population are made annually by the Registrars General. For demographic purposes they use the agreed international definition of migrants such that a 'new resident' is someone who, having lived abroad for at least twelve months, declares an

intention to reside in the United Kingdom for at least twelve months. The definition of a 'departing resident' is the converse. The main source of data on such movements is the International Passenger Survey (IPS).

1.14 International migration into and out of the United Kingdom¹ by country of last or next residence

Country of last or next residence	1974-1978			1979-1983			1984-1988		
	Inflow	Outflow	Balance	Inflow	Outflow	Balance	Inflow	Outflow	Balance
	Thousands								
Commonwealth countries									
Australia	22.4	36.5	-14.1	13.4	35.9	-22.6	15.6	30.4	-14.8
Canada	7.1	26.0	-18.9	5.8	17.2	-11.4	5.9	8.8	-2.9
New Zealand	8.9	13.8	-4.9	6.1	9.0	-2.8	9.5	7.3	2.1
African Commonwealth	17.~	12.6	4.7	14.6	10.4	4.2	12.1	6.6	5.5
Bangladesh India Sri Lanka	14.~	3.8	10.3	16.3	4.0	12.3	13.9	3.8	10.1
Caribbean	4.3	3.9	0.3	4.1	3.2	0.9	3.2	3.2	~
Other	15.8	9.0	6.7	16.5	14.1	2.3	16.5	15.4	1.2
Total Commonwealth	89.9	105.7	-15.8	76.8	93.8	-17.0	76.7	75.5	1.3
Non Commonwealth countries									
European Community ²	23.8	29.9	-6.1	30.6	31.5	-0.9	55.4	48.7	6.7
Rest of Europe	11.6	15.3	-3.7	11.0	11.8	-0.8	9.4	10.0	-0.6
United States of America	15.9	21.5	-5.7	18.3	28.0	-9.9	24.8	30.0	-5.2
Rest of America	4.~	3.7	0.4	3.3	4.3	-1.0	3.3	2.8	0.6
Republic of South Africa	9.6	16.7	-7.1	6.6	15.2	-8.7	11.6	4.7	6.9
Pakistan	10.8	2.1	8.7	11.6	1.5	10.1	9.6	2.2	7.4
Middle East ³	~	~	~	12.6	23.6	-11.0	16.4	16.4	~
Other ³	18.6	28.9	-10.2	14.3	9.0	5.3	15.1	9.4	5.7
Total Non Commonwealth	94.5	118.1	-23.6	108.3	125.0	-16.7	145.7	124.2	21.4
All countries	184.4	223.8	-39.4	185.1	218.9	-33.8	222.4	199.7	22.7
of which									
UK citizens	79.5	155.1	-75.7	79.5	149.9	-70.4	102.7	123.3	-20.6
Non UK citizens	104.9	68.6	36.3	105.6	69.0	36.6	119.7	76.4	43.3

1 Includes migration with the Republic of Ireland and from 1979 with the Channel Islands and the Isle of Man.
2 Spain and Portugal are included with rest of Europe for 1974-1983.
3 Middle East included in Other for 1974-1978 and with European Community for 1984-1988.
Source: Office of Population Censuses and Surveys.

In 1984-1988 as a whole more migrants (including British citizens) entered the United Kingdom than left (Table 1.14). However, in 1988 itself more people left than entered. The number of migrants from the European Community has more than doubled between 1974-1978 and 1984-1988 and there has been a 56 per cent increase in the number of residents from the USA moving to the United

Kingdom over the same period. Migration to South Africa has decreased by 72 per cent over the period covered in the table, and nearly all Commonwealth countries (excluding the 'other' category) have gained fewer migrants from the United Kingdom. When analysed by citizenship, in each of the three five year periods there was a net outflow of British citizens, and a net inflow of non-British citizens. However,

1.15

International migration into and out of the United Kingdom¹ by citizenship and country of last or next residence, 1988

Thousands

Country of last or next residence	Citizenship								
	British			Commonwealth			Other		
	Inflow	Outflow	Balance	Inflow	Outflow	Balance	Inflow	Outflow	Balance
Commonwealth countries									
Australia	8.0	35.7	-27.7	11.5	6.0	5.5	0.6	2.4	-1.9
Canada	3.4	9.0	-5.5	2.0	2.3	-0.4	—	0.6	-0.6
New Zealand	3.4	3.1	0.3	6.8	2.8	4.0	—	—	—
African Commonwealth	5.0	2.2	2.8	4.4	4.7	-0.3	0.2	0.3	-0.1
Bangladesh, India, Sri Lanka	2.0	1.6	0.4	9.4	3.0	6.4	0.4	0.3	0.1
Caribbean	1.8	2.2	-0.4	1.1	1.7	-0.6	—	0.3	-0.3
Other	5.1	9.1	-4.0	9.8	8.6	1.2	1.7	0.8	0.9
Total Commonwealth	28.8	62.8	-34.1	44.9	29.0	15.9	2.9	4.6	-1.7
Non Commonwealth countries									
European Community	26.2	41.1	-14.9	0.5	0.9	-0.3	25.4	16.6	8.8
Rest of Europe	2.9	3.3	-0.3	0.1	2.0	-1.9	7.6	8.2	-0.6
United States of America	7.9	14.7	-6.8	1.3	0.7	0.5	13.9	14.9	-1.0
Rest of America	1.5	0.8	0.7	—	0.2	-0.2	3.9	2.5	1.5
Republic of South Africa	5.2	4.0	1.3	0.2	0.7	-0.6	1.6	0.5	1.2
Pakistan	3.5	1.4	2.1	—	—	—	5.1	1.9	3.2
Middle East	9.0	10.2	-1.2	0.4	0.3	0.1	7.3	4.8	2.5
Other	4.0	4.6	-0.5	0.5	0.3	0.1	11.4	6.4	5.0
Total Non Commonwealth	60.3	80.0	-19.6	2.9	5.1	-2.2	76.2	55.7	20.5
All countries	89.1	142.8	-53.7	47.8	34.2	13.6	79.1	60.3	18.8

¹ Excludes migration with the Republic of Ireland, the Channel Islands and the Isle of Man

Source: Office of Population Censuses and Surveys

during 1984-1988 the net outflow of British citizens was considerably smaller than the two earlier periods. In 1984-1988 46 per cent of all migrants into the United Kingdom were British citizens compared to 43 per cent in both 1974-1978 and 1979-1983.

The inflow of British citizens to the United Kingdom in 1988 was 89 thousand (Table 1.15). Most of these were from non-Commonwealth countries and 29 per

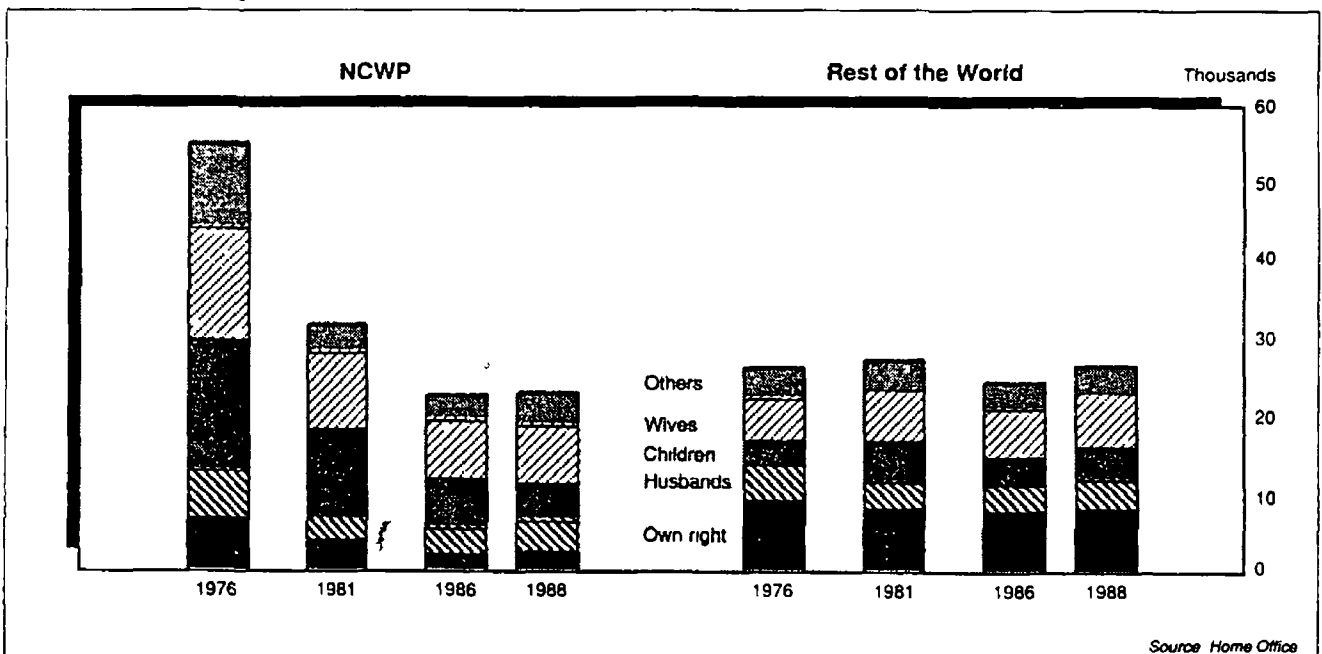
cent were from the European Community. More than twice as many British citizens left the United Kingdom for Commonwealth destinations than entered the United Kingdom from the Commonwealth - a net loss of British citizens by migration of 34 thousand.

An alternative measure of immigration - the main measure for persons subject to immigration control

1.16

Acceptances for settlement by category of acceptance

United Kingdom



Source: Home Office

1.17 Grants of citizenship in the United Kingdom by previous citizenship or nationality

Previous citizenship or nationality	Citizenship of the UK and Colonies					British citizenship					
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Old Commonwealth											
Australia	0.1	0.1	0.2	0.2	0.3	0.3	0.6	0.5	0.4	0.4	0.3
Canada	0.1	0.1	0.1	0.2	0.3	0.3	0.6	0.5	0.4	0.7	0.5
New Zealand	0.1	0.1	0.1	0.2	0.3	0.2	0.6	0.4	0.3	0.5	0.4
New Commonwealth											
Africa	2.0	2.3	2.1	2.9	5.1	4.3	5.7	3.8	2.7	3.1	3.3
Bangladesh India and Sri Lanka	4.6	3.5	3.2	6.1	15.9	10.6	17.4	10.0	7.7	9.5	11.8
Pakistan ¹	1.3	0.7	0.5	0.3	0.2	0.1	—	—	—	—	—
West Indies	4.5	4.1	4.1	9.1	22.2	14.7	15.6	9.6	10.0	22.0	25.0
Other Commonwealth	2.3	1.8	1.6	3.1	3.8	2.3	3.6	3.0	2.5	2.7	2.4
British Overseas citizens and British Dependent Territories citizens						6.9	2.1	2.9	2.1	2.5	3.0
Total Commonwealth	15.1	12.6	11.8	21.1	48.0	37.3	46.0	30.7	26.1	41.5	46.9
Irish Republic	0.4	0.3	0.2	0.3	0.5	0.4	0.4	0.4	0.3	0.4	0.9
European Community	0.8	1.0	2.0	4.1	3.0	2.1	2.6	1.9	2.0	2.0	1.0
Other Europe	1.7	1.7	2.7	4.0	3.4	2.5	3.0	2.7	1.6	2.7	1.4
United States of America	0.1	0.2	0.3	0.8	0.7	0.5	0.7	0.7	0.6	0.6	0.4
Other Americas	0.2	0.3	0.4	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.4
South Africa	0.7	0.9	1.3	2.3	1.9	1.3	2.1	2.3	3.3	3.7	1.8
Pakistan	3.6	4.7	3.8	8.7	10.6	7.7	10.2	6.9	4.9	5.6	4.8
Other foreign	2.2	2.8	5.0	6.7	7.6	6.3	8.3	7.4	6.5	7.9	7.1
Total foreign	9.4	11.7	15.5	27.2	27.8	20.7	27.5	22.6	19.4	23.0	16.8
All grants	25.0	24.6	27.5	48.6	76.3	60.7	74.0	53.8	45.9	64.9	64.6

¹ Pakistan was not a Commonwealth country during the years 1978-88 but certain nationals of Pakistan were regarded as Commonwealth citizens for the purpose of applying for registration

Source: Home Office

is the number of people accepted for settlement in the United Kingdom under the *Immigration Act 1971* (Chart 116). These statistics are on a different basis from those from the IPS and relate only to people who are subject to immigration control and not to people who have the right of abode in the United Kingdom. In 1988, 49.3 thousand people were accepted for settlement, 31.5 thousand less than in 1976. Citizens from the NCWP accounted for 22.8 thousand, 46 per cent of the total. About 54 per cent of the NCWP citizens granted settlement in 1988 were wives and children.

There were over 64 thousand grants of British citizenship in 1988, almost the same as in 1987, and 19 thousand more than in 1986 (Table 117). The numbers in 1986 were reduced because of work involved in the introduction of computerisation. The increase in the number of grants in 1987 and 1988 were associated with the ending, in December 1987, of the transitional registration arrangements under the *British Nationality Act 1981*. In the years 1982 to 1984, grants averaged 70 thousand a year

reflecting the number of applications received around the time when the *British Nationality Act* came into force on 1 January 1983 compared with around 26 thousand grants a year between 1978 and 1980. The number of grants to Commonwealth citizens increased by over 5 thousand from 1987 to 1988 while grants to foreign nationals fell by over 6 thousand. Residence in the United Kingdom was the most frequent basis on which people were granted British citizenship.

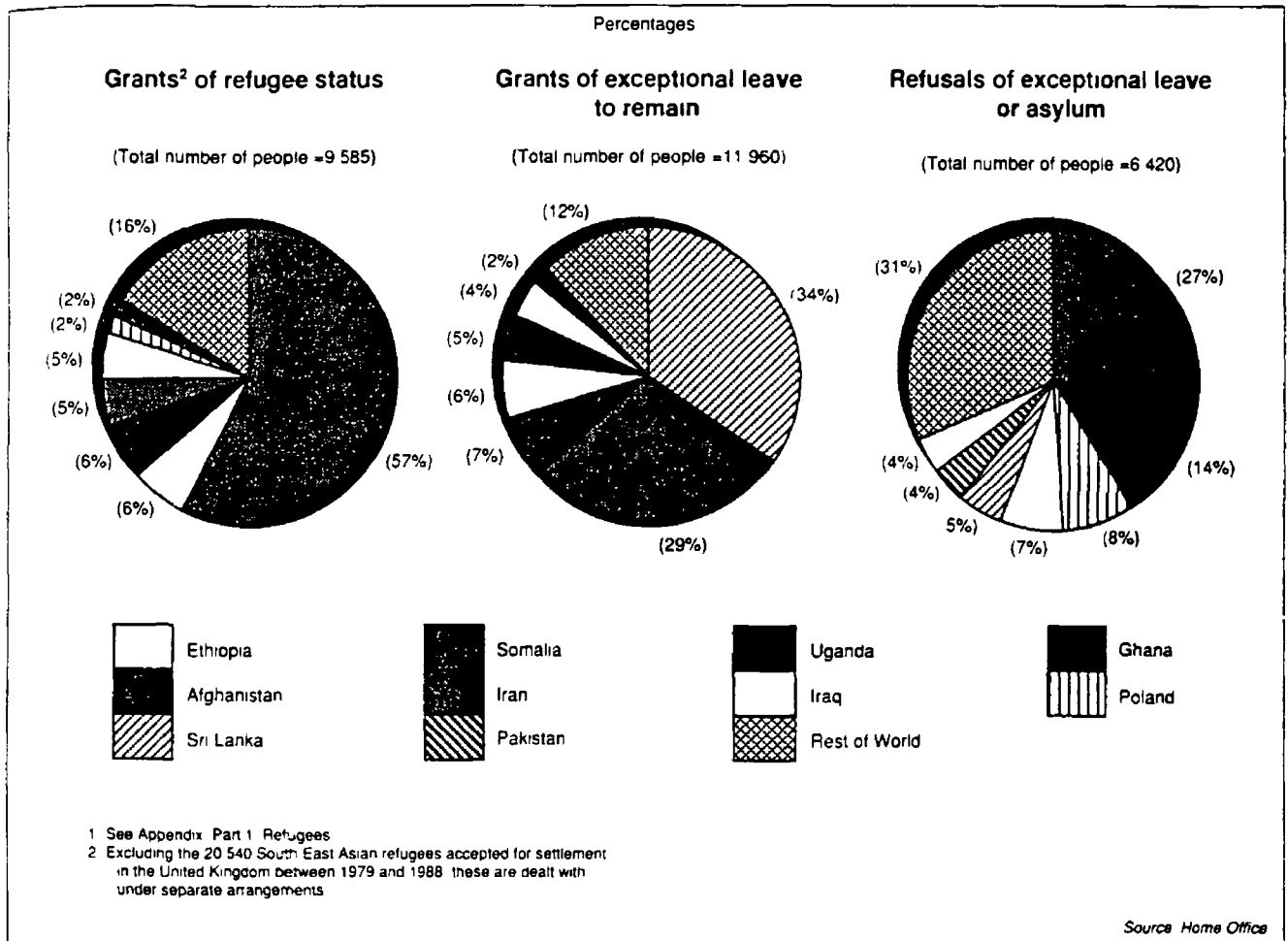
Over the period 1979-1988 as a whole, 9.6 thousand people were granted refugee status or asylum in the United Kingdom. In addition, 20.5 thousand South East Asian refugees (who are dealt with under separate arrangements) were accepted for settlement. A further 12.0 thousand were granted

exceptional leave (see Appendix Part 1 Population Refugees) Refusals of refugee status or exceptional leave totalled 6 4 thousand over the ten years During the period the proportion of total decisions which were grants of refugee status fell considerably This fall reflected the marked decline in the proportion of total applicants who were found to qualify as refugees under the 1951 United Nations Convention

the criteria for qualifying have remained the same Chart 1 18 shows the main nationalities involved in each type of decision Over the period as a whole, over half of the grants of refugee status were to Iranians two thirds of all grants of exceptional leave were to Sri Lankans or Iranians a quarter of all refusals were of Iranians and around one-seventh were of Ghanaians

1.18 Decisions taken on applications for refugee status¹ by nationality, 1979 to 1988

United Kingdom



International comparisons

The United Nations (UN) estimated that in 1974 the world's population was 4 billion 13 years later the UN designated 11 July 1987, 'Day of 5 Billion', as the symbolic focus of a world wide celebration of the day the world population reached 5 billion By comparison it took about 35 years to grow from 2 billion in the middle of the 1920s to 3 billion in 1960 and more than a century to grow from 1 billion to 2 billion It is projected that the world's population will reach 6 billion by 1999, 7 billion by 2010 and 8 billion by 2022

Table 1 19 compares demographic data for each of the European Community and selected other countries Among EC countries in mid-1986 the Federal Republic of Germany (FRG) had the largest population (61 6 million) followed by Italy (57 2 million) and the United Kingdom (56 8 million) By the year 2010 it is projected (using Community rather than British definitions) that the United Kingdom will have moved into first place with a population of 59 4 million (because the FRG will have reduced population numbers) Of the countries shown in the

1.19 Population and population structure selected countries

	Estimates of mid year population (millions)			Projections (millions)		Total annual rate of increase ¹	Birth rate ²	Death rate ³	Expectation of life at birth (years)		Population density (per sq km)
	1971	1981	1986	2000	2010	1988	1988	1988	Males	Females	1987
United Kingdom	55.9	56.4	56.8	58.9	59.4	2.4	13.8	11.4	71.7	77.5	233
Belgium	9.7	9.8	9.9	9.9	9.7	1.5	12.1	10.6	70.0	76.8	324
Denmark	4.9	5.1	5.1	5.2	5.1	0.1	11.5	11.5	71.8	77.6	119
France	51.3	54.2	55.4	57.9	58.8	4.4	13.8	9.4	72.0	80.3	102
Germany (Fed. Rep.)	61.3	61.7	61.1	61.0	58.6	7.5	11.1	11.2	71.5	78.1	246
Greece	8.8	9.7	10.0	10.0	10.1	1.7	10.8	9.1	72.2	76.4	76
Irish Republic	3.0	3.4	3.5	3.5	3.4	-2.5	15.4	8.9	70.1	75.6	50
Italy	54.1	56.5	57.2	57.6	56.4	1.8	10.1	9.4	71.6	78.1	191
Luxembourg	0.3	0.4	0.4	0.4	0.4	13.4	12.4	10.3	70.6	77.9	143
Netherlands	13.2	14.2	14.6	15.7	16.1	6.7	12.7	8.4	73.0	79.6	359
Portugal	8.6	9.9	10.2	11.1	11.1	3.3	11.9	9.6	70.7	77.5	111
Spain	34.2	37.8	38.7	40.7	41.2	4.2 ⁴	10.8 ⁴	8.0 ³	72.5	78.6	77
European Community	305.3	319.1	322.9	331.9	330.3	3.9	12.0	9.9	72.1	78.4	144
China	787.2	1 007.8	1 072.2	1 285.9	1 382.5	14.0	21.0	7.0	66.7	68.9	112
India	550.4	683.8	766.1	1 042.5	1 225.3	22.0	33.0	11.0	55.6	55.2	233
USSR	245.1	267.7	280.1	307.7	326.4	10.0	20.0	10.0	62.9	72.7	13
USA	207.0	229.8	241.6	266.2	281.2	7.0	16.0	9.0	71.2	78.2	26
Japan	104.7	117.6	121.5	129.1	131.7	5.0	11.0	6.0	74.8	80.5	322

1 EEC countries: natural increase for China, India, USSR, USA and Japan

2 Live births per thousand population

3 Deaths per thousand population

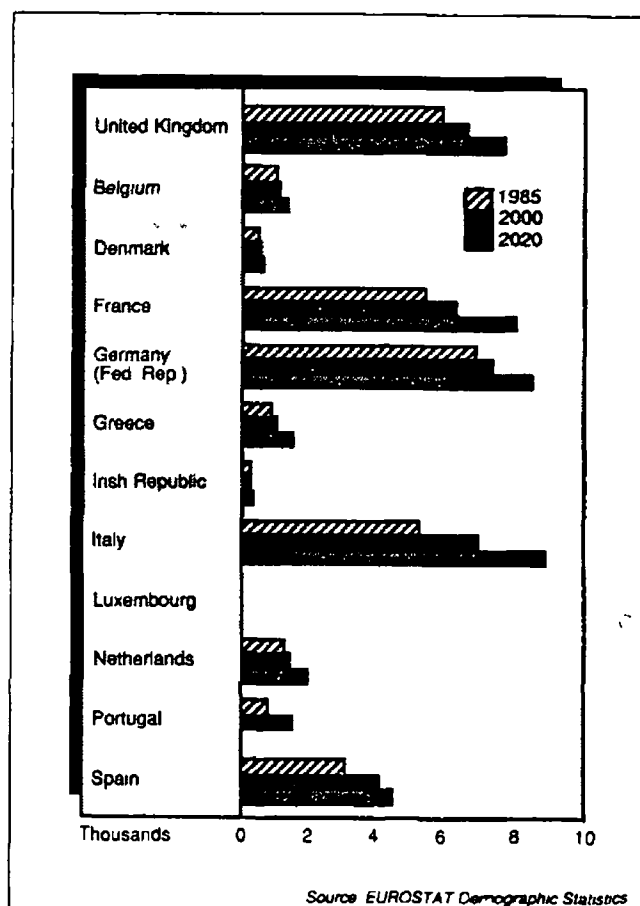
4 1987

Source: Statistical Office of the European Communities
United Nations Demographic Yearbooks 1971, 1981 and 1986

table Belgium, the FRG, the Irish Republic and Italy are all expected to have slightly smaller populations in the year 2010 than they had in 1986 while India is projected to have a 60 per cent population growth. In the FRG the birth rate was below the death rate in 1988 while in a number of other countries the birth rate scarcely exceeded the death rate. The highest birth rate of the countries shown in Table 1.19 was in India (33.0 live births per thousand population) followed by China (21.0) and the USSR (20.0). Japan had the lowest death rate (6.0 deaths per thousand population). Expectations of life at birth were greatest for both men and women in Japan being 74.8 and 80.5 years respectively compared with 71.7 and 77.5 years in the United Kingdom. They were lowest in India and the USSR for men, and also in India and China for women.

The total population aged 70 and over of the European Community is expected to continue to rise (Chart 1.20). The aged population of Greece is projected to increase by 61 per cent by the year 2020 and in Italy the increase is expected to be around 64 per cent. Growth in the United Kingdom, on the other hand is expected to be only 28 per cent. The United Kingdom is expected to have a population aged 70 and over of over 7½ million by the year 2020.

1.20 Population aged 70 and over EC comparison



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Marriage and divorce

2.10 Marriages by type

United Kingdom

Thousands and percentages

	1961	1971	1976	1981	1985	1986	1987	1988
Marriages (thousands)								
First marriage for both partners	340	369	282	263	257	254	260	253
First marriage for one partner only								
Bachelor/divorced woman	11	21	30	32	32	34	34	34
Bachelor/widow	5	4	4	3	2	2	2	2
Spinster/divorced man	12	24	32	36	38	38	39	39
Spinster/widower	8	5	4	3	2	2	2	2
Second (or subsequent) marriage for both partners								
Both divorced	5	17	34	44	47	48	47	50
Both widowed	10	10	10	7	6	6	5	5
Divorced man/widow	3	4	5	5	4	4	4	4
Divorced woman/widower	3	5	5	5	5	5	5	5
Total marriages	397	459	406	398	393	394	398	394
<i>Remarriages¹ as a percentage of all marriages</i>	<i>14</i>	<i>20</i>	<i>31</i>	<i>34</i>	<i>35</i>	<i>35</i>	<i>35</i>	<i>36</i>
<i>Remarriages¹ of the divorced as a percentage of all marriages</i>	<i>9</i>	<i>15</i>	<i>26</i>	<i>31</i>	<i>32</i>	<i>33</i>	<i>32</i>	<i>33</i>

¹Remarriage for one or both partners

Source: Office of Population Censuses and Surveys

2.11 First marriages by sex and age at marriage

Great Britain

Rates

	Marriages per 1 000 eligible population			
	1961	1971	1981	1988
Spinsters aged				
16 – 19 years	77	92	42	20
20 – 24 years	259	247	142	97
25 – 29 years	166	168	120	113
30 – 34 years	72	75	66	76
35 – 44 years	29	30	28	31
All aged 16 years and over	82	96	64	55
Bachelors aged				
16 – 19 years	17	27	12	5
20 – 24 years	159	169	96	58
25 – 29 years	185	169	121	103
30 – 34 years	91	85	70	79
35 – 44 years	39	34	31	33
All aged 16 years and over	76	83	52	44

Source: Office of Population Censuses and Surveys
General Register Office (Scotland)

There were 394 thousand marriages in the United Kingdom in 1988, a similar number to 1961 and 1981, but 14 per cent less than in 1971 (Table 2.10). In 1988 marriages between bachelors and spinsters accounted for 64 per cent of all marriages compared with 86 per cent in 1961. There was a large increase between 1971 and 1976 in the proportion of marriages where one or both partners were remarrying, coinciding with the period during which the number of divorces doubled after the *Divorce Reform Act 1969* came into force (see below). Since 1976 the proportion of remarriages rose comparatively slowly to reach 36 per cent by 1988.

Whilst the number of marriages involving at least one divorced partner increased from 34 thousand to 132 thousand between 1961 and 1988, the number involving a widow or widower fell from 29 thousand to only 18 thousand over the same period.

The number of first marriages for both men and women per 1,000 eligible population has fallen considerably between 1971 and 1988 (Table 2.11). The rate of both bachelor and spinster marriages per 1,000 eligible population under the age of 20 has fallen to one-quarter of their former level for women and one-third of their former level for men in this

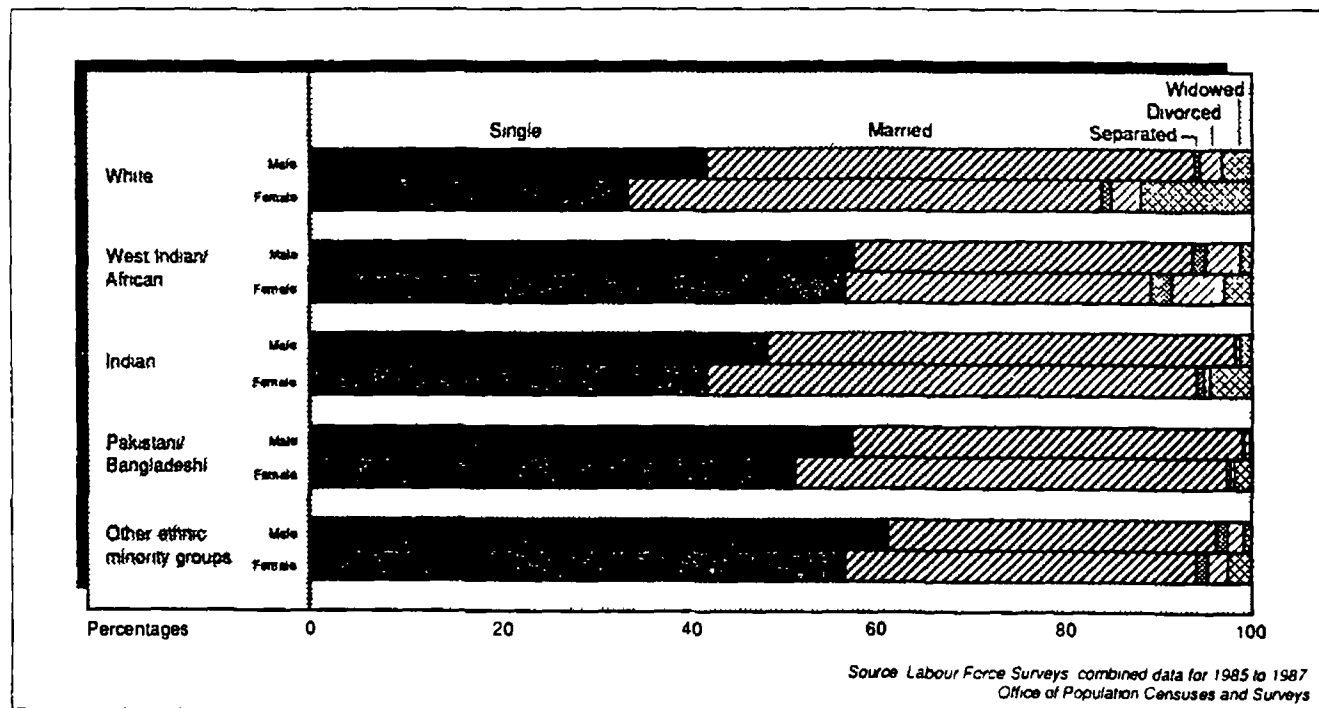
period. On the other hand, the rate of bachelor and spinster marriages for those over 30 has remained relatively unchanged.

Men and women are less likely to be single in the White population than in ethnic minority populations (Chart 2.12). However, White men are most likely to be married (52 per cent), as are Indian women (52

per cent) whilst West Indian and African men and women are the most likely to be divorced (4 per cent and 6 per cent respectively) or separated. Almost 12 per cent of White women are widowed, a far higher percentage than any of the ethnic minority populations. The marital status of the different ethnic groups is dependent on the differing age structures of the populations, these are discussed further in Chapter 1. Population

2.12 Marital status by ethnic group and sex, 1985 - 1987

Great Britain



Population Trends

Population Trends, now in its 13th year, is the journal of the Office of Population Censuses and Surveys (OPCS). It is published four times a year in March, June, September and December.

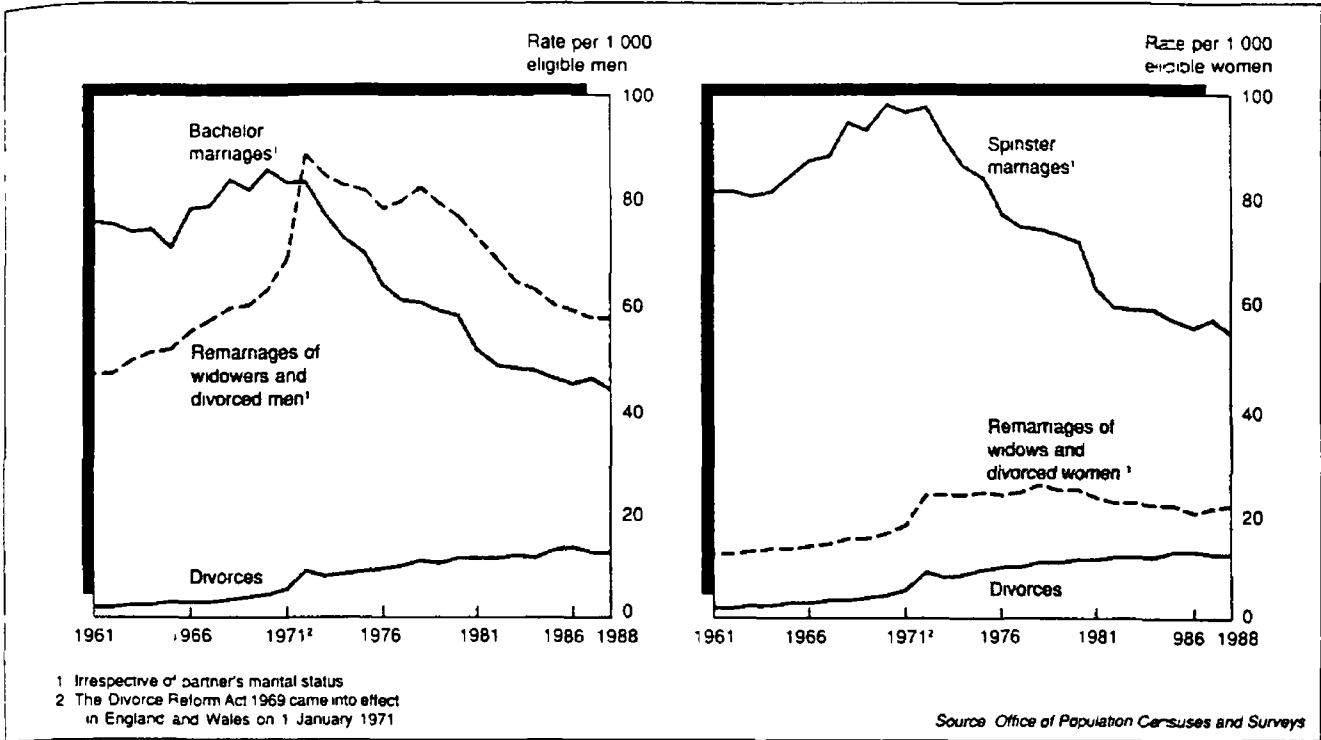
Each issue brings together articles on a variety of population and medical topics giving in-depth analysis to particular subjects.

Population Trends also contains regular series of up-to-date statistical tabulations on population, births, marriages, divorces, deaths, migration and abortion.

The Winter 1989 edition will be the 58th issue of Population Trends. Published by HMSO, it can be obtained from Government bookshops and through good booksellers.

2.13 Marriage, remarriage and divorce by sex

Great Britain



The number of marriages each year depends partly on the age and marital status structure of the population and on the ratio of males to females. Changes in the number of marriages could therefore reflect the changing size and characteristics of the population eligible to marry. Marriage, remarriage and divorce rates for men and women are shown in Chart 2.13 in terms of numbers per thousand eligible. The remarriage rate for men increased substantially during the 1960s and early 1970s, reaching a peak

in 1972, the year after the *Divorce Reform Act 1969* came into force in England and Wales. Since 1972 the rate of remarriages for men has fallen in most years, and in 1988 the rate was two-thirds that of the 1972 peak, at a level comparable with that recorded in the mid-sixties. For women, the changes in the remarriage rate over time have been much more gradual: the rate rose sharply in 1972, and since then has remained fairly stable. In 1988, the remarriage rate per eligible man was two and a half times the corresponding rate for women, though the actual number of remarriages is similar. The rates of first marriages have fallen since 1972.

2.14 Marriage and divorce: EC comparison, 1981 and 1987

	Rates			
	Marriages per 1 000 eligible population		Divorces per 1 000 existing marriages	
	1981	1987	1981	1987
United Kingdom	7.1	7.0	11.9	12.6
Belgium	6.5	5.7	6.1	7.8
Denmark	5.0	6.1	12.1	12.7
France	5.8	4.7	6.8	8.5 ¹
Germany (Fed. Rep.)	5.8	6.3	7.2	8.8
Greece	7.3	6.6	2.5	3.0 ²
Irish Republic	6.0	5.1	0.0	0.0
Italy	5.6	5.3	0.9	1.8
Luxembourg	5.5	5.3	5.9	7.5 ²
Netherlands	6.0	6.0	8.3	8.1
Portugal	7.7	7.0	2.8	
Spain	5.4	5.3 ¹	1.1	

1 1986

2 1985

Source: Statistical Office of the European Communities

The United Kingdom had the highest marriage rate in the European Community (EC) along with Portugal in 1987 (Table 2.14). Between 1981 and 1987, the rate of divorce increased in all countries for which the data are available except the Netherlands and also the Irish Republic where divorce is not legal. Denmark had the highest divorce rate in 1987, closely followed by the United Kingdom.

Section 1 of the *Matrimonial and Family Proceedings Act 1984* which became law on 12 October 1984 had an immediate effect on divorce proceedings. This legislation allowed couples to petition for divorce after the first anniversary of their marriage, whereas under former legislation they could not usually petition for divorce unless their marriage had lasted

2.15 Divorce¹

	1961	1971	1976	1981	1983	1984	1985	1986	1987	1988
Petitions filed² (thousands)										
England & Wales										
By husband	14	44	43	47	45	49	52	50	50	49
By wife	18	67	101	123	124	131	139	131	133	134
Total	32	111	145	170	169	180	191	180	183	183
Decrees nisi granted (thousands)										
England & Wales	27	89	132	148	150	148	162	153	150	155
Decrees absolute granted (thousands)										
England & Wales	25	74	127	146	147	145	160	154	151	153
Scotland	2	5	9	10	13	12	13	13	12	11
Northern Ireland	—	—	1	1	2	2	2	2	2	2
United Kingdom	27	80	136	157	162	158	175	168	165	166
Persons divorcing per thousand married people										
England & Wales	2.1	6.0	10.1	11.9	12.2	12.0	13.4	12.9	12.7	12.8
Percentage of divorces where one or both partners had been divorced in an immediately previous marriage										
England & Wales	9.3	8.8	11.6	17.1	20.0	21.0	23.0	23.2	23.5	24.0
Estimated numbers of divorced people who had not remarried (thousands)										
Great Britain										
Men	101	200	405	653	785	847	918	990	1 047	
Women	184	317	564	890	1 036	1 105	1 178	1 258	1 327	
Total	285	517	969	1 543	1 821	1 952	2 096	2 248	2 374	

¹ This table includes annulment throughout. See Appendix Part 2 Divorce.
² Estimates based on 100 per cent of petitions at the Principal Registry together with a 2 month sample of county court petitions (March and September).

Source: Office of Population Censuses and Surveys
 Lord Chancellor's Department

at least three years. The new legislation led to a record 191 thousand divorce petitions filed in England and Wales in 1985, a 6 per cent increase over 1984 (Table 2.15). In 1986, the number of petitions fell back to the 1984 level, suggesting a backlog effect caused by a larger than usual number of couples who were first able to divorce in 1985. However the number had increased slightly by 1988. A total of 153 thousand decrees were made absolute in England and Wales

in 1988, over double the number in 1971 when the *Divorce Reform Act 1969* came into force in England and Wales. Despite the fall in the number of petitions filed and decrees absolute granted between 1985 and 1988, the proportion of partners divorcing for the second or subsequent time rose slightly, nearly a quarter of divorces in England and Wales in 1988 involved at least one partner who was divorcing for a second or subsequent time.

2.16 Divorce by duration of marriage

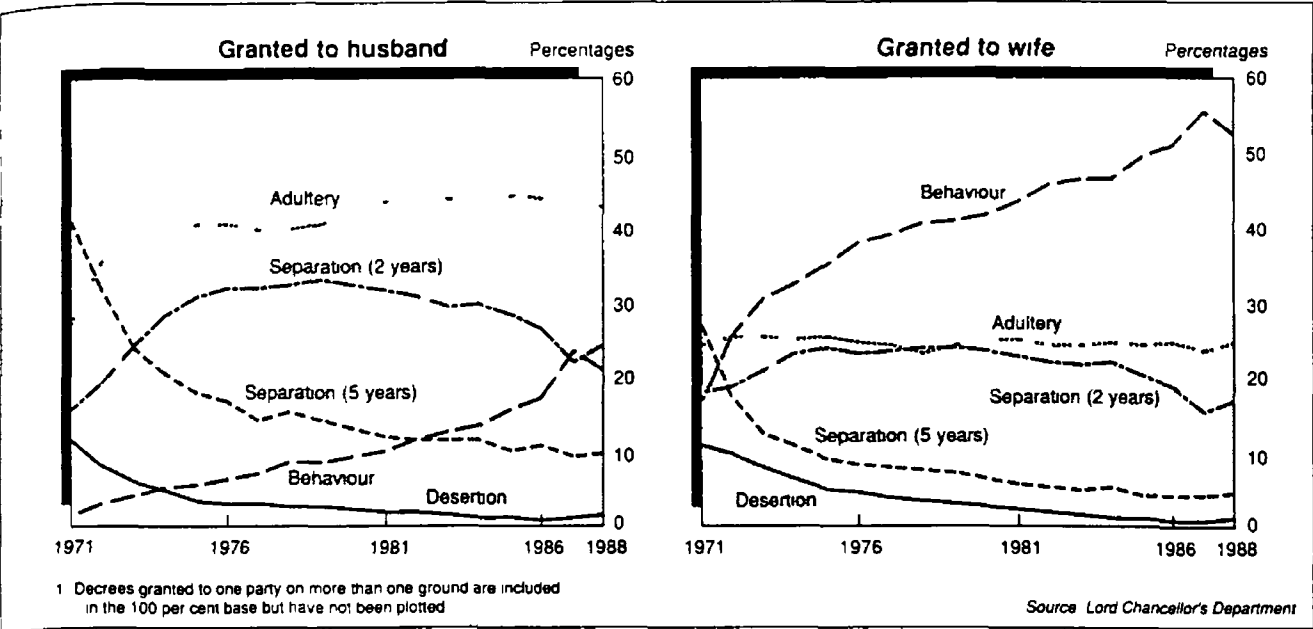
Great Britain

Percentages and thousands

	Year of divorce									
	1961	1971	1976	1981	1983	1984	1985	1986	1987	1988
Duration of marriage										
(completed years)										
0-2	1.2	1.2	1.5	1.5	1.3	1.2	8.9	9.2	9.3	9.5
3-4	10.1	12.2	16.5	19.0	19.5	19.6	18.8	15.3	13.7	13.4
5-9	30.6	30.5	30.2	29.1	28.7	28.3	26.2	27.5	28.6	28.0
10-14	22.9	19.4	18.7	19.6	19.2	18.9	17.1	17.5	17.5	17.5
15-19	13.9	12.6	12.8	12.8	12.9	13.2	12.2	12.8	13.0	13.2
20-24	21.2	9.5	8.8	8.6	8.6	8.7	7.9	8.4	8.7	9.1
25-29		5.8	5.6	4.9	5.2	5.3	4.7	4.8	4.9	4.9
30 and over		8.9	5.9	4.5	4.7	4.6	4.2	4.3	4.3	4.3
All durations (= 100%) (thousands)	27.0	79.2	135.4	155.6	160.7	156.4	173.7	166.7	163.1	164.1

2.17 Divorce – party granted decree by grounds¹

England & Wales



The impact of the 1984 Act can also be seen in Table 2 16. Whereas in 1984 only 1 2 per cent of divorces in Great Britain occurred within 2 years of marriage, this proportion has been around 9 per cent since 1985 (the 1984 Act did not apply in Scotland). There had already been a steady increase in the proportion of all divorces in a given year occurring before the fifth wedding anniversary, from just over a tenth in 1961 to around a fifth in 1984 and over a quarter in 1985, although the proportion has subsequently declined. The proportion of divorces occurring after 20 years of marriage fell from 24 per cent in 1971 to 17 per cent in 1985, before increasing slightly to 18 per cent in 1988.

In England and Wales in 1988, 72 per cent of all decrees were granted to wives. The *Divorce Reform Act 1969* introduced a solitary ground for divorce: the 'irretrievable breakdown of marriage' which can be established by proving one or more of five 'facts'. Ever since 1973, the most frequently used 'fact' on which wives have been granted decrees has been the unreasonable behaviour of their husbands, and by 1986 over one-half of the decrees granted to wives was on this fact (Chart 2 17). On the other hand, the most frequently used 'fact' by husbands granted decrees in 1988 was that of their wives' adultery. The effect of the 1969 legislation was to allow divorce for the first time to certain groups, the most important being those who wished to divorce because they had lived apart from their partner for more than five years, and the effect was to produce the high proportions of decrees granted on five years' separation for both men and women in 1971. This proportion has since declined, indicating that the 1971 figures probably represented a backlog effect.

'Cohabitation' is defined as living together as husband and wife without having married legally. The prevalence of cohabitation has increased in Great Britain in recent years; GHS estimates suggest that the proportion of women aged 18 to 49 who were cohabiting almost tripled between 1979 and 1988 (Table 2 18). In 1988, 12 per cent of women aged 18 to 24 years were cohabiting compared with 6 per cent of those aged 25 to 49 years.

Cohabitation is more prevalent at ages 25-29 years for men (13 per cent were cohabiting in 1988) and 20-24 years for women (15 per cent cohabit); men tend to be a few years older than their partners. In 1988, nearly two-thirds of cohabiting men and women in 1988 aged between 16 and 59 years were single, compared with just under one-third who were divorced.

2.18 Percentage of women cohabiting by age

	Great Britain			
	Percentages and numbers			
	1979	1981	1986	1988 ¹
Age group (percentages)				
18-24 years	4.5	5.6	9.0	12.4
25-49 years	2.2	2.6	4.6	6.3
18-49 years	2.7	3.3	5.5	7.7
Women in sample (= 100%)(numbers)				
18-24 years	1 353	1 517	1 194	1 215
25-49 years	4 651	5 007	4 320	4 250
18-49 years	6 004	6 524	5 514	5 465

¹ 1988-89 data. The General Household Survey changed from calendar years to financial years in 1988.

Source: General Household Survey

Qualifications and activities beyond age 16

Pupils throughout the United Kingdom have the option of leaving school at 16. However, school leaving dates in Scotland allow a large number of Scottish pupils to leave at age 15. The proportion of school pupils who stay on for one extra year tends to be higher in Scotland than in England and Wales. This is mainly due to the 'conscription effect' - many pupils in Scotland are too young to leave at the end of the 4th year in secondary schools. It is also partly because school is the normal choice in Scotland for pupils seeking to gain entrance qualifications to higher education, whereas in England and Wales many young people attend further education establishments as an alternative to school.

In England and Wales a single examination system was introduced for those aged 16 or over in 1988. The General Certificate of Secondary Education (GCSE) replaced GCE 'O' levels and CSEs, with the first examinations in the summer of 1988. The GCE 'O' level examinations were originally considered suitable for the most able 20 per cent of pupils in each subject, while the CSE examinations were originally designed for the next 40 per cent of the ability range. However, by 1986/87 over 90 per cent of school leavers achieved at least one graded result at 'O' level/CSE and 55 per cent achieved at least one higher graded result ('O' level grades A-C or CSE grade 1). The GCSE examination is open to all pupils and the aim of the new system is to encourage pupils of all abilities to follow suitable courses and have these recognised with certificates which show their levels of achievement. The GCSE examinations are intended to give a clearer and more precise definition of the levels of attainment of 16 year olds in relation to their knowledge, understanding, skills and

competence which the examination courses are designed to develop. The GCSE will be the principal means of assessing 16 year olds within the National Curriculum framework. (Further details can be found in the Government White Paper *Better Schools Cmnd 9469*.)

A further new examination has also been introduced, the Advanced Supplementary ('AS') examination will run alongside GCE 'A' levels to offer greater breadth in the curriculum for students in the sixth form or equivalent. The first 'AS' examination took place in summer 1989. An 'AS' course takes about half the teaching and study time of an 'A' level, at the same standard. Over 30,000 students were taking 'AS' courses from September 1988. Maths was one of the most popular subjects with nearly 7,000 students. Other popular subjects were General Studies with nearly 9,500 students and English, Computing and French all with over 1,500 students.

Table 3.14 shows that between 1975/76 and 1985/86 the proportion of boys leaving school in the United Kingdom with at least 1 GCE 'O' level (grades A-C) or equivalent rose from 49 per cent to 53 per cent, while among girls leaving school it rose from 52 per cent to 59 per cent. These figures relate to school leavers only and it should be borne in mind that some pupils go on to further education establishments to further their academic qualifications. The academic year 1987/88 is the first year for which GCSE results are available. In 1987/88, 54 per cent of boys left school in the United Kingdom with at least a GCSE grade A-C or equivalent, compared with 62 per cent of girls.

3.14 Highest qualification¹ of school leavers by sex

United Kingdom						Percentages and thousands				
	Boys					Girls				
	1970/ 71	1975 76	1980/ 81 ²	1985/ 86	1987/ 88	1970/ 71	1975/ 76	1980/ 81 ²	1985/ 86	1987/ 88
Percentage with										
2 or more 'A' levels/3 or more H grades	15	14	15	15	16	13	12	13	14	16
1 'A' level/1 or 2 H grades	4	4	3	4	4	4	4	4	4	4
5 or more GCSE/'O' levels grades A - C ³ (no 'A' levels)	7	7	8	10	10	9	9	10	12	14
1-4 GCSE/'O' levels grades A - C ³	17	24	25	24	24	18	27	28	29	28
1 or more GCSE/'O' levels grades D - G ⁴	57	30	34	34	32	56	28	32	31	28
No GCSE/GCE/SCE or CSE grades		21	15	13	13		19	12	10	9
Total school leavers (= 100%) (thousands)	368	423	442	444	409	349	400	423	427	388

1 See Appendix Part 3 School leaving qualification
2 Great Britain only
3 Includes GCSE 'O' level grades A - C, CSE grade 1

4 Includes GCSE grades D - G, 'O' level grades D - E, CSE grades 2 - 5

Source: Department of Education and Science

3.15 Percentage of school leavers with higher grade results at GCSE¹ by subject and sex, 1987/88

Great Britain

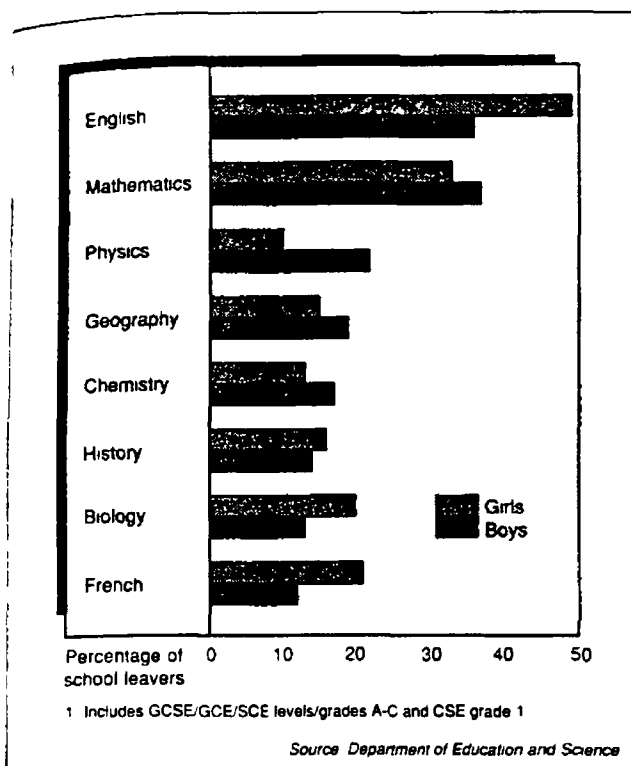


Chart 3.15 shows the proportion of boys and girls leaving school in Great Britain who gained higher grade results at GCSE (grades A-C) or the Scottish equivalent qualification (SCE O-grade or standard grade) in selected subjects. In 1987/88 girls were more likely than boys to have gained higher grade results in English, Biology, French and History, whilst boys were more likely than girls to have gained higher grade results in Mathematics, Physics, Geography and Chemistry. The greatest differences between the sexes were for Physics in which 22 per cent of boys gained a higher grade result compared to only 10 per cent of girls, and English in which 49 per cent of girls gained a higher grade result compared to only 36 per cent of boys.

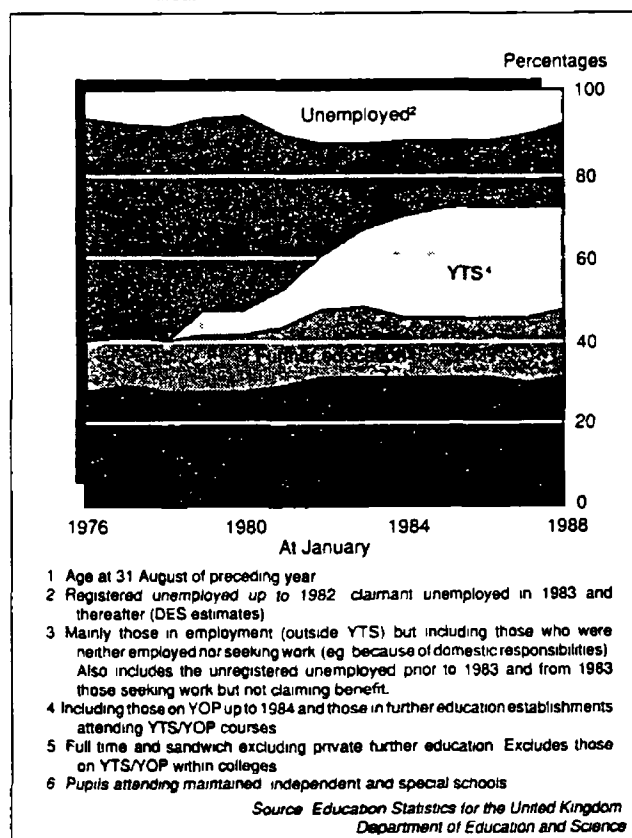
Chart 3.16 shows that the proportion of 16 year olds who were in full-time education rose from 40 per cent in 1976 to 47 per cent in 1988. In 1982, 14 per cent of 16 year olds were on the Youth Opportunities Programme (YOP). However, between 1985 and 1987, 27 per cent were on the Youth Training Scheme (YTS), the programme which succeeded it (see Table 4.33 in Chapter 4: Employment), but this fell to 25 per cent in 1988. In 1988, 8 per cent of all 16 year olds were unemployed which is a lower level than at any time since 1980, this proportion is not comparable with the unemployment rates shown in Chapter 4 which use the working population as their base (see Appendix, Part 4: Unemployment rate).

The England and Wales Youth Cohort Study is designed to look at the activities of young people in the three years after finishing compulsory school education. The study aims to follow cohorts, or groups, selected from those who were eligible to leave school in 1984, 1985, 1986 and 1988. The results of a survey of those who were eligible to leave school in 1986, which was carried out in Spring 1987, showed that those with qualifications were more likely to be in full-time education and less likely to be unemployed than those without them, 81 per cent of those with four or more higher grade qualifications ('O' level grades A-C or CSE grade 1) were in full-time education and only 1 per cent were unemployed. Among those with no graded qualifications the percentages in full-time education and unemployed were 3 per cent and 23 per cent respectively. The survey results showed that 42 per cent of respondents were in full-time education, 27 per cent on Youth Training Schemes (YTS), 23 per cent had full-time jobs and 7 per cent were unemployed.

In Scotland, the Scottish Young People's Survey provides details of the destinations of school leavers from the 1985/86 session. These results confirmed the trend found in England and Wales that those with qualifications were more likely to be in full-time education and less likely to be unemployed than those without them.

3.16 Educational and economic activities of 16 year olds¹

Great Britain



Further and higher education

3.17 Percentage of 16–18 year olds in education and training¹ by age and type of study, international comparison, 1986²

	Minimum leaving age (years)	Years and percentages					
		16 years			16 to 18 years		
		Full time	Part time	All	Full time	Part time	All ³
United Kingdom ⁴ 1986	16	49	41	89	33	31	64
1988	16	50	41	91	35	34	69
Australia	15 ¹¹	71	11	82	50	16	66
Belgium	14	89	4	92	77	4	81
Canada ⁵	16/17	95	—	95	75	—	75
Denmark	16	88	2	90	70	6	77
France	16	78	9	87	66	8	74
Germany (Fed. Rep.) ⁶	15	69	31	100	47	43	90
Italy	14	54	15	69	47	18	65
Japan ^{7, 8}	15	92	3	96	77	3	79
Netherlands ⁶	16	92	6	98	77	9	86
Spain ⁹	16 ¹²	60	—	60	52	—	52
Sweden ¹⁰	16	91	1	92	76	2	78
USA ⁷	16–18 ¹³	94	—	94	79	1	80

1 Includes apprenticeships, YTS and similar schemes

2 1988 for Japan, 1987 for Germany, 1985 for Sweden, 1982 for Italy

3 Includes higher education for some 18 year olds

4 Includes estimates for those studying on a part-time evening basis, also includes estimates of private sector further and higher education

5 Excludes certain part-time students, 10% at 16–18

6 Includes compulsory part-time education for 16 and 17 year olds

7 Includes private sector higher education

8 Estimated for special training and miscellaneous schools providing vocational training

9 Includes estimates for 18 year olds in universities

10 Includes estimates for part-time

11 16 in Tasmania

12 By 1988–89 to merge 14

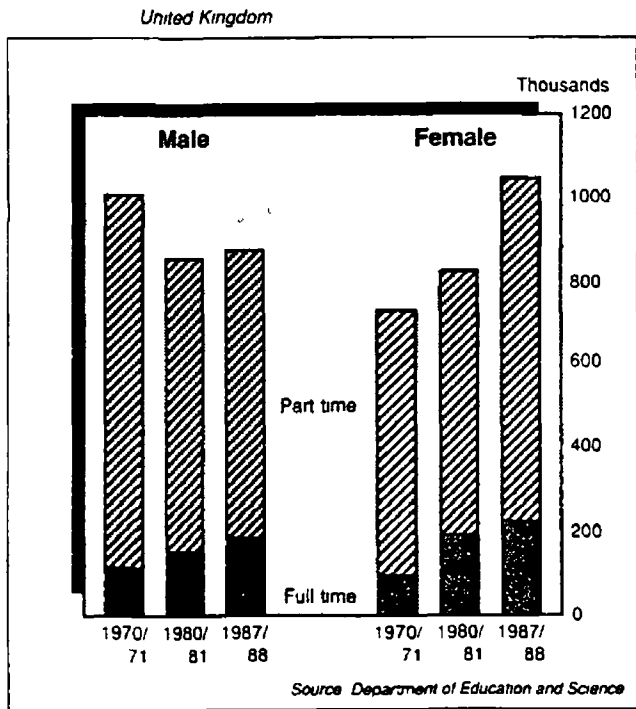
13 Varies between states

Source: Department of Education and Science

The proportions of 16 to 18 year olds participating in education and training as a whole are variable when comparing different countries as shown in Table 3.17. They range from 52 per cent in Spain to 90 per cent in the Federal Republic of Germany in 1986, the United Kingdom level of 64 per cent was lower than in most of the countries shown in 1986 although it rose to 69 per cent by 1988. A higher

proportion of 16 year olds, than 17 and 18 year olds under take some kind of education or training, the United Kingdom level of 89 per cent was similar to that in the other countries. There are larger differences between countries in full-time participation rates than in overall rates. The United Kingdom has the lowest full-time participation rate, but the second highest part-time participation rate for 16 to 18 year olds.

3.18 Students in further education by sex and type



The number of students who enrolled on further education courses in the United Kingdom fell by 61 thousand between 1970/71 and 1980/81 but rose by 245 thousand between 1980/81 and 1987/88 (Chart 3.18). Female part-time students accounted for over three-quarters of this increase. The number of full-time students almost doubled between 1970/71 and 1987/88 to stand at 414 thousand whilst the number of part-time students remained almost unchanged at 1502 thousand.

The Enterprise in Higher Education (EHE) initiative is encouraging the development of qualities of enterprise amongst those seeking higher education qualifications in order that graduates are better prepared for the world of work. It enables universities, polytechnics and colleges of higher education (HEIs) to build on existing work to develop the curriculum, introduce new teaching methods, train and develop staff, and build new and closer partnerships with employers. EHE works through offering contracts valued up to £1m over 5 years to selected HEIs. The initiative was launched in December 1987 and programmes were underway in 26 HEIs by December 1989.

3.19

Higher education¹ – full-time students by origin, sex and age

United Kingdom

Thousands and percentages

	Males					Females				
	1970 /71	1975 /76	1980 /81	1985 /86	1987 /88	1970 /71	1975 /76	1980 /81	1985 /86	1987 /88
Full time students by origin										
From the United Kingdom										
Universities ¹ – post graduate	23.9	23.2	20.7	21.0	20.6	8.0	10.2	11.3	12.6	13.3
– first degree	128.3	130.1	145.1	134.3	35.4	57.0	73.6	96.2	99.9	103.5
– other				1.5	1.1				1.2	1.2
Polytechnics and colleges	102.0	109.3	111.9	143.5	147.3 ⁵	113.1	120.1	96.4	132.2	142.8 ⁵
Total full time UK students	254.2	262.6	277.7	300.4	304.4	178.2	203.8	203.9	245.9	260.9
From abroad	20.0	38.6	40.7	38.4	41.6	4.4	9.9	12.6	15.3	19.9
Total full time students	274.2	301.2	318.4	338.7	346.1	182.6	213.7	216.5	261.3	280.8
Full time students by age (percentages)										
18 years and under	10	11 ⁴	16	15	15	17	14 ⁴	19	17	17
19–20 years	36	35	37	38	37	45	42	41	42	40
21–24 years	38	36	30	29	31	24	28	25	26	28
25 years and over	15	19	17	18	17	14	16	15	15	16

1 See Appendix Part 3 Stages of education

2 Origin is on fee paying status except for EC students domiciled outside the United Kingdom who from 1980/81 are charged home rates but are included with students from abroad. From 1984 origin is based on student's usual places of domicile

3 University first diplomas and certificates

4 In 1980 measurement by age changed from 31 December to 31 August

5 Data for Northern Ireland relate to 1986/1987

Source: Education Statistics for the United Kingdom
Department of Education and Science

The number of students on full time higher education courses in the United Kingdom rose by 17 per cent between 1980/81 and 1987/88 to stand at 627 thousand (Table 3.19). This increase has been entirely confined to polytechnics and colleges, with university numbers remaining almost constant. Over two-thirds of the increase can be attributed to the increase in the number of female students. In 1987/88, 55 per cent of full-time, higher education United Kingdom students were male compared to 60 per cent in 1980/81. The number of students from abroad increased by two and one half times between 1970/71 and 1987/88.

Between 1970/71 and 1987/88 the number of students in part-time higher education in the United Kingdom more than doubled to stand at 367 thousand (Table 3.20). The Open University accounted for 12 per cent of part time students when it opened in 1970/71, but by 1987/88 this proportion had risen to 23 per cent. The increase in part-time higher education has taken place almost entirely among those aged over 25 years. Women accounted for 39 per cent of part-time students in 1987/88 compared to only 14 per cent in 1970/71. Overall, women accounted for 43 per cent of students in full-time and part-time higher education in 1987/88 compared to only 33 per cent in 1970/71.

3.20

Higher education¹ – part-time students² by type of establishment, sex and age

United Kingdom

Thousands and percentages

	Males					Females				
	1970 /71	1975 /76	1980 /81	1985 /86	1987 /88	1970 /71	1975 /76	1980 /81	1985 /86	1987 /88
Part time students by establishment										
Universities	18.1	19.3	22.6	26.3	27.6	5.7	7.0	10.7	16.0	18.5
Open University ³	14.3	33.6	37.6	41.7	45.4	5.3	22.0	30.1	36.0	40.4
Polytechnics and colleges										
– part time day courses	69.8	80.2	110.5	112.2	115.1 ⁴	6.7	15.4	30.8	49.9	61.2 ⁴
– evening only courses	39.8	35.0	35.1	34.4	36.0 ⁴	5.0	5.8	15.2	20.3	22.4 ⁴
Total part time students	142.0	168.1	205.7	214.6	224.1	22.7	50.2	86.8	122.2	142.5
Part time students by age (percentages)										
18 and under			6	4	4			4	2	2
19–20			16	14	13			9	7	7
21–24			23	22	21			18	17	17
25 and over			54	60	63			69	73	74

1 See Appendix Part 3 Stages of education

2 Excludes students enrolled on nursing and paramedical courses at Department of Health establishments, some 94 thousand in 1987/88

3 Calendar years beginning in second year shown. Excludes short course

students up to 1982/83. In 1986/87 and 1987/88 there were respectively 8.4 and 10.4 thousand specialised short course students for whom data by sex were not available; these have been excluded

4 Data for Northern Ireland relate to 1986/87

Source: Education Statistics for the United Kingdom
Department of Education and Science

B33

3.21 Open University students by occupation of new undergraduates¹

United Kingdom	Percentages and thousands		
	1971	1981	1987
Occupation (percentages)			
Housewives	10	18	17
Teachers and lecturers	40	20	9
Technical personnel	12	12	13
Clerical and office staff	6	11	11
The professions and the arts	8	11	13
Shopkeepers sales and services	3	5	6
Administrators and managers	5	3	4
Armed forces	2	3	3
Qualified scientists and engineers	6	3	3
In other employment	3	9	9
Not in employment	2	4	11
No information	2	—	—
Total new students (= 100%) (thousands)	20	14	16

¹ Finally registered new students at commencement of studies

Source: Open University Statistics Department of Education and Science

In 1971, 40 per cent of new undergraduate students at the Open University were teachers, compared with only 9 per cent in 1987 (Table 3.21). Whilst the proportion of teachers has fallen, there have been

3.23 Higher education qualifications obtained¹ by type of qualification and sex

United Kingdom	Thousands		
	1981	1986	1987
Type of qualification			
Below degree level ²			
Males	45	54	53
Females	17	26	34
Total	62	80	87
First degree ³			
Males	76	78	79
Females	48	61	64
Total	124	139	143
Post graduate ⁴			
Males	24	27	29
Females	13	16	17
Total	37	42	46
All higher education qualifications			
Males	144	158	162
Females	78	103	115
Total	222	262	277

¹ Includes estimates of successful completions of public sector professional courses (43 thousand in 1987/88). Excludes successful completions of nursing and paramedical courses at Department of Health establishments (38 thousand in 1987/88) and the private sector.

² First university diplomas and certificates: CNAAs diplomas and certificates below degree level: BTEC/SCOTVEC higher diplomas and certificates.

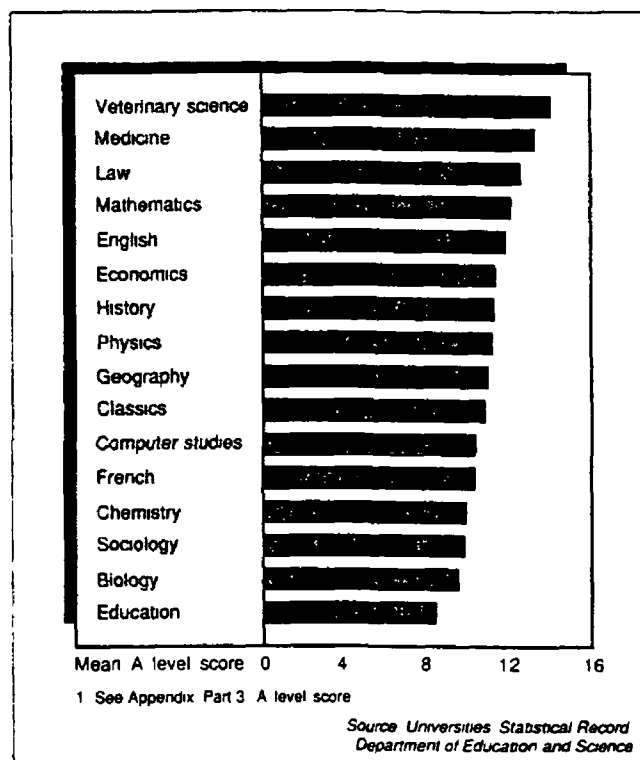
³ University degrees and estimates of CNAAs degrees (and equivalent) and university validated degrees (Great Britain only).

⁴ Universities: CNAAs and PGCEs.

Source: Education Statistics for the United Kingdom Department of Education and Science

3.22 Universities - mean 'A' level 'score' of home undergraduate new entrants by selected subject, 1987/88

Great Britain



large increases in the proportion of unemployed (from 2 per cent to 11 per cent) and housewives (from 10 per cent to 17 per cent) in the same period.

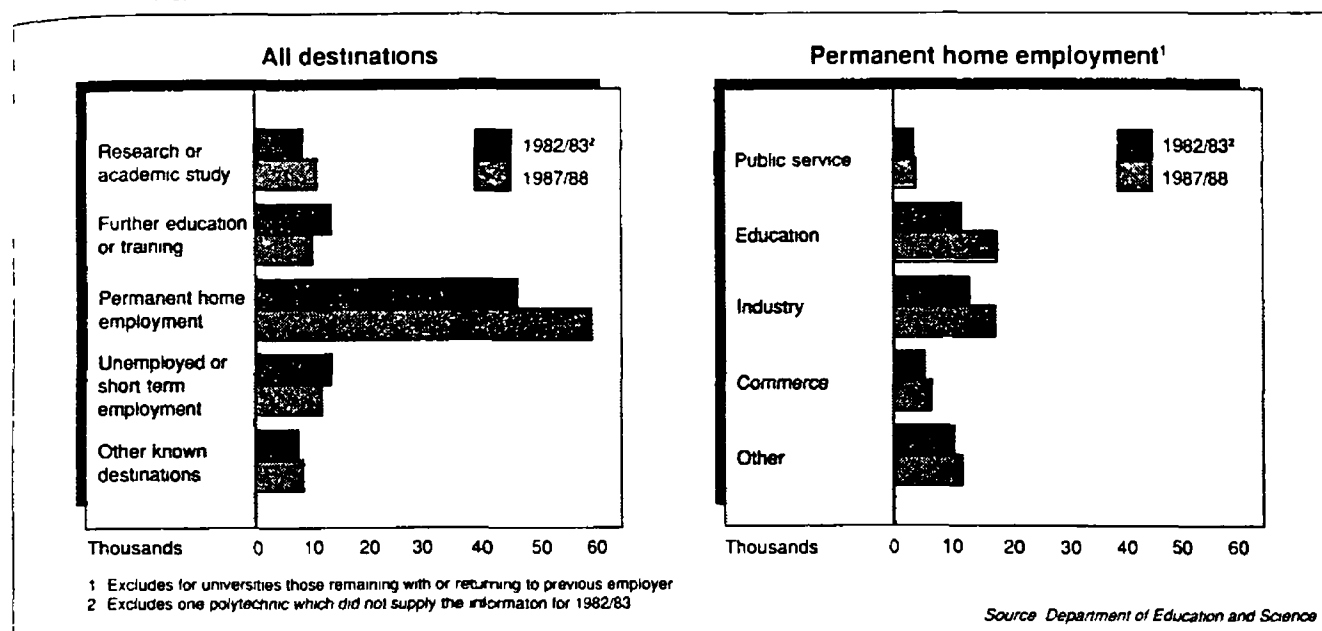
The mean 'A' level 'score' (see Appendix, Part 3) of home undergraduate university new entrants varied considerably between subjects in 1987/88 from 14.1 for veterinary science students to 8.6 for education students in 1987/88 (Chart 3.22). Medicine, Law, Mathematics and English are amongst the subjects whose students had higher 'A' level 'scores' and Biology, Sociology and Chemistry among those whose students had lower 'scores'.

The number of higher education qualifications awarded in the United Kingdom rose by 25 per cent between 1981 and 1987 to stand at 277 thousand (Table 3.23). In this period the number of postgraduate degrees awarded rose by 24 per cent, first degrees by 15 per cent and those below degree level by 40 per cent. In 1987, 45 per cent of first degrees and 37 per cent of postgraduate qualifications were awarded to women compared with 39 per cent and 35 per cent respectively in 1981.

In 1987/88, the destinations of 102.1 thousand first degree graduates were known. Of these first degree graduates, 59 per cent entered permanent home employment (ie employment expected to last for more than 3 months including those remaining with or returning to a previous employer) compared with

3.24 Destination of first degree graduates

Great Britain



51 per cent in 1982/83 (Chart 3 24). Of those who entered permanent home employment in 1987/88, 20 per cent entered the public service compared with 24 per cent in 1982/83. Conversely 31 per cent entered commerce in 1987/88 compared with 27 per cent in 1982/83.

In 1987/88, 10 per cent of first degree graduates of known destination were unemployed or in short term employment around six months after graduation. The level of unemployment varies according to subject, in general it is lowest among graduates in medical/health and business/administration subjects and in education and engineering. Conversely, it is highest among graduates in humanities, creative arts, biological science, languages and social studies.

3.25 Student awards – real value and parental contributions

England & Wales

	Standard maintenance grant ¹ (£)	Index (September 1978 = 100) of the real value of the grant deflated by		Average assessed contribution by parents ³ (%)
		Retail prices index	Average earnings index ²	
1978/79	1 100	100	100	16
1979/80	1 245	97	97	13
1980/81	1 430	96	92	13
1981/82	1 535	93	89	14
1982/83	1 595	90	85	19
1983/84	1 660	89	81	20
1984/85	1 775	91 ⁴	82	25
1985/86	1 830	88 ⁴	78	30
1986/87	1 901	89 ⁴	75	30
1987/88	1 972	89 ⁴	72	31
1988/89	2 050	87 ⁴		

1 Excludes those studying in London and those studying elsewhere living in the parental home. Prior to 1982/83 Oxford and Cambridge were also excluded.

2 The average earnings index is a Great Britain measure.

3 Assuming full payment of parental and other contributions including a notional assessment in respect of students for whom fees only were paid by LEAs. Of the students assessed for parental contributions in 1987/88 there were 105 8 thousand mandatory award holders (30 per cent) who were receiving the maximum grant because their parent's assessed contribution was nil.

4 Since 1984/85 the rate of grant has included an additional travel allowance of £50.

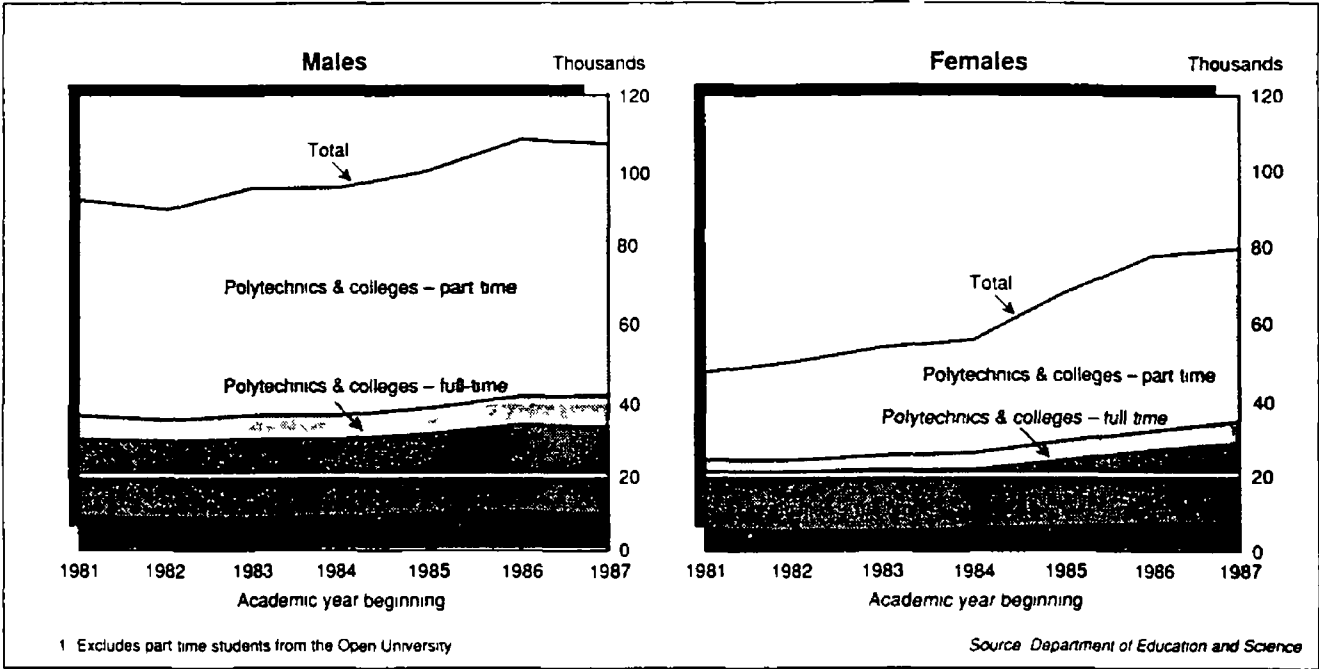
Source: Department of Education and Science
Department of Employment

Table 3 25 shows the value of the standard maintenance grant in England and Wales, excluding those studying in London and those studying elsewhere who were living with their parents. Although its value has increased significantly in cash terms since 1978/79, in real terms it has fallen. Most parents are required to contribute to the standard maintenance grant depending on their level of income. Between 1980/81 and 1987/88 the average percentage contribution by parents rose from 13 per cent to 31 per cent, with most of this increase occurring between 1983/84 and 1985/86. Just over 100 thousand students who were in receipt of a mandatory award in 1987/88 were awarded the maximum grant because their parent's assessed contribution was nil. A higher proportion of students at polytechnics and colleges are in receipt of a full maintenance grant than students at university.

The number of mature students in Great Britain starting higher education courses increased by 34 per cent between 1981 and 1987 to stand at 187 thousand (excluding those at the Open University), two thirds of which were part-time students (Chart 3 26). Mature students are defined as students aged

3.26 First year mature home students¹ by sex and establishment

Great Britain



21 and over when starting an undergraduate course or 25 and over when starting a postgraduate course. The increase in the number of mature women students was greater than that for men regardless of the institution or academic level of study, or whether the course was full-time or part-time. In 1987, men accounted for 57 per cent of mature

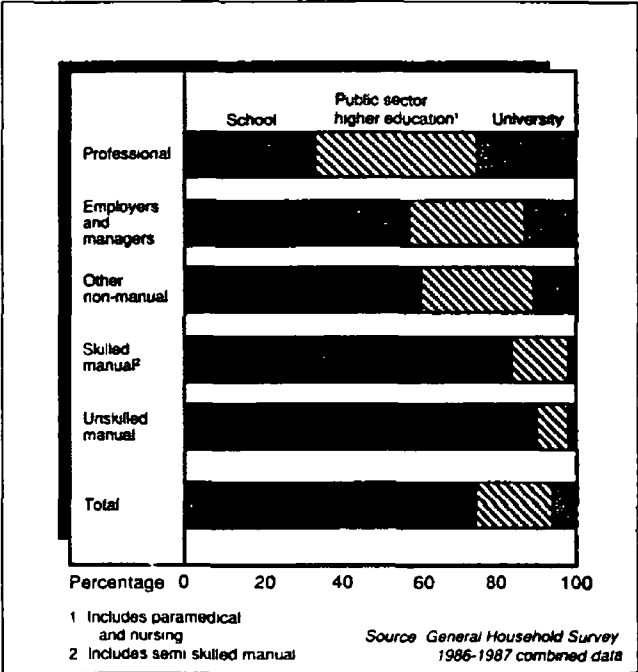
students compared to 66 per cent in 1981. The proportion of full-time mature students decreased from 36 per cent of all students in 1981 to 33 per cent in 1987. In the same period the proportion attending universities remained at about 17 per cent. Over the period, the others attending polytechnics and colleges

Educational standards of adults

Chart 3.27 shows the type of educational establishment last attended full-time by people aged 25-49 years and no longer in full-time education. The chart shows a marked tendency for education to be related to the socio-economic group of father. Of those whose fathers were, or had been, in professional occupations, 25 per cent had had a university education compared with 12 per cent of those with fathers who were employers and managers or in the other non-manual groups and 2 per cent of those whose fathers were in manual occupations. Overall, 26 per cent continued their full-time education after leaving school, 6 per cent at university and the remainder at a polytechnic or college of further education.

3.27 Educational establishment last attended full-time by socio-economic group of father, 1986-1987

Great Britain



The 1988 Labour Force Survey (LFS) included data on the qualifications of the population of Great Britain by age group. Consistent with the increase in numbers in future and higher education the general level of attainment and the proportion of people who gain any sort of qualification is higher for those of the younger age groups

In 1988, 80 per cent of men and 78 per cent of women aged between 25-29 had some sort of qualification compared with 57 per cent of men and 38 per cent of women aged 50-59 (Chart 3.28). At the other end of the spectrum 12 per cent of men and 9 per cent of women aged 25-29 had a degree or equivalent qualification compared with 9 per cent of men and 3 per cent of women aged 50-59. Men aged 30-39 were the most likely to have a degree or equivalent. 15 per cent in this age-group had such a qualification.

3.28 Percentage of the population aged between 25 and 59 with a qualification¹ by sex and age, 1988

Great Britain

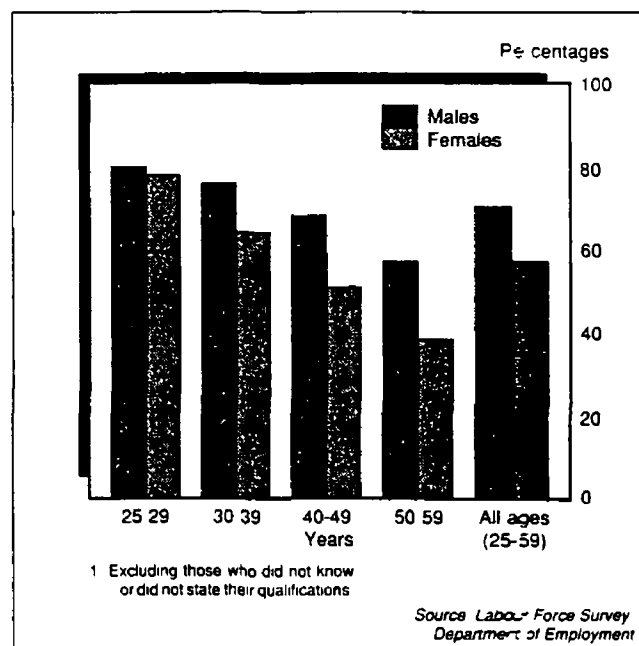


Table 3.29 uses combined data from the 1986, 1987 and 1988 Labour Force Surveys (LFS) to compare the level of qualifications held by people aged 25 to retirement age (64 for males and 59 for females) from different ethnic groups in Great Britain. It shows that both males and females from the Pakistani/Bangladeshi ethnic groups were not as well qualified as those from other groups, 81 per cent of women from Pakistani/Bangladeshi ethnic groups held no qualifications, partly reflecting the fact that

they were also more likely than women from other groups to be economically inactive (see Table 4.6 in Chapter 4: Employment). Men from the Indian ethnic group and the 'Other' ethnic group were more likely than White men to hold higher qualifications, although the difference partly reflects the fact that these ethnic groups have a younger age structure than the White ethnic group (see Table 1.4 in Chapter 1: Population).

3.29 Highest qualification level of the population¹ by sex and ethnic origin, 1986-1988

Great Britain

Percentages and thousands

	Ethnic origin					All ³
	White	West Indian /Guyanese	Indian	Pakistani/ Bangladeshi	Other ²	
Highest qualification held⁴ (percentages)						
<i>Males</i>						
Higher	16		20	9	31	17
Other	49	41	39	25	41	48
None ⁵	35	53	41	66	28	35
<i>Females</i>						
Higher	14	19	13		23	14
Other	40	33	32	14	40	39
None ⁵	46	48	54	81	37	46
<i>All persons</i>						
Higher	15	13	17	8	27	15
Other	45	37	36	20	40	44
None ⁵	40	50	47	72	32	40

1 Aged 25 to retirement age (64 for males and 59 for females)

2 Includes African, Arab, Chinese, other stated and Mixed

3 Includes those who did not state their ethnic origin

4 See Appendix Part 3: Qualification level

5 Includes those who did not know or did not state their qualifications

Source: Labour Force Survey, combined data for 1986 to 1988
Department of Employment

Appendix C

The French Secondary Corpus

Extracts from Segalen, Martine (1981):
Sociologie de la famille.
Paris: Armand Colin.

Au XVIII^e siècle, la proportion de célibataires définitifs était comprise entre 10 et 15 % chez les femmes, chez les hommes, elle était plus faible encore, parce que les hommes étaient moins nombreux en raison d'une mortalité et d'une émigration plus fortes. La proportion de célibataires a crû au XVIII^e siècle, de 6 à 7 % dans les générations nées vers 1765, le célibat définitif atteint 12 % chez les femmes nées cent ans plus tard, la hausse s'accélère ensuite jusqu'à un maximum de 14 % chez les femmes nées vers 1790, une longue baisse, moins rapide que la croissance du XVIII^e siècle, ramène les générations nées vers 1850 au niveau de celles nées vers 1760. L'accélération de la hausse dans les générations nées en 1760-1790 est une des conséquences des vides creusés dans la population masculine par les guerres de la Révolution et de l'Empire⁹

Chez les hommes, le maximum de la fréquence du célibat définitif est plus tardif que chez les femmes de l'ordre de 10,5 %, il s'étale sur les générations 1805-1844. On peut expliquer cette augmentation par la croissance de la population dans une économie agricole sans nouvelles terres à défricher. En réaction, la nuptialité et les naissances sont restreintes¹⁰

Pour le XIX^e et le XX^e siècle, on observe des taux généralement en baisse faible, mais les évolutions sont complexes

De 1821 à 1880, compte tenu de la surmortalité des célibataires, plus grande chez les hommes, on peut estimer que les taux de célibat sont voisins pour les deux sexes. De 1881 à 1905, le célibat augmente notablement chez les femmes en raison de la surmortalité masculine consécutive aux guerres. Enfin, au XX^e siècle, le célibat devient plus fréquent chez les hommes en raison de l'immigration masculine, pour les générations 1921-1925 et 1926-1930, la baisse continue des naissances a mis en présence des effectifs féminins constamment inférieurs aux effectifs masculins, si l'on tient compte d'un décalage d'âge de trois ans en moyenne entre les époux¹¹

Dans les villes, les choses sont un peu différentes, témoignant d'une mobilité relativement plus grande. A Meulan, entre 1690 et 1789, 50 % des époux sont nés dans la ville et 20 % dans les paroisses situées dans un rayon de 10 km soit un total de 70 % seulement. A Angers, sur les mille deux cent cinquante-cinq mariages célébrés entre 1741 et 1745 dans les seize paroisses de la ville, huit cent cinquante-cinq le sont entre deux époux d'Angers, dans les quatre cent autres cas, soit près d'un mariage sur trois, un des deux époux (voire même les deux dans trente-six cas) n'est pas d'Angers. Cette

mobilité concerne davantage les hommes que les femmes : près de 25 % des hommes et seulement 10 % des femmes qui se marient dans la ville viennent de l'extérieur, c'est-à-dire de paroisses généralement proches, exceptionnellement de paroisses extérieures à l'Anjou. A Lyon, la répartition des conjoints selon leur origine géographique est la suivante, au début et à la fin du XVIII^e siècle

La proportion des époux lyonnais originaires de la ville et de ses faubourgs, encore légèrement supérieure à la moyenne au début du siècle, lui est inférieure à la fin, il est vrai qu'au-delà de l'agglomération, le choix se fait surtout, et de plus en plus, dans l'arrière-pays le plus proche, Lyonnais, Dauphiné et Bugey. Dernier exemple : à Saint-Malo, grand port ouvert sur l'extérieur, un époux sur deux (56 %) et près d'une épouse sur quatre (24 %) qui se marient entre 1700 et 1750 sont étrangers non seulement à la ville, mais au diocèse (p 28-29)

pp 132-4

Théoriquement chacun peut épouser chacune. Le choix du conjoint n'est toutefois pas libre. Les milieux sociaux continuent à se reproduire à l'intérieur d'eux-mêmes. Les multiples enquêtes américaines et une grande enquête nationale française donnent des résultats concordants. Les mariages unissent des conjoints de même origine géographique pour la plupart d'entre eux, malgré la mobilité qui a caractérisé l'industrialisation. Même dans une grande ville comme Seattle aux États-Unis, la majorité des époux habitaient à moins de trois miles (4,5 kms) de leurs épouses au moment où ils faisaient la demande de leur licence de mariage ⁶

En France, l'enquête nationale d'Alain Girard, *Le Choix du conjoint*, datant de 1958 parvient aux mêmes conclusions

La majorité des mariages, sept sur dix, sont contractés entre personnes ayant les mêmes origines : dans deux ménages sur dix, les deux conjoints sont nés dans la même commune, trois sur dix dans le même canton, plus de cinq sur dix dans le même arrondissement (p 188)

On peut penser que cette homogamie géographique s'est quelque peu atténuée dans les années 1970, et on constate en effet une légère évolution. En 1977, à propos des lieux de leur naissance, on observe un glissement du couple des parents à celui des enfants. Les premiers répondent que 26 % d'entre eux sont nés dans la même commune, et 71 % dans le même département, tandis que les seconds donnent respectivement 18 % et 55 %. C'est dans le Nord-Pas-de-Calais et dans le Midi-Pyrénées que les conjoints sont le plus souvent originaires de la même région, mais c'est dans la région parisienne que les mélanges sont les plus fréquents, constate C. Gokalp dans le *Réseau familial*. Il n'en reste pas moins qu'aujourd'hui

plus de la moitié des couples sont encore originaires du même département, et on peut penser qu'avec la revendication régionaliste, le désir de vivre et travailler au pays, l'homogamie géographique continuera de caractériser la formation des couples dans les années à venir. Cette homogamie géographique décroît au fur et à mesure qu'on s'élève dans l'échelle sociale.

L'homogamie sociale qui caractérisait les unions anciennes continue de marquer les unions contemporaines. Les auteurs américains de l'après-guerre ont souligné plusieurs corrélations : le choix unit le plus vraisemblablement des conjoints de même race, groupe ethnique, religion, éducation, classe sociale, ayant les mêmes valeurs⁸. La grande enquête d'Alain Girard mesure finement ces phénomènes pour la société française.

La fréquence de l'homogamie sociale est deux fois plus forte que si les mariages se concluaient indépendamment des origines sociales des partenaires (). L'homogamie est très variable selon les milieux (). Elle est dominante parmi les cultivateurs, les ouvriers, dans les milieux tertiaires au contraire, les origines sociales des conjoints sont beaucoup plus variées, les brassages sociaux se rencontrent surtout dans les groupes de petite bourgeoisie (p. 75-76).

Avec des origines sociales comparables, rien d'étonnant à ce que la majorité des conjoints ait un niveau d'instruction identique (66 %). Plus marquée encore est l'homogamie religieuse : dans 92 % des ménages, les conjoints appartiennent à la même religion, ou bien sont l'un et l'autre sans religion. La fréquence de l'homogamie socioprofessionnelle après 1960 n'a nullement diminué pour les mariages contractés entre 1960 et 1969. Alain Girard observe, dans la préface à la seconde édition du *Choix du conjoint*, qu'elle semble même s'être renforcée dans la catégorie supérieure pour les mariages postérieurs à 1960. Ces faits sont confirmés dans la récente enquête de 1977 de Catherine Gokalp.

pp. 148-51

L'évolution démographique de la France, originale par rapport à celle des autres pays d'Europe, est caractérisée par une baisse précoce de la natalité, baisse qui intervient de façon inégale selon les milieux sociaux, les régions, mais s'esquisse dès la fin du XVIII^e siècle. Nombre d'études ont montré qu'elle était intervenue avant la Révolution, le changement démographique précédant de peu la grande secousse politique et sociale.

Les taux de natalité, c'est-à-dire le nombre de naissances annuelles pour 1 000 habitants¹, n'ont cessé de chuter depuis 1800, sauf pour les générations nées vers 1930. Ces taux se situaient aux alentours de 40% durant la période 1750-1754, 37 % en 1795-1799, 32 % en 1800-1804. Ils atteignent leur chiffre le plus bas en 1941 avec 13,1 % puis passent par un nouveau maximum - totalement inattendu -

de 20,3 % entre 1946 et 1953

A ce taux de natalité, les démographes préfèrent substituer une autre mesure plus fine, avec le taux de fécondité, qui s'exprime en nombre moyen de naissances vivantes par femme. Il passe de 3,4 naissances pour les femmes nées en 1852 à 2 pour celles nées avant 1900. Pour la génération née en 1950, la descendance finale est de 3,28 (Angleterre, Pays de Galles 4,56 et Suède 4,28 à la même époque)². Après 1945, le taux de fécondité oscille entre 2,65 et 3 naissances par femme, culmine en 1964 à 2,90, régresse régulièrement jusqu'aux environs de 1,85, valeur autour de laquelle il se stabilise depuis 1976. Depuis lors, on observe une remontée légère qui le porte aux environs de 1,95 enfant par femme en 1980.

On dit volontiers qu'avant l'introduction de la contraception, les couples d'autrefois avaient jusqu'à vingt enfants. Il n'en est rien, et pour deux raisons : un ensemble de facteurs limitait le nombre de naissances d'une part, et d'autre part la mortalité réduisait considérablement le nombre des enfants qui survivaient à leurs parents et procréaient eux-mêmes.

L'âge au mariage - nous l'avons déjà noté - est un puissant facteur de limitation des naissances. Nous savons qu'il était plus élevé autrefois qu'au XX^e siècle, en moyenne 26 ans pour les femmes. Des pratiques religieuses respectées imposaient la continence pendant certains moments du calendrier. Les pratiques culturelles d'allaitement prolongé entraînaient généralement une suspension provisoire de la fécondité. Les conditions économiques, temporaires ou structurelles, influençaient le régime alimentaire et entraînaient chez la femme des périodes d'aménorrhée ou induisaient des fausses couches. Pour toutes ces raisons les femmes n'avaient pas un enfant par an pendant vingt-cinq ans de mariage, mais douze ou quinze tout au plus. En fait, elles en avaient beaucoup moins encore, compte tenu de la mortalité féminine et de la mortalité des jeunes enfants. Une femme sur deux seulement née en 1750 atteignait l'âge de 15 ans et une sur trois seulement son cinquantième anniversaire. Les risques liés à la grossesse et à l'accouchement étaient importants. Les unions, on l'a vu, étaient souvent rompues par la mort, et les fréquents remariages ne comblaient que partiellement le « déficit » de la descendance qui serait intervenue si le mariage n'avait pas été rompu³.

Pour la génération 1750, on ne comptait en moyenne que cinq ou six naissances par mariage, en raison du célibat féminin qui s'ajoutait aux causes précédemment énumérées ; la descendance nette se chiffrait à quatre enfants, dont deux seulement atteignaient à leur tour, en raison de la mortalité, l'âge de procréer. Le tableau suivant résume cette situation de la démographie de l'Ancien Régime : absence de contraception et forte mortalité qui explique qu'en dépit de la forte natalité, la progression de la population ait cependant été lente.

La comparaison avec la situation contemporaine est particulièrement éclairante. Compte-tenu de la baisse de la mortalité, et dans l'hypothèse d'une absence de limitation des naissances, c'est aujourd'hui qu'on enregistrerait ces naissances nombreuses, 12,3 enfants par femme mariée à 20 ans (que la contraception réduit de fait à 1,8).

Le tableau p 156 fait apparaître l'importance de l'emploi de la pilule (près de 30 % des femmes enquêtées) - notons que sont également interrogées les femmes stériles, ou stérilisées, enceintes, seules, etc. Parmi les méthodes contraceptives, c'est elle qui vient en tête. Si l'on compare ces résultats avec ceux d'une enquête réalisée en 1971, on observe le bond en avant de sa progression, de 10,5 % à 31 %⁷. En suivant la constitution de la famille, il apparaît que les couples, même dans l'hypothèse où ils souhaitent encore un enfant, utilisent déjà cette contraception moderne dont l'emploi augmente à mesure que la descendance définitive semble atteinte. Enfin, 96 % des femmes qui ne veulent plus d'enfant ont recours à une forme quelconque de contraception.

Pilule et stérilet sont également utilisés dès le début de la période reproductrice par des couples non mariés cohabitant (61 %), en contraception typique d'attente. L'enfant n'est pas refusé, mais sa venue n'est pas désirée dans l'immédiat⁸.

p 218

A un certain moment historique, nous avons vu la femme cesser de travailler au-dehors pour se consacrer à ses enfants et à son foyer - cela a constitué une étape dans la promotion de la femme. Les chiffres de l'emploi féminin ont eu tendance à baisser du début du siècle jusque dans les années 1960. À partir de 1962, la situation s'inverse, les glissements catégoriels s'accroissent. De plus, les changements s'accroissent depuis 1968. Entre 1968 et 1975, le taux d'activité des femmes ayant entre 25 et 29 ans est passé de 50,2 % à 62,7 %, et entre 30 et 34 ans de 42,4 % à 54,6 %. Si l'on tient compte en outre du nombre d'enfants, de 1968 à 1975, le nombre de femmes âgées de 25 à 29 ans, mères d'un tout jeune enfant et travaillant, est passé de 50,5 % à 66,6 % et de 31,2 % à 47,9 % pour celles de 30 à 34 ans, mères de deux enfants dont un tout jeune⁶. Globalement, le nombre des femmes entrant sur le marché du travail augmente. Les analyses socio-économiques font apparaître les caractéristiques suivantes :

- l'accroissement du taux d'activité professionnelle a été de l'ordre de 16 à 17 % entre 1968 et 1975 pour les femmes âgées de 25 à 29 ans, ayant un enfant de moins de sept ans, l'augmentation touche donc surtout les femmes jeunes,
- si l'on tient compte de l'ensemble des femmes de moins de 40 ans, mères d'un ou de deux enfants en bas âge, il y avait 33,7 % des femmes mariées qui travaillaient en 1968, 40 % en 1975, et 44 % en 1980,
- dans une moindre mesure, l'activité féminine s'accroît aussi au-dessus de 45 ans

Appendix D

The English Secondary Corpus

Extracts from Segalen, Martine (1981):

Historical Anthropology of the Family.

Cambridge University Press 1986.

Translated by J.C. Whitehouse and Sarah Matthews.

Originally published in French as

Sociologie de la famille

by Armand Colin Editeur 1981.

In the eighteenth century, between 10 and 15 per cent of women never married, and the figure was even lower for men, as there were fewer of them as a result of higher mortality and emigration rates. The proportion of people who never married increased during the century. In the generation born around 1765, it was between 6 and 7 per cent for women and rose to 12 per cent for women born ten years later and reached a maximum of 14 per cent for those born around 1790. Thereafter, there was a long decline in numbers, slower than the rise in the eighteenth century, which brought back the level of those born around 1850 to that of those born around 1760. The rapid increase for those born between 1760 and 1790 was due to the gaps in the male population caused by the revolutionary and imperial wars⁹

For men, the highest frequency of those never marrying was later than for women. It was around 10.5 per cent and covered those born between 1805 and 1844. This increase can be explained by the fact that the population in an agrarian economy with no new land to take into cultivation was increasing. The result was that both marriage and birth rates were restricted¹⁰

The rates fell slowly during the nineteenth and twentieth centuries, but developments were complex (see Table 4.1)

Between 1821 and 1880, if the excess mortality rate for single people, which was higher for men than for women, is taken into account, the percentages of unmarried persons was roughly the same for both sexes. From 1881 to 1905, the proportion of unmarried women increased significantly as a result of the high rate of male mortality due to wars. In the twentieth century, male emigration has led to a higher number of bachelors. In the case of those born between 1921 and 1925 and 1926 and 1930, the continued fall in the birth rate meant that there were always fewer women than men if an average age difference of three years between husband and wife at the time of marriage is taken into account¹¹

Things were rather different in towns, and this illustrates the relatively greater mobility there. In Meulan, between 1690 and 1798, 50% of spouses were born in the town and 20% in the parishes within a radius of 10 km, or only 70% of the total number. In Angers, of the 1255 marriages celebrated in the sixteen parishes of the town between 1741 and 1745, 855 were between men and women from Angers. In the 400 other cases, i.e. in almost one marriage in three, at least one of the spouses (and indeed both in 36 cases) was not from the town. This mobility was more evident in

the case of men than of women almost 25% of the men, but only 10% of the women marrying in the town came from outside it, usually from nearby parishes but exceptionally from parishes outside the province of Anjou In Lyon, the breakdown of spouses by geographic origin at the beginning and end of the eighteenth century is given in the table below

The proportion of married people in Lyon coming from the town and its suburbs was slightly above average at the beginning of the century but below it at the end It is true to say that beyond the urban area, marriage partners were increasingly chosen from the immediate hinterland, the Lyonnais, the Dauphiné and Bugey A final example In Saint-Malo, a large port with foreign connections, one husband in two (56%) and almost one wife in four (24%) marrying between 1700 and 1750 came not only from outside the town but from outside the diocese too¹⁹

pp 143-5

Theoretically, any male and female can marry each other The choice of partner, however, is not a totally free one Social milieux still reproduce themselves from within The findings of many American surveys and of a major French national one bear each other out Despite the mobility characteristic of industrialisation, people still marry partners from the same natal area for the most part Even in a large city like Seattle, most men lived less than three miles (4.5 km) from their intended wives when they took out their marriage licence⁸

Alain Girard's French national survey, *Le Choix du conjoint* (1959), produced the same conclusions (see Table 5.3)

Most marriages (seven out of ten) are contracted by people having the same origins In two families out of ten, husband and wife were born in the same commune, three out of ten in the same canton and over five out of ten in the same district⁹

One might think that this geographic homogamy has decreased somewhat since 1970, and this has indeed happened to a small extent Examining place of birth in 1977, one notices a shift between the parental couple and that consisting of children Of the former, 26 per cent stated that they had been born in the same commune and 71 per cent in the same department, whereas the figures for the latter were 18 per cent and 55 per cent respectively The Nord/Pas-de-Calais and the Midi-Pyrénées areas were those in which both spouses most frequently came from the same region, and it was in the Paris area that there were the most 'mixed' couples, as Catherine Gokalp notes in 'Le Réseau familial'¹⁰ However, the fact remains that today half of all married couples still come from the same

department, and it seems that given the recent resurgence of regionalist feeling and the wish to live and work in one's home area, homogamy will remain a feature of the way couples are made up in years to come

Geographic homogamy decreases as social status increases, and the social homogamy that was a feature of marriages in past times is still found in those of our own. Post-war American commentators have stressed that there are many correlations, with choice being most likely to bring together spouses of the same race, ethnic group and social class and sharing the same values¹¹. Girard's major survey provides an accurate assessment of such phenomena in French society

Social homogamy was twice as frequent than when marriages were contracted independently of the social origins of the partners. Homogamy varies considerably from one milieu to another, being dominant amongst agriculture and industrial workers. In tertiary sectors, however, there was a much greater variety in the social origins of spouses, with social mixing occurring particularly in the lower middle-class groups¹².

Given comparable social origins, it is not surprising to find that most spouses had an identical level of education (66 per cent). Religious homogamy was even more a major feature. In 92 per cent of cases, both spouses either had the same religion or none at all. For marriages contracted between 1960 and 1969, there was no decline in the frequency of social and professional homogamy. In the preface to the second edition of his *Choix du conjoint*, Girard observes that it even seems to have become more marked in the highest group for marriages contracted after 1960 (Table 5.4). These findings have been confirmed in Gokalp's recent (1977) survey.

pp 160-3

The historical demography of France, which is quite distinct from that of other European countries, was characterised by an early fall in the birth rate. This occurred at a different pace and to a different degree in differing social milieux, but it was becoming apparent by the end of the eighteenth century. A number of studies have established that it had already occurred before the Revolution, with the demographic change just preceding that great political and social upheaval.

The birth rate - the annual number of births per 1,000 inhabitants¹ - has fallen consistently since 1800, except amongst those born around 1930. It was around 40 per thousand during the period from 1750 to 1754, 37 per thousand from 1795 to 1799 and 32 per thousand from 1800 to 1804. It fell to its lowest point (13.1 per thousand) in 1941 and then reached a new and totally unexpected peak of 20.3 per thousand between 1946 and 1953. []

Demographers prefer to use a rather more sophisticated measurement, the fertility rate, which gives the average number of live births per woman. In France this fell from 3.4 for children born in 1825 to 2 for those born before 1900. For those born in 1950, the final number of offspring was 3.28 (England and Wales and Sweden had a fertility rate of 4.28 in that year)². After 1945, it was between 2.65 and 3 in France, reaching 2.9 in 1964 and then gradually falling to around 1.85, stabilising around this figure since 1976, with a slight rise to 1.95 in 1980 (see Figs 6.1 and 6.2).

It is often said that before modern methods of contraception were introduced couples frequently had up to twenty children. This was certainly not so, for two reasons. On the one hand, a whole range of factors limited the number of births, and on the other, the death rate considerably reduced the number of children surviving their parents and producing children themselves.

The age at which people married, as we have already noted, acted as a powerful brake on the number of births. We know that in the past this was on average twenty-six for women, higher than in the twentieth century. Religious practices imposed continence during certain periods of the church year, and cultural practices of extended breast-feeding generally meant a temporary suspension of fertility. Economic conditions of both a temporary and a structural nature had an effect on diet and caused periods of amenorrhoea or miscarriages. For all these reasons, women did not have a child a year for twenty-five years of married life, but twelve or fifteen children altogether at the very most. In fact, if female and infant mortality are taken into account, they had far fewer. Only one woman in two of those born in 1750 reached the age of fifteen and only one in three her fiftieth birthday (Table 6.1). The risks attached to pregnancy and childbirth were considerable. As we have seen, marriages were often ended by the death of one partner, and frequently remarriages only partly made up for the 'missing' children who would have been born if the marriage had not come to an end.

Women born in 1750 had on average only five or six children per marriage. An additional cause to those already given was the high number of unmarried women. As a result of mortality, the net number of children was four, of whom only two reached child-bearing age. Table 6.1 summarises the demographic situation under the *ancien régime*: no contraception and a high death rate, which explains why, despite a high birth rate, population growth was slow.

The comparison with the present situation is particularly illuminating. If we imagine an absence of birth control, the fall in the death rate in the twentieth century would mean that our society would have the kind of high number of births we have mentioned, namely 12.3 children for every woman marrying at age twenty (which in fact contraception has reduced to 1.8).

Table 6 2 shows clearly the importance of the use of the pill (almost 30 per cent of the women surveyed) It should be noted that all kinds of women were questioned - sterile or sterilised, pregnant, those living alone, and so on The pill was the leading contraceptive method, and if these findings are compared with those of a survey conducted in 1971, it is clear how pre-eminent it now is, since the figures are 10 5 per cent and 31 per cent respectively As we examine the make-up of the family, it emerges that even couples still wanting a child use the pill, and it is increasingly used as the desired number of children seems to be reached From the survey we can also see that 96 per cent of women not wanting more children used some form of contraception

The pill and the coil were also used from the beginning of the reproductive period by unmarried couples living together (61 per cent) as a typical 'waiting' contraceptive It was not a case of not wanting children, but rather of not wanting them at once

pp 234-5

At a certain point in time, women stopped going out to work and stayed at home to look after their children and their houses, and this was one stage on the way of improving their lot The number of working women tended to fall from the beginning of the century to the 1960s Since 1962, the situation has been changing and differential swings are becoming more marked Changes have also occurred more rapidly since 1968 Between 1968 and 1975, the percentage of women aged between twenty-five and twenty-nine working rose from 50 2 to 62 7, and that of those aged between thirty and thirty-four from 42 4 to 54 6 If the number of children is also taken into account, the percentage of women aged between twenty-five and twenty-nine with one young child who were in employment rose from 50 5 in 1968 to 66 6 in 1975 The corresponding figures for women aged thirty to thirty-four with two children including one very young one were 31 2 per cent and 47 9 per cent⁷ Overall, the number of women entering the labour market increased Socio-economic analyses show the following characteristics

- 1 There was an increase in the employment rate of the order of 16 or 17 per cent between 1968 and 1975 in the case of women aged from twenty-five to twenty-nine with a child under seven This means that the increase occurred largely amongst young women⁸
- 2 If all women under forty with one or two very young children are included, 37 per cent of married women were working in 1968, 40 per cent in 1975 and 44 per cent in 1980
- 3 To a lesser extent, there has been an increase in the number of women over forty-five working