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The problem of
EQUIVALENCE
in translating texts in international
reading literacy studies

A text analytic study of three English and
Finnish texts used in the PISA 2000 reading test

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Abstract

The purpose of the study was to examine the special problems of equivalence that arise when translating texts in international reading literacy studies, where equivalence of difficulty between all the different-language reading texts is a key prerequisite for the validity of the entire test. Knowledge of such problems, in turn, helps to increase the quality and the degree of equivalence of the translations used in these studies and, in the end, the validity, fairness and equity of these studies.

The data of the study consisted of three English source texts and their Finnish translations used in the PISA 2000 international reading literacy study. Each of these three texts represented a different text type: one was an expository text, one a narrative text and one a non-continuous text. The method for analysing this data was comparative linguistic text analysis: the English source texts and their Finnish translations were analysed and compared at different linguistic ranks and strata, with the objective of locating, analysing and assessing potential non-equivalences of difficulty in the texts.

These, in turn, were determined on the basis of cognitive theories of reading. The analysis was mainly qualitative but also contained quantitative comparisons.

The analysis pointed to six main categories of problems leading to non-equivalences of difficulty between the English and Finnish texts: problems related to language-specific differences in grammar, problems having to do with language-specific differences in writing systems, problems associated with language-specific differences in meaning, problems concerning cultural differences, problems related to the strategies used and choices made by the translators, and problems linked with editing.

The problems differed considerably between the text types, both in number and quality. In absolute numbers, they were clearly most numerous in the narrative text; when proportioned to the length of the texts, however, they were most frequent in the non-continuous text. Taken together, the least problematic text seemed to be the expository text. Also the distribution of the problems varied noticeably between the text types. In the expository text, the problems were related to the medical and anatomical terminology of the text, the resulting shift in register in the two texts, differences in word length, and interference. In the narrative text, the principal problems were the numerous polysemes, metaphors and personal pronouns used in the text, the stylistic flattening of the Finnish text, the cultural unfamiliarity of the text for Finnish readers, the translators' improving and explicating the Finnish text, and in the Finnish text, a loss of interestingness. And in the non-continuous text, problems were mainly caused by compact language, thematic and textual incoherence, and unidiomaticity.

As a result of all the problems, none of the three Finnish translations was fully equivalent in difficulty to its English source text. Most of the individual non-equivalences, however, were small and largely evened out when examined collectively, leaving the true equivalences of difficulty between the English and Finnish texts relatively insignificant.

The results suggest that it will probably never be possible to attain full equivalence of difficulty between all the different-language texts in international reading literacy studies. A relatively high level of equivalence, however, seems to be attainable. To this end, the source texts should preferably be easily translatable and hence not contain too many problematic words, structures and topics. While actually translating the texts, the translators could have two parallel source texts in two languages on which to base their translations; they should, moreover, avoid both too literal translation and undue improvement and make wise use of adaptations and compensations. When verifying

and judging the quality of the translated texts, statistical item analyses should be complemented with thorough linguistic comparisons, by backtranslations, and by having outsiders read the texts and answer the questions. Throughout the process, qualified translators and editors should be used to make and edit the translations; both also need sufficient time to do their job properly.

Arffman, I. 2007

Ekvivalenssin ongelma kansainvälisiä lukukokeita käännettäessä

Kolmen PISA 2000 -lukukokeessa käytetyn englanninkielisen ja
suomenkielisen tekstin tekstianalyyttinen vertailu

Tiivistelmä

Tutkimuksessa tarkasteltiin ongelmia, joita kansainvälisissä lukukokeissa on käännettäessä lukukoetekstejä osallistujamaiden kielille ja pyrittäessä samalla pitämään tekstien vaikeustaso muuttumattomana – sillä elleivät koetekstit ole vaikeustasoltaan ekvivalentteja, vertailukelpoisia, ei lukukoekaan ole validi. Tieto ongelmista on tarpeen, koska se auttaa tekemään käännöksistä laadukkaampia ja vertailukelpoisempia, mikä vuorostaan johtaa luotettavampiin, pätevämpiin ja tasa-arvoisempiin lukukokeisiin.

Tutkimuksen aineistona käytettiin kolmea PISA 2000 -lukukokeeseen sisältynyttä englanninkielistä lähtötekstiä ja niiden suomennosta. Tekstit edustivat eri tekstityyppejä: yksi oli ekspositorinen asiateksti, yksi kaunokirjallinen novelli ja kolmas "ei-jatkuva" taulukko. Tutkimusmenetelmänä oli vertaileva lingvistinen tekstianalyysi, jossa englanninkielisiä lähtötekstejä ja niiden suomennoksia analysoitiin ja verrattiin keskenään kielen eri tasoilla ja osa-alueilla. Tarkoituksena oli etsiä, analysoida ja arvioida

teksteistä kielellisiä elementtejä, joissa englannin- ja suomenkielisten tekstien vaikeustaso näytti poikkeavan toisistaan. Vaikeustason arviointi pohjautui kognitiivisiin lukuteorioihin. Analyysi oli pääosin laadullista, mutta siihen sisältyi myös kvantitatiivisia vertailuja.

Tutkimuksessa löytyi karkeasti jaoteltuna kuudenlaisia ongelmia: kielten välisiin kieliopillisiin eroihin liittyviä ongelmia, kielten kirjoitusjärjestelmien välisiin eroihin liittyviä ongelmia, kielten välisiin merkitysrakenteiden eroihin liittyviä ongelmia, kulttuurien välisiin eroihin liittyviä ongelmia, kääntäjien valintoihin ja strategioihin liittyviä ongelmia ja tekstinkäsittelyyn ja editointiin liittyviä ongelmia.

Ongelmat erosivat huomattavasti eri tekstityyppien välillä. Absoluuttisesti laskettuna ongelmia oli eniten kaunokirjallisessa tekstissä. Mutta kun ongelmien määrä suhteutettiin tekstien pituuteen, ongelmallisin oli taulukkoteksti. Vähiten ongelmia oli kummallakin tavoin laskettuna ekspositorisessa tekstissä. Myös ongelmien laatu erosi tekstityypeittäin. Ekspositorisessa tekstissä ongelmia aiheuttivat tekstin lääketieteellinen ja anatominen sanasto, sanastosta johtuva rekisteri- ja tyyliero englannin- ja suomenkielisessä tekstissä, erot sanapituudessa sekä liian sanatarkka kääntäminen. Kaunokirjallisessa tekstissä ongelmat liittyivät sanojen monimerkityksisyyteen, metaforiin, persoonapronominien käytön erilaisuuteen englannin ja suomen kielessä, suomenkielisen tekstin tyylilliseen köyhtymiseen, siihen että tekstin sisältö oli vähemmän tuttu suomalaiskulttuurissa, tekstin kiinnostavuuden vähenemiseen sekä kääntäjien taipumukseen selkiyttää suomenkielistä tekstiä. Taulukkotekstissä ongelmia aiheuttivat erityisesti tekstin tiiviys ja suomenkielisen tekstin temaattinen ja tekstuaalinen epäjohdonmukaisuus ja siitä johtuvat kömpelyydet ja epäidiomaatisuus.

Teksteistä löytyneiden ongelmien vuoksi yhdenkään tekstin englannin- ja suomenkielinen versio eivät olleet vaikeustasoltaan täysin ekvivalentteja keskenään. Enimmäkseen erot olivat kuitenkin varsin pieniä ja kompensoituivat, kun tekstejä tarkasteltiin kokonaisuuksina. Todelliset vaikeuserot englannin- ja suomenkielisten tekstien välillä näyttivätkin suhteellisen merkityksettömiltä.

Tulokset viittaavat siihen, että kansainvälisissä lukukokeissa saavutetaan tuskin koskaan aivan täydellistä vertailukelpoisuutta kaikkien erikielisten tekstien välillä. Huomattavan suuri vertailukelpoisuus näyttää kuitenkin mahdolliselta. Jotta tähän päästäisiin, olisi jo koetekstejä valittaessa kiinnitettävä huomio niiden käännettävyyteen ja vältettävä tekstejä, joissa on runsaasti ongelmallisia rakenteita, sanastoa ja sisältöjä. Tekstejä käännettäessä kääntäjien työtä helpottaisi se, jos heillä olisi apunaan kaksi erikielistä lähtötekstiä. Kääntäjien tulisi lisäksi varoa sekä liian sanatarkkaa kääntämis-

tä että tekstien liiallista selkiyttämistä. Adaptaatiot ja kompensaatiot voisivat samoin parantaa tekstien vertailukelpoisuutta. Lopuksi tekstejä tarkistettaessa ja niiden vertailukelpoisuutta arvioitaessa pelkät tilastolliset analyysit eivät riitä, vaan tekstejä on verrattava myös kielellisesti ja tekstianalyyttisesti. Apua saattaisi olla lisäksi takaisinkäännöksistä ja siitä, että tekstejä luetettaisiin ulkopuolisilla. Kaikkiaan käännöstyössä on syytä käyttää vain päteviä kääntäjiä ja tekstinkäsittelijöitä ja huolehtia siitä, että heillä on riittävästi aikaa paneutua työhönsä.

Asiasanat: ekvivalenssi, validiteetti, lukutaito, ymmärtäminen, luettavuus, kääntäminen, arviointi

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I still remember the day when I got my first ABC book. It was an important day. I was four years old. Ever since that day books have played a special role in my life and ever since that day I have loved reading and languages. Later on that love was complemented by another type of love, a love of knowledge and research. By the end of my compulsory schooling I thus knew I wanted to become a researcher and that as a researcher I would study languages: I would help to decipher the code of a rare, unstudied and exotic language.

That, unfortunately, I have not done. However, having worked for a few years in my current workplace, the Institute for Educational Research (IER), I was given the opportunity actually to do research on languages. This research, furthermore, was to concern international assessments of reading literacy and the texts and translations used in them – something no one had ever researched linguistically before. So here I was, all of a sudden, doing research on what in a figurative sense definitely amounts to a rare, unstudied and exotic language.

While doing my research I have been helped and supported by a great number of people and organisations, all of whom I want to warmly thank here. I thank, first of all, the Institute for Educational Research and its Director, Professor Jouni Välijärvi, for the opportunity to work and complete my thesis in an encouraging and inspiring research environment. I also thank the Academy of Finland, which has supported me with a grant (Grant No. 206176), thereby making it possible for me to concentrate more fully on research work. Thanks are likewise due to Professor Minna-Riitta Luukka, Director

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together with my father, who was a keen reader, instilling in me the love for books, reading and languages and the thirst for knowledge. This is a legacy that I value more than anything money can buy and which I have also tried to pass on to my own children.

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CHAPTER 1

Introduction

1.1 Background to the study

International reading literacy studies have a relatively short history. The first study of this kind, in fact, was the Six-Subject Survey of Reading and Literature, which was conducted by the IEA (The International Association for the Evaluation of Educational Achievement) at the turn of the 1970's and measured the reading comprehension and practices of 10- and 14-year-old school children (Leimu, 2004; Purves, 1993). For some 20 years, this study remained the sole representative of international reading literacy studies.

Since the 1990's, however, the number of these studies has increased significantly. First came the Reading Literacy Study, carried out by the IEA in 1991 and concentrating on 14-year-olds (Purves, 1993; Leimu, 2004). It was followed in 1994–1998 by the first literacy study focussing on adults, the International Adult Literacy Survey (IALS), administered, not by the IEA but by the OECD (Organisation for Economic Co-operation and Development; Linnakylä & Välijärvi, 2005, pp. 72–74). The year 2000, for its part, saw the implementation of the first PISA (Programme for International Student Assessment) study, organised by the OECD and concentrating on 15-year-old

students (OECD, 2001). In 2001, a comparable assessment on 9-year-olds was launched by the IEA under the name Progress in International Reading Literacy Study (PIRLS; Mullis, Martin, Gonzalez & Kennedy, 2003). And in 2002-2004, adult literacy was surveyed again by the OECD (Adult Literacy and Life Survey, ALL; Linnakylä & Välijärvi, 2005, pp. 73–74). Today, international reading literacy studies are being conducted on a regular basis: PISA studies every three years (OECD, 2001) and PIRLS studies every five years (Mullis et al., 2003). In addition to these, a new adult literacy survey, the Programme for the International Assessment of Adult Competencies (PIACC), is being planned by the OECD for the years 2011–2012 (Linnakylä & Välijärvi, 2005, pp. 72–74).

Along with the increase in the number of these studies, the results of these studies are also attracting more and more attention worldwide. Thanks to the widely cited PISA 2000 and 2003 studies (OECD, 2001, 2004), for instance, we have been told that Finnish students are the best readers in OECD countries. In turn, these results are largely the basis on which nations make educational decisions today. Finland's success in PISA, for example, has led educational decision-makers and practitioners from all over the world to regard Finland as a showpiece of education to which to refer when developing schooling in their own countries.

For all such results and decision-making to be possible, nevertheless, it is first necessary that all the texts used in these reading tests are translated into all the languages of the participating countries so that each examinee will be able to take the test in his or her own mother tongue. This, however, is not enough. Furthermore, for the results also to be valid, and the decisions based on them fair and well-founded, it is mandatory that all the different-language texts and translations be equivalent to each other, and thus equally easy or difficult to understand. Because if they are not, the entire test and its results will be invalid. (American Educational Research Association, American Psychological Association & National Council on Measurement in Education [AERA, APA & NCME], 1999, pp. 91–100.)

Surprisingly enough, however, linguistic research into the quality of and degree of equivalence between the texts and translations used in international reading literacy studies is more or less non-existent, the sole exception being the study conducted by Arffman (2002; see chapter 6 and p. 117) as a pilot to the present study. What do exist, instead, are statistical analyses conducted by the organisations administrating these studies aimed at evaluating whether the question items perform in the same way across countries. If they do, they and the texts they are based on are regarded as equivalent. If they do not, judgemental reviews are made of them to see whether the flaws seem to be

due to translational factors, and if this is the case, the items are dispensed with as being non-equivalent. It is supposed, then, that what are left are texts and translations that are equally easy or difficult to understand. (See e.g. Binkley & Pignal, 1998; Elley, 1993, 1998.) It seems, however, that this technique is at best an indirect way of looking at the texts and ensuring equivalence and comparability between them. The technique does not say anything about the actual linguistic quality of the translations.

Another technique used extensively up to the early 1990's by those conducting international reading literacy studies to probe the quality of the translations – a technique more directly relying on linguistics – is backtranslation. In this technique, texts are first translated from the source language into the target language and then back into the source language. If the original and the backtranslated versions are similar, the target text is deemed to be of high quality and equivalent to the source text. The backtranslation technique is relatively effective in detecting, for example, miscomprehensions and mistranslations. The problem with the technique, however, is that it puts too much weight on the source text, surface structure phenomena and literal translation. (Grisay, 2003, pp. 227–228.) Therefrore, a backtranslated text often sounds strange and awkward and is difficult to understand. Backtranslation alone cannot, as a consequence, guarantee that the target text is of high quality and equivalent to the source text (Behling & Law, 2000, p. 58; Brislin, 1986; Harkness, 2003, pp. 41–43). In more recent reading literacy studies, backtranslations have therefore not been made.

Over the years, a few critical studies have also been conducted on these assessments (e.g. Bechger, van Schooten, de Glopper & Hox, 1998; Bonnet, 2002; Hamilton & Barton, 2000; Levine, 1998). These, however, have mostly concerned the validity of these assessments in general. In these studies, translations have usually been examined as one small part of the studies only and on a very general level, with no closer connection to any particular language. One of the studies (Manesse, 2000), however, contains a short discussion on the French translations used in the International Adult Literacy Survey.

The critics (e.g. Bechger et al., 1998; Bonnet, 2002) have pointed out what they have regarded as significant shortcomings in the implementation of the studies and named translations as one potential source of error, bias and invalidity. The criticism has mainly concerned differences between languages and cultures and implies that because of these differences the translations have not been – nor will ever be – able to ensure full linguistic and cultural comparability (Culturally balanced assessment of reading [C-BAR], 2003; Hamilton & Barton, 2000; Levine, 1998). In the French study, moreover,

it is claimed that the French translations were of poor quality and contained less precise terms than the English originals, as well as lexical and pronominal errors; it has been maintained that there were considerable differences between the French and English texts, and equivalence of difficulty was not attained (Manesse, 2000). All in all, while the critics feel that international reading literacy studies have improved during the last few years, they argue that the distortions, including defects in the translations, still endanger the validity of these studies (Bechger et al., 1998; Bonnet, 2002).

1.2   Purpose of the study

What is needed, then, is research and above all linguistic research on texts and translations used in international reading literacy studies, research concentrating on the question of equivalence and comparability between these texts. The present study is an attempt to satisfy this need.

More specifically, the purpose of the study is to explore the special problems of equivalence that arise when translating texts in international reading literacy studies, where equivalence of difficulty between all the source texts and target texts is a key prerequisite for the validity of the entire test. At the same time, however, the study also seeks answers to the question as to whether, or to what extent, the texts used in these studies can be expected to be equivalent to each other. Basically, the study thus aims at providing those conducting international reading literacy studies with information about the problems faced when translating such studies and the possible solutions to these problems. This, in turn, can be expected to help to develop translation procedures that are better able to add to the quality and the degree of equivalence of the translations used in these studies. The ultimate purpose of the study, then, is to increase the validity, fairness and equity of international reading literacy studies.

CHAPTER 2

Equivalence

2.1 Equivalence and translation quality assessment

The study falls, first and foremost, within the scope of translation theory, and more specifically, of translation quality assessment. Translation quality assessment, in turn, requires a theory of translation (House, 1997, p. 1; 1998, p. 197; see also Chesterman, 1997, p. 117), or criteria on the basis of which the assessment is made (Nord, 1991, p. 165). There are, however, no objective or absolute criteria for assessing all translations. The criteria, instead, vary from translation to translation and are determined by, for example, the purpose, context and communication situation of the translation (see Chesterman, 1997, p. 124). In the context of international reading literacy studies, the unequivocal criterion for the assessment is equivalence (OECD, 1999b) – a concept shared by and central to both test theory and translation theory (for equivalence in contrastive linguistics and its close links with translation equivalence, see e.g. Chesterman, 1998, pp. 29–37: Jaszczolt, 2003; Krzeszowski, 1980, p. 187; 1984, 1990; Lewandowska-Tomaszczyk, 2002).

2.2 General definition of equivalence

According to the Collins English Dictionary (2003, p. 526), equivalence – a compound term made up of two bases, *equi* or 'equal' and *valence* or 'value' – refers to the state of being "equal or interchangeable in value, quantity, significance, etc" or of "having the same or a similar effect or meaning". In its general meaning, then, equivalence implies the existence of two or more entities that are related and comparable to each other, the relationship being one of equality, sameness or similarity (Halverson, 1997, p. 2). The gist of this definition has been carried over into both test theory and translation theory.

2.3 Equivalence in test theory

Depending on, among other things, the context and purpose of use, equivalence has slightly different meanings and definitions in testing contexts. The concept has, moreover, been subdivided into various subcategories and subtypes (see e.g. Johnson, 1998, pp. 3–6; Konttinen, 1981, pp. 45–50; van de Vijver & Poortinga, 2005, pp. 47–49). Not all of these, however, are relevant to the present study and will therefore not be discussed here. The focus in the following discussion, instead, will be on how equivalence, as a test theoretical concept, is used in this study.

2.3.1 Reliability and validity

In test theory, equivalence is inseparably linked – and therefore cannot be clearly understood without reference to the two core concepts and main considerations in test evaluation, reliability and validity. Of these, the first, *reliability* is a statistical concept and denotes the extent to which the measurement is consistent, dependable and repeatable and hence free from errors of measurement (AERA, APA & NCME, 1999; Angoff, 1988, p. 20). *Validity*, in turn, is a judgemental procedure and refers to the degree to which the test measures what it is intended to measure (Popham, 1981, p. 60) and the extent to which the inferences from, or interpretations of, the test scores are appropriate or meaningful (AERA, APA & NCME, 1999; Kirk & Miller, 1986, p. 20; Messick, 1989). The two are related, in that the reliability of a test is a necessary but not a sufficient condition for the validity of the test (Popham, 1981, p. 126).

2.3.2 Equivalence – interchangeability and comparability of multiple forms of measuring instruments

Equivalence, for its part, is *a form or a means of determining or securing the reliability of a test* and, as such, *a necessary prerequisite for test validity* (Popham, 1981). Equivalence, more specifically, refers to the use of two or more versions or *alternate forms* of a test which, moreover, are *interchangeable* with each other. To be interchangeable, the forms have to measure *the same construct* in the same way, be intended for the same purpose, and be administered using the same directions. (AERA, APA & NCME, 1999.) Thus, the forms have to cover the same content and skills (Popham, 1981, p. 132). In addition to this, however, they also have to be of *comparable difficulty* (Allen & Yen, 1979, p. 57; Multilingual Glossary of Language Testing Terms, 1998; Popham, 1981). Equivalent forms, in other words, measure the same concept at a comparable level of difficulty.

Ideally, to this end, the forms should be statistically identical, or parallel, with each other: they should have equal true score means, equal standard deviations, and equal error structures (Mislevy, 2002, pp. 3–4). If this is the case, estimating and establishing the reliability of the test is relatively straightforward. In actual practice, however, complete statistical identity between alternate test forms is extremely hard to attain. More often, the forms differ from one another at least to a certain extent. The forms may, for example, while measuring the same construct and having the same mean scores, have unequal error variances (Novick & Lewis, 1967). If this is the case, the comparability of the forms, and the reliability of the test, has to be established through test equation. The scores obtained from the multiple forms, in other words, have to be converted to a common scale or metric and correlated with each other (AERA, APA & NCME, 1999). After the equation, the forms and the scores obtained from them can be considered equivalent.

Equivalence thus refers to the use of multiple forms of a test and to the necessity of these forms to be interchangeable and comparable in content and difficulty. To be equivalent, the forms do not have to be statistically completely identical with each other. To allow reliable and valid tests, nevertheless, the scores on these forms have to be made identical through score equation.

2.3.3   Equivalence in cross-cultural assessments

Cross-cultural assessments is one of the most obvious contexts where equivalent forms of measuring instruments are needed. In cross-cultural assessments, the test has to be translated into all the languages of the participating countries. To allow fully reliable and valid comparisons, moreover, all these different-language versions have to be equivalent to each other: they not only have to measure the same construct; but also the scores obtained on these different versions have to be comparable across all the cultural groups participating in the assessment (van de Vijver, 2003; van de Vijver & Poortinga, 2005).

International reading literacy studies likewise necessitate the use of multiple-language measuring instruments, which, moreover, have to be equivalent to each other. These different-language versions of the instruments, more specifically, have to be equivalent, not only in content but also in difficulty, with all the texts used in the reading tests being equally difficult or easy to understand (OECD, 1999b, p. 23; see also e.g. Bechger et al., 1998, p. 102). It is only by using equivalent texts and translations of this kind that valid comparisons between cultures can be made in international reading literacy studies.

2.4   Equivalence in translation theory

In translation studies, the concept of equivalence is notoriously ill-defined and widely disputed: in German translation studies alone, 58 definitions have been given to the concept (Pym, 1992, p. 37). Usually, however, equivalence is taken to signify the *relationship* between a source text and a target text that allows the target text to be regarded as a translation of the source text (Kenny, 1998, p.77). As to the precise nature of this equivalence relationship and the relevance of the concept to translation, conceptions vary considerably.

Somewhat simplistically, it might be said that there are at present two main lines of thought concerning the concept of equivalence and its relevance to translation. These are the linguistically oriented school or equivalence theorists; and the more relativist schools, such as the historical-descriptive and the functionalist schools, who unite in criticising equivalence theories (for the classification, see Halverson, 1997; Tommola, 1997).

2.4.1   Equivalence according to equivalence theorists

For the first school of thought, equivalence theorists, equivalence is a theoretical and prescriptive concept – something that has to remain *invariant* in translation (see Chesterman, 1997, p. 37). Equivalence is thus the *goal* and the *necessary condition for translation* (Kenny, 1998, p. 77), without which a translation would not be a translation and which is therefore needed to separate translations from non-translations and other forms of multilingual communication (Malmkjær, 2002, p. 111; Pym, 1995): "Translation can be understood as the result of a text-processing activity, by means of which a source-language text is transposed into a target-language text. Between the resultant text in L2 (the target-language text) and the source text in L1 (the source-language text) there exists a relationship, which can be designated as a translational, or equivalence relation." (Koller, 1995, p. 196.) In equivalence theories, translation is thus defined in terms of equivalence – and equivalence in terms of translation (see Kenny, 1998, p. 77; see also Pym, 1992, pp. 37–40): a translation is a translation, because it is equivalent to its source text.

   Originally, this equivalence relationship was thought of as an equative relationship, relying on and presuming absolute invariance, identity or sameness (see Chesterman, 1998). This was a view largely influenced by mathematics, where equivalence denotes a symmetrical, reversible relation and from which the concept of equivalence has sometimes been thought to have entered translation studies (see Wilss, 1982). In translation studies, however, it has long been clear that absolute equivalence is virtually unattainable, an exception mainly restricted to highly technical terms (Chesterman, 1997, 1998; Pym, 1992, 1995). In translation, equivalence therefore denotes *approximate, optimal or maximal similarity* (see e.g. Chesterman, 2000, p. 16; Lefevere, 1980, p. 30; Newmark, 1991, p. 100-101; Wilss, 1982) – witness its definition as "the *closest* natural equivalent to the source-language message" (Nida, 1964, p. 176; italics mine). Most equivalence theorists today would accordingly agree that equivalence is a relative concept and largely a matter of degree (Halverson, 1997; Hartmann & Stork, 1972; Kenny, 1998; Koller, 1995).

   Most equivalence theorists would also agree that equivalence is not a unitary concept or a fixed relationship (Yallop, 2001). Rather, there are different kinds or types and degrees of equivalence. Equivalence can thus obtain at different ranks (e.g. word, sentence, text), different strata (phonetics, phonology, lexicogrammar, semantics, context) and different metafunctions (ideational, interpersonal, textual); it may also

aim at holding constant different types of meaning (denotative, connotative, pragmatic etc.) (Halliday, 2001; Hartmann & Stork, 1972, p. 713; Kenny, 1998; Shore, 2001).

This, in turn, has led to the introduction of a plethora of different types and typologies of equivalence (e.g. Baker, 1992; Catford, 1965; Jäger, 1975; Koller, 1979; Nida; 1964; Popovic, 1976). Of these, the best known is probably the typology existing between formal and dynamic equivalence suggested by Nida (1964). Of these the first, *formal equivalence*, focusses on the message and refers to the attempt to achieve equivalence of both content and form between the source text and the target text (p. 159). Formal equivalence is thus strongly oriented towards the source text and attempts to preserve the structural elements of the source text as closely as possible. This, in turn, often leads to interference, or undue influence by the source language, or even translationese, an artificial form of the target language (see e.g. Nida & Taber, 1969).

Nida therefore argued strongly for *dynamic equivalence*. Dynamic equivalence is based on "the principle of equivalent effect" and presupposes that the effect that the target text has on the target text receiver be similar to that which the source text has on the source text receiver (Nida, 1964, p. 159). In opposition to formal equivalence, dynamic equivalence puts more emphasis on the target language and target culture, aiming primarily at naturalness of expression (ibid., 1964, p. 176). Most translation today pursues dynamic equivalence.

In the later works of Nida (e.g. Waard & Nida, 1986), the initial dichotomy was slightly revised in that dynamic equivalence was replaced by *functional equivalence*. This was largely because dynamic equivalence with its psycholinguistic emphasis and specifically its requirement of similar effects on receivers proved difficult to measure. Functional equivalence, therefore, instead of focussing on readers, concentrates on texts. Functional equivalence presupposes, not similar effects on readers, but similar functions between the source text and the target text.

More complex typologies have also been proposed. Among these, the most influential is perhaps the one developed by Koller (1979), who distinguishes five types of equivalence:

1) *Denotative equivalence*, which refers to equivalence of content and has elsewhere been termed content invariance or semantic equivalence.
2) *Connotative equivalence*, which focuses on connotations and implies equivalence of style and register. Attaining connotative equivalence, is, according to Koller (1979, p. 189), often impossible and "one of the most difficult problems of translation".

3) *Text-normative equivalence*, which relates to text type usage norms, revealed by parallel texts in the target language, with different types of text behaving in different ways.

4) *Pragmatic equivalence*, which concentrates on the reader and refers to equivalence of effect. Koller's pragmatic equivalence, which has elsewhere been called communicative equivalence, corresponds to Nida's dynamic equivalence (Munday, 2001, p. 47).

5) *Formal equivalence*, which has to do with the formal-aesthetic features of the text and has elsewhere been referred to as expressive or artistic-aesthetic equivalence. It is important to note that Koller's formal equivalence is not the same as Nida's formal equivalence.

Of the other types of equivalence suggested, most scholars simply use slightly different terms or classifications to refer to nearly the same equivalence types as do Nida and Koller. An interesting exception to this, however, is Baker's (1992) *textual equivalence*. Textual equivalence, as defined by Baker, refers to similarity in information flow, or thematic structure, and cohesiveness. Textual equivalence thus adds a new, textual perspective to the other equivalence typologies (Munday, 2001, pp. 95–97)

Given all the different types of equivalence and their widely differing emphases, it is evident that, generally in translation, they cannot all be attained at the same time. Instead, the translator usually has to choose which of the equivalence types s/he wants to prioritise and specifically aim at in a given translation task (Koller, 1989). The type of equivalence prioritised in the translation task is, in turn, determined by the type of text as well as the context and purpose of the translation, for example (Halliday, 2001; Koller, 1979; Neubert & Shreve, 1992). Often, however, pragmatic equivalence overrides the other equivalence types (Baker, 1992; Koller, 1979).

Regarding equivalence, or a certain type of equivalence, as the goal of translation has logically also resulted in its being used as the *tertium comparationis* when assessing the quality of translations (see e.g. Lauscher, 2000). Every translation quality assessment, after all, to be justified (Nord, 1991), needs a tertium comparationis or a "common platform of reference" (literally, in Latin, 'the third part of the comparison') against which the source text and its translation are compared (Krzeszowski, 1990, p. 15). For equivalence theorists and – in default of other feasible assessment criteria – for several translation evaluators too, this tertium comparationis has been equivalence.

2.4.2   Equivalence according to non-equivalence theorists

Because of, among other things, the incontestably imprecise nature of the concept of equivalence, the general trend today has been away from equivalence. Some translation theorists (Gutt, 1991; Hönig & Kussmaul, 1982; Snell-Hornby, 1988) even reject the concept altogether. Gutt (1991, 2002), for example, in his relevance theory, argues that the key principle in translation is *relevance* and the relation aimed at one of *resemblance*: the translation has to resemble the source text in a way that is optimally relevant to the aim of the writer and to the needs and the cognitive environment of the reader. Others (e.g. Chesterman, 1997, p. 33), again, feel that equivalence has practically no theoretical value outside machine translation research.

Most critics of the equivalence school – advocates of the historical-descriptive and the functionalist school as the most prominent among these – however, do not want to dismiss the concept of equivalence entirely. Rather, they use it in a somewhat different, lesser sense (see e.g. Halverson, 1997; Tommola, 1997; Vehmas-Lehto, 1999), suggesting that equivalence is not prescribed in advance as a necessary condition for translation: a translation, in other words, does not necessarily need to be equivalent to its source text. This is largely because, unlike equivalence theorists, who focus on the relation between the target text and the source text, proponents of these more relativist schools are less interested in the source text and consequently also in the relation between the translation and the source text; instead, they concentrate on the target culture.

In his historical-descriptive approach focussing on literary translation, Toury (1995), for instance, maintains that equivalence is not a theoretical invariant or an ideal to be pursued between the source text and the target text. Instead, it is a descriptive and empirical concept, something inherent in all translations, no matter what their quality. For Toury (1985, p. 20), a translation is any target language text which is accepted as such in the target culture, and equivalence refers to all the real, actually existing relations that function as translation equivalences and that "distinguish appropriate from inappropriate modes of translation performance for the culture in question" (Toury 1995:86). For Toury, then, equivalence is an empirical term that depicts what is actually happening in translation.

The goal to be striven for and the prerequisite for a good translation, according to Toury (1980), is *acceptability*. Acceptability denotes adherence to the linguistic and literary norms of the target culture. Adherence to the norms of the target culture, in turn, is imperative, because after its creation, the translation is a product of the target

culture only. At the same time, however, the translation also has to be adequate – that is, it has to observe the norms of the source language (as will be seen, the way Toury uses the term adequacy is in total contrast to the terminology used in the skopos theory).

According to the functionalist school and particularly the skopos theory developed by Reiss and Vermeer (1984), again, the most crucial factor in translating is the *skopos* of the translation. Skopos – a term originally from Greek and literally meaning 'purpose' or 'aim' – refers to the purpose or function of (the) translation. This purpose, in turn, is assigned by means of the *commission* or the instruction to translate given to the translator. The commission contains or should contain detailed information on the goal of the translation and the conditions under which the intended goal should be attained. Since translation is directed by the skopos and the skopos, in turn, by the commission, it is ultimately the commission that prescribes how a text is to be translated. (Vermeer, 1989.)

What is emphasised in the skopos theory is that the skopos of the translation may be different from the skopos of the source text. This is the case when, say, a political source text with both an informative and a operative function (i.e. intending to have an influence on others) is purposely translated as a purely informative text with no operative function. In cases such as these, the translation can be said to be *adequate*, that is, fulfilling its skopos in the target culture; the translation, however, is not equivalent to its source text. If, on the other hand, the translation has the same skopos as its source text, the translation is also equivalent to the source text. Equivalence as understood by the skopos theory might thus be regarded as a term subordinate to adequacy: an adequate translation – which is the goal in the skopos theory – does not necessarily have to be an equivalent one. However, the two, equivalence and adequacy, often coincide. Producing an equivalent translation is, after all, one possible and noteworthy skopos. (Reiss & Vermeer, 1984; Vermeer, 1989.)

2.5   Equivalence in the present study

In the present study, the conception of equivalence shares features of both test theory and translation theory. Primarily, however, it is rooted in test theory. This is because the study is situated in the context of international reading literacy studies, where different versions of the same test, that is, texts and translations, are needed and where these different-language texts, in addition, have to be equivalent to each other for the test to be valid. The texts, furthermore, have to be equivalent, not only in content but, even

more importantly, also in difficulty; otherwise readers in the participating countries would be in an unequal position and the measurements of reading proficiency would be biased.

In the present study, the main interest is thus *equivalence of difficulty* or *equivalence in difficulty*, which might be defined as a similar level of difficulty or comprehensibility between the source text and target text – and, ultimately, between all the texts included in an international study (OECD, 1999b). Equivalence of difficulty might accordingly (Figure 2.1), in terms of translation theory, be described as the skopos or purpose of the translations used in international reading literacy studies and hence also of those analysed in this study. It is, moreover, the main criterion or tertium comparationis against which the translations and their source texts are assessed in this study.
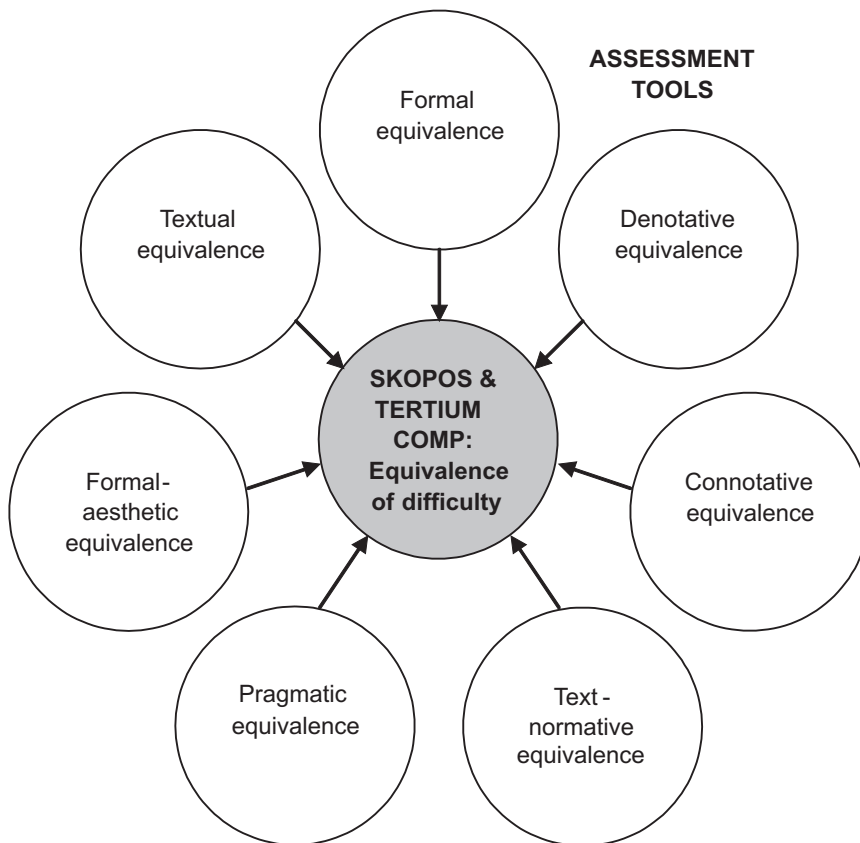
Figure 2.1 *Equivalence in the present study.*

However, to assess the quality of the translations and, more specifically, the equivalence of difficulty between the translations and their source texts, the study draws on translation theory and uses as tools the equivalence types provided by the linguistically oriented equivalence theories (Figure 2.1). The different types of equivalence, borrowed from translation theory, are thus seen as subservient to equivalence of difficulty. Especially valuable in this respect are Koller's denotative, connotative, text-normative, pragmatic and formal equivalence (see pp. 28–29) and Baker's textual equivalence. Of these, pragmatic equivalence is operationalised so that it focusses on equivalence in familiarity, idiomaticity and interestingness. Formal equivalence, for its part, will be referred to as formal-aesthetic equivalence, so as to differentiate it from what in this study will be termed formal equivalence, that is, similarity in form or syntax (Krzeszowski, 1984, p. 302; 1990, pp. 28–29).

In this study, unless otherwise specified, the term 'equivalence' alone and the corresponding adjective 'equivalent' refer to equivalence of difficulty.

CHAPTER 3

Reading comprehension and text difficulty

The requirement of equivalence of difficulty makes it imperative that all texts included in an international reading literacy assessment exhibit equal levels of difficulty and comprehensibility. Evaluation of the level of text difficulty and comprehensibility, again, necessitates a theory of reading.

3.1 Reading literacy – understanding, using and reflecting on text

Definitions of reading or reading literacy – the term preferred by those conducting international reading literacy studies, in particular – have changed over time, depending on the angle from which the term has been examined. In its narrow sense, reading refers to the ability to decode and understand texts (see e.g. Clark & Clark, 1977).

Along with the current emphasis on lifelong learning and the complex demands of today's knowledge societies, however, a need has risen for a more comprehensive definition of reading. A representative example of such a definition is the one provided by the reading expert group in PISA: "Reading literacy is understanding, using, and

reflecting on written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society" (OECD, 1999a, p. 20). Reading, as understood widely today, thus comprises not only comprehending but also the use and reflective evaluation of written information. The emphasis is on functional, purposeful and critical reading.

3.2 Reading comprehension – interaction between text, reader and context

Comprehension, as evidenced by both of the above definitions, whether narrow or broad, is an integral part of reading literacy. Current views of reading comprehension are largely based on cognitive theories of reading. In these theories, reading is seen as an interaction or transaction between text, reader and context and comprehension as an active constructivist process in which the reader generates meaning while reading (e.g. Alexander & Jetton, 2000; Dole, Duffy, Roehler & Pearson, 1991; Goodman, 1994; Rosenblatt, 1994; Rumelhart, 1994; Weaver, 1994).

These cognitive theories, however, have recently been complemented by more socially (Barton & Hamilton, 1998; Gee, 2000; Hunt, 1990; Wertsch, 1997) and culturally (Bruner, 1990, 1996; Strauss & Quinn, 1998) oriented reading theories. According to these theories, meaning is a social and cultural construct and reading comprehension, accordingly, a social and cultural act. The reader therefore generates meaning, not in isolation, but rather as a member of a social community, influenced by the context and the socio-cultural environment, and by using knowledge and texts that are socially and culturally patterned, conditioned, mediated and shared. A definition of reading comprehension that subsumes both the above main lines of thought might run as follows: Reading comprehension is a process in which the reader constructs "meaning in response to text by using previous knowledge and a range of textual and situational cues that are often socially and culturally shared" (OECD, 1999a, p. 19).

Reading comprehension might be roughly characterised as an interplay between text, reader and context. In this interaction, the *text* – any passage of whatever length that forms a unified whole (Halliday & Hasan, 1976, p. 1) – provides the necessary raw material for the meaning making. It is, after all, on the basis of the linguistic information contained in the text, its words, phrases, sentences, structure and topic, that the meaning of the text is derived. The meaning, however, cannot be extracted and

transferred from the text as such. Instead, it has to be negotiated with and constructed by the reader (Dole et al., 1991).

For his or her part, the *reader*, in constructing meaning, relies on different types of background knowledge. This may be either declarative, procedural or conditional (Ruddell & Unrau, 1994; see also Alexander & Jetton, 2000). Declarative knowledge consists of the reader's "what" knowledge: knowledge of the world, knowledge of the topic of the text, knowledge of text structures, knowledge of language rules, etc. Procedural knowledge, in turn, accounts for the reader's "how to" knowledge, that is, his or her reading skills and strategies. And conditional knowledge refers to the reader's "when" and "why" knowledge, including his or her ability to use declarative and procedural knowledge according to the reading context and intent. Understandably, all this knowledge varies from reader to reader.

In addition to the different types of knowledge, however, the reader is also affected and guided by his or her attitudes, beliefs, motives, interests, goals and intentions. These influence the reader's orientation to the reading process, in that they determine not only whether or not s/he is willing to read or continue reading the text but also, for example, how s/he approaches the text, in what depth and with what effort (Alexander & Jetton, 2000; Guthrie & Wigfield, 2000; Mathewson, 1994). The role of affective factors in the comprehension process may consequently be even more important than that of knowledge factors (Fry, 1988, p. 87).

And finally, the text and reader are both situated in and influenced by the *context* where the reading takes place. This context comprises not only the immediate reading situation, including the reading purpose, but also the wider socio-cultural and historical context (Gee, 2000; Rosenblatt, 1994; Ruddell & Unrau, 1994).

3.3   Reading comprehension as information processing

As to how the information coming from the various sources of knowledge is processed in memory during the comprehension process, it is generally recognised that a simultaneous, heterarchical interaction between two kinds of processing, bottom-up and top-down, is required (Britton & Graesser, 1996; Graesser, Gersnbacher & Goldman, 1997; Kintsch, 1998; Spiro, Bruce & Brewer, 1980; Weaver, 1994). In bottom-up, or text-driven, processing, reading proceeds from new, incoming textual information to higher level encodings; the primary emphasis is on the text, textual

decoding and lower level processes, such as letter and word recognition (Stanovich, 1980). In top-down, or knowledge-driven, processing, by contrast, the emphasis is on higher level processes, such as reader interpretation and prior knowledge; it is these higher level processes which direct comprehension in that they help the reader to make predictions about the text, regarding both content and form (see Garner, 1987). The relative extent to which these two types of processing are actually used in a reading situation depends largely on the amount of the reader's prior knowledge: the less the reader has such knowledge, the more s/he has to rely on purely textual information, whereas the more s/he has prior knowledge, the less s/he is dependent on textual cues (Britton, Glynn & Smith, 1985; Goldman & Rakestraw, 2000).

The knowledge contained in a text, at its most basic level, is composed of letters, words and phrases. During the comprehension process, however, this information is not processed, as such, in its surface form. Rather, as argued by, for instance, Kintsch and van Dijk (1978; see also van Dijk & Kintsch, 1983; Kintsch, 1994; Weaver & Kintsch, 1991), the surface structure of the text is interpreted as a set of propositions, that is, as semantic units consisting of predicates and arguments and roughly corresponding to clauses.

According to Kintsch and van Dijk (1978), the comprehension process starts with the reader's extracting the microstructure of the text. This structure is made up of micropropositions directly derived from the text. The next phase of the comprehension process requires that the information provided by the micropropositions be organised and condensed into a coherent macrostructure. This is arrived at through the application of three macrorules, deletion, generalisation and construction, transforming the micropropositions into a set of macropropositions. These represent the gist or topic of the text. Together, all the micro- and macrostructure propositions form a textbase, a structured network of interrelated propositions, which yields a mental representation of the meaning of the text. Some of the relations in this textbase are explicitly expressed, or signalled, in the text, while others are implicit and have to be inferred by the reader with the help of context-specific or general knowledge.

The textbase is thus influenced, not only by textual information but also by the knowledge held by the reader. This knowledge, as maintained by schema theorists (e.g. Anderson & Pearson, 1984; Rumelhart, 1980, 1994), is organised in memory into *schemata*. Schemata are usually taken to refer to abstract knowledge structures or mental representations which, thanks to repeated experiences, have been stored in long-term memory. Schemata are of different kinds. There are content schemata, which organise

the contents of texts; there are text structure schemata, which have to do with the structure of texts; and there are schemata for linguistic patterns. Like all knowledge, these schemata vary between readers.

Schemata are of vital importance in the organisation and interpretation of textual information in that they help to create mental images – ideational picture-like representations (Harris & Hodges, 1995, p. 152) or "visualisations" (Miller, 2002) in the mind or, in terms of Paivio (1986), in image memory: When the information coming from the text fits a schema and the mental imagery of the reader and, hence, is familiar to him or her, comprehension is facilitated; when there is no match between the incoming textual information and the schema and mental images stored by the reader, comprehension is hindered. Schemata also help the reader to make inferences – to fill in slots not mentioned in the text and to establish connections between what is being read and related items of knowledge. (See Goldman & Rakestraw, 2000; Rumelhart, 1994.)

Most of the information processing and the constructing of the textbase takes place in short-term or working memory (Kintsch, 1994). Both of these terms refer to nearly the same concept, with, however, slightly differing emphases. The former, short-term memory, is normally used to describe the fact that it holds information for a short time, a few seconds (Broadbent, 1975). With working memory, again, the emphasis is on the active operation and processing capacity of short-term memory and its ability to hold information in mind while working on it (Baddeley, 1986).

The capacity of this memory is limited. On average it is 7 ± 2 items or chunks; yet it varies considerably from reader to reader (see e.g. Miller, 1956; Kintsch, 1994.) The capacity also depends on the amount of operations, such as perceptual decoding, syntactic-semantic analyses and inferencing, which have to be performed simultaneously and of the resources that must be devoted to these operations (Kintsch & van Dijk, 1978). If, for example, some lower level processes consume too much of the available capacity of, or place too heavy a burden on, short-term or working memory, more demanding higher cognitive processes will suffer and comprehension is impeded (Daneman, 1991; Weaver & Kintsch, 1991). Therefore, the greater the automaticity of the lower level processes and the smaller the number of inferences required, the more effective the comprehension of the text (Britton, Glynn & Smith, 1985; Kintsch & van Dijk, 1978; Pressley, 2000; Samuels, 1994; Stanovich, 1991).

3.4   The role of text in reading comprehension

3.4.1   Text difficulty, readability, comprehensibility and accessibility

From the above it is clear that the text plays a vital role in reading comprehension. Comprehension, in other words, is largely affected by characteristics of the text, and the level of comprehension, correspondingly, by the level of difficulty of the text. This difficulty level, or the degree to which a text is difficult to understand (see Harris & Hodges, 1995, p. 210), is often called briefly *text difficulty*.

Other terms with a more or less synonymous meaning and use, according to Harris & Hodges (1995, p. 210), are readability (see also Binkley, 1988; Chall, Bissex, Conrad & Harris-Sharples, 1996; Chall & Dale, 1995; Fulcher, 1997; Gunning, 2003; Rabin, 1988; Stahl, 2003) and comprehensibility. Both the terms, however, also have other meanings. *Readability*, for example, can refer not only to ease of understanding – the meaning closely similar to that of text difficulty – but also to the legibility or clarity of the handwriting or typography of the text or to the interestingness and ensuing ease of reading of the text (Klare, 1984, p. 681). Even when used in the meaning roughly synonymous with text difficulty, moreover, the meaning of readability may sometimes be slightly more positive (Horning, 1993) than that of text difficulty. Readability, after all, denotes ease of understanding, whereas text difficulty, on the face of it, is clearly about difficulty. In this narrower sense, readability may, accordingly, be turned into its converse, difficulty of understanding, by adding the prefix *-un* to it.

Another term with nearly the same meaning as text difficulty (Harris & Hodges, 1995, p. 210) and readability (ibid., 1995, p. 210; Klare 1984, p. 14; Zakaluk & Samuels, 1988) is *comprehensibility*. Comprehensibility, however, differs from the first term, text difficulty, in that, like readability, it often carries more positive connotations (cf. the antonym *incomprehensibility*). Comprehensibility has thus been defined as the characteristics of a text that facilitate the meeting of the reader and writer in the text (Horning 1993, pp. 4, 39), thereby promoting the reader's comprehension of the text. Many scholars (e.g. Charrow, 1988; Horning, 1993; Nyyssönen, 1995, p. 22), moreover, see comprehensibility as the broadest term, with the most cognitive meaning, whereas text difficulty and readability are used as narrower or more operational terms to refer to the more technical or measurable features of texts.

In more recent years, the three terms, text difficulty, readability and comprehensibility, have been complemented by a fourth, closely related term, *accessibility*. Basically, accessibility also means easy to understand (Cook, 1995, p. 9; Nyyssönen, 1995, p. 20) and read (Nyyssönen, 1997, p. 111). Fulcher (1997), furthermore, equates accessibility with text difficulty and readability. Generally speaking, however, the difference between accessibility and the other terms is that in accessibility the main concern is the use and purpose of the text, which may even be in conflict with the difficulty and readability level of the text. Legal texts, for example, which are typically very low in readability, are fully accessible to legal experts. Accessibility therefore refers to a text's being usable and understandable – in this order – in the context where it is intended to be used and understood (Kuure, 2002, p. 23; Nyyssönen, 1997, p. 111).

In the present study, the terms used are text difficulty, comprehensibility and, to a much lesser extent, readability. Of these the first, text difficulty, is employed in its basic, neutral meaning to refer to the difficulty level of a text. Comprehensibility includes also the more cognitive aspects of comprehension. And readability refers to ease or effortlessness of reading.

3.4.2 Text factors connected with text difficulty and comprehensibility

Given the essential role of the text and its difficulty in comprehension as well as the fact that the text is largely processed and comprehended in the memory system whose capacity is limited, it is clear that for comprehension to be easy, the information in the text has to be presented in such a way that it supports the reader's processing and interpretation of the text. No unnecessary demands, moreover, should be put on the short-term memory of the reader (see e.g. Anderson & Davison, 1988; Kintsch & van Dijk, 1978). The better the text meets these criteria, the easier it will be to understand.

This applies, first, to the *complexity of* the *syntactic structures* used in the text. Hence, it has been shown that, for example, strongly *embedded* and *left-branching* sentences often impose an extra burden on immediate processing capacity, thereby causing difficulty in comprehension. This is largely because such structures require that a great amount of information be held in working memory until the main clause constituents are found. (See e.g. Bever & Townsend, 1979; Kemper, 1987; Schlesinger, 1968; Yngve, 1960.) Similarly, *grammatical transformations*, including negation, passivisation and

grammatical metaphors – that is, marked, incongruent forms of expressing semantic categories (Halliday, 1985), such as nominalisations – have been found to make greater demands on memory capacity and, hence, be harder to understand than the underlying kernel structures. A tentative explanation for this is that while a kernel sentence is stored in memory as such, a transformed sentence has to be stored in the form of the kernel sentence plus the appropriate "labels" indicating which transformations have been applied. (See Schlesinger, 1968, pp. 58–59.) Still another syntactic factor that has often been cited as contributing to poorer processing and understanding is *propositional density* (Kemper, 1983; Kintsch & Vipond, 1979) or *lexical density* (Halliday, 1987). Propositionally or lexically dense sentences contain a lot of information packaged in a compact, condensed form. As such they end up increasing, first, the amount of information that has to be processed simultaneously in short-term memory, and second, the number of inferences that have to be made by the reader (Kemper, 1983).

The limited capacity of the processing system further highlights the need for a text to be *cohesive*, or grammatically and lexically connected to ensure surface structure continuity (Hatim, 1997, p. 214). Hence, the better the propositions in a text are linked together, the better the reader will be able to construct a coherent textbase and understand the text (Kintsch & van Dijk, 1978). When, in contrast, the text lacks cohesiveness, extra processing is needed: the reader has to reread the text in order to search for the links, search through his or her memory to retrieve the connections and make inferences about possible relationships (Armbuster, 1984, p. 209). All this makes extra demands on the reader's processing capacity, resulting in poorer comprehension (see e.g. Anderson & Davison, 1988, p. 42).

To be optimally cohesive and consequently easy to process and understand, texts should use clear and *explicit signalling* to make the relationships between sentences and parts of text transparent to the reader (Armbuster, 1984; Mayer, 1985; Meyer, 1975, 1982, 1985, 2003). One of the most obvious ways to do this is by using *cohesive ties*. Cohesive ties, according to Halliday and Hasan (1976), are single instances of cohesion and can be classified into five categories: reference, substitution, ellipsis, conjunction and lexical cohesion. These different types of cohesion, however, differ in their degree of transparency and explicitness. Repetition and synonymy, for example, which are both instances of lexical cohesion, are more explicit than ellipsis, substitution and reference. Conjunctions, again, often play an extremely important role in signalling and helping to make explicit, not only relationships between individual sentences but also the logical structure of the entire text.

Apart from cohesive ties, however, also other linguistic means can be used to make the signalling more explicit. These include *headings*, *discourse or topic markers* (e.g. *furthermore*, *as regards*), *metatext*, *punctuation*, *numbering*, *typography*, *lay-out*, etc. (Goldman & Rakestraw, 2000; Meyer, 2003). Explicitness, in turn, reduces the number of inferences required of the reader, thereby leading to a smoother processing of the text (Kemper, 1983).

In addition to being cohesive, the text should also be *coherent*. Coherence, as distinct from cohesion, where the focus is on surface structure phenomena, focuses on the underlying meaning and refers to conceptual connectivity and to the overall logical organisation of the text (de Beaugrande, 1980; see also Hatim, 1997, p. 214; Meyer, 1975). A coherent text is thus one that hangs together conceptually, is well-organised and forms a clear, unified and logical whole. The coherence of a text, however, is dependent on the reader (Harris & Hodges, 1995, p. 35): a text which is coherent for one reader may not be so for another. An incoherent text, in contrast, lacks connectivity, logicality and clarity. This, again, may be either because the text is not well written or because the reader lacks the qualifications to construct a coherent textbase of the text. A coherent text, nonetheless, is understandably much easier to process, make a coherent textbase for and comprehend than an incoherent text, which requires extra inferencing and processing on the part of the reader (Kintsch & van Dijk, 1978).

Concrete and transparent language (see Corkill, Glover & Bruning, 1988; Leech & Short, 1981, pp. 19, 29) is another factor that has been found to make texts easier to process and understand. This is because concrete language is processed not only as verbal representations in verbal memory, as is the case with abstract language, but also as mental images in image memory; with concrete language, two separate memory traces are thus laid down, which understandably leads to better recall and comprehension (Paivio, 1986; Sadoski & Paivio, 2001). Semantically *transparent* language, or language where the meaning is fairly directly deducible from the surface form, for its part, is more salient in memory and hence not only quicker and easier to process but also less prone to misunderstandings than opaque language, where the relationship between form and meaning is more arbitrary (see Comrie, 1991; Nippold & Duthie, 2003). Greater salience is also the reason why *literal*, non-figurative language is normally easier to understand than figurative language (Giora, 1997).

More than anything, however, the limited capacity of the processing system underlines the role played by *familiarity* in text comprehension. This is evident at all linguistic levels. *Orthography* that the reader is familiar with has accordingly been found

to be less complex to comprehend than strange combinations of letters (see Horning, 1993). Familiar *words*, which at the same time also tend to be *short* and *frequent* and *concrete* (the so-called Zipf's law; see e.g. Zipf, 1935), have in like manner, long been known to require less processing effort than unfamiliar, long, rare and abstract words (see Chall, 1958; Chall & Dale, 1995; Klare, 1963). The same goes for familiar, and therefore relatively *simple* and *frequent syntactic structures*, which are normally found to be more straightforward to process and understand than unfamiliar and more complex structures (see Schlesinger, 1968).

On a more global level, likewise, *contents* and *topics* that are familiar to the reader have consistently been shown to be easier to comprehend than contents and topics that the reader is not familiar with (see e.g. Anderson & Pearson, 1984; Pearson & Fielding, 1991). And finally, as amply attested to by research, texts with familiar *structures* are better understood than texts with less familiar structures. This applies not only to the lower-level *given-new information structure* and *thematic structure* (Halliday, 1967; Kress & van Leeuwen, 1996; Vande Kopple, 1986), which both proceed from the familiar to the unfamiliar, but also to the *overall structure* of the text (see e.g. Baker, Atwood & Duffy, 1988; Kintsch, 1994; Meyer, 1982, 2003). The above list, however, far from being exhaustive, could well be continued. It could include also, for example, suprasegmental features, such as *punctuation* and *capitalisation*, and extra-linguistic features such as *typography, lay-out* and *pictures*. All these, when familiar to the reader, contribute to better comprehension.

Kintsch and van Dijk (1978; see also Kintsch, 1994; van Dijk & Kintsch, 1983) provide two interrelated explanations for the greater ease of familiar material. The first is that familiar material can be processed in larger chunks and retained more efficiently in short-term or working memory; unfamiliar material, in contrast, has to be processed in smaller chunks and is more difficult to retain in memory. The second is that with familiar material, the reader can rely on the rich background knowledge stored in his or her long-term memory. The reader has a schema which s/he can use to organise and interpret the incoming information. The incoming information, moreover, matches the reader's expectations. In case of unfamiliar material, on the other hand, either there is no schema, or if there is one, the incoming information runs counter to it. The expectations of the reader are not met. Familiarity thus fosters comprehension at both the level of constructing the textbase and the higher levels of processing.

Familiarity, however, is understandably not a constant. Instead, having to do with knowledge and experiences, it varies considerably from, for instance, reader to reader

(Anderson & Davison, 1988). By the same token, it is also strongly culture-specific. Topics, concepts, practices, conventions, text structures, syntactic structures, etc. that are common in one culture may be totally unknown in another (Katan, 1999). Readers in different cultures therefore find different text features familiar (Bruner, 1986, 1990; Gee, 2000) and easy to comprehend.

Knowledge-based text characteristics, however, are not the only factors that contribute to comprehensibility. Ease of processing appears to be related to yet another text characteristic, that of *appeal* or *interestingness*; a characteristic which, in turn, is contingent on the topic, content, format, style and difficulty of the text, for instance (Mathewson, 1974, 1976; Ruddell & Unrau, 1994). Texts which the reader finds interesting have thus been found to be better understood than texts that are considered boring (see Anderson & Davison, 1988; Green & Olsen, 1988; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991). The influence of interestingness on comprehension, as argued by Anderson and Davison (1988), is possibly even more important than that of certain knowledge factors.

This, again, seems to be attributable to the crucial role affective factors, such as attitudes, motivation and interests, play in information processing (Mathewson, 1994). Affective factors, according to van Dijk and Kintsch (1983), are part of the information processing system. They are, more precisely, part of what has been termed the control system. Furthermore, as suggested by the term, it is ultimately this control system, or the affective factors among other things that shape and control the whole comprehension process – the reader's intention and decision to read as well as the direction and intensity of his or her interest in reading (Ruddell & Unrau, 1994). Affective factors, moreover, are, like knowledge factors, inherently reader-specific and often even culture-specific (Katan, 1999). Different readers in different cultures consequently find different texts and text features interesting.

3.4.3   Text difficulty – not a constant

Given the above list of text factors connected with text difficulty, it should be kept in mind that the list is not exhaustive. As early as 1935, Gray and Leary listed 288 factors which they had found to have an influence on text comprehensibility. And today, of course, the list is even longer. The list given above, then, only contains those factors which are the most relevant to the present study. And even these factors are far from constant.

First, the factors are not mutually commensurate, but rather, vary considerably in significance. The impact of the more cognitive factors, such as familiarity, concreteness and coherence, thus outweighs that of, say, word length and syntactic complexity (Anderson & Davison, 1988; Fry, 1988; Meyer, 2003). Interestingness, furthermore, is often regarded as the most important text difficulty factor (Anderson & Davison, 1988; Fry, 1988).

Second, the factors are interdependent, and therefore the impact of each of the factors is contingent on that of the other factors. When, for example, the content of the text is demanding and strange to the reader, the style of writing plays a more important role, and the text should preferably be written in a relatively simple, clear and explicit style; easy and familiar topics, on the other hand, tolerate a more complex and implicit style (Goldman & Rakestraw, 2000; Wiio, 1968). Interestingness, moreover, often moderates or overcomes writing that is otherwise difficult to understand (Fry, 1988; Meyer, 2003).

Third, the relationship between the text difficulty factors and comprehensibility is not linear. A maximally simple, explicit and familiar text, for example, may not be maximally easy to understand (Anderson & Davison, 1988; Nyyssönen, 1995). Rather, overdue simplicity, explicitness and familiarity easily make a text uninteresting and boring, which, in turn, reduces its comprehensibility (Anderson & Davison, 1988; Green & Olsen, 1988; Mathewson, 1994; Ruddell & Unrau, 1994).

Fourth, the impact of the factors is not the same for all readers, but varies from reader to reader. Generally speaking, the textual and linguistic features seem to matter most to the least skilled, least knowledgeable and least motivated readers (Alexander & Jetton, 2000; Anderson & Davison, 1988; Chall et al., 1996; Goldman & Rakestraw, 2000). Syntactic complexity and word length, as an example, do not appear to have a significant effect on proficient readers: yet, they do affect the least skilled readers (Wiio, 1968). Explicit signalling likewise benefits the poorest comprehenders in particular (Meyer, 1985).

Fifth, the factors, especially those at the lower levels, do not seem to be universal across languages, but vary somewhat from language to language: punctuation, for example, plays a more important role in English than in Finnish (Wiio, 1968). This, in turn, means that since the vast majority of the research on text difficulty and comprehensibility worldwide has been done on texts written in English, their results may not be directly applicable to other languages, including Finnish.

And sixth, as will be discussed in the next chapter, the relative significance of the difficulty factors also varies between different types of text.

CHAPTER 4

Different types of text and their relevance in reading comprehension and translation

Texts are not alike but vary considerably in, for example, text type, genre, register, style, and format. Different types of text, moreover, necessitate different reading approaches and tend not to be equally easy to understand. Different types of text likewise cause different translation problems and require different translation strategies. All this is also true for texts used in international reading literacy studies

4.1   Classification of texts

Texts have been classified, for differing purposes, in several ways. Often, however, the criteria for the classification and the classificatory terminology have been confusing, to the point that many terms have been used more or less interchangeably. This is the case with the terms text type, genre and register in particular, but to a lesser extent with style. Other classifications relevant to the present study are those into literary and non-literary texts and those into continuous and non-continuous texts.

4.1.1 Text types and discourse types

4.1.1.1 Text types

To put it briefly, it might be said that text types – as distinct from the more general term types of text, which in this study are taken to refer to all different typologies of text – are generally conceived of as "a conceptual framework which enables us to classify texts in terms of communicative intentions serving an overall rhetorical purpose" (Hatim & Mason, 1990, p. 140). Text types are thus typically taken to refer to relatively broad *rhetorical functions* and categories (Bhatia, 2004; Faigley & Meyer, 1983; Trosborg, 1997) which are cognitively justified (Virtanen & Wårwik, 1987; Virtanen, 1992; Werlich, 1976) and highly conventional (Nord, 1991; Taavitsainen, 2001). Many researchers (Biber, 1988; Lee, 2001; Moessner, 2001; Taavitsainen, 2001; Virtanen, 1992), furthermore, see text types as being based on *text-internal* criteria, or the linguistic form or content of texts. Other terms used more or less synonymously with the term text type in this sense are notional (text) type (Longacre 1982, 1983), mode (Ostler, 2002), mode of discourse (Kinneavy, 1971, 1980), genre (Knapp & Watkins, 1994), primary speech genre (Bakhtin, 1986), elemental genre (Martin, 1997), and genre value (Bhatia, 2004).

Text types are typically seen to form a *closed set* with a limited number of categories (Trosborg, 1997, p. 15). Of these, the best known and most widely used is perhaps the one developed by Werlich (1976; for the adaptation of Werlich's typology for translation purposes, see Hatim, 1997; Hatim & Mason, 1990, 1997). Werlich distinguishes, "on the basis of their dominant contextual focus" (p. 19) and cognitive processes (pp. 21–22), five text types – description, narration, exposition, argumentation, and instruction:

- *Description* is the text type which deals with factual phenomena in space.
- *Narration* is the text type where the focus is on phenomena in time.
- *Exposition* is the text type where the information is presented as composite concepts or mental constructs or as those constituent elements into which concepts or mental constructs can be analysed; in exposition, the text explains how the component elements interrelate in a meaningful whole.
- *Argumentation* is the text type which presents propositions as to the relationship between concepts.
- *Instruction* is the text type which provides directions on what to do.

Alternative typologies have also been proposed. Some of these are, however, with the exception of slightly differing terminology, practically the same as that of Werlich. The one by Knapp & Watkins (1994), for example, includes description, narration, explanation, argument and instruction, the only difference being the substitution of the term explanation for exposition.

With some other typologies, again, the differences are slightly more noticeable. de Beaugrande and Dressler (1981), for instance, suggest a typology of three basic text types: descriptive, narrative and expository. Longacre (1983), for his part, classifies (monologue) texts into four notional text types: narrative, procedural, behavioural and expository. Kinneavy (1971, 1980), likewise, distinguishes four modes of (written) discourse: narration, evaluation, description and classification. And Biber (1988, 1989), in his linguistically oriented typology, divides English texts (both spoken and written) into eight distinct text types: intimate interpersonal interaction, informational interaction, scientific exposition, learned exposition, imaginative narrative, general narrative exposition, situated reportage, and involved persuasion.

It is interesting to note that while the above typologies differ to some extent in, for example, their ultimate criteria, the range of texts (spoken, written) covered, the number of text types contained in the typology, and the terminology used, they also have certain features in common. One feature is that they all have a separate category (or two categories, as in Biber) for narrative texts. Expository texts are also, with one exception (Kinneavy), seen as a text type of its own. Narrative and expository texts are thus normally ranked among the most basic text types (for the basicness of narrative texts, see Virtanen, 1992).

4.1.1.2 Discourse types and communicative functions

All the above text types, as readily acknowledged by the typologists, are of necessity simplistic abstractions. This is because in actual practice texts are seldom pure representatives of only one text type. Rather, most texts are "fuzzy", multifunctional hybrid forms, displaying features of more than one type and constantly shifting from one function to another (de Beaugrande & Dressler, 1981; Hatim, 1997; Moessner, 2001; Reiss, 1976; Snell-Hornby, 1988; Taavitsainen, 2001; Virtanen, 1992; Werlich, 1976). Instructive texts, for example, often contain descriptions, and argumentative texts are typically blends of several types of text. Texts, moreover, differ in the extent to which they exhibit the prototypical features of the text types: some are more *prototypical*, others more pe-

ripheral and some are in between these two (Biber, 1988; Moessner, 2001; Taavitsainen, 2001; Virtanen, 1992).

To tackle this problem of hybridisation, several typologists (Hatim, 1997; Taavitsainen, 2001; Trosborg, 1997; Virtanen, 1992; Werlich, 1976) propose a two-level model for text types (Figure 4.1). One of the basic assumptions in this model is that even if there are various functions and text types present in a text, usually one of these predominates. This is the text type according to which the text's primary classification is made and to which all the other text functions and types are subsidiary. This abstract, superordinate text type may be named the text's *discourse type* (Virtanen, 1992), text type focus or dominant contextual focus (Werlich, 1976; see also Hatim, 1997), or macro genre (Fludernik, 2000). The actual surface level text types, again, which are used to realise this predominant discourse type are called text types. These may but need not agree with the superordinate discourse type. The argumentative discourse type, for instance, may be realised not only by the argumentative text type but also by any other text type; and conversely, most of the text types may realise not only the corresponding discourse type but also other discourse types.

DISCOURSE TYPE:
predominant text type

Description   Narration   Exposition   Argumentation   Instruction
TEXT TYPES
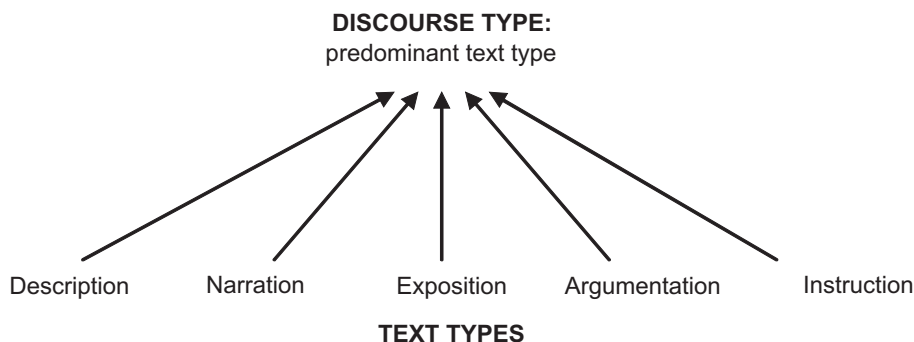
Figure 4.1 *Two-level model of text types.*

The discourse types, again, are connected with and reflect the overall *communicative functions* of the text (Virtanen, 1992; for alternative views equating communicative functions with text types, see e.g. Longacre, 1976, 1982 and Biber, 1989). These have typically been classified on the basis of the communicative triangle and the tripartite model of language functions originally proposed by Bühler (1933; see also Jakobson, 1960). Kinneavy (1971, 1980), for example (see Figure 4.2), using Bühler's model as his starting point, classifies texts into four main types, or aims of discourse, according to

which component in the communication process receives the primary focus: In *expressive* texts the focus is on the sender; in *persuasive* texts the focus is on the receiver; in *literary* texts the focus is on the linguistic code or form; and in *referential* texts the focus is on the realities of the world.

```
Sender:                                      Receiver:
EXPRESSIVE                                   PERSUASIVE

                    Language:
                    LITERARY


                    Reality:
                    REFERENTIAL
```
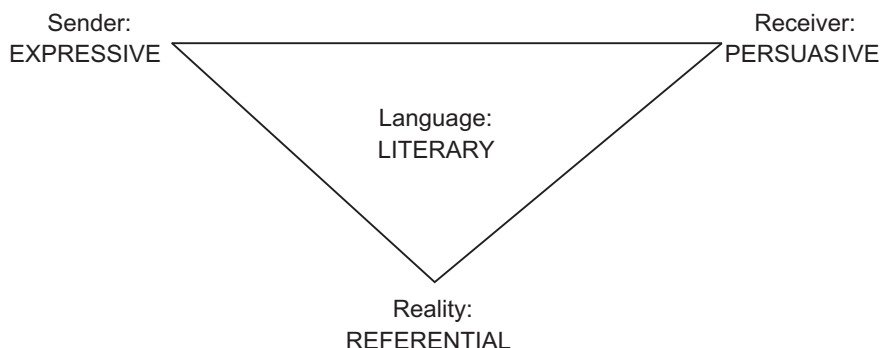
Figure 4.2 *The communication triangle (adapted from Kinneavy, 1971, p. 19).*

Reiss (1971, 1976) likewise starts from Bühler's communicative functions, suggesting, however, a slightly different typology for translation purposes. Reiss's typology consists of four basic *Texttypen*:

- *Informative* or content-focused texts, such as news and scientific-technical texts, where the emphasis is on content or information.
- *Expressive* or form-focused texts, such as poems and literary genres, where the emphasis is on the form of the language.
- *Operative* or appeal-focused texts, such as advertisements and persuasive texts, where the emphasis is on the reader.
- *Audio-medial* texts, that is, texts such as operas and radio plays, which in addition to print also involve other media and are intended to be spoken or sung.

As distinct from, for instance, Kinneavy, Reiss thus proposes audio-medial texts as a *Texttyp* of its own. In Reiss's later works (Reiss & Vermeer, 1984), the term audio-medial was replaced by multi-medial, to include also texts such as comics which have visual but not acoustic elements. Somewhat later, however, Reiss (1990) conceded that multi-

medial texts do not constitute a *Texttyp* of its own, but rather, contain elements that belong to the other three types of text.

4.1.2   Genres

Another text-typological term, often used interchangeably with text type, is genre. A great number of scholars, however, see it beneficial to make a distinction between the two. Hence, whereas text types are commonly conceived of as being based on rhetorical functions and/or text-internal characteristics, genres are usually defined in terms of *text-external* criteria, especially that of *communicative purpose* (Bhatia, 1993, 2004; Biber, 1988, 1989; Cope & Kalantzis, 1993; Martin, 1993; Lee, 2001; Moessner, 2001; Swales, 1990; Taavitsainen, 2001). Genres thus refer to conventional forms of texts used in particular communicative situations for a particular communicative purpose (Hatim, 1997, p. 217) and readily recognised by mature speakers of the speech community (Bhatia, 2004, p. 23; Swales, 1990, p. 58; see also Biber, 1989; Lee, 2001). With genres, moreover, the focus is more on the social acts or processes that lead to the product or text rather than on the product itself, witness its definition as staged, goal-oriented social processes (Martin, Christie & Rothery, 1987; see also Kress, 1993).

Unlike text types, which are typically divided into three to five relatively fixed categories, genres form an *open-ended set*. This is largely because genres, by definition strongly associated with communicative contexts and situations, develop and change continually (Berkenkotter & Huckin, 1995, p. 6; Bhatia, 2004). As new needs arise, new genres come into existence; at the same time, old ones may die and others undergo changes. Typical examples of modern genres, however, are poems, short stories, lectures, recipes, text books, manuals, advertisements, business letters, and newspaper articles.

Even though text types and genres thus differ in their theoretical basis, they are nevertheless related and have certain similarities. Like text types, for one thing, genres also appear at several levels (Bhatia, 2004; Lee, 2001; Steen, 1999). At the same time, furthermore, a single genre may be realised by different text types, and conversely, one and the same text type may realise different genres (Biber, 1989; Paltridge, 1996). And finally, in actual practice, genres seldom occur in pure form but are hybrid, mixed or embedded (Bhatia, 2004). To allow for all these facts, the multi-level structure of genres, the relationship between genres and text types (or generic values, the term preferred by

Bhatia) and the hybridisation of genres, Bhatia proposes the following hierarchy (Figure 4.3):

IDENTIFICATION CRITERION	EXAMPLES			GENRE LEVEL
Rhetorical Act	Description	Evaluation		Generic Value
Communicative Purpose (General)	Promotional Genres			Genre Colony
Communicative Purpose (Specific)	Book Blurbs	Advertisements	Job Applications	Genres
Medium	TV Ads	Print Ads	Radio Ads	Sub-genres
Product	Car ads	Airline Ads	Cosmetic Ads	Sub-genres
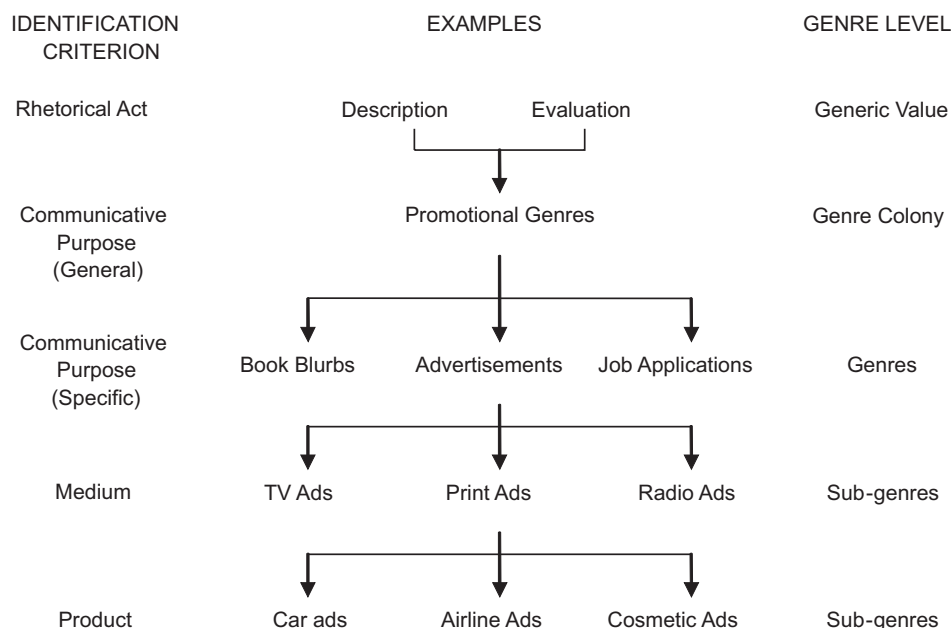
Figure 4.3 *Hierarchy of genres and text types (adapted from Bhatia, 2004, p. 59).*

The key term in the hierarchy is *genre colony*. A genre colony is a super genre (see also Steen, 1999) or a grouping of "closely related genres serving broadly similar communicative purposes" (Bhatia, 2004, p. 59). The genre colony of promotional genres, for instance, consists of several *genres* all of which aim at promoting a product or service to a customer. Examples of promotional genres are advertisements, book blurbs and job application letters. Genres, in turn, can further be divided, on the basis of the medium, into *sub-genres*. Advertisements, as an example, can be realised as either print, TV or radio advertisements. And print advertisements, again, can be subdivided, on the basis of, for instance, the product they promote, into still further sub-genres, such as airline, car and cosmetic advertisements, and so on.

Genre colony, however, is not the highest term in the hierarchy. Rather, it is subordinate to the term *generic value*, which is the term preferred by Bhatia to *text type*.

Generic values or text types are superordinate to genre colonies in the sense that they, and the rhetorical acts they represent, are used in various combinations to give shape to and realise different genres. Promotional genres, for example, are often realised by descriptions and evaluations.

The genres in the above figure are the most prototypical representatives or *primary members* of the genre colony of promotional genres. Apart from these, however, there are also other genres which are not exactly advertisements but which clearly have promotional concerns. These include fundraising letters, travel brochures, grant proposals, all of which might accordingly be called *secondary members* of the promotional genre colony. And in addition to them, also included in the colony are certain hybrid genres, such as book reviews, company brochures and annual reports, which as well as being promotional are also informational. These might be labelled the *peripheral members* of the promotional genre colony.

4.1.3   Registers

The term genre has been used interchangeably not only with text type but also with register (see e.g. Ventola, 1984). The reason for this is that the two terms, genre and register, operate on the same ground, situationally and contextually conditioned language use (Biber & Finegan, 1994). The terms, however, differ in their emphases and points of view, and should therefore be kept apart (for register employed as a general cover term for all language varieties associated with different situations and purposes and hence correlating also with text type, see e.g. Biber, 1995; Gregory & Carroll, 1978, p. 4).

Register has been defined as situational language use or "a variety of language defined according to its use in social situations" (Crystal, 1991, p. 295). In practice, registers are often identified on the basis of a particular "configuration" of three contextual factors – field, tenor and mode (Halliday, McIntosh & Strevens, 1964; see also Halliday & Matthiessen, 1999). There is no general consensus about the exact meaning of the three. Usually, however, they are taken to refer to the following (see e.g. Hatim & Mason, 1990):

- *Field*: Refers to the content, or "what is going on", and to the occupational activity with which the text is concerned. Typical examples of field-dominated registers are scientific, religious, newspaper and medical language. In practice, field seems the most important determinant of register.

- *Tenor*: Refers to the social relationship between the addresser and the addressee and includes variables such as distant/familiar and polite/impolite. Some researchers also include the various degrees of formality (e.g. frozen, formal, consultative, casual, intimate; Joos, 1961) in this category and hence in register, whereas others classify them under style (Trugdill, 1992).
- *Mode*: Refers to the medium (spoken or written and their subtypes, such as written to be spoken) of the text. Mode is often extended to also include, for instance, monologue and dialogue.

Compared to genres, which refer to whole texts grouped according to conventionally recognised criteria, registers thus "represent more *generalizable stylistic choices*"; with registers, in other words, the focus is on *language* and on the way it is used in particular situations (Couture, 1986, p. 41; Lee, 2001). Registers, therefore, are used to realise genres. The legal register or legal language, for instance, is employed in legal genres (or the genre colony of legal genres), such as contracts, wills and courtroom debates. At the same time, however, the legal register can also be used in other, non-legal genres, such as research articles and academic essays. And conversely, research articles and academic essays may likewise be realised through several registers, such as the legal, scientific or business register.

4.1.4   Style

Still another term used to refer to situational language varieties is style (Biber & Finegan, 1994). Of all the terms associated with situational language variation, however, style is the most difficult to define. The main reason for this is the extremely ample and lavish use of the term not only in everyday language but also in different fields of study. In linguistics, in addition, the term has slightly different meanings and uses according to whether it refers to literary or non-literary texts. And finally, the term has often been employed synonymously with the term register.

Style, in its broadest sense, may be defined as "the way in which language is used in a given context", the linguistic characteristics of a particular text (Leech & Short, 1981, pp. 10, 12). Style is thus an inseparable property of all texts, both literary and non-literary (Fowler, 1996, p. 15), and encompasses, in its most general interpretation, both the *aesthetic* choices of literary texts and the *social* aspects of non-literary texts – including register.

In its narrower sense, however, style is differentiated from register. Whereas register is often seen more in terms of field and occupational activity, style for some scholars (e.g. Lee, 2001, p. 45) characterises the "internal properties of individual texts or the language use by individual authors". A text can thus be said to have an informal, quirky, ponderous or disjointed style. Most of all, however, style in this narrow interpretation refers to formality (Trugdill, 1992) and the different degrees of formality (e.g. frozen, formal, consultative, casual, intimate) suggested by, for example, Joos (1961). In the present study, style, together with its derivative stylistic, is used in its broad sense, to encompass both expressive and social meaning; formality, however, is conceived of as style.

4.1.5   Literary vs. non-literary texts

Above, reference has already been made to literary and non-literary texts. Kinneavy (1971; see p. 50), for example, was mentioned as suggesting literary texts as one of the four discourse types based on communicative functions, the function where the focus is on the linguistic code. However, literary texts are more often seen in opposition to non-literary texts, especially in translation theory:

- *Literary texts*, in this dichotomy, are texts whose text world is not real but instead offers an alternative outlook on the real world (de Beaugrande & Dressler, 1981, p. 185). Literary texts may contain facts, but their focus is on *fiction* and the *imagined* (Newmark, 2001, 2003; see also Neubert, 2003). Literary texts, moreover, are intended to entertain (Harris & Hodges, 1995, p. 83) and may be exemplified, for instance, by novels, short stories, plays and poems.
- *Non-literary* texts, for their part, even though they too may contain fictional elements, primarily aim at making *factual* claims about *reality* and the real world (Newmark, 2001, 2003). Typical examples of non-literary texts are advertisements, newspaper articles and legal documents.

Non-literary texts, however, are often further divided into two subclasses. de Beaugrande and Dressler (1981, p. 186), for example, speak of *scientific* and *didactic* texts, the former referring to texts that aim to "explore, extend or clarify society's knowledge store of a special domain of 'facts'" and the latter to texts that distribute knowledge to a non-specialised audience. In translation theory, the two are usually replaced by, or subsumed within, *special language translation* and *general language translation*,

respectively, the former involving, for example, legal, scientific and technical texts and the latter newspapers, general information texts and advertising (e.g. Snell-Hornby, 1988; Wilss, 1982).

Literary and non-literary texts are often also referred to as fictional and non-fictional texts or, briefly, as fiction and non-fiction respectively (Werlich, 1976), all the three term pairs thus being more or less synonymous. For some scholars, however, fiction and non-fiction are clearly subordinate to literary and non-literary. Fiction and non-fiction, for example, frequently refer only to prose (see e.g. Harris & Hodges, 1995, pp. 83, 165; Leech & Short, 1981), which is a subtype of literary and non-literary texts; in this interpretation, poetry and drama, for example, even though they are clearly literary texts, are not counted as fiction.

In the present study, the distinction between literary and non-literary texts is used as one means of classifying the texts.

4.1.6   Continuous and non-continuous texts

All the above categorisations are mainly based on the linguistic content of the texts. In today's world, however, where texts have become increasingly multimodal, that is, consisting of several modes of representation (Kress, 2000, p. 184; Kress & van Leeuwen, 1996; see also Gambier & Gottlieb, 2001), texts have also been classified on the basis of structure and form. One such classification, relevant in international reading literacy studies and hence also in the present study, is the classification into continuous and non-continuous texts:

- *Continuous* texts are texts *composed of sentences* which, in turn, may be organised into paragraphs, sections, chapters and books (OECD, 2002, p. 27). Continuous texts can be further classified by, for instance, text type.
- *Non-continuous* texts, frequently also referred to as documents (OECD, 2002, p. 27), again, are texts which are not primarily formed by written language or organised in sentences (Guthrie, 1990, p. 3). Instead, they are often organised by *matrix format* (Mosenthal & Kirsch, 1989, p. 59; OECD, 1999b, p. 24). Non-continuous texts are typically categorised either by structure or by format.

When categorising non-continuous texts, the classification by structure is based on lists, which according to Kirsch and Mosenthal (e.g. Mosenthal & Kirsch, 1989, 1991b; Kirsch & Mosenthal, 1990b, 1991) are the basic structural units of most non-continuous

texts. Lists have entries that share some property or properties, which, in turn, may be used as labels for the lists. The entries in the lists, moreover, may be either ordered (e.g. alphabetic order) or unordered (e.g. shopping lists). In the structural classification, non-continuous texts can be divided into the following subtypes: simple lists, combined lists, intersecting lists, nested lists and combination lists.

The other way of classifying non-continuous texts is by format or form. In this classification, preferred in, for example, PISA (OECD, 2002, pp. 28–29), the subtypes are the following: charts and graphs, which are iconic representations of data; tables and matrices, which are column matrices; diagrams, which may be either procedural (how to) or processual (how something works); maps, which indicate geographical relationships between places; forms, which are structured and formatted texts requesting the reader to respond to questions; information sheets, which are structured texts that provide information in an easily accessible way; calls and advertisements, which are documents designed to invite the reader to do something; vouchers, which testify that the owner is entitled to certain services; and certificates, which are written acknowledgements of the validity of, for example, an agreement.

4.1.7   Classification of texts in the present study

The classification of texts in the present study is, logically, the same as that used in the PISA reading literacy test. In PISA (e.g. OECD, 2002, pp. 27–29), texts are first classified, by format, into two *major types*: continuous and non-continuous. The continuous texts are then further divided, in imitation of Werlich (1976), into five *text types*: narrative, expository, descriptive, argumentative and instructive. These text types are, in fact, discourse types, since the texts often contain elements of several text types; the classification, however, is made on the basis of the predominant or superordinate text type, or discourse type. The non-continuous texts, for their part, are categorised, by format, into, nine *subtypes*, such as charts and graphs, tables and matrices, diagrams, maps, and forms.

In the present study, three texts of different types are analysed (Figure 4.4). Two of the texts are continuous and the third is non-continuous. Of the two continuous texts, moreover, one is an expository text and the other a narrative text; the non-continuous text is a table. Of the three texts analysed, two are thus representatives of what are traditionally called text types, whereas the third represents a subtype of non-continuous texts. From this point on, however, the texts will be referred to in this study as the
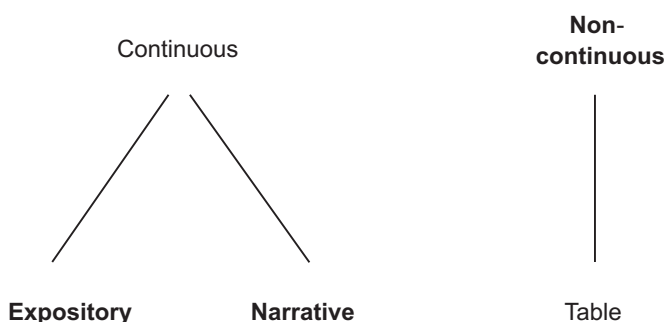
Figure 4.4 *Classification of texts in the present study.*

expository, narrative and non-continuous text (in bold in the figure). The classificatory term used for these three, moreover – that is, not only for the expository and narrative text but also for the non-continuous text – will be, for the sake of brevity, text type.

4.2   Culture-boundness of text conventions

Most of the above text classificatory notions, specifically text types, genres, registers, styles and non-continuous texts, are highly conventional (Connor, 1996; Kaplan, 1987, 1988): they conform to the *regularities* or unwritten rules (see Lewis, 1969, p. 78; Reiss & Vermeer, 1984, p. 103) that determine how it is customary to write certain types of text (Vehmas-Lehto, 1999, p. 107), such as instructions, academic texts, newspaper reports and warranty forms. These regularities and conventions, however – and hence also text types, genres, registers, styles and non-continuous texts – are culture-specific and vary from language to language (Hermans, 1999, pp. 162–163; see also Cattrysse, 2001, p. 5; Nord, 1991, p. 110).

This is true for, among other things, instructive texts, which in English commonly take the form of the imperative, whereas in French instructions are often given in the infinitive and in Finnish in the passive (Hakulinen et al., 2004, pp. 1566–1567). Academic texts also vary across cultures. According to Galtung (1979, 1983), there are, in fact, four different "intellectual styles" governing the production of academic texts in different cultures – Saxonian, Teutonic, Gallic and Nipponian – of which, for example, the Saxonian (Anglo-American) is more linear, more relaxed, less esoteric, more

inductive and more dialogic than the Teutonic (German) style. English and Finnish academic texts, moreover, differ from each other in that in English the texts are organised deductively, with the main point being presented at the outset, whereas in Finnish the main content is usually given inductively, at the end (Mauranen, 1993). The style of journalistic writing likewise differs from culture to culture, with, for instance, Finnish journalistic style being more neutral and less emotive than, say, American and Russian journalistic style (Kaufmann & Broms, 1988; Vehmas-Lehto, 1989). And Finnish warranty forms depart from those used in many other cultures in that they lack the phrase "please, complete the form and *send* it to…", because unlike many other countries, in Finland warranty forms are not sent anywhere; the customer, instead, keeps the form him/herself.

Certain types of text, however, are less culture-bound than others. This seems to be the case with, for example, scientific and technical texts, which often aim at a global audience and are therefore universally standardised (Scarpa, 2002; Wilss, 1982). The same goes for, say, international treaties, declarations and resolutions, whereas national legal texts, such as marriage certificates and wills, are usually more culture-bound (Hatim & Mason, 1990; Scarpa, 2002). Literary texts are likewise typically less conventional than non-literary texts (Nord, 1991, p. 19; Scarpa, 2002; Schäffner, 1998).

Text conventions play an important role in both reading and translation. In reading, they arouse expectations in the reader and help him or her to follow and make meaning of the text, thereby helping the person to understand the text. What this means in translation is that the translator, if s/he wants his or her message to be understood, has to comply with the conventions of the prospective readers. The translation, in other words, has to respect the text conventions of the target culture. (Nord, 1991; Reiss & Vermeer, 1984.)

4.3   Different types of text need different reading strategies and processes

It is generally acknowledged that different types of text necessitate different reading strategies and processes. A distinction is therefore often made between three types of text, each of which calls for a different type of reading: non-literary or expository; literary; and non-continuous or document (Guthrie, Bennett & Weber, 1990; Mosenthal & Kirsch, 1989).

Regarding *non-literary* and *literary* texts, Rosenblatt (1978, 1994), for instance, suggests that readers approach texts through two "stances": efferent and aesthetic. In the *efferent* stance, which is often chosen for non-literary texts, the focus is on what is to be taken away from the text, the ideas, information, directions and conclusions to be retained, used or acted upon after the reading event. In the *aesthetic* stance, again, which primarily applies to literary reading, the emphasis is on what is being lived through during the reading event as well as the sensations, images and feelings evoked by it.

Bruner (1986) likewise makes a distinction between two modes of thought and ordering experience: paradigmatic and narrative. The *paradigmatic* or *logico-scientific* mode, applied in, for example, argumentative and expository texts (see Brewer, 1980), relies on logical proof, evidence, empirical truth, abstraction and timeless reality. It is thus characterised by clarity, definiteness, explicit meaning and literal sense. The *narrative* mode, on the other hand, typically linked with literary reading, draws on imagination, interpretation and imitation of reality, the reality, moreover, being subjective and subjunctive. The narrative mode is distinguished by indeterminacy, ambiguity, implicit meaning, that is, multiple and multi-layered meanings.

In addition to varying in reading strategies, however, non-literary or expository texts and literary texts also tend to differ in the way they are typically processed, and more specifically, the extent to which their processing is text-driven or bottom-up, or knowledge-driven and top-down (Britton, Glynn & Smith, 1985; Goldman & Rakestraw, 2000; Kieras, 1985). Non-literary or expository texts, especially those of a scientific and technical nature, often contain content that is novel and unfamiliar to the reader. When reading an expository text, therefore, the reader frequently does not have much prior knowledge or any schema on which to rely; thus, the processing has to be mainly bottom-up, based almost exclusively on textual cues. Literary texts, on the other hand, generally have a familiar and predictable story structure. On reading a literary text, the reader hence typically has more prior knowledge and a schema on which to rely, which, in turn, helps him or her to process the text not only bottom-up but also, and even more importantly, top-down. In fact, this is one of the reasons why narrative texts, and popular fiction in particular, tend to be easier to understand than expository texts (Chall et al., 1996; Graesser & Goodman, 1985).

Non-continuous texts or documents, for their part, differ from both expository and literary texts in that they are usually "read to do" something or to solve a problem (Guthrie, Bennett & Weber, 1990; Mosenthal & Kirsch, 1989, 1991a). Processing non-continuous texts, therefore, consists mainly in locating and using information found

in the texts (Guthrie & Kirsch, 1987), which, in turn, calls for more non-linear, cursory and selective reading than is typical in reading continuous texts (Guthrie, 1988).

Even though different types of text thus usually necessitate different reading strategies, the strategies are not determined by the text alone. Rather, they are greatly influenced by the reader, by the overall context in which the reading takes place and by the purpose of the reading (see pp. 35–36). In international reading literacy studies, for example, it is largely the assessment context and the specific tasks that the readers are required to do that determine what strategies are actually used.

4.4 Different types of text need different translation strategies – and cause different translation problems

In translation theory, the need to translate different types of text in different ways has also been long acknowledged. As early as 1971, Reiss (see also 1976), for instance, proposed that informative texts should be translated in plain prose with the primary emphasis on content; in expressive texts the focus should be on form and expression; operative texts, for their part, need an adaptive translation method where the appeal of the text and the reaction of the intended reader are kept invariant; and audio-medial texts should be translated in such a way as to keep the effect of the text on the hearer invariant. Koller (1979), similarly, in his typology of equivalence types, claims that for each type of text there is a hierarchy of equivalence types and that each text prioritises a certain type of equivalence (cf. Chesterman, 1997, p. 69). In poetry, for example, the focus should be on formal equivalence and aesthetic features.

The clearest distinction, however, is often made between special language and literary texts. Of these the first, *special language texts*, or scientific and technical texts, are usually thought to be the easiest to translate (Kuhiwczak, 2003, p. 118; Scarpa, 2002; Wilss, 1982, pp. 129–133; 1990): according to, for example, Newmark (1993, p. 70), these texts can always be perfectly, exactly and satisfactorily translated into another language. This, again, is because in addition to focussing on scientific and technical "truths", cognitive facts and the basic meanings or denotations of words (Hatim & Mason, 1997, p. 214), these texts are also conceptually and notionally precise, standardised, "depersonalised" and universal, leaving little or no room for interpretation and for the translator's choice (Scarpa, 2002; Wilss, 1982, pp. 129–133;

see also Neubert & Shreve, 1992). When translating special language texts, therefore, typically only plain facts have to be transmitted, not, for example, figures of speech or onomatopoetic language (Newmark, 1991, p. 101; 2003, p. 59; Wilss, 1982, pp. 129-133; see Figure 4.5). Even this, nonetheless, may sometimes be problematic, as when, for example, the target language lacks an appropriate term for the source text term or when the target language has several equivalents for the source text term which, however, represent different registers (Newmark, 1991, p. 37).

	Denotation	Connotation
Special language texts	+	-
Literary texts	+	+

Figure 4.5 *Special language and literary texts by denotation and connotation (Wills, 1982, p. 126).*

Literary texts, on the other hand, are typically the hardest to translate (Kuhiwczak, 2003, p. 118; Newmark, 1991, p. 37; Snel Trampus, 2002; Wilss, 1982, p. 126; 1990). This is largely because of the significant role stylistic factors and connotations or additional meanings (Hatim & Mason, 1997, p. 214) have in literary texts (Wilss, 1982, pp. 126–127) and because translating these texts consequently involves transmitting not only facts but also emotions, feelings and attitudes (Lefevere, 1992, pp. 17–19; Newmark, 1991, p. 1993, p. 70; see Figure 4.5). Often, all of these cannot be transmitted at the same time, and the target text ends up lacking in, for instance, connotations (Newmark, 1991, p. 101). Literary texts, however, frequently also lack precision and leave more leeway for interpretation (Wilss, 1982, p. 125; see also Neubert & Shreve, 1992; Scarpa, 2002). Lack of precision and the existence of several competing interpretations, in turn, easily complicate comprehension, which, again, may lead to inaccurate or faulty translations (Kozanecka, 2002).

In more recent years, more attention has also been paid to the translation of *multimodal texts*. The attention, however, has mainly centred on audio-visual texts, such as TV programmes and videos, whereas printed illustrations, diagrams, tables and their like have gone largely unnoticed. What seems to be common to the majority of multimedia translations, nevertheless, is the problem of limited space and compact

language: in most multimodal texts, the space where the (verbal) text has to be written is limited, because of which the text has to be relatively short and compact (Cattrysse, 2001, p. 3). Compact language, in turn, lacks information and may therefore risk being not only misinterpreted (Kemper, 1983) but also mistranslated (Kozanecka, 2002).

Thus, different types of text typically presuppose different translation strategies. The main criterion in translation and in choosing the translation strategy, however, is skopos. Primarily, the translation strategy is consequently determined, not by the type of the text, but by the purpose of the translation (Nord, 1991, p. 24; Reiss & Vermeer, 1984). In international reading literacy studies, the skopos that decides the translation strategy for all the translations included in the studies, irrespective of the type of text they represent, is equivalence of difficulty.

CHAPTER 5

Translation problems

Translation problems are an integral part of every translation act and familiar to every practicing translator. Very little systematic research, however, has been done on translation problems, and only exceptionally has the term been defined (Toury, 2002; for the few exceptions, see e.g. Krings, 1986; Lörscher, 1991). Most of the time, instead, translation problems have been dealt with implicitly in, for example, translation course books, where advice is provided for translators as to how to avoid or solve the most typical pitfalls of translation (e.g. Baker, 1992). Translation problems, however, also vary a lot according to, for instance, the culture, language, context, topic, text (Nord, 1991, pp. 158–161; 1997, pp. 58–61) and translator (Lörscher, 1991) concerned. In the following, the translation problems most relevant to the present study are discussed. First, however, a definition is given of translation problems.

5.1   Definition of translation problems

According to Lörscher (1991, p. 94), translation problems are (linguistic) problems that the translator is faced with when making a translation. A translation problem, more specifically, occurs when the translator realises that s/he is unable to transfer adequately a source language text segment into the target language (p. 80). It is important to note

that in this definition – based on Lörscher's study focussing exclusively on the translator – translation problems only include those which the translator him/herself considers to be problems; translation problems regarded as such by analysts, for example, on the other hand, are not considered be translation problems.

For the purposes of the present study, however, where the focus is on locating all types of translation problem leading to non-equivalence between the source text and translation, a somewhat broader definition for translation problems is needed. In this study, translation problems refer not only to problems realised as such by the translator but also to those regarded as such by the analyst. In this study, then, errors which translators themselves are often quite unaware of, are classified among translation problems.

5.2 Translation problems caused by differences between languages and cultures

The most obvious reason for translation problems is that languages differ from one another, both in form and meaning (Nord, 1991, p. 159). This, again, is because languages are rooted in cultures, which have different needs (Katan, 1999). The needs of Aboriginal cultures, for example, are very different from those of Western industrialised cultures. Languages therefore differ in how they perceive and categorise reality (Katan, 1999; see also Baker, 1992; Jakobson, 1959, p. 236; Larson, 1984), which, in turn, is reflected in differences in form and meaning.

5.2.1 Differences in form

The differences are greatest in form, at the surface level (Ingo, 1990, p. 112; Nida & Taber, 1969, p. 39). Languages thus have different phrase, clause and sentence structures, writing systems, word order conventions, ways of indicating given and new information, devices for signalling thematic structures, means of cohesion, etc. (Baker, 1992; Larson, 1984). The further apart the languages are from each other, moreover, the greater are typically the differences (Nida, 2000).

In the present study, the languages in question are English and Finnish, both of which represent Western culture. The two, however, differ in that English is an Indo-European language and Finnish a Finno-Ugric language. Consequently, there are clear

differences between the languages. These differences, moreover, inevitably lead to problems in translation; because of these differences, formal equivalence between English and Finnish texts is frequently impossible. The differences however, also often lead to other, more important non-equivalences. Differences in word order, for instance, typically further bring about differences in thematic structure, register and style and hence in textual, connotative and formal-aesthetic equivalence. In the following, the differences which are the most relevant to the present study are discussed.

5.2.1.1 Morphology

English and Finnish differ, for example, in *inflection* and hence in *morphological typology*. English might perhaps best be classified as a strongly analytic language, where grammatical meanings are generally indicated by free morphemes, such as prepositions and possessive pronouns (e.g. *even to his dog*, consisting of four free morphemes: the adverb *even*, the preposition *to*, the possessive pronoun *his*, and the noun *dog*), even though English does contain also some agglutinative features, such as the plural suffix *-s* and the past tense suffix *-ed* (Baugh & Cable, 2002). Finnish, by contrast, with its famous 15 case endings and a great number of other inflectional bound morphemes, such as the possessive suffixes and enclitic particles appended to word stems (cf. the Finnish *koira/lle/en/kin*, consisting of one free morpheme, the noun *koira* 'dog', and three bound morphemes, the allative case ending *-lle* 'to', the possessive suffix *-en* 'his' and the enclitic particle *-kin* corresponding to English *even* to the English *even to his dog*), clearly counts among synthetic languages (Karlsson, 1998, p. 116).

   Closely related to the difference in inflection and morphological typology, the two languages also differ in *word formation*. While derivation and compounding, the two major ways of forming new words from existing words and stems, are known in both English and Finnish, there are important differences between the languages. With *derivation* the most significant difference is perhaps the ease and frequency with which Finnish adds diverse successive suffixes, both inflectional and derivative, to one and the same root (e.g. *kylmä/hkö/sti*, consisting of the root *kylmä*, the adjectival derivative *-hkö* indicating 'somewhat', and the adverbial derivative *-sti* and corresponding to the English *rather coldly*) (Karlsson, 1999, p. 231).

   With *compounding*, there are two important differences. First, compounding is less productive in English than it is in Finnish, where compounds are a handy and widely used way of presenting, in a condensed form, information that in English is usually

provided by, for instance, modifying adjectives, verbs and prepositional phrases (see Ingo, 200, pp. 222–224). Compounds, in other words, are more common in Finnish than in English. Second, English compounds tend to be shorter than Finnish compounds, because they often contain only two relatively short (one-syllable) elements (e.g. *coursebook*), whereas Finnish compounds may be made up of three or even more words of usually two or three syllables (e.g. *asiakas/tyytyväisyys/kysely/lomake* 'customer satisfaction inquiry form', consisting of four words of four, four, three and three syllables). English compounds, moreover, may orthographically speaking be not only solid and hyphenated but also spaced (*customer satisfaction inquiry form*), whereas Finnish compounds typically consist of one unspaced orthographic word (*asiakastyytyväisyyskyselylomake*).

The above differences have at least two important consequences, reflected also in translation. First and most obviously, they significantly add to the length of Finnish words as compared to English words. In English, most words are short, with one or two syllables. In Finnish, even simple, uninflected word forms usually have at least two syllables. In actual usage, however, Finnish words are typically much longer than this, with words of seven, eight or even more syllables being no exception. This is because Finnish words often contain several different meaning units agglutinated together (e.g. *ammatti/koulu/i/ssa/mme/kin/ko*, consisting of the stems ammatti 'vocation' and *koulu* 'school', the plural suffix *-i* '-s', the inessive case ending *-ssa* 'in', the possessive suffix *-mme* 'our', the enclitic particle *-kin* corresponding to English *even*, and the interrogative enclitic particle *-ko*; cf. English *even in our vocational schools?*). Finnish words accordingly tend to be longer than English words, not only because the root morphemes themselves are normally longer than the corresponding English ones, but primarily because Finnish words are commonly amalgamations consisting of several elements of different types – stems, derivative suffixes and inflectional suffixes – following each other.

The second consequence, inseparably connected with the first one, is that in Finnish, a lot of information tends to be packaged into single words (Kyöstiö, 1980, p. 38), whereas in English the same information is typically presented as free morphemes and hence as more easily distinguishable and more transparent independent words. The opaqueness of Finnish words, however, is further aggravated by the fact that Finnish morphemes often have to undergo changes, when agglutinated together (e.g. the nominative case *vesi* 'water' > the genitive case *veden* 'of the water') (Karlsson, 1999, p. 7).

5.2.1.2 Syntactic premodification versus postmodification

On the syntactic level, an interesting difference between English and Finnish concerns noun phrases, and more specifically, modification. The mode of modification favoured in English, which is largely an analytic language, is postmodification. This is especially true for longer and more complex modifiers, such as prepositional phrases, relative clauses (whether finite or reduced) and multiple modifiers, which are thus all typically placed after the head word (e.g. *the **girl** with blonde hair who is sitting in front of me*). Premodification, on the other hand, mostly remains limited to simple, predominantly one- or two-word attributes (e.g. *a beautiful night **sky***). (Greenbaum, 1996, pp. 219–221; Quirk, Greenbaum, Leech & Svartvik, 1985.)

The Finnish language, in contrast, largely owing to its synthetic and agglutinative nature, strongly favours premodification, sometimes ending up in extremely heavy formulations before the head. This is the case when, for example, participles functioning as premodifiers take their own complements and adverbials, which, in turn, may also take their complements and adverbials. All these are placed before the head noun (e.g. *naisen eilen Pariisista siskolleen kirjoittama **kirje** *'by the woman yesterday from Paris to her sister written **letter'***, that is, 'the **letter** that the woman wrote to her sister yesterday from Paris'[1]). Postmodifcation, on the other hand, is clearly less prevalent in Finnish than in most Indo-European languages and is mainly confined to finite relative clauses (e.g. ***kirja**, jonka luin* 'the **book** that I read'). (Ingo, 2000, pp. 242–249.)

In practice, this difference means that in many cases when English uses postmodification, Finnish has to switch to premodification. For example, in English, prepositional phrases (e.g. *the **meaning** of the long and complicated sentence*), when translated into Finnish, where prepositions are relatively rare (Hakulinen & Karlsson, 1988, p. 85), often have to be turned into premodifiers (*pitkän ja monimutkaisen virkkeen **merkitys** *'of the long and complicated sentence the **meaning'***). The same goes for English non-finite and verbless relative clauses (e.g. *the **letter** written by the woman*). In Finnish, where relative clauses have to be complete and hence consist of a finite verb form and a relative pronoun, non-finite and verbless clauses, which by their very

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[1] In this study, conventional linguistic glosses are not used, because the study is mainly targeted at a non-linguist audience, not familiar with e.g. Finnish cases and non-finite verb forms. A more approximate and simpler notation is used instead.

definition are incomplete, cannot function as relative clauses (see Ingo, 2000, pp. 170–180). Instead, these clauses when rendered into Finnish have to be either turned into, for instance, participial or adjectival attributes, in which case, however, they also have to be moved to the pre-head position (*naisen kirjoittama* **kirje** **'by the woman written* **letter'**), or else transferred into finite relative clauses, in which case they can and even must follow the head (**kirje**, *jonka nainen oli kirjoittanut* 'the **letter** that the woman had written') (see Hakulinen & Karlsson, 1988, p. 113). English postmodifiers, in other words, when translated into Finnish, are problematic, because they often lead to significant changes in word order and information structure or (non-)finiteness.

5.2.1.3 Syntactic reduction

Each language has ways of compressing information and presenting it in a reduced form. These, however, vary enormously across languages. This is also true for English and Finnish, which differ, for example, in their use of compact noun phrases, reduced subordinate clauses and irregular sentences.

Compact noun phrases. If Finnish is rich in long words and unspaced compounds, English, by contrast, favours compact noun phrases consisting of several consecutive nouns (e.g. *autumn term history test results*). Grammatically, some of the nouns used in these phrases are so closely associated with the head noun that they may be regarded as compounded with it (e.g. *autumn term*); others, by contrast, are clearly not compounds but modifiers or complements (*autumn term* modifies *history test results*). Compact noun phrases are common in English in technical style and headlines, for instance (Quirk et al., 1985, p. 1331.)

In Finnish, however, comparable noun phrases are not possible (see Ikola, 1991, p. 106; Itkonen, 2000; p. 27; Hakulinen et al., 2004, p. 389). In translation into Finnish, therefore, English compact noun phrases are usually turned either into compounds (*syyslukukausi* 'autumn term') or, even more problematically, into phrases where the meaning relations between the nouns have to be given overtly, explicitly and transparently (*syyslukukauden historian kokeen tulokset* *'autumn term's history's test's results').

Reduced subordinate clauses. Reduced subordinate clauses are clauses where there is no finite verb element. The clauses are thus either non-finite, with the verb element being a participle (***Entering the room***, *he looked around*), infinitive (***To win the game***, *you need a lot of practice*), or verbless, where there is no verb element (***Too tired even to***

sleep, *he lay awake*). (Quirk et al., 1985, p. 992.) Reduced subordinate clauses are used widely in both English and Finnish. Their use in the languages, however, differs significantly. This is true both of clauses used adverbially (all the above examples) and of those functioning as relative clauses (*The man **driving the car** is my father*).

In English, for instance, reduced adverbial clauses may be introduced by an explicit *function word*, such as a conjunction or preposition (***When** entering the room, he looked around*) (Quirk et al., 1985, p. 1003). In Finnish, a function word is not possible. In Finnish reduced adverbial clauses, instead, the meaning relation which in English is conveyed by a separate function word is indicated by an *ending* affixed to the verb stem. The meaning relation of simultaneous time (*when*), for example, may be expressed by the so-called temporal construction (*Tul/le/**ssa**/an huoneeseen hän katsoi ympärilleen*), consisting of the inessive ending *-ssA* added to the second infinitive stem of the verb (*tulle-*) and followed by a possessive suffix (*-an*) to indicate the subject (Karlsson, 1999, pp. 205–207). Ultimately, the difference thus traces back to the use of free or bound morphemes and to the morphological difference between the languages; English being a more analytic and Finnish a more synthetic language.

When, on the other hand, an English reduced adverbial clause is not introduced by a subordinator, the differences are usually smaller. The English *ing*-participle, when referring to simultaneous temporal action (***Entering** the room, he looked around*), and the Finnish temporal construction (***Tullessaan** huoneeseen hän katsoi ympärilleen*), for example, are often good formal equivalents (Karlsson, 1999, pp. 205–207).

The English *ing*-participle, however, can also refer to actions that are not *simultaneous* with that of the main clause (e.g. *He studied for five years **becoming** a teacher*; where *becoming* is normally interpreted as posterior to *studied*). In cases such as these, the Finnish temporal construction is not possible, because it only refers to simultaneous action (**Hän opiskeli viisi vuotta **valmistuessaan** opettajaksi *'He studied for five years **while becoming** a teacher') (Hakulinen et al., 2004, p. 537). Neither is it possible to use the second infinitive instructive (*Hän opiskeli viisi vuotta **valmistuen** opettajaksi *'He studied five years **by becoming** a teacher'), because it basically denotes manner and thus also refers to simultaneous action (Itkonen, 2000, p. 77). When, therefore, the *ing*-participle is used in English to refer to non-simultaneous action, Finnish often has to employ a finite clause, where, however, the meaning relation is also made more explicit (*Hän opiskeli viisi vuotta **ja valmistui [sitten] opettajaksi** *'He studied for five years **and [then] became** a teacher' or possibly *Opiskeltuaan viisi vuotta hän valmistui opettajaksi* 'Having studied for five years he became a teacher').

With reduced clauses functioning as relative clauses, however, the differences are even greater. Sentences such as *The man **driving the car** is my father* and *The car **bought by John** was expensive* have no full formal equivalents in Finnish. This is mainly because of differences in modification, with English reduced relative clauses normally functioning as postmodifiers (Quirk et al., 1985, pp. 1263–1265), whereas in Finnish reduced clauses are typically premodifiers (Ingo, 2000; Karlsson, 1999; Lieko, Chesterman & Silfverber, 1999), but, especially as in the second example, also because Finnish lacks the agent passive (*bought by John*). In Finnish, unlike Indo-European languages, the passive (*Auto ostettiin* 'The car was bought') is truly impersonal and never has a specified agent. (Hakulinen & Karlsson, 1988, p. 255; Karlsson, 1999, p. 172; Lieko et al., 1999, pp. 34–37.)

There are, however, two near equivalents for English reduced relative clauses in Finnish: the *postmodifying finite* clause, which is usually taken as the more basic form, and the *premodifying non-finite construction*, which may be regarded as a transformation of the first or of a finite main clause (Hakulinen & Karlsson, 1988, pp. 371–374). The first of these has the same word order and the same type of modification, that is, postmodification as is used in English (*Mies, **joka ajaa autoa**, on isäni* 'The man **who is driving the car** is my father' and *Auto, **jonka John osti**, oli kallis* ' The car **that John bought** was expensive'). Keeping the word order and type of modification unchanged, however, means that the non-finiteness of the clause has to be sacrificed and the reduced relative clause replaced by a finite relative clause. This, again, is because in Finnish the post-head position can only be occupied by finite clauses, whereas non-finite clauses are generally placed before the head. In the second example, moreover, the agent passive (*bought by John*) has to be turned into an active construction and the word order and information structure accordingly reversed (*jonka John osti* 'that John bought').

The other and in many cases more common equivalent for English reduced relative clauses is a reduced, *non-finite* structure, which, however, in Finnish is a *premodifier* (Ingo, 2000; Karlsson, 1999, pp. 195–196). For the first example, the equivalent would accordingly be a participle structure, ***Autoa aja/va** mies on isäni* *'The **car driving** man is my father', made up of the present participle ending *-vA* added to the inflectional stem of the verb (*aja-* 'drive'), and preceding the head noun (*mies* 'man') (Karlsson, 1999, pp. 195–196). The non-finite equivalent for the second example, again, is the so-called agent construction, ***Johnin osta/ma** auto oli kallis* *'The **by John's bought** car was expensive', which consists of a subject, or agent (*Johnin* 'John's'), and a verb in an

infinitive form (*osta-* 'buy') with the ending *-mA*, the construction, again, taking the pre-head (*auto* 'car') position (ibid., 1999, pp. 207–209). With these structures, it is thus possible to preserve the non-finiteness of the English clauses. At the same time, however, changes have to be made in the word order and type of modification.

Irregular sentences. Irregular sentences are sentences that do not conform to the regular patterns of clause structures or to the variations of these structures in the major syntactic classes. One way in which irregular sentences deviate from regular sentences is that they are fragmentary and elliptical and hence lack constituents that are normally considered obligatory. In *Sorry to hear about your father*, for example, both the subject *I* and the verb *am* have been ellipted. (Quirk et al., 1985, p. 838.)

Irregular sentences are typical in, for example, block language, which is commonly used in labels, titles, headlines, etc (ibid., 1985, p. 845). In its simplest form, block language consists of nonsentences or expressions which cannot be analysed with confidence in terms of clause elements (ibid., 1985, p. 838), such as messages made up of a noun or noun phrase alone. This is the case in, say, *All the News That's Fit to Print*.

In other cases, again, more recognisable clause structures may be used. *Three houses built*, for instance, can be analysed as consisting of a subject (*three houses*) and a verb (*built*), with the auxiliary verb *be* ellipted and the sentence accordingly interpreted as a passive main clause. What is interesting about the surface structure of the sentence is that it largely coincides with that of the above English reduced relative clauses. Both are made up of a noun or noun phrase followed by a non-finite verb or verb phrase. In English, largely the same elliptical structure, a noun or noun phrase followed by a non-finite verb or verb phrase, thus has several uses.

In Finnish, similar neatness is not possible. When translating English noun phrases followed by non-finite verbs or verb phrases into Finnish, instead, a distinction has to be made between passive main clauses and reduced relative clauses. When referring to passive main clauses, the equivalent might be a comparable elliptical passive structure, *kolme taloa rakennettu*. When referring to reduced relative clauses (e.g. *three houses that were built*), however, a different rendering has to be used (as described above): either a postmodifying finite clause, *kolme taloa, jotka rakennettiin* 'three houses that were built', or a premodifying non-finite structure, *kolme rakennettua taloa* 'three built houses'.

5.2.1.4 Reference

Personal pronouns. The reference systems of English and Finnish also differ from each other. This is true of, for example, the pronoun systems and, more specifically, the personal pronouns of the two languages. In English, there are three third person singular pronouns, differentiated by gender: the masculine *he*, the feminine *she*, and the neuter *it*. The personal forms *he* and *she*, moreover, are often used, especially in fiction, to refer not only to 'persons', or humans, but also to, for example, animals (Quirk et al., 1985, p. 341). Finnish, by contrast, only has one third person singular pronoun, the gender-neuter *hän* 'he/she'. Unlike English, furthermore, the pronoun normally refers only to human nouns, whereas reference to non-humans, including animals is made by the pronoun *se* 'it', which in the Finnish pronoun system is counted among demonstrative pronouns. (Hakulinen et al., 2004, pp. 707–710; Lieko et al., 1999, p. 61.)

In translation this difference is sometimes a problem, because it means that at times when a third person pronoun is employed in an English text, the Finnish version has to use a noun to make the reference clear and unambiguous. At the same time, however, the reference also becomes more explicit and informative, as illustrated by example (1):

(1) If the food is quite near the bee shakes her abdomen for a short time. If *it* is a long way away *she* shakes her abdomen for a long time.

Jos ruoka on melko lähellä, mehiläinen värisyttää takaruumistaan lyhyen aikaa. Jos *ruoka* on kaukana, *mehiläinen* värisyttää takaruumistaan pitkän aikaa. ('If the food is quite near, the bee shakes its abdomen for a short time. If the *food* is a long way away, the *bee* shakes its abdomen for a long time.')

The use of the third person pronouns in reference chains also differs between the languages. In English, the pronoun may be used both anaphorically, that is, to refer to a noun that precedes it (*Before* **Gerald** *joined the Navy,* **he** *made peace with his family*) and, in certain subordinate constructions, *cataphorically*, to refer to a noun that follows it (*Before* **he** *joined the Navy,* **Gerald** *made peace with his family*) (Huddleston & Pullum, 2002, pp. 1475–1481; Quirk et al., 1985, p. 351). In Finnish, on the other hand, only anaphoric reference is normally possible (Hakulinen et al., 2004, p. 1382). In

translations from English into Finnish, therefore, pronouns used cataphorically often have to be turned into nouns, with known consequences for explicitness, however.

Articles and the signalling of identifiability. Another referential difference between English and Finnish concerns the use of articles. In English, articles are used to signal, for example, the (in)definiteness and, more specifically, the (non-)identifiability of referents and reference chains (Huddleston & Pullum, 2002, pp. 368–373). The indefinite article and usually also the zero article (except e.g. when used with proper nouns and in sporadic reference to human institutions) thus code a referent as non-identifiable, new or unknown and are therefore typically used when introducing new noun phrases into a text (*This is **a** boy*) (Quirk et al., 1985, pp. 267, 272, 274). The definite article, on the other hand, historically derived from the demonstrative pronoun *that* (Baugh & Cable, 2002, p. 57), adds a specifying element to the noun phrase, marking it as identifiable, given or known; it is accordingly employed, among other things, to signal coreference, that is, to keep track of the referents that have already been mentioned in the text (***The** boy is playing football*, that is, the boy that was mentioned before) (Huddleston & Pullum, 2002, pp. 368–371; Leech, 1990, pp. 156–158; Quirk et al., 1985, pp. 266–272; see also Ventola, 1992). It is evident that the articles play an important role in English in creating cohesion and in signalling text structure (Halliday & Hasan, 1975).

In Finnish, there are no articles (Chesterman, 1991, p. 90; Ingo, 2000, p. 31; Karlsson, 1999, p. 6). Neither is there any other grammatical device whose primary function is to explicitly mark noun phrase referents as (in)definite and (non-)identifiable (Vilkuna, 1980, p. 246). Usually, therefore, (in)definiteness and (non-)identifiability has to be inferred by the reader. Sometimes, this inference can be made from word order. (Chesterman, 1991; see also Hakulinen & Karlsson, 1988, pp. 131–132, 298–311; Vilkuna, 1980.) Noun phrases occurring clause-finally are thus normally interpreted as introducing non-identifiable, new or unknown referents into the text (*Pihalla on **lapsi** 'There is **a child** in the garden'*), whereas clause-initial referents tend to be interpreted as identifiable, given and known (***Lapsi** on pihalla '**The child** is in the garden*). Even more often, however, the inference has to be made from purely contextual factors (Chesterman, 1991; Ingo, 2000, pp. 32, 114). Largely owing to the lack of articles in Finnish, then, the (in)definiteness and (non-)identifiability of noun phrase referents is expressed less explicitly in Finnish than in English. At the same time, Finnish also lacks an important device for creating cohesion and signalling text structure.

5.2.1.5 Punctuation

The majority of the most common punctuation marks, such as the full stop, colon, question mark, exclamation mark and parentheses, are employed in both English and Finnish, with differences that in this study are irrelevant. An exception in this regard is the *comma*. In many respects, the comma is also used in a similar way in the two languages. In both languages, for instance, the comma cannot be used together with a question mark or exclamation mark (*"Who is he?" the man asked*; *"Kuka hän on?" mies kysyi.*) (Ikola, 1992, p. 194; Itkonen 2002, pp. 24–25; Quirk et al., 1985, p. 1633).

What basically differentiates between the two languages, however, is that in English the use of the comma is more flexible, governed not by grammar but by other considerations, such as *semantics* and *rhetorics*. Often, however, the overriding criterion that determines whether or not to use the comma is for *clarity* and prevention of misreading. (Huddleston & Pullum, 2002, pp. 1727, 1730; Quirk et al., 1985, pp. 1611, 1617.) In Finnish, on the other hand, the use of the comma is more strictly conventionalised and *grammatically* governed (Ingo, 2000, p. 305). Apart from a few exceptions (e.g. non-finite clauses used sentence centrally or finally, and conjunctions preceded by adverbs), much less room is left for semantic and rhetorical considerations (for the exceptions, see Ikola, 1992, pp. 188–192).

In both English and Finnish, one of the primary uses of the comma is to separate successive coordinated units from each other. This "*serial comma*" is used in both languages in multiple asyndetic coordination, to coordinate series of three or more units. Whether, however, the last coordinate is preceded by a copulative or disjunctive conjunction (e.g. *and*, *or*), as is often the case, the languages differ: in English a comma may, optionally, be used also before this last coordinate (e.g. *apples, potatoes, and tomatoes*) (Huddleston & Pullum, 2002, pp. 1739–1740; Quirk et al., 1985, pp. 1615–1619), whereas in Finnish it may not (*omenoita, perunoita ja tomaatteja*) (Itkonen, 2000, p. 18; Ikola, 1991, pp. 191–192).

Another use of the comma that differentiates between English and Finnish concerns "*delimiting commas*". Delimiting commas are used correlatively, in pairs, one at the beginning and the other at the end of an included unit, to set apart additional information, or information that is only loosely attached to the rest of the sentence and hence is less central to the message. Delimiting commas are used in both English (e.g. *Mary, whose mother is a teacher, is my best friend*) and Finnish (*Mary, jonka äiti on opettaja, on paras ystäväni*). (Huddleston & Pullum, 2000, pp. 1744–1747; Ikola, 1992, p.

192; Itkonen, 2000, p. 19; Quirk et al., 1985, pp. 1625–1629.) Vocatives and other clearly parenthetical supplements, for example, are thus marked off by commas in both English and Finnish. However, the languages differ in how much weight they put on semantics or grammar in the first place, and on grammatical functions or syntactic categories in the second, in deciding whether or not to use commas for this delimiting purpose.

In English, priority seems to be given to semantic and functional considerations. Consequently, in English everything that is semantically peripheral or secondary to the message or forms a constituent of its own, tends to be separated off from the surrounding sentence by commas. This includes, most obviously, detached adverbials, such as connectives (*however*) and speech act-related adjuncts (*to be honest*), as well as other embeddings (***Trying to avoid accidents**, he drove slowly*), but also, for example, non-restrictive relative clauses (*Shakespeare*, ***who wrote Hamlet***) and appositions (*Shakespeare, **the famous writer**)* (Quirk et al., 1985, pp. 1626–1629). English, moreover, seems to accept a fairly fragmentary sentence structure where the information flow is often interrupted not only by one but by several of these marked off parenthetical additions (*Bossuet, while still alive, did not, as a preacher, enjoy the favour of the court*) (Ingo, 2000, p. 235).

In Finnish, these semantic and functional considerations are not so decisive, and more weight is, instead, put on grammar and syntactic categories. When compared to English, furthermore, Finnish, as a morphologically synthetic language, also seems to favour more synthetic clause and sentence structures that flow relatively smoothly and uninterruptedly (cf. *Boussuet ei saarnaajana elinaikanaan ollut hovin suosiossa* or *Niin kauan kuin Boussuet vielä eli, hän ei ollut hovin suosiossa* to *Bossuet, while still alive, did not, as a preacher, enjoy the favour of the court*) (Ingo, 2000, p. 235). In Finnish, accordingly, many subclausal elements, such as connectives (*kuitenkin* 'however') and a variety of other detached adverbials (*toisin sanoen* 'in other words') and, in the default case, non-finite clauses (*Syötyään hän teki läksynsä* 'After having eaten, she did her homework') are usually not set off by commas, as they are in English. In Finnish, the semantic structure and meaning of sentences is therefore typically not signalled as overtly and explicitly as it is English.

5.2.2   Differences in meaning

Even though languages tend to be more universal at the semantic deep structure level than at the surface level (Ingo, 1990, p. 112; Katan, 1999, p. 127; Nida & Taber, 1969, p.

39), they also differ in their meaning structures. This is true for both denotative and associative meaning. Denotative meaning – which is also called conceptual, referential, cognitive and descriptive meaning – is a word's basic meaning that is found in a dictionary (Leech, 1990, pp. 9–12; Lyons, 1995, p. 44; see also Harris & Hodges, 1995, p. 56); associative meaning – or connotative meaning or connotations (for an alternative view where connotative meaning is seen as one form of associative meaning and hence subordinate to it, see Leech, 1990, pp. 9–23) – on the other hand, refers to the attitudes and emotions suggested by and associated with the word (Häkkinen 2003, p. 173; see also Harris & Hodges, 1995, p. 42). The denotative meaning of *mother*, for example, is 'a female parent'. The word, however, usually also evokes a lot of mainly positive emotions and feelings, moving us to think of, among other things, love, gentleness, security and our own mother. These are the word's associative meanings.

5.2.2.1 Connotations and specialised terminology

Associative meaning and connotations are typically more difficult to transfer across languages than denotative meaning (Baker, 1992). This is largely because when a word has the same denotative meaning or denotation across languages, often their associative meaning or connotations differ. The English word *June* and its Finnish equivalent *kesäkuu*, for example, have exactly the same denotation, 'the 6th month of the year' (Oxford Advanced Learner's Dictionary [OALD], 2000, p. 701; Suomen kielen perussanakirja, 2003, p. 457). For English and Finnish school children, however, the connotations of the words are most likely to be different. This is because in Finland the beginning of June is the time when school ends and summer holidays begin, whereas in Britain and America children mostly still go to school in June. The Finnish word *kesäkuu*, moreover, literally means 'summer month', and hence involves a direct reference to summer, whereas no such reference is found in the English *June*. The Finnish *kesäkuu* therefore connotes, for example, summer holidays, freedom, relaxation and swimming, whereas in English the connotations include, among other things, school, homework and early mornings. The connotations of the Finnish word are consequently more positive than those of the English word.

In English and Finnish, however, the differences in connotation seem to be predominantly shifts in the level of formality and mainly concern specialised and technical terminology. Consider, for example, the English terms *abdomen*, *stomach*, *belly* and *tummy*, which are all synonyms and thus have the same denotative meaning (see

Saeed, 2003, p. 65), 'the organ inside the body where the food goes when you swallow it; the front part of the body below the chest' (OALD, 2000, p. 1278). Connotatively, however, the words differ in that *abdomen* is the most formal and learned term, *stomach* is the most unmarked and popular term, *belly* is the most literary and slightly less formal term than *stomach*, and *tummy* is the most informal term, used, for instance, in child talk.

Most informal		Popular Unmarked		Most formal

ENGLISH

tummy	belly	stomach	abdomen
massu masu	maha	vatsa	abdomen
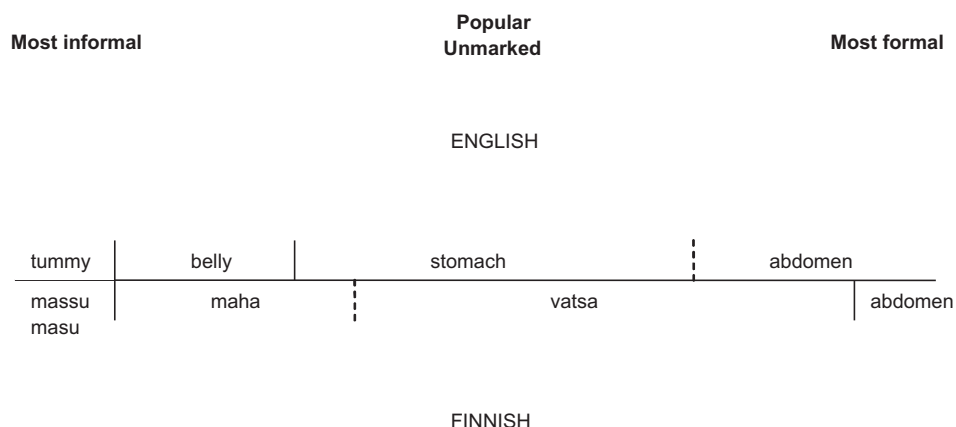
FINNISH

Figure 5.1 *Comparison of the formality levels of the English and Finnish words for 'stomach'.*

Finnish also has several words that denotatively correspond to the English *stomach* (and its synonyms). These include, among other things, *abdomen*, *vatsa*, *maha*, *massu* and *masu*. Connotatively, however, these words do not match fully with the English ones (Figure 5.1). This, again, is mainly because of differences in the level of formality and scope of use of the most formal term, *abdomen*. In English, the term is employed, not only in highly formal and learned contexts but also in slightly more popular language, the borderline between *abdomen* and *stomach* being, not rigid but blurred (dashed line). The Finnish *abdomen*, on the other hand, is much more formal and learned. It is also distinctly rarer than the English *abdomen* and is only used in highly formal and specialised learned contexts, never in popular texts. In these contexts, instead, the more popular terms, *vatsa* and *maha*, are employed.

This connotative discrepancy, again, is largely due to English and Finnish differing in their vocabulary structures. In English, the vocabulary is a mixture of words from

several different languages. Especially prominent among these is Latin, from which more than half of the English vocabulary is derived, either directly or through, for example, French. Depending on the language of origin, moreover, the words usually represent different stylistic levels. In English, therefore, there are often three synonyms from which the language user can choose – Anglo-Saxon, French, and Latin (or Greek). Among these, the Anglo-Saxon terms represent the popular level, the French terms the medium level, and the Latin terms the most formal and learned level. (Baugh & Cable, 2002.) In Finnish, however, the vocabulary is much more native. Native words, in fact, form up to 50–85 percent of the Finnish lexicon. In actual usage and especially in everyday texts, however, the proportion of native words is even larger, because in Finnish foreign words tend to be used in special language only. (Ingo, 2000, p.100; see also Hakulinen, 2000.)

Sometimes, however, the problem is not that English has several synonyms, but that it only has one term, a Latinate one, which is used in all contexts, whereas Finnish has two terms, one native and the other Latinate, the former being the unmarked equivalent normally employed in Finnish with the latter only being used in learned contexts. This is often the case with, for instance, anatomical and medical terminology. English, as an example, has one word to denote 'a serious illness affecting one or both lungs that makes breathing difficult' (OALD, 2000, p. 972). This is *pneumonia*, which is a Latinate term and which is used in both formal and popular contexts (Figure 5.2). In Finnish, on the other hand, there are two words corresponding to the English *pneumonia*: *pneumonia* and *keuhkokuume*. Of these, however, the first is very formal and is only used in highly specialised contexts, whereas normally, in all other contexts, the popular and native *keuhkokuume* is employed.

Special language terms thus often cause connotative translation problems, when translated from, for example, English into Finnish. Usually the problem in Finnish is that there is no term whose level of formality would fully match that of the English term. The English special language term therefore has to be replaced either by a more popular and at the same time also more common and familiar term or by a more formal, learned and rarer term. In each case, the end result is a slight shift in style, register and reading difficulty: in the former case the Finnish text ends up slightly less formal, learned and easier to understand and in the latter case slightly more formal, learned and harder to understand than the English text (see Chall, 1958; Chall & Dale, 1995; Klare, 1963).

**Popular
Unmarked**   **Most formal**

ENGLISH

pneumonia	
keuhkokuume	pneumonia
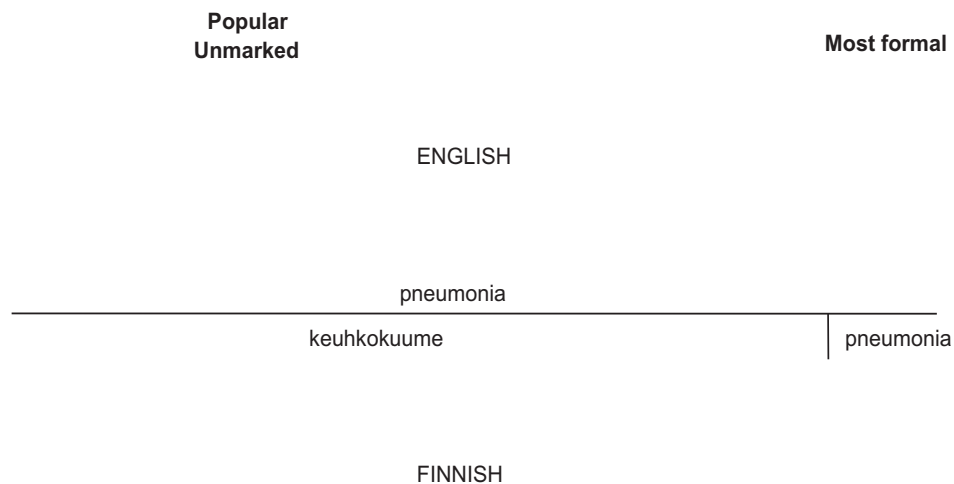
FINNISH

Figure 5.2 *Comparison of the formality levels of the English and Finnish words for 'pneumonia'.*

5.2.2.2 Polysemy

Languages, however, also differ in denotative meaning. Each language, for example, has polysemes, or words or phrases with multiple, related meanings (see Harris & Hodges, 1995, p. 190), and these vary across languages.

English, for instance, has the polyseme *run*. The most basic or primary meaning of this verb – the meaning that normally comes to mind when the verb is used alone (Larson, 1984, p. 7) – is the one used in, for example, *the boy runs*, that is, to move faster than walking, using legs. In context with other words, however, *run* also has a lot of other, secondary or additional meanings (ibid., 1984, pp. 7, 100), which derive metaphorically from the primary meaning of the verb (Saeed, 2003, p. 351) and which, moreover, have to be inferred from the context (Karlsson, 1998, p. 213). It is thus possible to say, among many other things, *the motor runs*, *the river runs*, *his nose runs*, *he runs a hotel* and *the university runs summer courses*. In Finnish, however, each of these meanings is expressed by a different word (example 2):

(2)   The boy *runs*.   Poika *juoksee*.
                                                              ('The boy *runs*.')

The motor *runs*.	Moottori *käy*. (**The motor *goes*.*')
The river *runs*.	Joki *virtaa*. ('The river *flows*.')
His nose *runs*.	Hänen nenänsä *vuotaa*. ('His nose *drips*.')
He *runs* a hotel.	Hän *johtaa* hotellia. ('He *directs* a hotel.')
The university *runs* summer courses.	Yliopisto *järjestää* kesäkursseja. ('The university *organises* summer courses.')

Therefore, when a polyseme is translated into a target language where it is not a similar polyseme, problems often arise. This is because when only part of the meaning of the polyseme can be transferred into the target language, something is inevitably lost. In the above example, for instance, all the English sentences imply movement and speed: running a hotel and summer course, among other things, are portrayed as involving a lot of practical work that, moreover, has to be done quickly and in a hurry. In most of the Finnish sentences, however, these connotations are missing. Another problem with polysemes is that they may give rise to misunderstandings and mistranslations. This is the case especially when there is not enough context, because of which it may be difficult to decide which of the meanings of the polyseme is the one intended and should therefore be used in the translation (Larson, 1984, pp. 100–108).

5.2.2.3 Figurative meaning

And finally, languages also differ a lot in figurative or non-literal meaning (see Harris & Hodges, 1995, p. 84; Saeed, 2003, p. 15). Metaphors, for example, or figures of speech, such as *no man is an island* and *snow white*, where comparisons are implied by analogy but are not overtly stated (Harris & Hodges, 1995, p. 154), vary considerably across cultures (Larson, 1984). This is because the above metaphors would be, for instance, quite pointless, absurd and incomprehensible in cultures where islands or snow are unknown.

Metaphors are often subdivided into dead and live metaphors. Dead, or fossilised, metaphors, such as *the face of a clock* and *kick the bucket*, are metaphors which have become so common and habitual that they are no longer thought of as metaphors (Harris & Hodges, 1995, p. 54; Saeed, 2003, p. 348). Dead metaphors, including the two above, frequently take the form of idioms, that is, relatively fixed expressions whose meanings cannot be deduced from their individual components (Baker, 1992, p. 63). Live or newly created metaphors, on the other hand, are much more creative, temporary and spontaneous (Burukina, 2002, pp. 254–255; Larson, 1984, p. 249). Examples of live metaphors might be *the sun painted the sky red* and *John is a rock*, which, unlike dead metaphors, which are found in both literary and non-literary texts, are mainly restricted to literary texts.

In translation, metaphors typically cause three types of problem (Bogucka, 2002). The first is that the translator may not realise that the metaphor (e.g. *kick the bucket*) is in fact a metaphor and therefore translates it literally (see also Saeed, 2003, pp. 16, 346). The second is the difficulty of understanding the meaning of the metaphor (Baker, 1992; Bogucka, 2002; Larson, 1984, pp. 250–252). The meaning, however, cannot be understood without a good knowledge of the source language and culture. Understanding the meaning of, for example, *kick the bucket*, would be impossible without actually knowing the saying. Moreover, metaphors often have different meanings in different cultures. *John is a rock*, for instance, may in one culture mean that *John does not move*, in some other that *John is always there*, and in still another that *John is very strong*. Finding out and transferring the correct meaning of the metaphor to the target language therefore is often a challenge. And finally, the third problem with metaphors is how to find a good target language equivalent for the metaphor (see also Burukina, 2002; Larson, 1984, pp. 252–254). Frequently, no equivalent metaphor exists in the target language and the metaphor has to be replaced by a more literal rendering. In cases such as these it is usually suggested that the loss of the metaphor be compensated for by inventing and inserting a new metaphor somewhere else in the text (Baker, 1992, p. 78).

5.2.3   Differences in culture

All the above differences in language and the ensuing translation problems ultimately derive from differences in culture – the complex system of beliefs, values, customs, behaviours and artefacts that is shared by a group of people (Katan, 1999, pp. 16–17).

Sometimes, however, the impact of cultural differences is even more direct, the impact also being the greater the larger the distance between the cultures (Nida, 2000).

5.2.3.1 Topics more familiar in the source culture than in the target culture

This is the case when, for instance, a situation, object or custom referred to in the source text is unknown in the target culture (Larson, 1984). Consider, as an example, the Finnish practice of *avantouinti*. *Avantouinti* is something many people in Finland like to do in wintertime: go swimming in lakes. Finnish winters, however, are usually cold and snowy, with the temperature often going below zero and lakes being iced over. To be able to swim in lakes, therefore, a hole usually has to be made in the ice, and swimming in this hole is then referred to as *avantouinti*. In many cultures, however, there is no such thing – nor a word – as *avantouinti*. This, again, may be because in these cultures there are no lakes to swim in and/or because winters in these cultures are warmer than they are in Finland. In these cultures, many people know nothing about *avantouinti*.

Translating a text on *avantouinti* or any other completely new idea into a language where it is unknown is often most problematic. This is true especially if the text is mainly targeted at readers of the source culture, because in cases such as these a lot of background information which is already known to the source text readers can be left out of the text (Nord, 1991, p. 98). Most Finnish people, for example, already know that *avantouinti* is a Finnish winter hobby, that Finnish winters are cold, that *avantouinti* is practiced outside, not in inside swimming pools, and that *avanto* is a hole in the ice. None of these facts therefore needs to be stated explicitly in the text. Explicating them, in fact, would even be a violation of one of the principles of cooperation formulated by Grice (1975, pp. 45–46), the maxim of quantity, according to which no contribution to a conversation should be more informative than necessary.

Readers of other cultures, however, may be in a completely different situation. Not only may they know nothing about *avantouinti*; they may also be quite ignorant of most of the background information needed to understand it (that *avantouinti* is a Finnish winter hobby, that Finnish winters are cold, that *avantouinti* is practiced outside, not in inside swimming pools, and that *avanto* is a hole in the ice, etc.). For these readers to be able to understand the text, then, much of the information which for Finnish readers is self-evident and may consequently be left out of the text is new and unknown and would therefore have to be added to and stated explicitly in the text (Larson, 1984, pp.

440–442). This is also what is necessitated by both the maxim of quantity, which besides requiring that a contribution to a conversation not be more informative than necessary, likewise presumes that it is informative enough; and dynamic equivalence, according to which the response of the target text reader should correspond to that of the source text reader.

Adding information to a text, however, is not without problems either. Consider, for instance, the Finnish sentence *Pidän avantouinnista*. In English, the closest equivalent for the sentence might be *I like swimming in a hole in the ice*, which, however, is already longer and more explicative than the Finnish sentence. In some other cultures, nevertheless, the sentence might have to be even longer than this, with considerably more information spelled out explicitly, as in, for example, *I like swimming in a hole in the ice which is made on a lake in winter when it is cold and when lakes are iced over*. The most obvious problem with adding information to a text, then, is that it also adds to the length of the target text. Moreover, at the same time, the text risks getting overloaded with information, diffuse and verbose (ibid., 1984, pp. 441–442) and hence not only longer and more explicit but also less to the point and less interesting than the source text.

5.2.3.2 *Topics more familiar in the target culture than in the source culture*

Sometimes, however, the problem may be that the topic dealt with in the source text is unknown in the source culture but known in the target culture (Nord, 1991, pp. 98, 137). This might be the case when, for example, a text originally written in English on *avantouinti* is translated into Finnish. In cases such as these, the source text would be likely to contain a lot of information which is already known to the target text readers and which would consequently have no informative value for them. Although such a text would undoubtedly be easy to understand for the target text readers, it would likewise be dull and uninteresting (Anderson & Davison, 1988). The text would therefore not only be against the maxim of quantity; it would also be dynamically non-equivalent to the source text.

One way to tackle these problems is to omit the superfluous information from the target text, thereby adapting it to the needs of the target text readers (Nord, 1991, p, 98). Judging what is superfluous information, however, is not always easy. Besides, omitting information from a text easily brings about other problems, such as differences in

length, explicitness and conciseness, which, in turn, often lead to differences in, for instance, clarity and interestingness.

5.2.3.3 Topics equally familiar or unfamiliar in the source and target culture

Culturally the least problematic topics, then, are those which are approximately equally familiar or equally unfamiliar in both the source and target culture (Neubert & Shreve, 1992, p. 87). These include topics which might be described as deculturalised or transcultural (Nord, 1991, pp. 98, 137), such as mathematical truths. With topics such as these both the source and target text readers may be expected to have more or less the same amount of background knowledge of the topic, because of which no additions or omissions are needed in the text.

5.3 Translation problems caused by the translator's behaviour

5.3.1 Translation process

In addition to being caused by differences between languages and cultures, problems in translation often arise from the translation process itself, and hence from the behaviour of the translator, the central actor in the translation process. This process, according to, for example, Neubert (1997, p. 7), can be roughly divided into the following three phases: 1) reading and *comprehending* the source text (ST), 2) *transferring* the content of the source text into the target language, and 3) *producing* the target text (TT). These phases, however, do not occur linearly and chronologically, so that the translator would first comprehend the source text and only after that start producing the target text. Instead, as shown by Figure 5.3, they are constantly intermingling with each other, with the translator perpetually going back and forth, or "looping" between the source and target text. (Danks & Griffin, 1997, pp. 173–175; Nord, 1991, pp. 32–35.)

Translation problems may come about at any of the three phases of the translation process. Translation problems may thus be caused both by difficulties in reading, decoding and comprehending the source text, by difficulties in finding an equivalent target language segment to the source language segment, and by difficulties in actually producing, writing and refining the target text; or they may be combinations of the
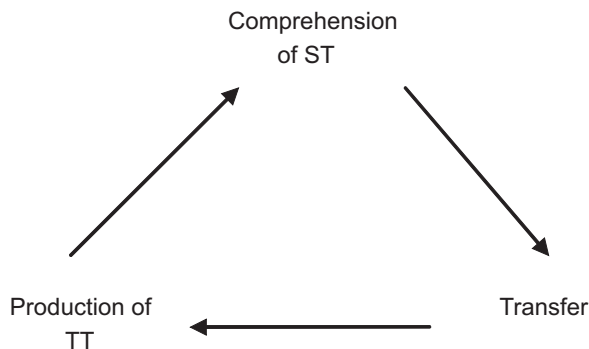
Figure 5.3 *The translation process.*

above (cf. Hatim & Mason, 1990, pp. 21–22; Krings, 1986, pp. 144–152; Lörsher, 1992, pp. 94–95).

The problems, however, are usually the less common, the more competent and experienced the translator is. It is therefore important that the translator have a good knowledge of both the source and target language and culture (Danks & Griffin, 1997, pp. 170–173). S/he also needs to be a good reader (Kozanecka, 2000) and a skilled and creative writer (Kussmaul, 2000). To this end, s/he likewise needs knowledge of, among other things, the relevant subject area (Danks & Griffin, 1997, p. 172) and of different types of text (Nord, 1991). And finally, as a communicator between languages and cultures, the translator also needs knowledge of translation theory, translation strategies and of how to transfer messages successfully between languages and cultures (Shreve, 1997; Toury, 1986; Wills, 1976, p. 120; see also Chesterman, 1997, pp. 119-120): the translator has to be able not only to generate a series of possible translations for a given source text item but also to choose from these "quickly and with justified (ethical) confidence" the optimal translation (Pym, 1992, p. 175).

5.3.2   Translation strategies

During the translation process, the translator is thus repeatedly faced with translation problems. To solve these problems, the translator has to make choices (Levý, 1989): s/he has to choose which translation strategies to use. A translation strategy, as defined by Lörscher (1991, p. 76), is "a potentially conscious *procedure for the solution of a*

problem which an individual is faced with when translating a text segment from one language into another". Translation strategies are thus goal-oriented, problem-centred and potentially conscious (ibid., 1991, p. 77; see also Chesterman, 1997, pp. 88–92).

Jääskeläinen (1993), however, sees translation strategies as covering, not only this conscious or "marked processing", when the translator focuses on a particular task, but also more "unmarked processing", when the translator makes choices on more general principles (e.g. "texts need not be translated word-for-word"). Jääskeläinen thus speaks of global and local translation strategies. *Global strategies* refer to the hierarchically highest general decisions (e.g. how freely or literally to translate), which the translator often makes at the beginning of the translation process. *Local strategies*, again, concern more specific and detailed lower level choices and activities regarding, for example, the use of individual words and syntactic structures. The two types of strategy are connected in that global strategies govern the choice and use of the lower level local strategies.

5.3.3 Translation problems caused by the strategies used and choices made by the translator

Even though translation strategies are thus used to solve translation problems, the end result is sometimes quite the contrary, the emergence of new problems. There are basically two reasons for this. First, there may have been no fully satisfactory solution to the problem. When translating poetry, for instance, the translator typically has to choose whether s/he wants to concentrate on form or meaning, because both cannot usually be satisfactorily transmitted at the same time. One or the other has to be "sacrificed" (see Reiss & Vermeer, 1984, p. 25) and is consequently "lost" (Bell, 1991, p. 6; Venuti, 2002, p. 219). And second, the strategy used may not have been right or optimal. Had it been, the end result would have been a better translation. This is frequently the case with errors, for example. (See e.g. Baker, 1992.)

Translation problems caused by the strategies used and choices made by translators may be roughly divided into three categories: source-text-related translation problems, target-text-related translation problems, and errors. The following provides a discussion as to how these are understood in the present study. The point of view in this study differs somewhat from the point of view prevalent in translation theory in general. In this study, concentrating on factors potentially having an effect on text difficulty, the focus is more on the surface level and on how explicitly meanings and meaning relations are expressed on this level.

5.3.3.1 Source-text-related translation problems

Source-text-related translation problems are, in essence, interference problems. *Interference* occurs when source language features exert an undue influence on the target text (Toury, 1995, p. 275; see also Mauranen, 2004), thereby making it ungrammatical or unnatural (Chesterman, 1997, p. 71). An example of an interference leading to a grammatical error might be the English sentence *The teacher told the students that to succeed in life they would have to work hard* translated into Finnish, in imitation of English punctuation rules, as *Opettaja kertoi oppilaille että menestyäkseen elämässä heidän olisi työskenneltävä kovasti*, because in Finnish a comma is needed before the conjunction *että* 'that' (see Ikola, 1991, p. 189). Were the English sentence *They **seldom** ate together*, on the other hand, rendered into Finnish as *He **harvoin** söivät yhdessä*, with the adverb *harvoin* 'seldom' preceding the verb *söivät* 'ate' (see Louhivaara, 1998), we would have a case of interference resulting in unidiomaticity and unnaturalness (see Ikola, 1991, p. 173).

Interference is so common in translation that it has been posited a "law" or universal of translation (Toury, 1995, p. 275). However, the obvious problem with interference is that, by promoting the source text and formal equivalence with it, it forfeits the target text and dynamic equivalence, thereby easily leading not only to ungrammaticalities and unidiomacies but, in extreme cases, even to *translationese*, artificial target language, because of which the translation is immediately recognised as a translation (see e.g. Nida & Taber; 1969, pp. 13, 208). Reading and understanding such a text is a challenge, as pointed out by, for example, Nida and Taber (1969, p. 112):

> The attempt to preserve structural form usually results in either complete unintelligibility, or in awkwardness… too often the effort to reflect the source in these formal aspects results in badly overloading the communication and thus making it very hard for the reader to understand.

5.3.3.2 Target-text-related translation problems

If too close an imitation of the source text is a problem, a heavy focus on the target text is not unproblematic either. Problems may thus arise, not only because the translator sticks too closely to the source text but also because s/he is too eager to edit and *improve* the target text (Séguinot, 1989; see also Newmark, 2003, p. 66). Improvement in this study, situated in the context of reading comprehension and text difficulty, refers to cases

where the target text is made more readable or comprehensible. Like interference, improvement also seems to be a universal tendency among translators (Séguinot, 1989; see also Pym, 1992, p. 162).

Explicitation. Improvement may take different forms. One way to improve texts is to explicate them, that is, the making of information that is implicit in the source text explicit in the target text (Laviosa-Braithwaite, 1998, p. 289). Explicitation may be either a conscious strategy or an accompaniment to differences between languages (Blum-Kulka, 1986; Pápai, 2004). The latter would be the case, if, for example, the English non-finite subordinate clause in ***Not having had any breakfast***, *she was starving*, which has no straightforward equivalent in Finnish, was rendered into Finnish as a finite subordinate clause, ***Koska hän ei ollut syönyt aamiaista***, *hän oli kuolemaisillaan nälkään* **'Because she had not had breakfast,** she was starving', with the causal relation made overtly explicit and transparent.

In this section, however, the focus is on the conscious explicitation of texts. Explicitation of this type is often attained through *addition* (Blum-Kulka, 1986; Pápai, 2004). The additions may be whole explanatory phrases. The English sentence *He sent his manuscript to Knopf*, for instance, might have to be translated into Finnish as *Hän lähetti käsikirjoituksensa Knopfiin, **newyorkilaiseen painotaloon*** 'He sent his manuscript to Knopf, **a New York publishing house'**, because, unlike American readers, Finnish readers may not be expected to be acquainted with Knopf. Or, as used in this study, the additions may also be, for example, conjunctions, such as the Finnish *joko* 'either' added to the English sentence *The camera may be found defective in material or workmanship* and resulting in the Finnish *Kamerassa saatetaan havaita **joko** materiaali- tai valmistusvika* 'In the camera there may be found **either** a material or a manufacturing defect'. Apart from additions, however, explicitations may also be *specifications* (Leuven-Zwart, 1990, p. 90; Levý, 1969). This would be the case, if, for example, the more general and abstract English term *gathering* was replaced by the more specific and concrete Finnish term *kutsut* 'party'.

Explicitations typically add to the comprehensibility of texts (Toury, 1995, p. 227). They may, however, also have contrary effects (Berman, 1985). Additions, for example, make texts longer (Blum-Kulka, 1986; Nida & Taber, 1969), thereby increasing the amount of information that has to be processed by the reader (Larson, 1984). At the same time, the style of the text may also suffer: it may become prolix and long-winded (Leuwen-Zwart, 1990) – and possibly even uninteresting to read (Larson, 1984).

Simplification. Another way to improve target texts is to simplify them. Simplification may be either lexical, syntactic or stylistic (Laviosa-Braithwaite, 1998, pp. 288-289), and it is typically carried out by omitting or paraphrasing information (see e.g. Blum-Kulka & Levenston, 1983; Vanderauwera, 1985). Like explicitation, simplification may, moreover, be either conscious or result from differences between languages. In this section only conscious simplification is considered.

Conscious simplification, as understood in this study, occurs when, for example, an English nominalisation (*the **presence** of everyone*) is translated into Finnish as a verbal construction (*että jokainen **on läsnä** 'that everyone **is present'***), even though translation as a nominalisation would also be possible; or when a word order which for stylistic reasons is reversed in English (***never** shall I do it again*) is deliberately turned direct when rendered into Finnish (*en **koskaan** enää tee niin 'I shall **never** do it again'*). In this study, the first type of simplification is called *semantic* simplification, because it is primarily made to simplify denotative meaning, and the last one *stylistic* simplification, because it mainly affects style.

Simplification, by using more straightforward and less "skewed" (Larson, 1984) expressions, by omitting trivial information, and by shortening the text, normally simplifies comprehension. At the same time, however, it also simplifies the text, flattening and impoverishing it lexically (Mauranen, 2000; Tirkkonen-Condit, 2004), syntactically (Eskola, 2004) and stylistically (Stewart, 2000). Simplification may therefore risk making a text boring, which, in turn, may have a negative effect on comprehension (Anderson & Davison, 1988; Green & Olsen, 1988; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991).

5.3.3.3 Errors

Translation errors, according to House (1997, p. 45; 2001, p. 56), may be divided into overtly erroneous errors and covertly erroneous errors. *Overtly erroneous errors* are what we usually refer to when talking about translation errors. *Covertly erroneous errors*, for their part, are shifts arising from differences between socio-cultural values and language systems and resulting in the source and target text not being functionally equivalent to each other. In this study, only overtly erroneous errors are regarded as errors.

Mistranslation. Overtly erroneous errors can further be subdivided into two major subtypes. The first of these is mismatches or errors in transferring the meaning of the

source text into the target language (House, 1997, p. 45; 2001, p. 56). Errors of this type – in this study referred to, briefly, as mistranslations – are generally caused by an insufficient comprehension or miscomprehension of the source text (see also Kozanecka, 2002; Nord, 1991, p. 169; Wilss, 1982, p. 197). Miscomprehension, in turn, typically arises when there are several possible interpretations for an expression and/or only a little or no context (Larson, 1984, p. 107). This is often the case with, for example, metaphors and idioms (Bogucka, 2002; see also Campbell, 1999), polysemes (Larson, 1984, p. 107), words with very general or broad meanings (e.g. the English verbs *make* and *take*), and compact noun phrases, or phrases where two or more nouns are concatenated (e.g. *anti-racism grievance procedures*) (Campbell, 1999).

Ungrammaticalities. The second type of overtly erroneous errors is breaches or violations of the target language (House, 1997, p. 45; 2001, p. 56). These include, for example, ungrammaticalities, such as grammatical mistakes and writing errors. Ungrammaticalities are sometimes caused by interference (see p. 88). The ultimate reason for ungrammaticalities, however, is deficiencies in target language competence (Nord, 1991, p. 169; Wilss, 1982, p. 197).

Translation errors are a problem for at least three reasons: they may give a false picture of the source text; they may disturb comprehension; and they may irritate the reader. Not all translation errors, however, are equally serious. Ungrammaticalities, for example, are usually less grave than mistranslations and semantic errors, because they typically do not have a significant impact on comprehension. (Chesterman, 1997, pp. 140–141; Johansson, 1978.)

5.4 Translations – "the third code"

As a result of all the above problems (and several others not discussed here) intrinsic to translation, it is no wonder that translations almost invariably end up different not only from their source texts but also from other original and untranslated target texts. This difference, in fact, is so noticeable and universal that translations are often thought of as forming a language variant or code of their own (Eskola, 2004, p. 83), referred to as, for example, "the third code" (Frawley, 1984).

Translations, however, are usually considered to be not only different from untranslated texts. Rather, they are also regarded as somehow lacking or inferior to them (Berman, 1985; Chesterman, 2004, pp. 36–39). This is seen in that translations

are often characterised as involving "sacrifices" (Reiss & Vermeer, 1984, p. 25), "losses" (Bell, 1991, p. 6) and "deformations" (Berman, 1985). The most daunting problem concerning translations in this respect, then, is their inability to be like untranslated texts.

CHAPTER 6

Problems in translating international comparative studies

If translation is problematic in normal, non-test environments, it may be expected to be even more so in test environments. This is because in test environments the translations have to be equivalent to their source texts not only denotatively, connotatively, text-normatively and pragmatically – as is often also the case with translations made in non-test environments – but also in difficulty (Bechger et al., 1998, p. 102). If they are not, the entire test risks being biased, with the test scores of the different language versions of the test not being comparable with each other (van de Vijver & Poortinga, 2005, p. 41). Systematic, exhaustive and in-depth research on translation problems encountered in international comparative studies, however, is virtually non-existent. The findings, instead, are usually scattered, incidental, cursory and conjectural. Some of them, moreover, apply to all types of cross-cultural comparative studies, whereas others are more clearly restricted to international reading literacy studies only. In the following, a summary is given of the most relevant problems encountered when translating cross-cultural comparative studies and especially those in reading literacy.

In international comparative studies, problems in translation are most typically caused by the following (Table 6.1): language-specific differences in grammar, language-

Table 6.1 *The most typical problems when translating international comparative studies (with findings restricted to reading literacy studies italicised)*

Problem	Reference
Language-specific differences in grammar • Passive • Clause structure: *non-finite, verbless* • Differences in length or complexity of sentences • Reference: pronouns, *articles* • Negation • Word order, information structure: premodification	Arffman, 2002; Bechger et al., 1998; Bonnet, 2002; Elley, 1993; Ercikan, 1998 • Arffman, 2002; Hambleton, 2002 • Arffman, 2002; OECD, 1999b • Arffman, 2002; Ercikan, 1998; OECD, 1999b • Arffman, 2002; Manesse, 2000; OECD, 1999b • Arffman, 2002; OECD, 1999b • Arffman, 2002; OECD, 1999b
Language-specific differences in meaning • *No common definition for a word* • Associative meaning, connotations • Metaphors, idioms • Abstractness; genericness • Common vs scientific terminology • Words taken out of context • *Differences in familiarity* • *Differences in style: formality*	Bonnet, 2002; Elley, 1993; Sireci & Allalouf, 2003 • Bechger et al., 1998 • Arffman, 2002; Bechger et al., 1998; OECD, 2004b • OECD, 2004b • Bechger et al., 1998; Manesse, 2000; OECD; 1999b, 2004b • OECD, 2004b • Elley, 1998; Sireci & Allalouf, 2003 • Arffman, 2002 • Arffman, 2002
Differences in culture and conventions • Cultural bias: focus on Anglo-Saxon culture • Differences in cultural relevance and familiarity • *Cultural neutrality, transnational culture*	Arffman, 2002; Bechger et al., 1998; Bonnet, 2002; C-BAR, 2003 • Artelt & Baumert, 2004; Bonnet, 2002; Hamilton & Barton, 2000; Levine, 1998 • Arffman, 2002; Artelt & Baumert, 2004; Bonnet, 2002; C-BAR, 2003; Levine, 1998; Sireci & Allalouf, 2003 • Hamilton & Barton, 2000
Quality of source text • Flawed • Ambiguity	 • Hambleton, 2005 • van de Vijver & Poortinga, 2005
Question format • Multiple-choice items in incomplete stem format • Sentence completion • *Fronting frames* • Longer sentences	 • Hambleton, 2002 • Sireci & Allalouf, 2003 • Arffman, 2002 • Sireci & Allalouf, 2003
Behaviour of translators· • Too literal translations; interference, translationese • *< detailed micro level instructions* • Overdue freedom and/or explicitness • Errors	 • Arffman, 2002; Hambleton, 2002; OECD, 2004b • Arffman, 2002 • Arffman, 2002; Hambleton, 2002; OECD, 2004b • Arffman, 2002; Manesse, 2000
Lack of qualified translators	Hambleton, 2002, 2005
Lack of time	Hambleton, 2002, 2005

specific differences in meaning, differences in culture and conventions, the quality of the source text, the question format, the behaviour of the translators, the lack of qualified translators, and the lack of time.

Language-specific differences in grammar often lead, not only in international reading literacy studies but also in other kinds of cross-cultural study, to translation problems and unequal difficulty between source and target texts (Arffman, 2002; Bechger et al., 1998; Bonnet, 2002; Elley, 1993; Ercikan, 1998). However, in cross-national reading literacy studies in particular, problems easily arise, when, for example, passives, verbless or non-finite clauses, pronouns or articles, or negations are used in the source text. Problems are likewise common when the word order and/or information structure in the target text differs from that in the source text, as when, for example, premodification is used instead of postmodification. (Arffman, 2002.)

These syntactic differences and problems, however, are normally less important than semantic differences and problems (Binkley & Pignal, 1998; Kirsch & Mosenthal, 1990a; Sireci & Allalouf, 2003). Semantically the most serious problems are those caused by words for which it is difficult to find a common definition across languages, by metaphors and idioms, and by abstract and generic terms (Bechger et al., 1998; Manesse, 2000; OECD, 2004b). Problems also arise when the associative meanings or, for example, the stylistic connotations of a word cannot be carried over to the target language (Arffman, 2002), when a choice has to be made between a common and scientific term (OECD, 2004b) and when words are taken out of context (Elley, 1998; Sireci & Allalouf, 2003). Semantic problems often result in the words in the source and target texts not being equally familiar and in the texts differing in style and in, for example, formality (Arffman, 2002).

One of the most serious threats to equivalence of difficulty in all international comparative studies but especially those in reading literacy, however, is differences in culture and conventions (Arffman, 2002; Artelt & Baumert, 2004; Bechger et al., 1998; Bonnet, 2002; C-BAR, 2003; Levine, 1998). Often, the texts used in these studies have mainly represented Western and Anglo-Saxon cultures (see also Hamilton & Barton, 2000), with their contents and conventions consequently being less relevant and familiar in non-Western and non-Anglo-Saxon cultures (see also Sireci & Allalouf, 2003). Also attempts to minimise this bias by doing away with texts or items showing cross-cultural differences have frequently been unsuccessful, because they have commonly resulted in the texts being culturally neutral or representing a US-based transnational culture (Hamilton & Barton, 2000).

In addition to the insurmountable problems resulting from inevitable differences between languages and cultures, problems have also been caused by factors which are easier to overcome. One such factor is the poor quality of the source text, its being flawed (Hambleton, 2005) or ambiguous (van de Vijver & Poortinga, 2005). Another is the choice of the question format. Multiple-choice items in the incomplete stem format (Hambleton, 2002), sentence completion items (Sireci & Allalouf, 2003) and questions starting with fronting frames (e.g. **In the dance**, *what does the bee do?)* (Arffman, 2002), for example, have proved especially problematic to translate. Often, the result has been awkwardness, differences in sentence length (Sireci & Allalouf, 2003) and shifts in point of view (Arffman, 2002), which, in turn, may have led to differences in responses.

The behaviour of the translator may likewise lead to problems. Problems have arisen, when, for example, the translators have translated too literally – because of, among other things, the detailed micro (i.e. word and syntax) level instructions provided by the test administrators – when they have translated too freely and explicitly, or when they have made mistakes (Arffman, 2002; Manesse, 2000). Often, however, the ultimate reason for the translation problems has been that the translators hired have not been fully qualified and/or that they have not had enough time to do the translations (Hambleton, 2002, 2005).

CHAPTER 7

Research design

7.1   Purpose of the study and research questions

The main purpose of the study was to explore the problems of equivalence that arise in translations made and used in international student assessments of reading literacy, where equivalence of difficulty is a necessary condition for the validity of the entire test. The need to examine these translations has become increasingly important with the increase in the number and significance of international studies and the fact that practically no linguistic research has been done on these translations. Knowledge of the problems faced when making these translations, in turn, helps to increase the quality and the degree of equivalence of the translations and, in the end, the validity, fairness and equity of international studies.

Furthermore, the texts used in these assessments are today, in line with the requirements of modern society, far from homogeneous; instead, they vary greatly in, for example, form, text type and genre. Therefore, and especially because modern translation studies have indicated (Reiss, 1976; Scarpa, 2002; Wilss, 1982, 1990) that different types of text tend to show not only different degrees but also different kinds of

translation problems, it is necessary to examine to what extent the problems of equivalence vary across different types of text.

And finally, it is important to investigate to what extent the problems actually affect the level of equivalence between the translations and their source texts and whether text types vary in this respect. This, again, helps to decide whether, or to what extent, the translations are equivalent to their source texts and, consequently, whether or to what extent the findings of international reading literacy studies are valid and reliable.

On the basis of the above purposes, the following research questions were formulated for the study:

1) What are the main problems of equivalence when translating texts from English into Finnish in international reading literacy studies?
2) To what extent do the problems vary across and between text types?
3) To what extent are the translations, as representatives of different types of text, equivalent in difficulty with the source texts?

7.2   Research approach

In the present study, the focus was on texts and translations. The study, more specifically, was an instance of translation quality assessment and probed into the relation between translations and their source texts as well as differences between different text types. Texts and translations were thus the natural data of the study (Neubert & Shreve, 1992; see also Leuven-Zwart, 1989; Nord, 1991; Séguinot, 1989; Toury, 1995).

The method for analysing the texts was primarily qualitative. This was because the study aimed, not at hypothesis-testing or empirical generalisations and predictions, but at a rich, detailed description and in-depth understanding of a highly complex phenomenon – equivalence of translations used in international reading literacy studies and text difficulty across languages – about which little is known and for which there are, at the moment, no universally acceptable, valid and reliable measures (Patton, 2002; see also Alasuutari, 1995; Lincoln & Guba, 1985).

In addition to qualitative methods, however, quantitative methods were also used in the study. There were basically two reasons for this. First, using these two research approaches in combination, in a methodological mix, provided a more versatile and comprehensive picture of the complex subject of the study, allowing, for example, for more valid and meaningful comparisons. And second, the methodological mixing

added to the reliability or trustworthiness of the study. Even though there may still be researchers (see Guba & Lincoln, 1988) who would rather see qualitative and quantitative methods kept apart, most modern researchers (e.g. Brewer & Hunter, 1989; Creswell, 2003; Denzin, 1978; Miles & Huberman, 1994; Silverman, 2001; Tashakkori & Teddlie, 1998) seem to agree that the two approaches are in fact complementary and that given the complexity and multiple realities of today's world as well as the strengths and weaknesses of each research method, no one method alone is usually enough to solve the problems addressed in a study, but instead, that multiple methods are needed.

7.3   Data of the study

The data of the study consisted of three English source texts and their Finnish translations. These texts and translations, again, were produced in the context of the first international reading literacy test carried out by the OECD Programme for International Student Assessment (PISA) in 2000. Both the three texts analysed in the study (Silverman, 2001) and the context of the texts (Titscher, Meyer, Wodak & Vetter, 2000, p. 27; see also Guba & Lincoln, 1985) might thus be viewed as representing naturally occurring, or nonmanipulative (Patton, 2002, p. 40) bounded systems or *cases* (Stake, 2000, p. 436), typical of qualitative research. Of these, moreover, the PISA reading literacy test might be regarded as the main case within which the three texts were nested (Patton, 2002, p. 447).

7.3.1.   The context of the texts – PISA

7.3.1.1 PISA in a nutshell

PISA is a regular, ongoing international assessment of the skills and knowledge of 15-year-old students, developed and steered jointly by member countries of the OECD. The aim of PISA is to assess how far students approaching the end of compulsory basic education have acquired the knowledge and skills that are essential for future adult life and for full participation in society. On a more general level, PISA aims at producing regular and reliable measures and indicators of educational outcomes across countries. The objective is to develop international indicators of student achievement. With the help of these indicators, again, national policy makers will be able to compare the

performance of their educational system with those of other countries. The ultimate purpose is to improve the effectiveness of education.

The first PISA assessment (following a trial in 1999) took place in 2000. Thereafter, assessments occur every three years. In PISA, three major domains are assessed: reading literacy, mathematical literacy and scientific literacy. Every assessment cycle looks in depth at one of these major domains. In 2000 the focus was on reading literacy, in 2003 on mathematical literacy and in 2006 on scientific literacy. The next assessment focussing on reading literacy will be conducted in 2009. (For more information on PISA, see e.g. OECD, 2001, 2004.)

In 2000, the assessment was carried out in 32 countries, 28 of which were members of the OECD. Later on, the same assessment was conducted in 11 additional countries (all except one of them coming from outside the OECD), which raised the total number of the countries taking part in PISA 2000 to 43. Since that the number of the participating countries has grown considerably, especially among the non-member countries of the OECD: in 2006, PISA was carried out in altogether 57 countries.

The reasons for choosing PISA as the context of the present study were both pragmatic and theoretical. Specifically, of the two contemporary, methodologically largely comparable international reading literacy studies – PISA and PIRLS (Progress in International Reading Literacy Study conducted by the International Association for the Evaluation of Educational Achievement, IEA) – PISA was the study which was conducted in the research institute where the researcher was working and made the present study. Therefore, not only the texts, instructions and other relevant documents but also the priceless tacit knowledge concerning the PISA translation process was easily accessible to the researcher. The researcher, moreover, had herself been a member of the Finnish PISA 2003 translation team (but not of that of PISA 2000) and had consequently practical first-hand knowledge of and experience in the PISA translation process and its specific problems.

In addition to these pragmatic reasons, however, the choice of PISA was also theoretically driven (Miles & Huberman, 1994, p. 29) – justified by its being able to give a more comprehensive and diversified picture of the problems faced when translating texts in international reading literacy studies, than PIRLS. PISA, after all, concentrates on 15-year-old students, whereas in PIRLS the focus is on 9-year-olds. This, in turn, means that the texts in PISA are more complex and elaborate – and consequently also more information rich (Patton, 2002, p. 230) – than they are in PIRLS. The choice of PISA as the context for the present study, in other words, was also strongly premised on

the principle of purposeful sampling (ibid., 2002, pp. 230–242) characteristic of qualitative research.

The selection of the assessment from the year 2000, again, was motivated by its being the very first PISA study (excluding the pilot in 1999), intended to be followed by regularly recurring comparable studies. Research on the first study would therefore provide valuable information with the help of which it would be possible to develop future studies. The PISA 2000 assessment, moreover, was also the study where reading literacy was the major domain and where the number and variety of the reading texts was thus greatest. Since that, no new texts have been added. Rather, in both PISA 2003 and 2006 the texts were chosen from among those used in PISA 2000, their number, however, being considerably smaller. Consequently, selecting the PISA 2000 assessment as the context of the present study was also based on the principle of purposeful sampling.

7.3.1.2 Selection and production of source texts in PISA

To be fit for an international reading literacy study, the texts used in PISA 2000 were to meet certain criteria (OECD, 2002). One of these was that the texts were to be diverse and varied enough to cover the wide range of topics, forms, text types and genres with which the readers of today are faced. To this end, the texts were to represent different text structures and types. In addition to the more traditional continuous texts, for example, non-continuous texts, such as tables, diagrams and maps, also had to be included in the test. Within the continuous texts, moreover, all the five text types originally suggested by Werlich (1976), descriptive, narrative, expository, argumentative and instructive, had to be represented.

The texts were also to cover the different purposes and contexts (personal, public, occupational and educational) for which texts are written and for which readers read texts. They were to be authentic, or genuine, taken from actual real-life contexts, not specifically made for the reading test. They were to be of interest to 15-year-old students. And they were to be culturally unbiased and hence equally suitable to students in all the participating countries. (OECD, 2002.)

Based on these criteria, 54 texts were at first chosen to be tested in the 1999 PISA pilot study. The choice was made by an international expert group consisting of leading experts in reading research. The group, however, was not alone in making the choices. Instead, it received valuable assistance from representatives of the participating

countries, each of which was allowed not only to comment on the suitability of the texts suggested by the expert group in its culture but also to make its own suggestions of the texts to be included in the assessment.

On the basis of the results of the pilot study, 37 texts were finally selected for the PISA 2000 reading literacy assessment. Of these (see Table 7.1), 21 were continuous, 9 non-continuous, and 7 mixes of both continuous and non-continuous text. Of the 21 continuous texts, furthermore, 7 were expository, 4 instructive, 4 argumentative, 3 narrative and 3 descriptive texts. Of the 9 non-continuous texts, again, the majority (3) were tables, whereas forms, schematics, maps, and charts or graphs each had only one representative. The remaining 2 non-continuous texts were combinations of two types on non-continuous material (e.g. table and graph), and the 7 textual mixes contained both continuous and non-continuous material (e.g. exposition and table).

Table 7.1 *Distibution of the 37 PISA texts by text type*

Continuous		Non-continuous		Mixed	
Text type	n	Subtype	n	Subtype	n
Expository	7	Table	3	Exposition & Table	1
Instructive	4	Form	1	Exposition & Chart/Graph	1
Argumentative/Persuasive	4	Schematic	1	Exposition & Chart/Graph & Map	1
Narrative	3	Map	1	Narration & Table	1
Descriptive	3	Chart/Graph	1	Arg./Pers. & Ad.	1
		Mixed	2	Description & Chart/Graph	1
				Instruction & Table	1
Total	**21**		**9**		**7**

For the PISA reading literacy test, all the 37 texts, originating in 18 countries, had to be translated into both English and French, the two official languages of the OECD (unless they were already in English and French, in which case only small modifications were made to them). These English and French versions were thereafter regarded as the source texts, on the basis of which the participating countries made their translations.

7.3.2   Selection of the texts analysed in the present study

From among the 37 texts (and their translations) used in the PISA 2000 reading literacy assessment, three were chosen for and analysed in the present study. Given the rich data provided by texts and the systematic, in-depth nature of the analysis (Patton, 2002, pp. 244–246; see also Guba & Lincoln, 1985, p. 277; Mäkelä 1990, p. 53; Silverman, 2001, p. 152), three was considered the maximum number of texts that could reasonably be analysed in the study. With three carefully chosen texts, moreover, it would be possible to make meaningful comparisons between different types of text and to add to the generalisability of the results (Yin, 2003).

In selecting the three texts, the first criterion was purely pragmatic. Specifically, at the time of making the analyses, the majority, that is, 26 of the 37 texts used in PISA 2000 were still strictly confidential. The reason for this was that these 26 texts were meant to be reutilised in future PISA cycles, with a view to measuring trends in reading literacy over time. This, then, restricted to 11 the number of the texts from which the three texts analysed in this study could be chosen.

From this point on, however, the choice of the texts was guided by the principle of purposeful sampling and hence by the desire to provide as representative a picture as possible of the diverse text material used in PISA, especially as concerns text structure and types. The texts were consequently to be heterogeneous, representing maximally different text structures and types (maximum variation or heterogeneity sampling; Patton, 2002, pp. 234–235); typical, rather than peripheral, representatives of the text structures and types (typical case sampling; ibid., 2002, p. 236); and information rich, providing ample information on the text structures and types (intensity sampling; ibid., 2002, p. 234).

Steered by these criteria, the choice finally fell on three texts, two of which were continuous texts and one was a non-continuous text. Of the two continuous texts, furthermore, one was an expository text and the other a narrative text. As implied by the preponderance of these texts also in PISA, including an expository text in the study seemed important: exposition is probably the most widely used, common and neutral text type, the text type typical in, for instance, text books and everyday contexts. Although as such not generalisable, the results for this text type were therefore thought to be largely applicable, not only to international reading literacy assessments but also to other types of international studies. The choice of the narrative text, again, was motivated by its being a literary text and hence maximally different from the other four continuous text

types, all of which were non-literary. Narrative texts also have a specific role in mother tongue instruction. And finally, considering the prevalence of non-continuous texts today, especially in working and everyday life, their differing so fundamentally in structure from continuous texts and the lack of comparisons between continuous and non-continuous texts, it was deemed imperative to include also a non-continuous text in the study.

As regards the actual, final choice of the expository text, there were (among the 11 texts available) three texts from which to choose. Two of these were articles printed in Belgian magazines, and one was an editorial published in an Australian newspaper. All the three texts were thus alike in that they all represented journalistic writing. Given, however, the closer similarity between the two magazine articles, it was decided that one of them should represent expository texts in the present study. Of these two, the choice finally fell on the one whose topic and layout were considered of more interest to, and hence more typical of, 15-year-olds.

The selection of the narrative text was easier, because there was only one pure representative of this text type among the 11 texts. One of the two mixed texts, however, was also mainly narrative, but as this text also contained non-continuous material (a table), it was considered a less distinguished, less typical and less informative representative of narrative texts than the purely narrative text.

And finally, for non-continuous texts, there were two options. These differed greatly from each other, in that one of them was a table and the other a tree diagram. Of these, the table was deemed the better and more typical representative of non-continuous texts. There were two reasons for this. First, tables not only were the most common non-continuous text type in PISA 2000 but also seem to be more commonly used in real-life contexts than tree diagrams. Second, the tree diagram contained very little writen text.

7.3.3   Description of the three texts analysed in the present study

A short description of the three texts analysed in this study is given in the following (Table 7.2). The full texts, accompanied with their question items, and their Finnish translations are to be found in Appendix I.

Text 1 is an **expository text**. The text, titled *Feel good in your runners*, is an article originally published in a French-Belgian magazine for adolescent students in 1997. The article reports on a sports medicine study conducted by the Medicine Centre of Lyon on

Table 7.2 *The three texts analysed in the study*

	Title	Continuous/ Non-continuous	Text type / subtype	Country of origin	Original language	Length (in words)	Function
Text 1	Feel good in your runners	Continuous	Expository	Belgium	French	383	Informative
Text 2	The gift	Continuous	Narrative	USA	English	1 727	Expressive
Text 3	PLAN International Program Results Financial Year 1996	Non-continuous	Table	UK	English	196	Informative

sports injuries and especially on the role sports shoes play in preventing these injuries. Four important criteria are provided for good sports shoes. The text, totalling 383 words and covering one page, starts with an ingress, is divided into three columns and carries three sub-headings. Also accompanying the text is a humorous cartoon-like picture of an athletic contest where three swimmers and, in the foreground, a runner with his oversize sports shoes are competing – all in the same swimming pool.

The primary function of the text is to give information (Reiss, 1976). The information, however, being targeted at a relatively wide, heterogeneous, non-specialist audience, is given in a popular fashion. Besides, an attempt has been made to present the information in such a way as to make it relevant and attractive to and hence to arouse and hold the interest of this large readership.

Text 2 is a **narrative text**. *The gift*, more precisely, is a short story written by Louis Dollarhide, an American writer, and published in *Mississippi Writers: Reflections of Childhood and Youth* (Volume I, edited by Dorothy Abbott) in 1985. The story is about a woman and a panther and the relationship between the two during a flood in the Mississippi. The narration centres on depicting the woman's feelings and state of mind, and very little use is made of dialogue, for example. The text is a normal one-column text with no subheadings or pictures. The text contains 1 727 words and covers almost three pages, which makes the text much longer than the other two texts.

Text 2, as far as function is concerned, falls within the category of expressive texts (Reiss, 1976). The text thus puts special emphasis on expression and aesthetic effect and on creating a vivid and intense atmosphere. Moreover, unlike informative texts, which strive to transmit objective truths and facts, the text aims at evoking subjective feelings, impressions and interpretations. (Bruner, 1986.)

Text 3 is a ***non-continuous text***. The text, titled *PLAN International Program Results Financial Year 1996*, is a table, or a combined list, which, slightly adapted, has been taken from a public report originally published in English by PLAN International, an international development organisation, in 1997. The table gives information on the organisation's aid programmes in nine Eastern and Southern African countries. The table, covering one page, is organised so that the countries are arrayed horizontally in the upper row, with one column reserved for each country and one, in addition, for the totals. Vertically, the table is divided into three main categories, according to the type of aid programmes offered: health, education, and habitat. Each of the main categories is further subdivided into 4 to 14 subcategories (27 subcategories altogether). The names of these categories are provided verbally, the total number of words in the table being 196. Besides all this verbal information, however, the table also contains numerical information on the amount of work that has been accomplished in each of the nine countries within each category (270 numbers in all) and, to lighten the heavy information load of the text, three small pictures.

The function of Text 3, like that of Text 1, is to give information (Reiss, 1976). This time, however, the guiding principle in presenting the information is efficiency and ease of use. The information is thus stored and displayed in a highly condensed and organised spatial form, where the amount of redundant information is reduced to its minimum. (Guthrie, Bennett & Weber, 1990; Kirsch & Mosenthal, 1990).

7.3.4   Production of the target texts

7.3.4.1 The PISA translation and verification process

The translation process recommended by PISA was double (forward) translation from two parallel source texts, followed by national and international verification (Grisay, 2003; see Figure 7.1). Hence, every country was advised to use two source versions (ST), one in English and the other in French, the comparability of the two versions being calibrated by international experts. Based on the two source texts, two translators were to produce two independent versions (TT_1 and TT_2) in the target language. These two versions were then to be reconciled by a third translator into one national version, which was to be verified by still a fourth, independent translator from the International Project Centre. After the verifier had commented on the translations and made his or her suggestions for correction, the participating countries decided on the final versions
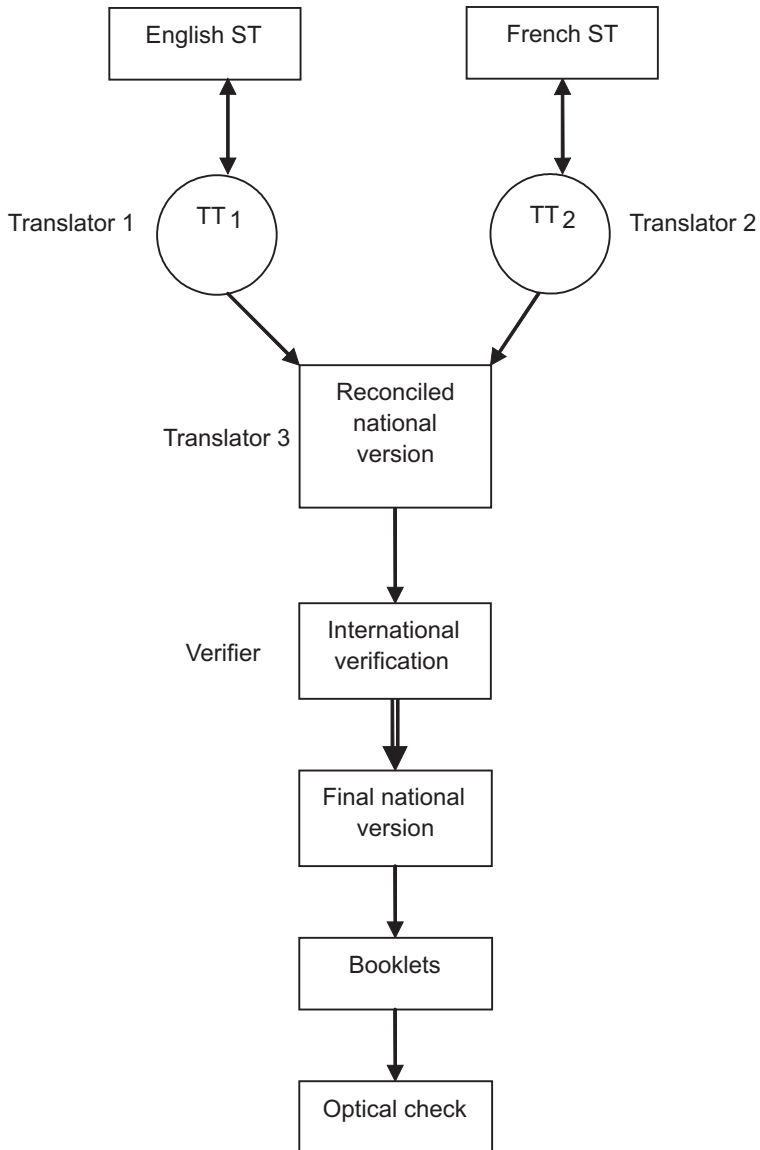
Figure 7.1 *PISA translation and verification process.*

and compiled them, together with a number of mathematical literacy and science literacy texts, into nine test booklets. These were sent one more time to the International Project Centre for a final optical check of the layout of the texts.

In Finland – as well as in several other countries – the translation process deviated somewhat from what was recommended by PISA. In Finland, the translation process was carried out by a team of translators and proceeded through the following steps (Figure 7.2): Based on an English source text, one of the translators produced the first Finnish version (FTT$_1$) of the text. This version was next commented on by another translator. On the basis of this version and with possible crosschecks from a parallel French source version, a translator specialised in Finnish then decided on a reconciled Finnish version, paying special attention to the fluency and idiomaticity of the Finnish language. As recommended by PISA, this reconciled version was next submitted to an independent outside verifier from the International Project Centre. After her comments and corrections, the Finnish translators decided on the final Finnish versions, after which they were compiled into booklets. These booklets were proofread nationally by the translator specialised in Finnish and by another MA majoring in Finnish, and checked optically by the International Project Centre.

The main differences between the translation process recommended by PISA and the process actually carried out in Finland were thus the following: In Finland, the translations were largely made on the basis of the English source texts alone, with only possible cross-checks from the French versions, whereas the recommendation was to make equal use of both the English and French source texts. In Finland, only one translation was made which was further worked on and reprocessed by other translators, whereas the recommendation was to make two parallel translations (one from English and the other from French) and reconcile them into one translation. And in Finland, greater attention was paid to the target texts and especially to natural target language than was recommended by PISA.

For the PISA 2000 study, the individual texts were translated and verified at the turn of the year 1999. The compilation and verification of the test booklets, however, did not take place until just before the reading literacy test in the spring of 2000.
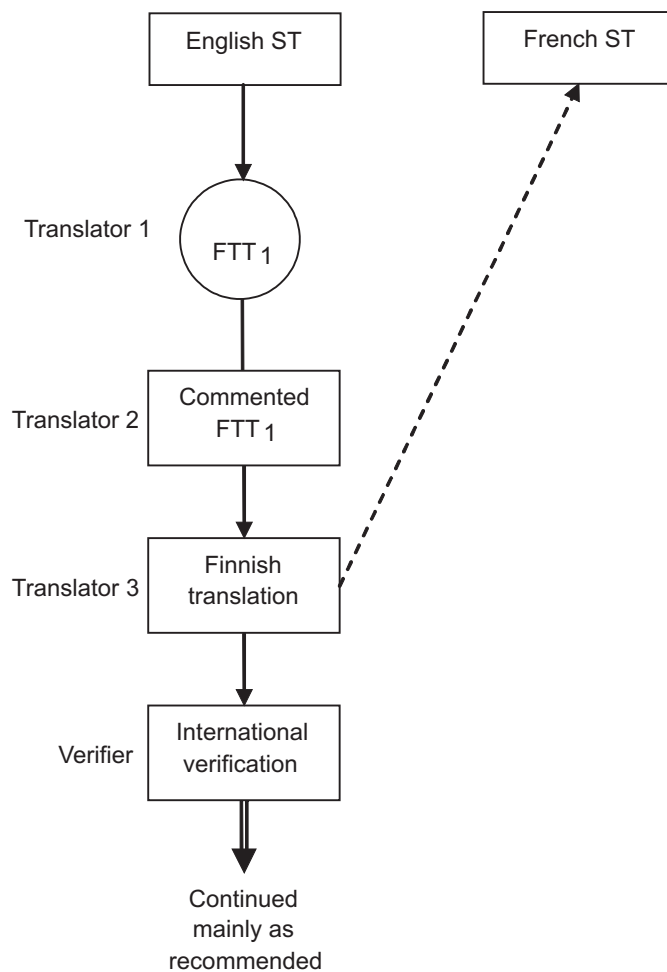
Figure 7.2 *Finnish PISA translation and verification process.*

7.3.4.2 Translators

In PISA, high requirements were set for the translators. They were to be professional translators with a good command of both the source language (English or French) and the target language. They were also to be acquainted with the educational system and culture of their own country (and preferably also those of the source language countries) and with the topics covered in the assessment.

In Finland, these requirements were not met to the full. In Finland, altogether five translators were engaged in translating the reading literacy texts. Of these, two were professional translators, one with several years and the other with a few years experience in translating. One of the remaining three translators was an MA with Finnish as her main subject and with some experience in translation. One was a BA with applied linguistics as his main subject and English and Finnish as his secondary subjects; he also had five or six years experience in translating. The last translator was a student majoring in English with limited experience in translating. The verifier, unlike all the other translators, was appointed by the International Project Centre and worked independently of all the other translators. The verifier was not specialised in languages.

What is known about the translators of the three English texts and the Finnish translations analysed in this study is that the first Finnish version of Text 1, the expository text, was made by the student majoring in English, the first version of Text 2, the narrative text, by the translator with a BA in applied linguistics and the first version of Text 3, the non-continuous text, by the more experienced professional translator. After these versions had been commented on by the other translators, they were all checked by the international verifier. The translator with an MA in Finnish was strongly involved in making the final Finnish versions of all the three texts.

7.3.4.3 Translation instructions

The translators were given detailed instructions on how to translate so as to avoid the most typical translation traps encountered in international assessments, especially those focussing on reading literacy, and to make the texts equivalent. Some of these instructions had to do with the layout and presentation of the translations. In some others, the translators were given advice as to how to maintain the difficulty level of the vocabulary and the syntax of the text unchanged as far as possible. And still others provided detailed instructions on how to translate the question items. Some of the most relevant translation instructions, as far as the present study is concerned, are presented in the following (adapted from OECD, 1999b; for a fuller account of the guidelines, see Appendix II):

1) Respect the layout and the presentation of the source document.
   - Respect the cues provided in the original material (e.g. titles, numbering of lines, paragraphs).

2) Avoid complicating or simplifying vocabulary and syntax.
   - Avoid translating difficult words by expressions which paraphrase them in more common terms (or vice versa).
   - Do not unnecessarily modify the degree of abstraction of the sentences by using nouns where the author uses verbs (or vice versa).
   - Avoid, insofar as appears possible, translating an active turn of phrase by a passive one (or vice versa).
   - Modify as little as possible reference chain(s) and do your best to respect the nature of the elements of reference (repetition, synonym, pronoun).

3) When translating the items, avoid involuntarily providing clues which direct the student towards the correct answer or which make a wrong answer more attractive:
   - Make every effort not to modify the respective lengths of the various distractors unnecessarily; long answers are more attractive than short ones.
   - If the stem literally reproduces expressions contained in the text, take care that the same is true in the translation.
   - Take care to provide all the information which is contained in the item.
   - The order in which the author has presented the various pieces of information contained in the stem of an item is often important; try to reproduce that order insofar as possible.
   - All conventions respecting word order significantly differ from one language to the other; however, various stylistic devices often make it possible to enhance particular segments in the question.
   - It may occur in a multiple-choice item that some of the alternatives proposed only differ by one key detail; be particularly vigilant on that subject.
   - The items based on nuances of vocabulary often raise difficult problems; it is rarely easy to find terms in one's own language having exactly the same connotations.

Given the list of instructions, however, the translators were reminded that the guidelines were to be regarded as advice only and that too strict an application of the recommendations could lead to a cumbersome translation.

Besides the general instructions, the translators were also provided with specific translation notes attached to the texts (see Appendices I and II). These were usually given

for one of the following three reasons (OECD, 1999b): first, to ask the translator to imitate as far as possible the stylistic characteristics (e.g. irony or casual conversation) of the source version; second, to point out where the translator should make a national adaptation (e.g. change the currency); or third, to indicate where the translator was to remain strictly true to the original.

National adaptations were thus one of the main reasons for giving specific translation notes. The general principle concerning national adaptations, however, was to use them only when they were truly required. If therefore the translators considered a national adaptation necessary even though this was not referred to in the translation notes, they were asked to fill in a National Adaptation Form justifying the adaptation and have it approved by the International Project Centre.

In addition to the general instructions and translation notes, the translators were supplied with yet another kind of information. This was information on the nature of the question items and the strategies required to answer the questions (see Appendix II). Thus, for every question item, the translators were told whether answering the item called for forming a general understanding, retrieving information, developing an interpretation, reflecting on the content of the text, or reflecting on the form of the text. Furthermore, in the case of, for example, interpretation, the translators were told not to make a text more explicit by adding, say, connectors to the translation (or vice versa). The purpose of this information was to prevent the translators from modifying the nature of the questions and the strategies required to answer them correctly, because such modifications have been found to be one of the most typical reasons leading to shifts in difficulty (see Bechger et al., 1998). Apart from helping to translate the question items, this information also helped in translating the texts proper.

7.4   Analysis of the data

The method applied in the study was *comparative linguistic text analysis* (Brinker, 1992), which, again, may be regarded as a form of discourse analysis (see Bussmann, 1996, p. 131): the three English source texts and their Finnish translations, serving as representatives of three different types of text, were analysed and compared linguistically, on different linguistic ranks (e.g. word, sentence, text) and strata (e.g. syntax, semantics, pragmatics), with the objective of locating, analysing and evaluating problems of equivalence in the texts.

Text analysis, in its broad sense – that is, as any description or interpretation of the form and content of texts (see e.g. ibid, 1996, p. 480) – seemed the natural choice for analysing the exclusively textual data of the study. The epithet *linguistic*, again, refers to the strong linguistic underpinnings and objectives of the analysis, as distinct from, for example, sociologically oriented text analyses, where the emphasis is more on extra-linguistic factors (Titscher et al., 2000, pp. 24–25). This linguistic approach was considered the most appropriate method for analysing and comparing text types, where linguistic features play a central role. And finally, the term *comparative* highlights the fact that the analysis consisted of comparisons between English and Finnish texts.

The analysis was mainly qualitative in that it proceeded inductively and was strongly data-driven (Guba & Lincoln, 1985; Patton, 2002). In practice, the analysis started (Figure 7.3) with several careful readings of the English and Finnish texts. While reading the texts, special attention was paid to the points – words, phrases, clauses, sentences, paragraphs, punctuation marks, etc. – where the Finnish translations seemed to deviate from, or be non-equivalent in difficulty to, their English source texts. The purpose of the reading was thus to locate *cases of non-equivalence of difficulty* or *non-equivalences in difficulty* – for the sake of brevity, often also referred to as *cases of non-equivalence* or *non-equivalences* – in the texts; these, in turn, were regarded as manifestations of *problems of equivalence (of difficulty)*, *equivalence problems* or, briefly, *problems*.

An equivalence problem, again, was defined as *an obstacle to equivalence of difficulty*. These problems may have occurred at different levels and phases of a cause-effect continuum and may have been either direct or indirect. Language-specific differences in the use of personal pronouns, for example, is itself an equivalence problem. The problem, more specifically, is that such differences frequently bring about shifts in, for instance, explicitness, which, in turn, result in the source and target text not being equivalent in difficulty. At the same time, however, the same problem also results in, or is the source or cause of other problems, such as the target text not being stylistically equivalent to the source texts, which, again, may further result in additional problems, such as the target text being less interesting than the source text, and so on.

In the analysis, then, only problematic cases were allowed for. Considering, moreover, the open-ended nature of the analysis and the extremely rich data provided by the texts (Patton, 2002), it was necessary to limit the analysis only to the most relevant, significant and interesting problems and non-equivalences, with the least important cases being ignored.
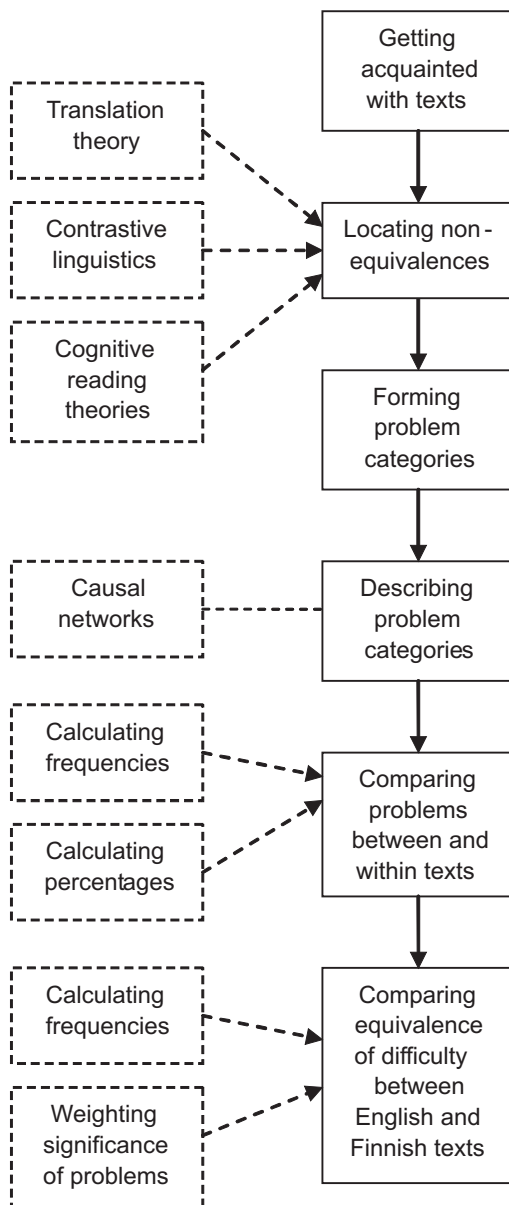
Figure 7.3 *Description of the analysis.*

With respect to the expressions referring to the cause-effect structure of the problems used in this study, such as *cause*, *source*, *caused by*, *arising from*, *result in*, etc, it should, moreover, be pointed out that in this study these expressions do not refer to causal relations in their strict statistical sense but rather are used as descriptive terms with a more "naturalistic" (Lincoln & Guba, 1985) meaning.

Even though the analysis itself was predominantly qualitative, the assessment and decision as to what constituted a non-equivalence was strongly theory-driven – based on translation theory, contrastive linguistics, and cognitive theories of reading comprehension. Translation theory, and especially the theories of equivalence, provided the natural frame of reference and typology within which the non-equivalences were examined. Contrastive linguistics shed light on and helped to understand the non-equivalences. And cognitive theories of reading served as the basis on which the difficulty of text segments was judged.

In considering equivalence of difficulty and text difficulty, the emphasis was thus on universal principles of text comprehension and comprehensibility and on higher-level cognitive processes. Readability formulas (see e.g. Bruce & Rubin, 1988; Weaver & Kintsch, 1991), on the other hand, were not used. There were several reasons for this (see OECD, 1999b): Firstly, the formulas are usually designed for continuous texts, and the present study also included a non-continuous text. Secondly, these formulas are reliable only when the texts are long enough (500 words or more). This was not the case in this study, where two of the texts were shorter than 500 words. Thirdly, these formulas are not directly comparable across languages (see e.g. Toury, 1993). Finally and most importantly, readability formulas are today usually considered theoretically too simplistic and inappropriate to capture the whole complexity of text comprehension (see e.g. Baker et al., 1988; Bruce & Rubin, 1998; Weaver & Kintsch, 1991).

After locating the non-equivalences, six major categories of equivalence problems were formed. Two of these had to do with language-specific differences in form, one of them in grammar and the other in writing systems; two were concerned with differences in content, one in meaning and the other in culture; and the remaining two were caused by human actors, either translators or editors. Four of the six major categories were further divided into finer subcategories, which gave a more detailed picture of the equivalence problems. Each of the non-equivalences located during the reading of the texts was classified into one of these problem categories.

In the next phase, the problems were looked at and described in more detail. This consisted in an examination of the causes and consequences of the problems, the main concern being the effects that the problems had on equivalence. The relative weight of the problems was also considered. To describe the problems and the cause-effect relations, verbal records were complemented by maps or causal networks, which are a useful visual tool for displaying how ideas are interconnected and related to each other (Miles & Huberman, 1994, pp. 151–165).

The qualitative description of the equivalence problems was followed by a quantitative analysis of the frequencies of the non-equivalences in the data. This was done to investigate the commonness of the problems in the texts and to facilitate comparisons between the three texts (Patton, 2002, p. 14). The first step in this analysis was to calculate the frequencies of the non-equivalences in the data. These frequencies helped to decide on the prevalence and significance of the problems in the three texts. As the texts, however, were of greatly differing lengths (383, 1 727 and 196 words respectively), exact comparisons between them were not possible. To add to the objectivity of the comparisons, therefore, the number of the non-equivalences was proportioned to the number of words in each text. With these percentages, more accurate comparisons could be made between the three texts.

In addition to these between-text comparisons, however, the problems needed to be compared within the texts. To this end, the number of the different types of non-equivalence had also to be proportioned to the total number of non-equivalences in each text. The resulting percentages then gave the relative quantities of the problems within the texts.

In the last phase, the English and Finnish texts were compared in terms of equivalence (of difficulty). This consisted of the following steps: first, judging, on the basis of cognitive theories of reading, whether each of the non-equivalences had a positive or negative effect on the difficulty of the texts; second, calculating the frequencies of these positive and negative non-equivalences in the English and Finnish texts; third, comparing the frequencies of these positive and negative non-equivalences in the texts; fourth, weighing, again on the basis of reading theories, the relative significance of the non-equivalences; and fifth, making the final judgement on the extent to which the English and Finnish texts seemed to be equivalent to each other.

It is important to note, however, that these judgements can be at best only hypothetical and tentative. There are at least four important reasons for this: First, given the extremely complex nature of reading comprehension, any evaluation of text

difficulty, especially as separate from analysis of the readers and question items, is bound to be simplistic (see 3.4.3). Second, there are at the moment no valid methods for reliably comparing text difficulty across languages nor any way of assessing the relative weight of the factors having an impact on text difficulty. Third, assessing and comparing the difficulty of individual linguistic elements, as is done in this study, is far too simplistic to yield a true picture of what is involved in text comprehension. And fourth, the analyses conducted in this study were not fully exhaustive.

7.5 Enhancing the trustworthiness and transferability of the study

7.5.1 Credibility of the researcher

In qualitative research, the researcher is the research instrument (Patton, 2002, p. 566). In qualitative research, therefore, the quality, and hence, the trustworthiness and transferability of the research is first and foremost tied to the credibility, or intellectual rigor, professional integrity and methodological competence, of the researcher (p. 570), which, in turn, is dependent on his or her training, experience, connections to the topic studied, and neutrality (pp. 566–570).

In the present study, I, the researcher, am a Finnish doctoral student in applied linguistics. I have a master's degree in English, with a minor in French, phonetics and education and with my master's thesis (Arffman, 2002) concentrating on problems encountered when translating international reading literacy studies. In the thesis, I compared three English source texts and their Finnish translations used in the PISA 1999 field trial and the method I used was text analysis.

In my work, I have been involved not only with texts, languages and translation, but also with reading literacy and, more specifically, reading comprehension, and with international assessments. My practical work, for example, has included translation and proofreading. Primarily, these have been texts translated from and into English, yet they have also contained translations from and into French and Swedish and proofreadings and revisions of Finnish texts.

In addition to doing practical translation and proofreading, I have also done research into texts and reading comprehension and participated in international comparative assessments. I have, for example, studied the linguistic and structural factors that make texts easy or difficult to understand (Arffman & Brunell, 1989) and the idiosyncracies of

Finnish and their impact on reading comprehension (Arffman, in press). I have, furthermore, been engaged in two international reading literacy studies: PISA (from 2000 to 2004 and again from 2007 onwards), where I have worked as one of the translators in the Finnish translation team – not, however, when the texts for PISA 2000, the data of the present study, were translated; and the International Adult Literacy Survey (IALS; in the year 2000). And finally, I have been a member of an international expert group developing the translation and adaptation of international assessments.

While my work in PISA is undoubtedly an asset in that it is one of the factors which has made me cognitively more qualified to do the research and hence increased my credibility, it might, however, also be an liability and decrease my credibility: it might, most specifically, raise doubts about my neutrality, my being predisposed and biased in favour of PISA, anxious to substantiate the quality of the translations made and the validity of assessments conducted in PISA. Suspicions may likewise be evoked by my being a Finn and therefore supposedly eager to attest to the supremacy of Finnish readers. At this point, however, it should be remembered, firstly, that for the majority of the time that I actually did this research I was not engaged in PISA and did not expect to be in the future. Secondly and more importantly, as a researcher, I share the view that each researcher is primarily committed, not to any organisation or nationality, but to seeking "honest, meaningful, credible and empirically supported findings" (Patton, 2002, p. 51). Thirdly, the whole idea of my study was to look at the problems faced in translating international assessments and to develop their translation work. This in itself entails admitting that problems have existed and that there is still room for improvement. Denying this would not help those conducting international reading literacy studies to improve their translations and to increase the validity of the assessments. And finally, being biased would be detrimental to me too, because it would inevitably show through the analysis and would thereby undermine not only the credibility of this study but also my credibility as a researcher.

7.5.2   Rigorous methods

In addition to the credibility of the researcher, the trustworthiness and transferability of qualitative research is also dependent on the data selected and the methods used to analyse the data (Patton, 2002, p. 553). In *collecting and selecting the data* – the context and texts – of the study, therefore, special attention was paid to its *theory-connectedness* (Silverman, 2001, pp. 251–252; see also Mason, 1996, pp. 93–94; Miles & Huberman,

1994, pp. 278–279) and *representativeness* (Miles & Huberman, 1994, pp. 263–265), which both contribute to a greater trustworthiness, transferability and extrapolation of study findings (Patton, 2002, p. 584). The PISA 2000 reading literacy test, for example, was chosen as the context of the study, because it was theoretically the most purposeful choice (Lincoln & Guba, 1985, p. 40; Silverman, 2001, pp. 251–252). The texts analysed in the study, in addition, were not only typical representatives of their text types – and hence proximally similar to most other texts – but also represented maximally heterogeneous or extreme text types (Patton, 2002, pp. 581–584). The representativeness of the data, moreover, was increased by the number of the texts being not one but three (Miles & Huberman, 1994, pp. 263–265).

Apart from selecting theoretically purposeful and representative data, however, care was also taken to make the analysis not only *systematic* (Patton, 2002, p. 552; Silverman, 2001, p. 222), detailed and step-by-step, covering, for example, all linguistic levels from single letters to context, discourse and culture, but also strongly *grounded in theory* and previous research (Miles & Huberman, 1994, pp. 278–279; Silverman, 2001, p. 222), especially in the fields of translation theory, contrastive linguistics and cognitive theories of reading. The analysis, moreover, was supported by *thick* (Denzin, 1989, p. 83) *verbatim evidence* (Seale, 1999, p. 148; see also Patton, 2002, p. 40) from the texts and complemented by quantitative analyses – *triangulation* being one of the best ways of adding to the trustworthiness and transferability of study findings (Denzin, 1978, pp. 294–304).

And finally, to further increase the trustworthiness and transferability of the study, an *accurate, explicit and comprehensive description* has been provided of the data collection procedures, the data and the methods used in analysing the data (Miles & Huberman, 1994, p. 278).

CHAPTER 8

Analysis

In the three texts analysed, six main categories of equivalence problems were found: problems related to language-specific differences in grammar, problems having to do with differences in writing systems, problems associated with differences in meaning, problems concerning differences between cultures, problems related to the strategies used and choices made by the translators, and problems linked with editing.

8.1 Problems related to language-specific differences in grammar

A great number of the equivalence problems had their roots in the two languages belonging to different, unrelated language families, English to the Indo-European and Finnish to the Finno-Ugric language family. The languages thus differ considerably in grammar and conventions, and often there was nothing the translators could do to make the source and target texts fully equivalent. This was certainly true for the three major grammatical areas around which the problems seemed to centre and where the two languages differ significantly: word structure and length, syntactic reduction, and reference.

8.1.1 Word structure and word length

The English and Finnish texts differed, first of all, in that the words in the Finnish texts tended to be morphologically more complex than those in the English texts: they typically contained more information and were longer than their English counterparts. Consider examples (1)-(3) (with the composition of the Finnish words given in parentheses). Example (1) is taken from Text 1, example (2) from Text 3, and example (3) from Text 2:

(1)   of … sports professionals

ammattiurhelijoiden
(*ammatti/urheili/jo/i/den*; 2 stems + der. suff. forming ag. nouns + pl. suff. + gen. suff.; 8 syllables)

(2)   drinking water systems

juomavesijärjestelmiä
(*juoma/vesi/järjestelm/i/ä*; 3 stems + pl. suff. + part. suff.; 9 syllables)

(3)   with no warning

äkkiarvaamatta
(*äkki/arvaa/ma/tta*; 2 stems + 3rd infinitive suff. + abessive suff.; 7 syllables)

The basic reason for the difference is that the two languages represent two morphologically distinct language types. Hence, whereas English as a strongly analytic language mostly conveys grammatical meanings by free morphemes (e.g. *of* and *with no* to indicate possession and negative manner in examples 1 and 3 respectively), Finnish as a synthetic language typically resorts to bound morphemes affixed to word stems (-*den* and -*matta*). Finnish also readily adds diverse derivative suffixes (e.g. the agentive suffix -*jo*- in example 1) to these same stems. Moreover, Finnish compounds, which may consist of several words and are never spaced (e.g. *juomavesijärjestelmiä* in example 2, made up of three words), are typically longer than English compounds.

The problem with the greater word length as well as the larger amount of information packed into and towards the end of the words in the Finnish texts is that the Finnish texts may end up being slightly more difficult to read and understand than the English ones, at least for some Finnish readers. Long words with considerable amounts of information, after all, are known to take longer to decode (see Chall, 1958;

Chall & Dale, 1995; Klare, 1963), and hence less time and capacity is left for actually comprehending the text (e.g. LaBerge & Samuels, 1974; Samuels, 1994a, 1994b).

Besides, with long words where meaning units concentrate towards the end of the words, meaning relations may not be as easily distinguishable, transparent and explicit as when expressed by free morphemes. In example (3) above, for instance, the Finnish third infinitive suffix in the abessive case *-matta* occurring as the final element in a long word and used to signal the relation of negative manner may be much more likely to go unnoticed than the corresponding free morphemes *with no* in the English text. Working out the meaning relations conveyed by the Finnish bound morphemes "lost" in the long words, in other words, may require more inferencing from Finnish readers and complicate their understanding of the text (Kemper, 1983; Kintsch & van Dijk, 1978), the end result probably again being to detract from equivalence of difficulty. Given, however, that most Finnish 15-year-olds are fairly automatic decoders, both the above problems may be assumed to be mostly restricted to the least skilled readers (Anderson & Davison, 1988; Wiio, 1968), who for some reason, such as dyslexia or immigrant background, for instance, are slow or inaccurate decoders.

Generally speaking, in comparison with the English words, the length of and the amount of information contained in the Finnish words in the three texts remained within reasonable limits. This was especially true for Text 2, the narrative text, where, as is often the case, the words were clearly shortest. The Finnish narrative contained only 13 words with six or more syllables (0.8% of the total number of words in the text). Of the 13 words, 11 had six syllables and two seven syllables. In Text 3, the non-continuous text, the number of words with six or more syllables was five (approximately 2.6% of the words), with three of these consisting of six syllables and two of nine syllables. It is important to note, however, that in this text, the words only occurred in short phrases or clauses, never in long sentences. The problem, then, seemed to apply mostly to Text 1, the expository text, where the number of words with six or more syllables was 16 (approximately 4.1% of the words), eight of these made up of six syllables, six of seven syllables and two of eight syllables. Even in this text, however, the problem was largely moderated by the fact that the words in the English text were also somewhat longer than is normally the case in popular English writing. All in all, the problem appeared to be more acute in the non-literary than in the literary texts.

8.1.2   Syntactic reduction

A second major grammatical problem was syntactic reduction. Even though English and Finnish both have ways of compressing information, these differ greatly between the languages, not only in form but also in, for instance, the amount and order of the information presented and in the consequences they have on the textual level. In this study, problems were caused by compact noun phrases, reduced subordinate clauses and irregular sentences in particular.

8.1.2.1 Compact noun phrases

The first syntactically reduced structure that caused problems in this study was the compact noun phrase. Though typical in English when condensing information in, for instance, technical style (Quirk et al., 1985, p. 1331), compact noun phrases do not exist in Finnish. A few such noun phrases were found in the English version of Text 3 in particular (two of them in examples 4 and 5):

(4)   Gravity feed drinking water systems

Painovoimaan perustuvia juomavesi-järjestelmiä
('gravity-based drinking water sys-tems')

(5)   PLAN International Program Results Financial Year 1996

PLAN International -ohjelman tulokset tilivuonna 1996
(*'PLAN International program's results in the financial year 1996')

In example (4), the noun phrase in the English version consists of five nouns, while in example (5), there are two successive noun phrases, the first made up of four nouns (*PLAN International Program Results*) and the second of two nouns plus one numeral (*Financial Year 1996*). In the Finnish text, because of compounding, the number of words in the corresponding noun phrases is smaller (3 in example 4, and 4 plus 2 in example 5). As a consequence, the words in the Finnish text are also longer (cf. *juomavesijärjestelmiä* with *drinking water systems*, in example 4), which, as we have seen (see pp. 121–122), may be expected to add to the difficulty of the Finnish text for some readers.

What seems to be even more important, however, is that in the English text no function words, such as conjunctions or prepositions, occur. Hence, the phrases are

extremely dense, with the meaning relations between the words left totally unsettled and implicit. In the Finnish texts, on the other hand, the relations have to be stated explicitly: in example (4) it is thus made clear that the drinking water system is one based on gravity, and in example (5) that the results concern a programme called PLAN International and are for the year 1996. As a result of this greater transparency and explicitness of meaning relations in the Finnish text, less inferencing is probably required of Finnish readers, which, in turn, may be hypothesised to make their understanding of the text slightly easier (Kemper, 1983; Kintsch & van Dijk, 1978). The Finnish text, in other words, is not fully equivalent in difficulty to the English text.

In the three texts analysed, four compact noun phrases occurred. Three of these were in the non-continuous text (Text 3), and one, a comparatively straightforward phrase (*Sports Medicine Centre*), closely equivalent to its Finnish counterpart (*urheilulääketieteen keskus*), in the expository text (Text 1). The problem was thus clearly linked with non-literariness and, even more specifically, with non-continuity, table format and limited space.

A further consequence of the replacement of the compact noun phrases by less dense and more complete phrases in the non-continuous text was a slight shift away from connotative equivalence. Specifically, the less compact language in the Finnish text slightly reduced the learnedness and formality of the Finnish table (Saukkonen, 1982, 1984) as compared to the more compact and bureaucratic English text (see Biber, 1988, 1989). This, in turn, may have had a positive effect on the degree of interestingness of the Finnish text, because informality often seems to be linked with greater appeal, which again typically contributes to improved comprehension (Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991).

8.1.2.2 Reduced subordinate clauses

Compared to the problems caused by compact noun phrases, those originating in reduced subordinate clauses were much more numerous and widespread. Reduced subordinate clauses, non-finite and verbless, exist in both English and Finnish. Yet, the morphological properties as well as the grammatical rules and conventions governing the use of these clauses differ considerably between the languages. Therefore, their translation as full formal equivalents is often impossible. Close formal equivalents

generally have to be used instead, which however, often involve changes in, for instance, density, explicitness, word order and even style.

Adverbial clauses. This was true of, for instance, reduced adverbial clauses introduced in the English texts by conjunctions or prepositions. When these were translated into Finnish as reduced clauses, as was usually the case, with only two such clauses rendered into Finnish as finite clauses, they became even more compact. Consider examples (6)-(9), examples (6) and (9) taken from Text 1 and examples (7) and (8) from Text 2:

(6)   … particularly **when** *tired*, players run the risk…

… etenkin *väsyne**inä*** pelaajat ovat vaarassa…
(*'… particularly *tired+essive* players run the risk…')

(7)   ***After** waiting* a long while…

*Odote**ttua**an* pitkän tovin…
(*'W*ait+part. participle passive in the partitive case* a long while…')

(8)   Outside the animal paused **to** *rake* his claws across the rusted outer screen.

Ulkopuolella eläin seisahtui *haro**maan*** kynsillään ruostunutta verkko-ovea.
(*'Outside the animal paused *rake+3rd infinitive in the illative* with its claws the rusted door screen.')

(9)   ***To** avoid* minor but painful conditions such as blisters or even splits or athlete's foot (fungal infections), the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in.

Vähäisten mutta kivuliaiden vaivojen, kuten rakkojen tai jopa haavaumien tai "urheilijan jalan" (sienitulehduksien) *välttämis**eksi*** kengän täytyy sallia hien haihtuminen ja estää ulkopuolista kosteutta pääsemästä sisään.
(*'Minor but painful conditions, such as blisters or even splits or "athlete's foot" (fungal infections) *avoid+translative* the shoe must allow evaporation of perspiration and prevent outside dampness from getting in.')

The greater compactness of the Finnish reduced clauses in the examples is basically due to the difference, already mentioned above, between the languages in inflectional morphology (see p. 121). Hence, whereas the meaning relations of time in the English versions of examples (6) and (7) are signalled expressly by free morphemes, that is, by the conjunction *when* and the preposition *after* respectively, and the relations of purpose in examples (8) and (9) likewise by the preposition *to*, in the Finnish translations the same relations are indicated by suffixes, which moreover are agglutinated to the end of their respective heads: in example (6) by the essive ending *-nä*, in example (7) by the past participle passive ending inflected in the partitive case *-ttua-*, and in examples (8) and (9) by the translative ending *-ksi* and the third infinitive ending inflected in the illative case *-maan* respectively.

This morphologically based difference seems to have several important consequences. The first is that the meaning relations in the Finnish sentences appear to be slightly less easily discernible and less explicit than those in the English sentences. As such, they may also be hypothesised to be slightly less straightforward and hence more difficult to work out, especially for those whose reading skills are deficient (Kemper, 1983; Kintsch & van Dijk, 1978).

A second consequence is that the individual meanings of the Finnish bound morphemes do not always seem quite as transparent and pregnant as those of the English free morphemes. In example (8), for instance, the English *to* appears to imply purpose or even intention in a way the less specified Finnish *-maan* fails to do. Partly owing to this tiny difference, again, a somewhat different picture seems to be given at this point of the story of the panther, one of the two main characters of the story, the one in the English text appearing slightly more threatening than the one in the Finnish text. The description of the panther, in turn, is important for interpreting the changing states of mind and reactions of the woman, the other main character of the story – vacillating as they do between fear and pity – as well as the subtle relationship between the panther and the woman. Because of the difference, then, there might be a slight disparity in how the relationship and the entire text are interpreted by English and Finnish readers.

Still a third consequence, restricted to example (9), has to do with word order. In example (9), the sentence starts with a reduced clause of purpose, which in the English version consists of a verb (*to avoid*) followed by its object (*minor but painful conditions such as blisters or even splits or athlete's foot ([fungal infections]*). In Finnish, however, reduced clauses of purpose are made up of nouns (Hakulinen & Karlsson, 1988, pp. 393–

395; Ikola 1991, p. 168; Vilkuna, 1996, pp. 199–201). If these nouns (e.g. *välttämiseksi* in example 9), moreover, have modifiers, they are, in line with the Finnish preference for premodifiaction, placed before the noun (e.g. *vähäisten mutta kivuliaiden vaivojen, kuten rakkojen tai jopa haavaumien tai "urheilijan jalan" [sienitulehduksien]*). In example (9), the head noun is accordingly preceded by no fewer than 13 words.

It seems evident that in this case English and Finnish readers are in an unequal position. In the English sentence, the early mention of the head word may be expected to make it simple for the readers to locate the main information, whereas in the Finnish version, where the head word occurs as the final element in the left-branching noun phrase, the main information more easily gets lost amid all the other, less important information. Finnish readers, furthermore, have to keep all the secondary information in their short-term memory before they finally get to the main information. Extra demands are thus made on the memory capacity of Finnish readers, which, again, is likely to complicate their reading comprehension. (Anderson & Davison, 1988; Bever & Townsend, 1979; Kemper, 1987; Nida & Taber, 1969; Schlesinger, 1968; Yngve, 1960.)

There was, however, only one such clause in the three texts. Quantitatively speaking, the problem was thus of little importance. Sometimes, however, even sporadic occurrences may be consequential. This might well be the case with, for instance, example (9), which was directly addressed in one of the questions. The question, more specifically, started out by presenting the sentence in two parts:

> "To avoid minor but painful conditions such as blisters or even splits or athlete's foot (fungal infections), …"

> "… the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in."

The actual question, then, was what the relationship between the two parts of the sentence was. And the answer, of course, was that the first part contained a problem to which the second part provided the solution. In the Finnish text, however, because of the heavy premodification and also because of the less distinguishable and explicit marking (*-ksi*) of the relationship, the relation may not have been as transparent and easy to infer as in the English text. The question, in other words, may have been more difficult for Finnish readers – and consequently ill suited for an international reading literacy test.

The above difference in word order, however, further led to a slight shift in thematic patterning and textual equivalence. In the English version of example (9), where the sentence begins with the verb phrase *to avoid* which is then followed by a noun phrase specifying what is to be avoided, the sentence is clearly about "avoiding". In the Finnish version, on the other hand, the sentence starts with a long and multilayered noun phrase which in its first part speaks wordily about *painful conditions*; *välttämiseksi* 'to avoid' is only given as the very last word in the whole long subordinate clause. The Finnish sentence accordingly, instead of focussing on ways to avoid the *painful conditions*, centres on the conditions themselves.

This, in turn, means that the thematic patterning of the Finnish translation is not as fully in line with the macro structure of the entire text as is that of the English text. The macro structure of the text can be roughly divided into two parts, the first (the first two paragraphs, the ingress excluded) consisting of a description of certain injuries and the second (the last six paragraphs) of suggestions as to how to prevent – or avoid – these injuries. In this structure, example (9), which appears towards the end of the text, being the opening sentence of the last paragraph, clearly falls within the second part focussing on suggestions. In the English text, thanks to the thematic structure of example (9), with *to avoid* in theme position, this overall structure is nicely and overtly followed. In the Finnish text, however, where the thematic focus in example (9) seems to be on injuries instead, the patterning is less transparent. The thematic and textual structure of the Finnish text, therefore, may be expected to make greater demands on readers.

The signalling of text structure in the Finnish text, in other words, is not as transparent as it is in the English text, the Finnish text consequently being somewhat less coherent than the English text. As a result, slightly more might be required of the Finnish reader to discover and construct the macro structure of the text and to comprehend the text (see e.g. Halliday & Hasan, 1976; Kintsch & van Dijk, 1978), the textual non-equivalence thus possibly resulting even in non-equivalence of difficulty. This effect, however, probably remains only partial, because in this text text structure is also signalled by subheadings.

Reduced adverbial clauses introduced by subordinators and translated into Finnish as reduced clauses were found in their greatest numbers (12) in the narrative text (Text 2). Two such clauses, furthermore, appeared in the expository text (Text 1) but none in the non-continuous text (Text 3). The problem thus seemed to increase with the literariness of the text, which however, may have been at least partly because of the

greater length of the text. At the same time, the problem, conversely, also decreased with the non-continuity and/or brevity of the text, the non-continuous text being the shortest of the three texts.

Reduced adverbial clauses introduced by function words, when translated into Finnish as reduced clauses, thus tended to end up slightly more compact and hence somewhat less explicit and probably also somewhat harder to understand than the corresponding English clauses. However, in the two cases, both in Text 1, where the reduced clause was replaced in the Finnish text by a finite clause (e.g. *It must support the foot, and in particular the ankle joint,* **to avoid** *sprains, swelling and other problems, which may even affect the knee* translated into Finnish as *Sen täytyy tukea jalkaa ja erityisesti nilkkaniveltä,* **jotta vältettäisiin** *nyrjähdykset, turvotukset ja muut ongelmat, jotka saattavat vaikuttaa myös polveen*), the English and Finnish clauses seemed roughly equivalent in compactness, explicitness and difficulty.

A somewhat different picture emerged in the case of adverbial clauses not introduced by subordinators, which differed from those introduced by subordinators in that they often did have formal equivalents in Finnish. When they did, the Finnish translation was almost invariably this formal equivalent. For example, English adverbial non-finite *ing*-participles (e.g. **Staring** *into the dark, she eased back on the bed*…) were often rendered into Finnish as non-finite second infinitive instructives (**Tuijottaen** *pimeyteen hän hivuttautui taaksepäin vuoteellaan*…), which are largely equivalent to their English counterparts in, among other things, the amount of information conveyed and their explicitness.

There were, however, quite a number of cases where translation by a reduced clause was not possible. In these cases, the clauses had to be replaced in Finnish by more complete clauses, as illustrated by examples (10)–(12), all from Text 2:

(10) The cat was scratching on the wall again, **rattling** the window by the door.

Puuma raapi taas seinää **niin, että** *oven viessä oleva ikkuna* **helisi**.
(*'The panther scratched the wall again, *so that by the door being the window rattled*.')

(11) **Easing** *into the kitchen*, she made a fire with the remaining sticks of wood.

Hän **hivuttautui** *keittiöön* ja teki tulen vähistä jäljellä olevista polttopuun rippeistä.

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(*'*S/he eased into the kitchen* and made a fire with the few remaining sticks of firewood.')

(12) **Taking** *down the remains of a smoked ham from the ceiling*, she cut thick slices of the brownish red meat and placed them in a skillet.

*Hän **otti** katosta roikkuvan palvikinkun lopun*, leikkasi ruskehtavan punaisesta lihasta paksuja siivuja ja laittoi ne paistinpannuun.
(*'*S/he took from the ceiling hanging remains of a smoked ham*, cut thick slices of the brownish red meat and placed them in a skillet.')

In examples (10)–(12), the subordinate clauses (in italics) in the English sentences are all reduced clauses, consisting of non-finite *ing*-participles. In the corresponding Finnish sentences, however, the reduced clauses have all been turned into finite clauses. The basic reason for the change is that the common Finnish equivalents of the English *ing*-participle, the temporal construction (e.g. *hivuttautuessaan keittiöön* 'while easing into the kitchen') and the second infinitive instructive (*hivuttautuen keittiöön* 'by easing into the kitchen'), are more limited in their use: unlike their English counterpart, they only refer to simultaneous action, and the latter, moreover, to manner. In all the above examples, however, the action in the English *ing*-clause seems to be either posterior or anterior to that of the main clause. In example (10), the rattling of the window appears to be the result of and consequently posterior to the panther's scratching on the wall, and in examples (11) and (12) the woman's going into the kitchen and taking down the remains of the ham clearly precede the making of the fire and of the food, respectively. In none of the examples, furthermore, does the *ing*-clause describe the manner in which the finite verb is carried out. The second infinitive instructive cannot therefore be used in the Finnish sentences and more complete finite subordinate clauses have to be employed instead.

As a consequence of the change from reduced to finite clauses, the Finnish sentences may be slightly easier to understand than the English originals. In example (10), this appears to be largely because in the Finnish sentence, where the connective *niin että* 'so that' is used, the relation of result is indicated explicitly and unambiguously, whereas in the English sentence the relation is left totally open (Kemper, 1983; Kintsch & van Dijk, 1978). In the English sentence, the grammatical meaning of the *ing*-participle, which in itself is unspecified and says nothing of the logical relationship of the subordinate clause to the matrix clause, has to be inferred by the reader.

In examples (11) and (12), again, the greater ease of the Finnish sentences seems to be mostly due to word order, and more precisely, to the absence of left-branching structures. Specifically, whereas in the English versions the sentences start with subordinate clauses and hence contain left-branching structures, in the Finnish versions, where the reduced clauses have been turned into finite clauses, the sentence-initial elements are main clauses. Unlike Finnish readers, therefore, English readers have extra information, the preposed clauses, to hold in their short-term memory until the main clause is found, which, in turn, puts an extra load on their memory capacity and comprehension of the text (Anderson & Davison, 1988; Bever & Townsend, 1979; Kemper, 1987; Nida & Taber, 1969; Schlesinger, 1968; Yngve, 1960).

In this study, the total number of reduced adverbial clauses that were not introduced by function words and that were translated into Finnish as finite clauses was 16, five of them occurring sentence initially. All these appeared in Text 2, the problem thus being restricted exclusively to the literary or narrative text. While this might be partly due to the greater length of the narrative text, it is probably even more because *ing*-participles, a common type of adverbial reduced clauses, is particularly characteristic in narrative texts (Biber, 1988, 1989).

As a further consequence of the large number of reduced clauses rendered into Finnish as finite clauses in the narrative text, the style of the narrative also underwent certain changes, leading to shifts in formal-aesthetic equivalence. One of these was that whereas the English text seems to deliberately delay or even withhold information, preferring sentence-initial dependent clauses (as in examples 11 and 12) and vague and ambiguous relations (as in example 10), thereby underlining the complexity, intricacy and ambivalence of the relationship between the woman and the panther, in the Finnish text, where the preposed clauses have been done away with and where more informative finite clauses are used, the atmosphere and the relationship appear less complicated and less indeterminate. The delicate relationship between the woman and the panther, central to the interpretation of the whole story, is thus accentuated more in the English text, where it is reflected even in the syntax.

As another consequence of the great number of finite clauses replacing reduced clauses, including those in sentence-initial position, the Finnish text also seems to lose part of its rhetorical force, getting stylistically somewhat simpler and flatter than the English original. While this in itself may be significant, given that aesthetic considerations play an important part in literary texts, it furthermore raises the question as to whether or to what extent the stylistic simplification has a bearing on, for example,

the interestingness of the text, and hence, on the motivation of readers to read it – which are both known to have a positive effect on text comprehension (Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991).

The converse, that is, English finite adverbial clauses translated into Finnish as reduced clauses, was markedly rarer. In every case, clauses of time were replaced in Finnish by the non-finite temporal construction (examples 13 and 14, both from Text 2):

(13)   **While** *she was cooking her food*, she almost forgot about the cat until it whined.

*Ruokaa laitta**essaan*** hän melkein unohti puuman, kunnes se vinkaisi. (*'*The food cook+2nd infinitive inessive* s/he almost forgot about the panther, until it whined.')

(14)   **After** *she had eaten*, she went to the bed again and took up the rifle.

Syötyään hän meni taas vuoteensa luo ja tarttui kivääriin. (*'*Eat+part participle passive in the partitive case* s/he went to his/her bed again and took up the rifle.')

It is important to note that contrary to what was the case with the reduced adverbial clauses, which had to be rendered into Finnish as finite clauses because of grammatical differences between the languages, these changes were not necessitated by language-systemic differences. Rather, there were always, roughly speaking, two alternatives for rendering these clauses into Finnish – either as a finite clause, largely equivalent to the English original, or as a temporal construction – the main reason for actually choosing the latter probably being a desire to conform to natural usage. In example (13), moreover, a further incentive may have been the presence of the progressive form *cooking* in the English sentence, for which the Finnish second infinitive inessive employed in the temporal construction is often a good equivalent.

Examples (13) and (14) are very much like examples (6)-(9). Here too the English subordinate clauses, which this time, however, are finite, use explicit, individual words, the conjunction *while* and the preposition *after*, to specify the relations of simultaneous and posterior time respectively. In the Finnish sentences, on the other hand, the time relations are expressed by endings, which are further followed by possessive suffixes (*-an* and *-än*): in example (13) the simultaneity of the woman's cooking and almost

forgetting the panther is indicated by the second infinitive inessive *-ssa-* and in example (14) her going to the bed occurring subsequent to her eating by the past participle passive inflected in the partitive case *-tyä-*.

As in examples (6)-(9), then, the relations of time in examples (13) and (14) likewise seem somewhat less transparent and less explicit in the Finnish reduced clauses than in the English finite ones. As a consequence, they might also be hypothesised to be slightly less straightforward and more complicated to work out than those in the English sentences.

In six cases in this study, finite adverbial clauses were translated into Finnish as reduced clauses. All these cases occurred, again, in Text 2, the problem accordingly being limited solely to the narrative and literary text, which was not only the longest of the three texts but, even more importantly, contained a wealth of time references and present participles. Contrary to what was the case with the 16 reduced clauses turned in Finnish into finite clauses above, these six clauses thus seemed to diminish and thereby partly compensate for the relative difficulty and stylistic simplicity of the Finnish narrative.

To sum up, as a result of grammatical differences between the languages, the number of reduced adverbial clauses was markedly greater in the English texts. This was the case in the narrative text in particular, where a considerable number of the reduced clauses had to be translated into Finnish as more complete clauses; a small disparity was also found in the expository text but not in the non-continuous text. As a result, the Finnish narrative, in particular, seemed to end up slightly easier to understand than the English one. At the same time, the Finnish narrative also lost part of its dramatic and aesthetic force, flattening somewhat stylistically, which, again, might have a negative effect on reading comprehension. When on the other hand, both languages used a reduced clause, the Finnish clauses appeared to be slightly harder to understand than the English originals, not only on the micro level but, even more interestingly, also thematically and textually. And finally, no cases could be found in the texts where finite clauses, for language-specific reasons, could not have been translated into Finnish as comparable finite clauses. In the few cases, however, where the clauses were for the sake of, for example, idiomaticity replaced in Finnish by reduced clauses, the result seemed to be a small increase in difficulty. The analysis further revealed a question type that is ill-suited for international reading literacy studies: questions focussing on the form and surface structure of language.

Reduced postmodifiers. If translation of reduced adverbial clauses brought about a variety of problems, this seemed to be even more true of reduced clauses functioning as postmodifiers. These have no formal equivalents in Finnish, where reduced clauses such as participles typically function as premodifiers. Therefore, to render these clauses into Finnish, the translator usually has to choose between two alternatives: a postmodifying finite clause or a premodifying non-finite clause.

The first of these, which with a few exceptions is nearly always usable and sometimes even the only possibility, concentrates on keeping the word order unchanged. At the same time, however, the non-finiteness of the clause has to be sacrificed and the reduced clause has to be replaced by a more complete finite clause. Consider examples (15)-(18), example (15) taken from Text 3, example (16) from Text 2 and examples (17) and (18) from Text 1:

(15) Houses *newly **served by** electrification project*

Talot, ***jotka on liitetty*** *sähköverkkoon* ('Houses *that have been connected to an electrical network*')

(16) … a big cat, ***deposited by** the uprooted tree…*

… *iso kissaeläin,* ***jonka*** *… juuriltaan irronnut puu **oli tuonut mukanaan**…* ('… a big cat *that the uprooted tree had brought with it…*')

(17) those ***suffered by** volleyball players and basketball players…*

sellaisia, ***joille*** *… lentopallon ja koripallon pelaajat **altistuvat**…* (***'such *as … volleyball players and basketball players expose themselves to*')

(18) *… a deformity **caused by** shoes **with** soles and ankle parts that are too flexible.*

epämuodostuma, ***joka aiheutuu** kengistä,* ***joiden*** *pohjat ja nilkkaosat ovat liian joustavat.* ('a deformity *that results from shoes whose soles and ankle parts* are too flexible.')

In examples (15)–(17) above, the reduced clauses in the English versions are all relative clauses consisting of past participles, which, as is typical in English, follow their respective heads. In examples (15)–(17), the past participles, *served, deposited* and *suffered*, which by their very nature are inherently passive, are further followed by an agent (*by electrification project*, *by the uprooted tree* and *by volleyball players and basketball*

players… respectively). And in example (18), there are two successive reduced clauses, *caused by shoes* and *with soles and ankle parts*, (followed by a third, finite clause, *that are too flexible*), the first of which is a participial clause and the second a verbless, prepositional phrase.

However, when translated into Finnish, where participials normally precede the head, where the agent passive is missing, and where prepositions are relatively rare, all the clauses have been turned into active finite subordinate clauses. In examples (15) and (16), the translation could also have been a premodifying non-finite clause. Yet, in both examples the postmodifying finite clause does seem a better alternative, because with the premodifying structure the modifiers would have been relatively heavy (with two and five words respectively).

In examples (17) and (18), however, only the postmodifying finite clause is possible. In example (17) this is because the head word postmodified by the participle is not a noun but a depronominal adjective (*sellainen*, corresponding to the English demonstrative pronoun *those*) and because in terms of deep structure the noun phrase or presupposed relative pronoun (*joille* 'to whom') in the embedded clause (*lentopallon ja koripallon pelaajat altistuvat x* 'volleyball players and basketball players expose themselves to x') does not function as a subject or object of a passive construction but as an adverbial. In example (18), on the other hand, the use of the postmodifying finite clause is dictated, not by grammar as in example (17), but by good usage. The reasons, more specifically, are two-fold. First, the modifier in example (18) is long and multilayered and consists of three consecutive embeddings (*x aiheutuu kengistä, kengissä on pohjat ja nilkkaosat, pohjat ja nilkkaosat ovat liian joustavat* 'x results from shoes, shoes have soles and ankle parts, soles and ankle parts are too flexible'). And second, in its deep structure the modifier denotes possession, which in Finnish is indicated by the possessive structure (*kengissä **on** pohjat ja nilkkaosat* 'shoes **have** soles and ankle parts'). However, the structure is impersonal and therefore lacks an agent and also the possibility of occurring in the non-finite agent construction.

Thanks to their finiteness, the Finnish sentences may perhaps be hypothesised to be slightly easier to comprehend than their English non-finite counterparts. The English reduced clauses, after all, which lack tense markers and relative pronouns, are not only less explicit but also more compact than the Finnish finite clauses. They thus add to the density of the English texts (see Halliday, 1987; Kemper, 1983; Kintsch & Vipond, 1979) and require English readers to process a lot of information

simultaneously in a short time and to fill in a number of slots while interpreting the texts, thereby burdening their processing capacity (Kemper, 1983).

However, an additional problem may sometimes arise when several subordinate clauses occur in succession. Hence, whereas the English sentence in example (18) contains two completely different reduced clauses following each other, one a past participial clause (*caused by shoes*) and the other a prepositional phrase (*with soles and ankle parts*…), in the Finnish sentence two largely similar consecutive relative clauses (***joka*** *aiheutuu kengistä* and ***joiden*** *pohjat ja nilkkaosat*…) are used. Normally, however, successions such as these, in addition to sometimes even being confusing, are considered dull, clumsy and against recommended usage. Knowledge of this, in turn, while perhaps not as such directly affecting the relative difficulty of the English and Finnish texts, might have an impact on how Finnish readers react to the text. It might perhaps arouse negative feelings in some Finnish readers, possibly luring them into paying undue attention to the "oddity" of the sentence instead of concentrating on making meaning of it. Because of the undesirable Finnish syntax, in other words, a shift may take place in pragmatic equivalence, which might further have a slight negative effect on Finnish readers' understanding of the text. Quantitatively speaking, however, this effect remains relatively limited, because example (18) is the only occurrence of consecutive subordinate clauses of this type in the three texts.

In this study, altogether nine postmodifying reduced clauses were rendered into Finnish as comparable finite clauses. These were divided evenly between the three texts, three such clauses appearing in each text. However, given the widely differing length of the texts, the problem seemed greatest in the non-literary texts.

In these two texts replacing the postmodifying reduced clauses occurring in the Finnish versions with comparable finite clauses also seemed to lead to certain stylistic changes. In the first instance the past participles and passives used in the English texts added somewhat to the formality, technicality and impersonality of the texts (Biber, 1988, 1989; Quirk et al., 1985). At the same time they also brought the English texts somewhat closer to scientific and learned exposition, which are typically characterised by an abundance of past participles and passives (Biber, 1988, 1989; Quirk et al., 1985, pp. 166, 995), whereas the Finnish texts, thanks to their active finite clauses, remain closer to popular exposition (Ingo, 2000, pp. 173–175; Puurtinen, 1995; Saukkonen, 1982, 1984). A tiny shift, in other words, seems to have taken place in register and connotative equivalence. In the narrative text, the finite clauses also play a part in

making the Finnish text stylistically somewhat simpler and hence formal-aesthetically non-equivalent to the English narrative.

The other way of rendering English reduced clauses functioning as postmodifiers into Finnish is to use premodifying non-finite clauses. This strategy, in contrast to the previous one, makes it possible to preserve the non-finiteness of the clause; at the same time, however, significant changes have to be made to word order, as illustrated by example (19), from Text 2 (with the head word in italics):

(19)   *a piece of drift* lodged on its bluff   virran siihen tuoma ja joentörmään takertunut *ajopuu*
(*'a by the river brought and on the bluff lodged *driftwood*')

In example (19), the reduced clause in the English text is a participial clause, *lodged on its bluff*. The clause, moreover, is a postmodifier and consequently follows its head. In the Finnish text, the clause has been translated as two coordinated non-finite clauses, an agent construction (*virran siihen tuoma*) and a past participle construction (*joentörmään takertunut*).

What mainly differentiates the Finnish rendering from the English original is that the Finnish clauses, as is typical of Finnish reduced subordinate clauses, are premodifiers and accordingly precede their heads. In the Finnish clauses, the main information is thus preceded by secondary information. This may be expected to place an extra burden on the working memory of Finnish readers, thereby making their comprehension more difficult. (Anderson & Davison, 1988; Bever & Townsend, 1979; Kemper, 1987; Nida & Taber, 1969; Schlesinger, 1968; Yngve, 1960.)

Altogether, however, the number of postmodified reduced clauses translated in this study into Finnish as comparable premodifying clauses was relatively small, amounting to just six. Four of these appeared in the narrative text (Text 2) and two in the expository text (Text 1) with none in the non-continuous text (Text 3), the problem seemingly increasing with the literariness and length of the text.

Besides these six cases, however, there was yet another premodifying reduced clause in one Finnish text, Text 2. However, this clause differed from that discussed above in two respects. First, the English structure from which the clause was translated was not a reduced but a finite clause. And second, the change was not necessitated by grammatical reasons. Example (20) (with the finite clause and the corresponding

reduced clause shown in italics and the head noun further in bold), is the same sentence that has already been discussed in example (16); yet, this time the multilayered modification is considered in its entirety:

(20) … a big cat deposited by the uprooted *tree* *that had passed her*.

… iso kissaeläin, jonka *hänet ohittanut* juuriltaan irronnut **puu** oli tuonut mukanaan.
(*'… a big cat that the *her having passed* uprooted *tree* had brought with it'.)

Here the reason for turning the postmodifying finite clause, *that had passed her*, into a premodifying non-finite past participle construction, *jonka hänet ohittanut* '*'her having passed', seems to have been a desire to avoid using two similar relative clauses in succession (cf. example 18). Specifically, had the finite clause been translated as a finite clause, the Finnish rendering would have had to be *iso kissaeläin*, **jonka** *juuriltaan irronnut puu*, **joka** *oli ohittanut hänet, oli tuonut mukanaan* 'a big cat **that** the uprooted tree **that** had passed her had brought with it'. Yet, this would have been not only dull, clumsy and even naïve but also confusing, and hence the premodifying structure was chosen instead.

Due to the premodification structure, however, the Finnish noun phrase may, like the one above (example 19), be hypothesised to end up being slightly more demanding to process and understand than the corresponding English phrase. At the same time it also partly makes up for the relative difficulty of the English past participle structure (see example 16).

Stylistically, the Finnish premodifying structures may be surmised to be closer to the English reduced clauses than the postmodifying finite clauses. This is because Finnish non-finite clauses, like English reduced clauses, are generally identified with more premeditated, complex, learned and formal style than finite relative clauses, which typically prevail in more popular style (Saukkonen, 1982, 1984; see also Puurtinen, 1995). Thus, the two premodifying reduced structures used in the Finnish expository text add somewhat to the level of learnedness and formality of the text and thereby bring it stylistically and connotatively closer to the English original. The four premodifying structures in the Finnish narrative similarly help to make up for part of the stylistic simplicity and flattening of the text.

In sum, like reduced adverbial clauses, reduced modifiers were also more numerous in the English than in the Finnish texts. This time, however, the difference was clearly smaller. As an interesting additional finding, the analysis also indicated that successions of reduced structures easily lead to the escalation of translation and equivalence problems.

Taken together, the number of reduced clauses, whether adverbial or postmodifying, was greater in the English texts. Finite clauses, on the other hand, were more numerous in the Finnish texts (the differences, however, being practically insignificant in the expository text). This, in turn, besides contributing to greater ease and stylistic flattening in the Finnish narrative and non-continuous text, may also have brought about an unbalance in the Finnish texts between finite and reduced subordinate clauses and in this way violated Finnish text conventions. This is because in Finnish reduced clauses, such as participials, which are easy to inflect, are used very commonly. In certain genres and registers they are, in fact, more frequent than finite clauses and also more frequent than they are in English (Ingo, 2000, pp. 173–175). If this quantitative text convention is violated, that is, if the share of reduced clauses in relation to finite clauses in a text is too small, the text as a whole may be seem odd and unidiomatic. The text, in other words, runs against the expectations of the reader, which, in turn, may make the text less enjoyable and less easy to read and understand. The cure, then, would be to compensate for the obligatory loss of reduced clauses by translating some of the English finite clauses as reduced clauses. At the same time, also the relative ease and stylistic flattening of the Finnish texts would be made up for.

8.1.2.3 Irregular sentences

Still a third structure that caused problems in the study was irregular sentences. The problem, more specifically, had to do with the structure of Text 3, where each of the 27 subcategory entries in the table (see p. 106 and Appendix I) was an irregular, elliptical sentence consisting of a noun or noun phrase followed by a non-finite verb or verb phrase (Huddleston & Pullum, 2002, p. 22). Examples (21) and (22) below are from the beginning of the text; examples (23) and (24) are taken from the middle of the text, and examples (25) and (26) come from the end of the text (in the examples, the thematisised nouns and their Finnish equivalents are in italics):

(21)   *Health posts* built with 4 rooms or less   Rakennettu *terveysasemia*, 4 huonetta tai vähemmän
                                                        (*'[Having been] built *health posts*, 4 rooms or less')

(22)   *Children* given financial help with   Annettu *lapsille* rahallista apua
       health/dental treatment   terveyden- / hammashoitoon
                                                        (*'[Having been] given *children* financial help for health / dental treatment')

(23)   *School exercise books* bought/donated   *Koulun työkirjoja* ostettu / lahjoitettu
                                                        (*'*School exercise books* [having been] bought / donated')

(24)   *Adults* receiving training in literacy   *Aikuisia*, joiden lukutaitoa harjaannu-
       this financial year   tetaan tänä tilivuonna
                                                        (*'*Adults*, whose literacy is being trained this financial year')

(25)   *Latrines or toilets* dug/built   *Käymälöitä tai vessoja* kaivettu / rakennettu
                                                        (*'*Latrines or toilets* [having been] dug / built')

(26)   *Houses* newly served by electrification   *Talot*, jotka on liitetty sähköverkkoon
       project   (*'*Houses*, that have been connected to an electrical network')

In all the above examples – and throughout the entire text – the English entries are made up of a noun or noun phrase followed by a non-finite verb or verb phrase which may be interpreted either as a main clause with the auxiliary verb ellipted or as a head noun postmodified by a reduced relative clause. In all the cases, moreover, the entry starts with the noun or noun phrase. The structure of the English text is thus neat and coherent and as such pleasant and easy to follow and read.

However, in the Finnish text such neatness and consistency are not possible, because in Finnish there is no one structure that could be used in all the 27 entries. Instead, in the Finnish text three different renderings are given to the English structure. In the first five entries (illustrated by examples 21 and 22), the rendering is a verb-initial passive, with the objects following their respective verbs (e.g. *Rakennettu terveysasemia* and

Annettu lapsille rahallista apua terveyden- / hammashoitoon respectively). With the sixth entry, however, a change takes place (illustrated by examples 23 and 25), whereby the objects (e.g. *koulun työkirjoja* and *käymälöitä tai vessoja*) are moved to initial position. The change seems to have been motivated by a desire to avoid starting the entries with the slashed verb forms (e.g. *Ostettu / lahjoitettu* and *Rakennettu / ostettu*), which would also have moved the noun phrases to the end of the entries, contrary to what is the case in the English text. And in still another three entries (illustrated by examples 24 and 26), the rendering is a postmodifying finite subordinate clause. In examples (24) and (26), the passive structure would not have been possible, whereas in the remaining entry (the last entry in the table) it could have been used. The macro structure of the Finnish text, as a result, is not as coherent as that of the English text.

However, in addition to this, the information structure of the entries in the Finnish table is also problematic. In the first five entries, there is no problem. In these entries, the objects follow the verbs and new information is accordingly placed after the verb. In these entries, the given-new contract is thus respected and also the word order is unmarked. With the sixth entry, however, the situation changes. From this point on, the objects, and hence new information, occur in initial position. In the vast majority of the entries in the Finnish table, the information structure thus ends up violating the given-new contract, thereby making the word order marked. As a result, Finnish readers may find the entries slightly odd or awkward, which, in turn, may unduly distract their attention from making meaning of the text to speculating about the peculiar syntax. At the same time the style of the Finnish text also becomes more frozen and bureaucratic. Therefore, the Finnish text as a whole may not be quite as pleasant and easy to follow and read as the English text, suggesting that there may be a loss of pragmatic equivalence between the English and Finnish texts.

To add to the consistency of the Finnish text, the first five entries could have been rendered as object-initial passives. With this change, all the entries would have started with a noun phrase, as in the English text. At the same time, however, the word order in all the entries would also have been unconventional and marked, which on the other hand might perhaps not have stood out as clearly if all the entries had had the same word order. Nevertheless, even with this change, the table would still not have been completely consistent, with at least two of the entries (the 13th and 26th) showing divergent, postmodifying finite subordinate clause structure.

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8.1.3   Reference

The third major grammatical area which proved problematic in translation was reference. Reference was specifically alluded to in the instructions provided for translators, where it was recommended that reference chains be kept unchanged as far as possible (see Appendix II). Following the recommendation, however, was often impossible, because the reference systems differ significantly between the two languages. As a consequence, the English and Finnish texts were often not fully equivalent to each other in explicitness, difficulty and style.

8.1.3.1 Reference by personal pronouns

The texts differed, for one thing, in that at times when a pronoun was used in the English text it was not possible to use a comparable pronoun in the Finnish translation. Sometimes, instead, the pronoun was replaced by a noun, as in example (27), which is the first sentence of Text 2:

(27)   How many days, *she* wondered, had she sat like this, watching…

Montakohan päivää, *nainen* mietti, hän olikaan jo istunut tällä tavoin katsellen…
(*'How many days, *woman* wondered, had she sat like this, watching…')

In example (27), the basic reason for the change is a difference between the pronoun systems of the languages. Hence, whereas the pronoun *she* in the English text is sufficient to tell the reader that a female is being referred to, in the Finnish text the corresponding third person singular pronoun *hän* is not enough, because it is gender-neutral and makes no distinction between male and female. To make the reference clear and unambiguous, the Finnish text has to use a noun, *nainen* 'woman'.

However, the problem with the noun is that it is more explicit and informative than the original pronoun: in addition to specifying that the referent is female, as does the English *she*, used not only in the first sentence but also throughout the entire story, the noun also reveals that the female is human and adult. Thus, Finnish readers are provided at the very outset of the story with information that is never given explicitly to English readers. Therefore, more inferencing is required of English readers, which, in turn, may

be expected to slow down their reading and comprehending the text (Kintsch & van Dijk, 1978). The texts are not fully equivalent in difficulty.

In example (28), likewise from Text 2, a pronoun is also replaced with a noun. This time, however, the reason for the replacement has to do with cataphora and with the order of the elements of reference within the sentence:

(28)   She thought when she saw *it* she   *Talon* nähdessään hän arveli tietävänsä,
        knew whose *house* it was.   kenen *se* oli.
                                                (*'*House* seeing she thought her
                                                knowing whose *it* was.')

In the English sentence, the first reference is a cataphoric pronoun (*it*), which is then followed by the noun it refers to (*house*). In Finnish sentences, however, pronouns cannot precede the nouns they refer to; the noun, instead, has to be given first. In the Finnish translation, accordingly, the order of the references has been changed and the sentence starts with the noun (*talon*).

As a result, Finnish readers are told immediately what is referred to, whereas English readers have to wait till the end of the sentence until the referent is disclosed. Less information, in other words, is provided at the outset for English readers, who therefore have to rely more on less indirect cues and inferencing (Kintsch & van Dijk, 1978). At the same time, an extra burden is laid on their working memory by the greater amount of preposed secondary information contained in the English sentence. More may be assumed to be required of English readers to make meaning of the sentence.

In this study pronouns translated into Finnish as nouns were only found in Text 2, the narrative text. Even in this text, however, these translations were relatively rare, with the two above pronouns being the only translations of this type. Yet, the pronoun *she* (or its inflected form *her*) occurred repeatedly in Text 2, and in altogether nine cases, when there was a change of viewpoint and when the gender-neutral pronoun was accordingly felt to be too vague, it was replaced in Finnish by the noun *nainen* (or its inflected forms). Pronouns thus posed a problem in the narrative and literary text, the text type typically richest in pronouns, but not in the non-literary texts.

However, the problem was not limited to varying levels of difficulty alone but also affected style and formal-aesthetic equivalence. This is because the pronouns in the English text seem to serve a specific purpose: since they provide less information than the corresponding nouns, they leave more room for the imagination; at the same time they add to the personality of the text. In the Finnish text, by contrast, where the

pronouns have been replaced by nouns, somewhat less room is left for the imagination, and the style of the text is slightly more informative and impersonal. This, in turn, might have a slight negative effect on the interestingness of the Finnish text and on the motivation of Finnish readers to read it, thereby resulting in a shift in pragmatic equivalence and, ultimately, equivalence of difficulty (Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991).

A stylistic problem likewise arose in the two cases when in Text 2 a personal pronoun had to be translated into Finnish as a demonstrative pronoun (example 29):

(29)	The cat was not moving now. Maybe *he* had gone away.	Puuma ei kuulunut liikkuvan. Ehkä *se* oli lähtenyt. ('The panther was not moving. Maybe *it* had gone away.')

In the above example, the panther is referred to in the English text by the third person pronoun *he*. However, in the Finnish text a personal pronoun is not possible, because in Finnish these pronouns only refer to human correlates. Instead, the pronoun has to be turned into a demonstrative pronoun (*se* 'it'), which is used with non-human correlates.

However, the demonstrative pronoun lacks the personal and humane flavour of the personal pronoun and is more neutral and matter-of-fact. Hence, whereas the panther in the English text is presented more like a feeling creature, in the Finnish text it is more like an object, devoid of any feelings. The panther in the English text is thus more likely to evoke empathy, which in turn makes it easier for English readers to appreciate the woman's hovering between the two conflicting emotions so central in the story, pity and fear, and her subtle relationship with the panther. The English and Finnish texts, in other words, are not fully equivalent pragmatically. English and Finnish readers, moreover, are given different cues for interpreting the text. All this may further result in the texts being non-equivalent in difficulty.

8.1.3.2 Articles and the signalling of identifiability

Another problem that also applied to Text 2 was that the English and Finnish texts differed in how explicitly and unequivocally they signalled the definiteness and identifiability of referents and reference chains. Often the signalling was more explicit

in the English text. Consider example (30) (where the signalling of identifiability is illustrated by the term *rain* and where the serial numbers of the sentences are additionally given in parentheses):

(30) She could just faintly remember the beginning of *the rain* driving in across the swamp from the south and beating against the shell of her house… (S2)
Later, with *the rain* and darkness pressing in, she had heard a panther scream upriver… (S18)
The dark shifted down through *the* incessant *rain*, and, head on arm, she slept holding onto the bed… (S27)

Hän saattoi vain hämärästi muistaa *sateen* alkamisen, kuinka se tuli suon yli etelästä ja piiskasi hänen talonsa ulkovuorausta… (S2)
Myöhemmin, *sateen* ja pimeyden laskeutuessa painostavana, hän kuuli puuman kiljaisevan yläjuoksulla… (S18)
Pimeys siivilöityi taukoamattoman *sateen* lävitse, ja pää käsivarren päällä hän nukkui vuoteesta kiinni pidellen… (S27)
(*'She could just faintly remember beginning of *rain*, how it came in across swamp from south and beat against shell of her house…
Later, *rain* and darkness pressing in, she heard panther scream upriver…
Dark shifted through incessant *rain*, and, head on arm, she slept holding onto bed…')

In the above example, the referent *rain* in the English text is consistently preceded by the definite article *the*. The first occurrence of the article might be considered exceptional in that typically new noun phrases are introduced into a text with the indefinite article. In this narrative, however, one of the functions of the definite article, indicating shared knowledge as it does, seems to be to draw the reader into the story, to tell him or her that s/he is not an outsider but a party to and therefore cognisant of what is happening in the story. Unlike the first instance, the use of the article in the remaining two sentences (and in the rest of the text) is even more conventional. In these sentences, the articles signal to the reader that reference is made, not to new rain but to *the* very rain that has been going ever since the beginning of the story and still goes on. In these sentences the articles thus help the English reader to identify and track a reference chain and to make connections between parts of the text. The articles create cohesion in the text, thereby making it easier for the English reader to follow and work out the meaning of the text.

In Finnish there are no articles. Neither are there normally any other grammatical means of unequivocally marking a noun phrase referent as uncontrovertibly identifiable or non-identifiable. Instead, the identifiability and givenness of the referent typically has to be inferred by the reader from, for example, word order or from context alone. However, in the above example the clues provided by word order and context are at best ambiguous and obscure, and it is not at all obvious that it is the same rain that is being talked about; reference could also be made to various different instances of rain. The Finnish text, in other words, is not as coherent as the English text, especially as concerns the timing of the events. Therefore, more is required of Finnish readers to infer the correct interpretation and to make meaning of the text. (See Armbuster, 1984; Kemper, 1983; Meyer, 1975, 1982, 2003.)

Articles were, understandably, used in all the three English texts. However, their use differed markedly between the text types. In the text types typically relying on generalisations, that is, in the expository text (Text 1) and especially in the non-continuous text (Text 3), articles were used almost exclusively generically and only in a few rare cases coreferentially, to mark reference chains and identifiability. The identifying use of the article was thus not a problem in the non-literary texts. Instead, the problem was mainly confined to the narrative or literary text, where most of the references were specific and where identifiability accordingly played a more important role (nine identifying articles in all).

8.1.4   Summary

It is clear from the above that language-specific differences in grammar are a problem in international reading literacy studies. In this study on English and Finnish texts such differences were found on all three linguistic levels, lexical, syntactic and textual, and centred in particular upon word structure and word length, syntactic reduction, and reference. The problem, then, was that because of these differences it was frequently impossible to make the English and Finnish texts fully equivalent to each other.

Individual words and structures in the texts often showed unequal levels of difficulty, typically because they differed in explicitness or order of presenting information. This seemed to be the case even with close formal equivalents, such as reduced clauses, indicating that not even close formal equivalence guarantees equivalence of difficulty. However, most of these non-equivalences were relatively small and may therefore be assumed to have mainly affected only the least skilled readers.

Furthermore, the non-equivalences did not usually show any consistent trend such that it would always have been either the English or Finnish text that would have been easier or more difficult to understand. Rather, both texts contained structures that might be expected to have either complicated or made easier the task of the readers as compared to the demands upon the readers of the other text. For example, the English texts seemed to be made easier by the use of shorter words, less complicated reduced clauses and articles, and the Finnish texts, correspondingly, by the smaller number of compact noun phrases, the greater number of complete clauses and the nouns used in place of pronouns.

However, some of the individual differences, especially those concerning reduced clauses and irregular sentences led to further problems on the thematic or textual level. For instance, a change in the word order of a reduced clause also brought about a change in the thematic structure of the Finnish expository text (Text 1). Word order changes likewise proved problematic in Text 3, where they resulted in the Finnish text not being as coherent as the English text. And finally, Text 2 ended up violating quantitative text conventions as a result of translating some of the reduced clauses into Finnish as finite clauses. In all the Finnish texts, then, there were cases where non-equivalences on the clause level also led to non-equivalences on the thematic and textual level. Moreover, all these non-equivalences had a negative effect on the comprehensibility of the Finnish texts, the effect, however, again being relatively small.

The differences were also reflected in style and expressivity and hence in connotative and formal-aesthetic equivalence. This was true of the Finnish narrative in particular, which became stylistically somewhat simpler and flatter. Moreover, the style of the Finnish narrative was not as supportive and suggestive of the content and meaning of the story as that of the English narrative. Both these factors may, in turn, have added slightly to the relative difficulty of the Finnish text.

The above textual and stylistic problems sometimes further resulted in shifts in pragmatic equivalence. For instance, the textual problems in the Finnish non-continuous text made the Finnish text partly unidiomatic, and the stylistic problems in the Finnish narrative likewise reduced the interestingness of the Finnish text. Both unidiomaticity and relative lack of interestingness may be expected to have had a further negative effect on the comprehensibility of the Finnish texts.

All the above problems mainly concerned the texts proper. However, the analysis revealed a further problem that also touched the question items: questions focussing on

form and exact wording were found to be problematic in international reading literacy studies, because these features seldom behave similarly across languages.

There were some interesting differences between the text types. The number of grammatical problems, both in an absolute and a relative sense, was greatest in the narrative text, second greatest, somewhat surprisingly, in the non-continuous text, and smallest in the expository text. In the narrative text the problems mainly had to do with reduced clauses, reference, and style. In the non-continuous text the problems were distinctly related to compact language. In the expository text the most difficult problem was word length.

All in all, it seems in the light of this grammatical analysis that the narrative text was slightly more difficult in English, while the non-continuous text and the expository text were correspondingly so in Finnish. The differences, however, were small.

8.2 Problems related to language-specific differences in writing systems

The second category of equivalence problems, closely associated with the previous one, was that of problems related to differences in writing systems. The problems, more precisely, had to do with two phenomena of written language in particular: orthography and initial letters, and the use of the comma.

8.2.1 Orthography, initial letters and alphabetical order

Of the two phenomena, the first, orthography and initial letters proved problematic in Text 3, the non-continuous text, where they played a vital role in structuring the text (see Appendix I). Specifically, in the original English text the order in which the nine developing countries occur in the upper row of the table is alphabetical: Egypt, Ethiopia, Kenya, Malawi, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe. When these are translated into Finnish, however, the list is as follows: Egypti, Etiopia, Kenia, Malawi, Sudan, Tansania, Uganda, *Sambia*, and Zimbabwe. The list is not alphabetical; neither is there any other logic in the ordering of the countries.

As a result of a tiny one-letter change, in other words, a major text-level change takes place, whereby the Finnish text ends up less logical and less coherent than the English one. Illogical structure and incoherence, in turn, typically also make a text harder to understand. However, in this text this effect may be expected not to be as strong as in,

say, continuous texts, because when reading tables, readers normally do not proceed linearly and consistently through the entire text, but rather, skim through in search of specific information.

8.2.2 The comma and the signalling of sentence structure and meaning

The other factor that proved problematic within the category of differences in the writing systems was the comma. The problem, more precisely, was that occasionally, thanks to the more semantic use of the comma, the English texts seemed to signal sentence structure and meaning more overtly than the Finnish texts. Consider examples (31) and (32), both from Text 1:

(31) Firstly, it must provide exterior protection: resisting knocks from the ball or another player, coping with unevenness in the ground, and keeping the foot warm and dry even when it is freezing cold and raining.

Ensimmäiseksi sen täytyy antaa ulkoista suojaa: suojata pallon ja toisen pelaajan osumilta, selviytyä maanpinnan epätasaisuuksista sekä pitää jalka lämpöisenä ja kuivana silloinkin, kun on jäätävän kylmä ja sataa.
(*'Firstly it must provide exterior protection: protect from knocks from the ball or another player, cope with unevenness in the ground and keep the foot warm and dry even, when it is freezing cold and raining.')

(32) To avoid minor but painful conditions such as blisters or even splits or athlete's foot (fungal infections), the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in.

Vähäisten mutta kivuliaiden vaivojen, kuten rakkojen tai jopa haavaumien tai "urheilijan jalan" (sienitulehduksien) välttämiseksi kengän täytyy sallia hien haihtuminen ja estää ulkopuolista kosteutta pääsemästä sisään.
(*'Minor but painful conditions, such as blisters or even splits or "athlete's foot" (fungal infections) to avoid the shoe must allow evaporation of perspiration and prevent outside dampness from getting in.')

In both the above examples, the commas in the English sentences are used semantically, to signal the hierarchical structure of the sentence and/or the entire text. In example (31), for instance, the sentence consists of two major parts, which, furthermore, are expressly marked off by a colon: the first of these parts gives the main idea, one criterion a good sports shoe should meet, namely, that it must provide exterior protection; and the second part goes on to specify this criterion, providing three distinct subcategories as to how to provide the needed protection. In the English text the sentence also contains three commas. Of these, the first is what is called a delimiting comma, which nicely sets off and gives more weight to the sequential connector *Firstly*, thereby emphasising and making more transparent the list-like structure of the text. Even more interesting, however, are the remaining two commas which follow the colon. Thanks to these serial commas, the three subcategories or ways of providing exterior protection are explicitly set apart and consequently stand out very clearly in the English sentence.

In the Finnish sentence both the delimiting comma and the latter of the two serial commas are missing. This is because in Finnish the delimiting comma is not allowed with, for instance, connectives, and the serial comma, likewise, cannot be used when a coordinate is preceded by a copulative conjunction (e.g. *sekä* 'and'). Of the three commas used in the English sentence only one, the first serial comma, is thus employed in the Finnish sentence. Besides these, however, an extra comma has been added, on purely grammatical grounds, to the Finnish sentence: the comma that separates the subordinate clause *kun on jäätävän kylmä ja sataa* from the main clause …*pitää jalka lämpöisenä ja kuivana silloinkin*. The comma, as is typically the case when the comma would fall between a closely united adverb (*silloinkin*) and a conjunction (*kun*), is optional. On the whole, then, in the Finnish sentence the punctuation is clearly more grammatical and does not reflect the semantic structure of the text as faithfully as do the commas in the English sentence.

In example (32) (discussed above as example 9), likewise, the delimiting comma in the English sentence nicely splits the sentence into two functional parts of which the first describes a problem (*To avoid minor but painful conditions such as blisters or even splits or athlete's foot [fungal infections]*) to which the second offers a solution (*the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in*). In the Finnish sentence, however, the comma is again missing, because in Finnish sentence-initial non-finite clauses are never separated off by commas. Yet, as in the previous case, in this case too an extra comma has been added to the Finnish sentence,

the delimiting comma marking off the beginning of the parenthetical supplement *kuten rakkojen tai jopa haavaumien tai "urheilijan jalan" (sienitulehduksien)*. Interestingly enough, the supplement should also be closed by a comma, but this comma is missing, apparently because of a human error. Also in this case, the punctuation in the Finnish sentence appears less rational and fails to do full justice to the semantics of the sentence.

In both the above sentences, then, thanks to the more semantic punctuation, English readers seem to be provided with more transparent and explicit signals for working out the hierarchical structure and constructing the meaning of the sentences. Finnish readers, in contrast, for lack of these explicit aids, need to rely more on inferencing, which in turn may be expected to slow down their comprehension (Kintsch & van Dijk, 1978). Because of a seemingly small difference in the use of the comma, in other words, a slight shift seems to arise not only in textual equivalence but also in equivalence of difficulty.

Quantitatively, the semantic use of the comma was not a major problem. Rather, the two above examples were virtually the sole cases in this study where the semantic comma proved problematic. The problem was thus confined to the expository text (Text 1) and hence to factual prose and analytic writing.

However, apart from the semantic use of the comma, the comma not infrequently also became problematic when used for stylistic and rhetoric purposes. This was the case in Text 2 in particular, from which examples (33)–(35) are taken:

(33) She had heard about them from others and heard their cries, *like suffering*, in the distance.	Hän oli kuullut muiden puhuvan niistä, ja hän oli kuullut niiden *kärsivältä kuulostavia* kiljahduksia matkan päästä. ('She had heard others talk about them, and she had heard their *suffering-sounding* cries from a distance.')
(34) The panther had fallen asleep, *its head on its paws*, *like a housecat*.	Puuma oli nukahtanut *pää tassujensa päällä kuin kotikissa*. ('The panther had fallen asleep *its head on its paws like a housecat*.')
(35) Behind her the cat was moving, *fretting*.	Hänen takanaan puuma liikkui *kärttyisänä*. ('Behind her the cat was moving *fretting*.')

In examples (33)–(35) the English sentences consist of relatively short graphic units separated off by commas (*like suffering, its head on its paws, like a housecat, fretting*). As a result, considerable autonomy, emphasis and salience is given to each of the units and subsequently to the panther's suffering (example 33), its being like a harmless housecat (example 34), and its fretting (example 35) – all factors that are central to the theme and interpretation of the story.

In the Finnish sentences, by contrast, in line with the Finnish preference for synthetic clause and sentence structures that flow smoothly and uninterruptedly (Ingo, 2000, p. 235), the commas are missing and the units are agglutinated inseparably to the sentences. In the Finnish sentences the panther's suffering, resemblance to a housecat and fretting are thus given less weight. The picture painted of the panther in the Finnish text is not quite as clear-cut and suggestive as that in the English text. As a consequence, Finnish readers are provided with less direct cues for interpreting the relationship between the woman and the panther and making meaning of the story.

The English narrative text (Text 2) was full of short graphic units set apart by commas (30 in all), which were not transferred as such into the Finnish narrative. No such commas, on the other hand, appeared in the non-literary texts, suggesting that the stylistic and rhetorical use of the comma mostly concerns literary texts.

8.2.3   Summary

In the light of the above it seems that differences in writing systems also cause problems in international reading literacy studies. In this study this was true of orthography and initial letters, and the use of the comma in particular. However, the problems were usually not as significant as those caused by differences in grammar and conventions. Yet, they did at times endanger full equivalence between the English and Finnish texts, typically adding somewhat to the difficulty of the Finnish texts.

With orthography and initial letters the main problem was alphabetisation and the ordering of information. This further resulted in a problem on the textual level, in the Finnish text being incoherent in structure. With the use of the comma, on the other hand, the problems were less far-reaching and consisted in the Finnish texts signalling sentence structure less explicitly or being stylistically less suggestive of the content of the text as compared to the English texts.

Problems caused by differences in the writing systems were found in all the three texts. They were most common in the narrative text, less so in the expository text and

least common in the non-continuous text. In the narrative text the problems mainly concentrated on the stylistic and rhetoric use of the comma, in the expository text on the semantic use of the comma, and in the non-continuous text on initial letters.

In every case, the end result was that the Finnish texts became slightly more difficult to understand than the English ones, the differences, however, being mostly infinitesimal. Yet, on a more general level the results appear to suggest that even seemingly small differences may sometimes lead to major non-equivalences and therefore merit careful attention.

8.3 Problems related to language-specific differences in meaning

The third category of equivalence problems was made up of problems related to differences in meaning. Unlike the two preceding categories, which had to do with the form of language, problems in this category concerned the content of the texts. Like the preceding problems, however, also these semantic problems made it virtually impossible for the translators to guarantee full equivalence between the English and Finnish texts. The problems primarily centred on the following three facets of meaning: synonymy, and more precisely, specialised terminology; polysemy, connotations and aspectuality; and metaphors.

8.3.1 Specialised terminology

In Text 1, an example of popular exposition, by far the most important problem was synonymy and specialised terminology. Hence, whereas in the English text often precise, learned terms of Latin origin were used, in the Finnish translation these were replaced by popular and everyday words of native origin, as illustrated by examples (36)–(38):

(36) injury   vamma
                                      ('harm'; everyday Finnish)

(37) perspiration   hiki
                                      ('sweat'; everyday Finnish)

(38) evaporation   haihtuminen
                                      ('evaporation'; everyday Finnish)

The difference was even more striking when it came to anatomical and medical vocabulary (examples 39-41, all from Text 1):

(39) cartilage   rusto
                                               (everyday Finnish for 'cartilage'; in learned
                                               contexts Latin *cartilago*)

(40) tibia   sääriluu
                                               ('shinbone', everyday Finnish; in learned
                                               contexts Latin *tibia*)

(41) osteoarthritis   nivelrikko
                                               (*'joint breakage', everyday Finnish for
                                               'osteoarthritis'; in learned contexts Latin
                                               osteoarthritis or *osteoarthrosis*)

In all the above examples the words in the English text are learned and of Latin origin. The words in the Finnish text, by contrast, are popular and of native origin. As such they are also more common, everyday and familiar than the English words – even though the translators were instructed not to translate difficult words by more common terms. The anatomical and medical terms in the Finnish versions of examples (40) and (41) are also semantically transparent, unlike the opaque terms in the English text.

The reason for the discrepancy is that the structure of Finnish vocabulary differs from that of English vocabulary. In English, specialised terminology is used readily not only in highly formal and learned contexts but also in slightly more popular language. In Finnish, on the other hand, the use of foreign words is mainly restricted to highly specialised learned contexts, whereas in a popular context, more popular native vocabulary is employed (see Ingo 2000, p. 100).

The difference has at least three important interrelated consequences. The first is directly related to equivalence of difficulty, in that familiar vocabulary is widely acknowledged as one of the factors that make reading and comprehension easier (Anderson & Davison, 1988). Transparency similarly contributes to better comprehension, because it helps to uncover meanings. Consequently, the Finnish translation with its more familiar and transparent vocabulary may be presumed to be somewhat easier to understand than the English original.

Second, due to the more popular, everyday vocabulary, the Finnish translation stands out as less learned and formal than the English original (see Biber, 1988, 1989;

Saukkonen, 1982, 1984). There is thus a shift in connotative equivalence. This, again, raises questions as to whether or to what extent this stylistic shift has a bearing on the reading and comprehension of the text: whether, for instance, the lower level of formality in the Finnish text also adds to its interestingness as well as to the motivation of the readers to read it, which, in turn, are both known to have a positive effect on text comprehension (Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991). Connotative non-equivalence, in other words, may further lead to pragmatic non-equivalence and to non-equivalence of difficulty.

The third consequence, inseparably linked with the one above, concerns register. Specifically, popular exposition, the register that the text is supposed to exemplify, is characterised by everyday vocabulary; in scientific and learned texts, on the other hand, more scientific and learned vocabulary is used (Biber, 1988, 1989). The technical anatomical vocabulary of the English text thus does seem to constitute a problem. It definitely gives the English text a more learned flavour than is the case with the Finnish translation, which with its more lay vocabulary lines up with more popular writing. A shift, in other words, seems to have taken place in register, a shift from slightly more learned to slightly more popular exposition. This is in itself a problem, considering that the English and Finnish texts should, to conform with the requirements laid down, represent the same register.

If the above shift in register also included violation of the conventions of Finnish popular writing, it could possibly even detract from equivalence of difficulty, because violations of conventions run counter to the expectations of the reader and therefore block his or her comprehension (Anderson & Pearson, 1984; Rumelhart, 1980, 1994). However, this is not the case with this particular translation, whose vocabulary appears well in line with popular Finnish writing. The problem seems to lie rather with the English source text, whose vocabulary, for a popular text, strikes one as exceptionally technical and learned. This, again, to the extent that the vocabulary is indeed contrary to the expectations of English readers, might further add to the difficulty of the English text.

In this study, specialised terminology and synonymy seemed to be a problem more or less exclusively in the expository text (Text 1), where there were 15 problematical items. This appeared to be due, not so much to the type as to the subject matter of the text. Specialised scientific topics, such as anatomy and medicine, thus seem prone to cause terminological problems in international reading literacy studies.

8.3.2 Polysemy

If specialised terminology and synonymy were mostly a problem in the expository text, polysemy correspondingly proved problematic in the narrative text (Text 2). The problem, more specifically, was that a word which in English was polysemous was not correspondingly so in Finnish. In translation, only one of the multiple meanings of the English polyseme could thus be transferred into Finnish. At the same time all the other meanings of the original word and consequently also their associations had to be sacrificed. Consider examples (42) and (43), both taken from Text 2:

(42) Sometime in the night the *cry* awoke her, a sound so anguished she was on her feet before she was awake.

Johonkin aikaan yöstä *kiljahdus* herätti hänet. Ääni oli niin tuskainen, että hän oli jalkeilla ennen kuin ehti herätäkään.
('Sometime in the night a *cry/shout* awoke her. The sound was so anguished that she was on her feet even before she had had time to awake.')

(43) She *gripped* the edge of the bed.

Hän *piteli* kiinni vuoteensa laidoista.
('She *was holding onto* the edge of the bed.')

In the above examples the English words *cry* and *gripped* can both have more than one slightly differing meaning. In example (42) these differences have to do with denotative meaning. The noun *cry* may thus refer not only to shouting, but also to, for instance, weeping, which is the meaning typically given first in dictionaries, and howling. In example (43), on the other hand, the difference concerns aspectual meaning, with the verb *grip* accordingly signifying not only momentary 'taking hold of' but also continuous 'holding'.

In Finnish there are no single words that would share all the meanings and hence be full equivalents of *cry* and *grip*. The rendering used in the Finnish translation in example (42) – and in the other three similar cases – is *kiljahdus* 'shout', which excludes all the associations of weeping and howling conveyed by the English *cry*. In example (43), likewise, the Finnish translation has to choose between the momentary and continuous meaning, without actually being sure which is the intended interpretation, and the selection of the word with the continuous meaning *piteli* 'was holding' automatically leaves out the momentary meaning (*tarttui* 'took hold of').

Apart from the above cases, there was yet another important polyseme in Text 2, one which proved especially difficult to translate into Finnish. This was the noun *cat*, which appeared ten times in the text (examples 44–46):

(44)   She knew now what it was, a big *cat*…

Hän tiesi nyt, mikä se oli: iso *kissaeläin*…
('She knew now what it was: a big *feline*…')

(45)   She had hardly allowed herself to move for fear any sound might give strength to the *cat*.

Hän oli tuskin uskaltanut liikahtaakaan pelätessään minkä tahansa äänen antavan *kissapedolle* uutta voimaa.
('She had hardly even dared to move for fear any sound might give strength to the *feline beast*.').

(46)   While she was cooking her food, she almost forgot about the *cat* until it whined.

Ruokaa laittaessaan hän melkein unohti *puuman*, kunnes se vinkaisi.
('While cooking the food she almost forgot about the *panther*, until it whined.')

In examples (44)–(46), the polyseme *cat* is used in each of the three English sentences. In English, the noun *cat* can refer to both domestic and wild big cats, even though in this text the reference is consistently to the panther. In the Finnish translation, however, three different words are employed to replace the English *cat*. In example (44) the word is *kissaeläin*, a generic term describing all animals belonging to the cat family; in example (45) the rendering is *kissapeto*, a slightly more specific term subordinate to the generic term and roughly corresponding to the English *feline beast*; and finally in example (46) – as well as in the remaining seven sentences – the word is *puuma*, an even more specific term subordinate to the preceding specific term and equivalent to the English *panther*. (In addition to the word *cat*, the very word *panther* is also used in the English text to refer to the panther. There are four such references and they have all been translated into Finnish as *puuma*.)

The reason for the seemingly confusing translations is that in Finnish *kissa*, the closest equivalent of the English *cat*, primarily means 'domestic cat'. In normal Finnish prose, unlike in English, wild cats such as panthers are not referred to as cats. The *cat* in

the English text therefore has to be replaced in the Finnish text with either a more generic term, *kissaeläin*, or a more specific term, *kissapeto* or *puuma*.

The most obvious consequence of the above semantic mismatches between the English and Finnish vocabularies is that some connotations or nuances present in the English text are missing in the Finnish text. These connotations, in turn, are important in that they mould readers' emotions and attitudes. Thanks to the tender connotations attached to, for instance, the English *cry* and *cat*, a more pitiful picture seems to be painted of the English panther than the Finnish one. This, again, is significant, because vacillation between pity, compassion and empathy and feelings of threat and fear is a focal theme in the story. The English and Finnish texts, in other words, are non-equivalent formal-aesthetically and pragmatically, which, in turn, may further make them non-equivalent also in difficulty.

However, these mismatches may also have another consequence. This has to do with the specific instruction given to the translators to try to keep the reference chains unchanged as far as possible. With the references to the panther, as we have seen, this was not always possible. The English noun *cat* was translated into Finnish using three different nouns, by far the most common of which was *puuma*. As a result, the noun *puuma* appears much more frequently in the Finnish text than does its equivalent *panther* in the English text. From the point of view of text comprehension, however, this difference, even though it is against the translation instructions and even though it does make the Finnish references slightly more specific, may be assumed not to have major significance. This is because, besides the woman and the panther, there are no other characters in the text. Identifying and keeping track of the references to the panther should therefore be relatively straightforward. Besides, the English text is more consistent in its use of the noun *cat*, whereas the Finnish text seems to be shuffling the deck by using three different words instead of it.

In the texts analysed, only in the narrative text (Text 2) were problems found that were caused by differences between the languages in polysemy, as related to connotations and aspectuality. Problems of connotation were fewer in number, the nouns *cry* and *cat* being practically the only occurrences in the text. Both, nevertheless, were central to the story and appeared several times in the text (six and ten respectively). The problem of aspectuality, on the other hand, was more extensive and concerned a great number of different verbs, 14 in all, although, with one exception, each of the verbs only occurred once in the text. All in all, then, problems of polysemy, especially as concerns connotations and aspectuality, were quite common in the literary text. This

comes as no surprise, since both connotations, which are closely related to imagery, and aspectuality, which has to do with the conception of time, are intrinsic to literary texts.

8.3.3   Figurative language – "live" metaphors

Figurative meaning also proved problematic in the narrative text (Text 2). Typically, the problem was that a metaphor in the English text could not be translated into Finnish as a comparable metaphor, but instead had to be replaced by a non-figurative form, as in examples (47) and (48), both taken from Text 2:

(47)   Her house with its boat bottom had been built to *ride* just such a flood…

Hänen talonsa oli veneenmuotoisine perustoineen varta vasten rakennettu niin, että se *kelluisi* tällaisessa tulvassa… ('Her house had with its boat-shaped foundation been especially built so that it would *float* in such a flood…')

(48)   Then crouched on the pillow, she *cradled* the gun across her knees.

Sitten hän kyyristyi tyynylleen *pidellen* kivääriä poikittain polviensa päällä. ('Then she crouched on her pillow *holding* the gun across her knees.')

In the above examples vivid metaphors are used in both the English sentences to enliven the narrative: in example (47) the house is said to *ride* the flood and in example (48) the woman is described as *cradling* the gun across her knees. In Finnish, however, these very metaphors would sound odd and unnatural. Therefore, in the Finnish sentences the metaphors have been replaced by more literal expressions: in example (47) the house *floats* in the flood and in example (48) the woman simply *holds* the gun on her knees.

As a result of the figurative language the English sentences may have been felt to be slightly more difficult to understand than the Finnish ones. This is because on the surface non-literal language often seems contrary to facts and expectations. Non-literal meanings are therefore often less salient, or less predictable, than literal meanings (Giora, 1997). For example, houses, as inanimate objects, do not normally ride; similarly, a normal person would not cradle a gun but, say, a baby. Therefore, constructing the meaning of sentences containing figurative language may require extra

processing especially of those readers whose reading skills and/or mental capabilities are poor, slowing down their comprehension of the text.

However, the stylistic effects of replacing the metaphors by non-figurative expressions may have been even more pronounced. Hence, whereas the English text abounds with vivid metaphors, the Finnish text, which lacks several of these figures of speech, is stylistically more neutral and flatter, and hence formal-aesthetically non-equivalent to the English text. Finnish readers might consequently find the text slightly less appealing and motivating to read (pragmatic non-equivalence), which, in turn, might lead to poorer comprehension of the text.

"Live" metaphors translated into Finnish as their literal equivalents appeared, not surprisingly, only in the narrative text (Text 2), where there were nine cases. Figurative meaning accordingly constituted a problem in the literary text alone.

8.3.4   Summary

Language-specific differences in meaning are clearly a major source of equivalence problems in international reading literacy studies. In this analysis this seemed to be true of specialised terminology; polysemy, connotations and aspectuality; and figurative meaning and metaphors in particular. These culturally induced problems often made it impossible for the translators to attain full equivalence between the texts.

The differences sometimes adversely affected equivalence of difficulty. This applied mainly to specialised terminology, because of which the words in the Finnish expository text were not only more familiar but often also more transparent, the main reason apparently being the anatomical and medical language of the text. Polysemy, on the other hand, even though it did lead to violations of the translation instructions concerning reference chains, did not seem to have a greater direct effect on equivalence of difficulty. Finally, owing to their non-literal interpretation, metaphors may have added somewhat to the relative difficulty of the English narrative text.

The differences were also mirrored on the stylistic and aesthetic level, where the Finnish texts again became somewhat simpler and flatter. This was most evident in the narrative text, for two basic reasons. First, a number of the metaphors present in the English text were missing in the Finnish text. And second, because of the differences in polysemy and associative meaning, the Finnish text failed to reflect the meanings and nuances of the narrative as faithfully as did the English text. As a combined effect of these two factors, the Finnish text may have been felt to be somewhat less interesting to

read than and hence pragmatically non-equivalent to the English text, and ultimately also more difficult to understand than the English text.

In the Finnish expository text, on the other hand, the difference was mainly seen as less formal and less learned style. This further brought the Finnish text somewhat closer to popular exposition, thereby even resulting in a slight shift in register. The Finnish translation, however, seemed well in line with the conventions of Finnish popular writing, whereas the English text appeared perhaps somewhat too learned for a popular text. All this, again, is significant since the two texts should represent the same register.

The problems differed considerably between the text types. They were most numerous in the narrative text and second most numerous in the expository text. In the non-continuous text there were no problems of this type. In the narrative text the problems had to do with polysemy, connotations and aspectuality, and figurative meaning and metaphors, while in the expository text they were related to specialised terminology and synonymy.

Taken together, on the basis of this semantic analysis, the English expository text seemed to be clearly more difficult to understand than the Finnish text and the Finnish narrative text correspondingly perhaps slightly more difficult than the English text.

8.4   Problems related to differences in culture

The fourth category of equivalence problems, focussing more on the textual level and macrostructures, was problems related to differences between cultures. To be fully equivalent, the content and form of each of the texts included in the reading literacy test should be equally familiar in all the cultures involved; they should not unduly favour or put at a disadvantage any country or culture, a point stressed in the translation instructions. This is no easy task, since even in this study concentrating on two relatively similar industrialised Western countries it emerges that full cultural equivalence was not always attained.

8.4.1   Familiarity of content

This was especially true of Text 2. Text 2 (see Appendix I) is a short story set in the United States, on the banks of the Mississippi. The story tells about a woman who lives in a houseboat which gets stuck in a flood. However, not all students are familiar with floods and/or houseboats. Not all students, in other words, have the houseboat-in-a-flood

schema stored in their memory (see e.g. Anderson & Pearson, 1984; Rumelhart, 1980, 1994). For these students the story may be expected not to be quite as straightforward to piece together and understand as for those students who live in areas where floods and houseboats are common and who therefore have that very schema in their memory (Pearson & Fielding, 1991).

In Finland there are sometimes floods on the Western coast and in Lapland. However, Finnish floods are usually relatively small, weak and innocuous compared to those on the Mississippi. They typically do not break apart or move houses. Finnish people also have motorboats. These boats, nevertheless, are clearly boats, not houses, and they are usually not meant to be lived in, at least for longer periods of time. Therefore, to Finnish readers the setting – or schema – of the story, the driving flood waters and the boatlike house, is not quite as familiar as it is to, say, American readers. The texts, in other words, are pragmatically not fully equivalent to each other. As a result, Finnish readers may be assumed to find the story slightly more difficult to understand than American readers.

8.4.2   Summary

As shown by the above, differences in culture do have the potential for endangering the equivalence of international reading literacy tests. In this study this mainly applied to the literary text, whose content was not equally familiar to Finnish readers as to their English peers. The non-equivalence was, admittedly, relatively small. Yet, as a text-level problem, it did seem more consequential than those produced by differences in grammar or writing systems.

8.5   Problems related to the strategies used and choices made by the translators

The fifth, broad category of equivalence problems was problems related to the behaviour of the translators. The problems in this category were often based on the preceding problem types. Yet, they differed significantly from all the previous problems in that in this case the translators did have a choice and it was typically this very choice that gave rise to the problems and to the resulting non-equivalences. A higher level of equivalence, in other words, would often have been attained if the choice had been different. The analysis pointed to four major problem areas: interference, writing errors,

mistranslations, and the translators' desire to improve the texts and to make them more idiomatic and natural.

8.5.1 Interference

A small number of the translator-induced problems seem to have been interference problems, caused by too close an imitation of the original English text (although without more knowledge of the translators and their decision-making, it is of course not possible to say for certain whether the choices were intentional or unintentional). This sometimes led to slightly nonstandard, unnatural or unwanted expressions in the Finnish text. Consider example (49), taken from Text 1:

(49) Firstly, it must *provide exterior protection…*   Ensimmäiseksi sen täytyy *antaa ulkoista suojaa…*
(*'Firstly it must *provide exterior protection…'*)

In example (49), the English text uses a grammatical metaphor consisting of a verb with a very general and "empty" meaning, *provide*, followed by an abstract noun phrase, *exterior protection*. A more direct way to express the same message would be to leave out the "empty" verb and the abstract noun *protection* and to replace them with the corresponding, yet more concrete congruent form (*protect externally)*.

In the Finnish text the sentence has been translated literally. The Finnish rendering is *antaa ulkoista suojaa*, which, as in the English text, is a grammatical metaphor consisting of an "empty" verb and an abstract noun phrase. In Finnish, however, grammatical metaphors of this kind, even though popular, are often not considered good usage but rather something to be avoided (Lieko et al., 1999, pp. 68–70). Therefore, it is usually recommended that they be replaced by their more concrete congruent variants (e.g. *suojata ulkoisesti* 'protect externally'). In this case, nevertheless, the literal translation was chosen instead, which, again, may have been at least partly because the translators were explicitly instructed not to substitute nouns for verbs or vice versa, because this might unduly modify the degree of abstractness of the sentence and thereby make the translation non-equivalent in difficulty to the original text.

As a consequence of the literal translation, the Finnish sentence deviates somewhat from standard or idiomatic language. Although the deviation is relatively small, it might, however, have diverted the attention of some Finnish readers from fluently

reading and making meaning of the text to unduly puzzling over the peculiarity of the sentences and working out their structure (Kintsch & van Dijk, 1978; Nida & Taber, 1969, p. 112). For these readers the end result might have been a slight increase in the difficulty of the text.

However, the deviation might also have had affective consequences. This might have been the case for those Finnish readers in particular who realised that the phrase was against recommended usage and hence something Finnish writers have been warned against. This, again, might have aroused negative attitudes in some of these readers towards the text or towards the entire test, which, in turn, might even have been reflected in poorer performance in the test. In this case, this effect can hardly be expected to have been very strong, because the readers who are the most likely to mark the deviation may also be expected to be the most skilled readers. Yet, it emphasises the need to make sure all the texts in international reading literacy studies are properly written and good language.

In addition to the above case where interference seems to have led to slightly nonstandard language, there was one case in Text 1 where it even resulted in a grammatical error. The error had to do with reference (example 50):

(50) The cartilage of the delicate knee joint can also be irreparably damaged and if care is not taken right from childhood (10–12 years of age), *this* can cause premature osteoarthritis.

Herkän polvinivelen rusto voi myös vaurioitua parantumattomasti, ja jollei sitä varota jo lapsuudessa (10–12 vuoden iässä), *se* voi aiheuttaa ennenaikaista nivelrikkoa.
(*'The cartilage of the delicate knee joint can also be irreparably damaged, and if it is not watched out already in childhood (10–12 years of age), *it* can cause premature osteoarthritis.')

In example (50), the demonstrative pronoun *this* in the English sentence refers to the entire preceding conditional clause (*if care is not taken right from childhood* + the phrase in the parenthesis). In the Finnish sentence, however, the reference made by the demonstrative pronoun *se* 'it' is faulty and misleading: instead of referring to the preceding subordinate clause, it refers, first, to the demonstrative pronoun *sitä* (*se* in the partitive case) in the subordinate clause and, in the end, to the noun *rusto* 'cartilage' in the first main clause of the sentence. That *rusto* 'cartilage' would cause osteoarthritis, as

seems to be implied by the Finnish sentence, is of course absurd. More importantly, it is not the meaning conveyed by the English sentence.

In the first instance, the error in the Finnish text seems to be related to the addition of the demonstrative pronoun *sitä* to the subordinate clause, because of which a faulty link is created between the pronoun and the noun *rusto*. Ultimately, however, the error appears to derive from interference, a desire to translate the sentence, and especially the end of it (*this can cause premature osteoarthritis*), as faithfully as possible. A more natural way to formulate the end of the sentence would have been to change the proposition to its semantic converse (e.g. ***seurauksena*** *voi olla ennenaikaista nivelrikkoa* 'the **result** may be premature osteoarthritis'). Because of its converseness, however, this formulation was probably not considered sufficiently equivalent to the English formulation, and the more literal rendering, whose ungrammaticality was perhaps masked by the English text, was chosen instead.

The consequences of the grammatical error seem more critical than those of the preceding case of unidiomaticity. This time the meaning of the sentence changes and even becomes partly unintelligible. There is thus a clear loss in the Finnish text of both denotative equivalence and equivalence of difficulty. The consequences might also involve affective factors, such as a more negative attitude towards the text and the reading test, which in turn might lead to poorer performance in the test. However, it is probable that not many Finnish readers noticed the error and for those who did the consequences of the error, including the loss of equivalence, may be expected to have remained relatively small.

In this analysis interference problems proved relatively rare, the above examples being more or less the sole instances of it. Moreover, they only occurred in the expository text (Text 1).

8.5.2   Writing errors

In addition to the grammatical error caused by interference in example (50), there were also other types of errors in the texts. The most common and widespread among these were writing errors, which consisted in either spelling mistakes or punctuation errors.

8.5.2.1 Spelling mistakes

A clear minority of the writing errors were spelling mistakes: only one such mistake was found in the three texts. This was the conjunction error in Text 2 (example 51):

(51) *As long as* she guarded the window and kept the cat hemmed in by the wall and water, caged, she would be all right.

*Niin kauan **kun*** hän vartioisi ikkunaa ja pitäisi puuman pinteessä, vangittuna seinän ja veden väliin, hänellä ei olisi hätää.
(*'*As long **when** she would guard the window and keep the panther in a cleft stick, fenced in between the wall and water, she would have no problem.')

In example (51), the Finnish sentence uses the phrase *niin kauan kun* as a translation for the English *as long as*. While the translation as such is correct, the last word in the phrase, the conjunction *kun* 'when, as', is not. For the phrase to be correct, the last word should be *kuin* 'as' (Hakulinen et al., 2004, p. 1121; Suomen kielen perussanakirja [SKP] II, 2001, p. 292), another conjunction with very similar spelling (see Hakulinen et al., 2004, pp. 1118–1119) but different grammatical meaning. The reason for this is that in essence the construction *niin kauan* implies comparison or parity. To indicate such relations, *kuin* is employed, because one of its basic uses is to denote comparison (Hakulinen et al., 2004, p. 627; SKP-I, 2001, p. 559). The meaning of *kun*, on the other hand, is purely temporal (SKP-I, 2001, p. 577).

However, what complicates the choice and often leads to the misuse of *kun* in this construction is, in addition to the closely similar spelling, the overtly temporal meaning of the word *kauan* 'long, for a long time'. Yet, in actual fact, it is not the word *kauan* but *niin* 'as', indicating, for example, degree, which determines that the conjunction *kuin* be used in this construction (see Hakulinen et al., 2004, p. 1119). The mistake, in other words, may find its explanation either in a slip of the pen, in oversight, or possibly in the translators' not being fully acquainted with some of the rules of grammar.

The consequences of the spelling mistake may be hypothesised to be relatively unimportant. The mistake, after all, does not change the meaning or affect the comprehensibility of the Finnish text in a significant way. The text still refers to time and, thanks to the Finnish *niin*, also indirectly to comparison of time. Even more importantly, it is very likely that, because of the close orthographic resemblance between and the common confusion about the use of the two conjunctions – as well as

the fact that the mistake is found in a literary text, where more attention is usually paid to larger entities and to the general impression than to absolute correctness – the mistake went unnoticed by most Finnish readers. For these readers the Finnish text may be assumed to have been, not only denotatively fully equivalent but also more or less equivalent in difficulty to the English text.

Those Finnish readers, on the other hand, who did note the mistake might have found it somewhat distracting or irritating. This pragmatic non-equivalence, again, might have had a slight negative effect on their willingness to read the text and/or to perform the test properly. A negative attitude towards a text, in turn, is known to impede comprehension. However, as those readers who are the most liable to spot the mistake are probably also the most talented verbally, this effect may be assumed not to have been significant.

8.5.2.2 Punctuation errors

As compared to the above spelling mistake, punctuation errors were much more common. Punctuation errors could be found in all three texts; yet, their distribution differed somewhat between the text types. The errors involved two punctuation marks: the slash and the comma.

The punctuation mark that caused the most errors in the texts was the slash, the total number of the errors being nine. These errors, however, were all of the same kind (two of the errors shown in example 52) and, moreover, all appeared in Text 3:

(52) Uniforms bought/made/donated   Koulupukuja ostettu / tehty / lahjoitettu
                                          ('Uniforms bought / made / donated')

In example (52), both the texts use slashes to separate off the alternatives. However, the difference is that in the Finnish text, contrary to what is the case in the English text, the slashes occur with flanking spaces. This, nevertheless, is against the rules governing the use of the slash in Finnish (Itkonen, 2002, p. 23), according to which it is only with longer phrases and clauses that the spaces are used; with single words (as e.g. in example 52 with the three words *ostettu*, *tehty* and *lahjoitettu*), the slashes appear without spaces.

Knowledge of these rules, however, is at best marginal and no part of basic education. Therefore, many Finns, possibly including also translators, are quite unfamiliar with

them. It might consequently be assumed that when translating the table the translators may have thought that grammatically it made no difference whether there were spaces between the words and the slashes or not. If this was indeed the case, they may have chosen to use the spaced alternatives, because these may have seemed clearer and more reader-friendly. The translators, in other words, may have wanted to edit and improve the text.

It is very likely that the punctuation errors also escaped the notice of most, if not all, Finnish students. Therefore, it may be assumed that the errors as such did not have any influence on Finnish readers. Neither did they bring about any shift in the Finnish text in meaning or denotative equivalence. However, the errors may have indeed managed to "improve" the Finnish text to some extent, in that they may have made the alternatives in the Finnish text stand out less densely and more clearly as compared to the English text. The alternatives in the Finnish table may consequently have been slightly more readable.

Another punctuation mark that in a few cases led to errors was the comma. In Text 1 there was one such error (example 53), and three in Text 2 (one of them shown in example 54):

(53) To avoid minor but painful conditions such as blisters or even splits or athlete's foot (fungal infections), the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in.

Vähäisten mutta kivuliaiden vaivojen, kuten rakkojen tai jopa haavaumien tai "urheilijan jalan" (sienitulehduksien) välttämiseksi kengän täytyy sallia hien haihtuminen ja estää ulkopuolista kosteutta pääsemästä sisään.
(*'Minor but painful conditions, such as blisters or even splits or "athlete's foot" (fungal infections) to avoid the shoe must allow evaporation of perspiration and prevent outside dampness from getting in.')

(54) "Who's there?" she called.

"Kuka siellä?", hän huusi.
(*'"Who's there?", she called.')

In example (53) the error in the Finnish text is that a comma is missing, whereas in example (54) there is one comma too many. In example (53), more precisely, there should be a delimiting correlative comma to mark off the end of the parenthetical supplement *kuten rakkojen tai jopa haavaumien tai "urheilijan jalan" (sienitulehduksien)*

'such as blisters or even splits or "athlete's foot" (fungal infections)', just as there is one at the beginning of the supplement.

Often, however, writers simply forget to close supplements and subordinate clauses with commas. In this particular example, moreover, the translators may have been led astray by the sentence-initial non-finite clause, which in English is, as usual, separated off by a comma but in Finnish is not. The translators may thus have, mistakenly, associated the comma, not with the supplementary phrase but with the non-finite clause.

In example (54), conversely, there should be no comma. The rules governing punctuation in Finnish dictate that with, for instance, quotations, in addition to the correlative quotation marks, only one non-correlative punctuation mark, that is, a period, question mark, exclamation mark or comma, be used (Ikola, 1992, p. 194; Itkonen 2002, pp. 24–25). However, in example (54), the Finnish version contains two such punctuation marks, a question mark and a comma. This is clearly contrary to the rules and means that one of the punctuation marks, in this case the comma, should be omitted.

These rules, like the one governing the use of the correlative commas above (example 53), are relatively straightforward and should be familiar to all translators. At the same time, however, it is often these minor details, such as punctuation marks, in particular that easily get mixed up and go wrong when work has to be done in a hurry, unless great vigilance is exercised.

From the point of view of equivalence, these punctuation errors, especially the one in example (54), seem of relatively little consequence. Neither of the errors has any effect on meaning. Denotatively, in other words, the English and Finnish texts are equivalent. Moreover, as with example (51), it is probable that a large number of Finnish readers never even noticed the mistakes; and for them, the Finnish texts may be hypothesised to have been virtually equivalent to the English texts, in difficulty and otherwise. As to those who did notice the errors, on the other hand, the effect may be assumed to have been a slight shift towards pragmatic non-equivalence: a slightly more negative attitude towards the texts and possibly even towards the reading test.

However, example (53) differs from example (54) in that in this case the absence of the delimiting comma undoubtedly detracts from the explicit signalling of the hierarchical structure of the sentence, because the supplement is not separated off properly from the rest of the sentence. This, coupled with the punctuation and explicit signalling of the problem–solution structure in the English text (see example 32), means

that in the English text the meaning relationships are much more transparent than in the Finnish translation. The punctuation error thus makes the already less explicit sentence structure in the Finnish translation even less coherent, which, again, may slightly reduce the comprehensibility of the text. As a result, the Finnish text is not fully equivalent in difficulty to the English text.

8.5.2.3 Summary

Writing errors were found in all three texts. These were mainly punctuation errors, although a spelling mistake was also found in one of the texts.

   In both the expository and the non-continuous text all the errors were punctuation errors. In the expository text the problematic punctuation mark was the comma, while in the non-continuous text it was the slash. In the narrative text most of the errors were errors in punctuation and in the use of the comma; there was, however, also one spelling mistake in the text involving a conjunction. Among all the writing errors it was thus punctuation errors concerning the use of the comma that were the most widespread.

   The consequences of the errors were relatively insignificant. Most of the errors had no impact on meaning and therefore probably passed unnoticed by the vast majority of the Finnish readers. In the case of those readers who did spot the errors the potential consequences may be expected to have been mainly affective: possibly a slightly more negative attitude towards the text and the entire reading test, because of which the readers might not have been willing to do their best in the test. Moreover, this negative effect may have been stronger with the non-literary texts, where errors might perhaps have been not only more likely to be noticed but also less readily tolerated than in literary texts. Faultlessness, in other words, might be slightly more important in non-literary than literary texts.

8.5.3   Mistranslation

Like writing errors, mistranslations were also discovered in all three texts. In essence, these semantic problems centred on three problem areas: figurative language, polysemy, and compact language. The problems, moreover, differed in an interesting way between the text types.

8.5.3.1 Figurative language – "dead" metaphors

In Text 1, the expository text, the problems concerned figurative language, and more specifically, "dead" metaphors or idioms. There were two such idioms in Text 1 (one of them in example 55):

(55)   Knocks, falls, *wear and tear*…   Kolhuja, kaatumisia, *kuluttavaa rasitusta*…
                                               ('Knocks, falls, *wearing strain*')

In the above example, the English text uses an idiom, *wear and tear*, literally meaning 'damage done to objects, property, etc. as a result of normal use'. In Finnish, there is no corresponding idiom. Therefore, in the Finnish text the idiom has had to be replaced by a non-figurative phrase. This phrase, however, is not *(normaali) kuluminen*, which would be the closest denotative equivalent of the English idiom, but *kuluttavaa rasitusta*, which adds an extra component of strain to the idiom ('wearing strain').

In the Finnish translation, in other words, the components of the idiom, *wear* and *tear*, appear to have been interpreted as if they had their own separate literal meanings, even though they in fact form one semantic unit with a fixed and specific meaning. This seems to suggest that the translators may have had difficulty understanding the specific figurative meaning of the idiom.

One result of the ensuing difference is that a small shift takes place in the Finnish text in denotative meaning. While this does not seem to have any effect on the relative difficulty of the two texts in this specific case – because there is no significant difference in the salience (Giora, 1997) of the English and Finnish expressions – it does mean that English and Finnish readers are not exposed to exactly the same information or message. The texts are denotatively not fully equivalent to each other.

Even more interestingly, however, the replacement of the idiom by a non-figurative form means that the style of the Finnish expository text lost part of the figurative vigour present in the English text and became, instead, slightly more neutral and matter-of-fact. As a consequence of this stylistic flattening and connotative and formal-aesthetic non-equivalence, the Finnish text might also have lost part of its appeal and interestingness, which, in turn, might have been reflected in the motivation of Finnish readers to read the text and, ultimately, in their comprehension of the text (Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991).

8.5.3.2 Polysemy – grammatical words and words with broad meanings

In Text 2, the narrative text, the mistranslations had their roots in polysemy. There were three such mistranslations in the text, one related to grammatical or, semantically speaking, 'empty' words, such as prepositions (example 56), and the other two to words with very broad meanings (one of them in example 57):

(56) Slowly the current released it and let Hitaasti virran imu hellitti ja talo
      it swing back, rasping *across* its resting heilahti rahisten *yli* entisen olosijansa.
      place.   ('Slowly the sucking of the current
                                               released and the house swung rasping
                                               over its former resting place.')

(57) She *drew back* against the bed.   Hän *peräytyi* sänkyä vasten.
                                               ('She *withdrew* against the bed.')

In example (56), the English sentence contains a grammatical word, the preposition *across*, which according to the context may be interpreted in slightly different ways. Here the intended meaning of the sentence seems to be that the current became weaker, because of which the house swung backwards and moved slowly, rasping and schlepping across or through its resting place. In Finnish, prepositions are relatively rare, and the meanings conveyed by English prepositions are often indicated by suffixes or postpositions. This may be one reason why many Finns have considerable difficulties with English prepositions. It may also partly explain why in this very sentence the preposition appears to have been misunderstood as meaning 'over' and the house subsequently as swinging or leaping over its resting place – which, of course, is hardly possible. As a result of a miscomprehension of a preposition, in other words, a whole Finnish sentence ends up hard to understand.

In example (57), the English sentence includes a preposition, *against*, preceded by a verb, *draw*, and an adverb, *back*, which both have broad meanings. At first sight, the sentence thus seems to allow several interpretations. However, in this context not all the interpretations are possible. The key to the appropriate interpretation is given in the preceding sentences (line 39 onwards in the English text; see Appendix I), where it is shown that at the time she drew back against the bed the woman was already on the bed: she had been huddled on it but had later raised herself into a slightly more sitting position. Therefore, what the sentence in example (57) is communicating is that the woman again laid herself down and huddled more tightly against the bed. However,

the Finnish sentence states that the woman *withdrew against the bed*, that is, that she was not on the bed but somewhere else and only now retreated against the bed. Of course, this is against the chronology and the true course of events of the story. In translating example (57), the translators thus seem to have forgotten the context, with the end result that the text finished up inconsistent, incoherent and partly unintelligible.

In both the above Finnish sentences, then, polysemy seems to have resulted in mistranslation, and ultimately, in denotative non-equivalence and erroneous translation. This, in turn, resulted in the Finnish text being in part contradictory and unintelligible and consequently distinctly non-equivalent in difficulty with the English text.

8.5.3.3 Compact language

In Text 3, the non-continuous text, the mistranslations basically sprang from the compactness of the text. The text contained three phrases which seem to have been mistranslated. One of these had to do with the scope of a preposition (example 58) and the other two with the tense of non-finite verbs (one of them in example 59):

(58) Children helped *with school fees/a scholarship*   Lapsia avustettu *koulumaksujen hoitamisessa / stipendi* ('Children helped *in taking care of school fees / a scholarship*')

(59) Adults *receiving* training in literacy this financial year   Aikuisia, joiden lukutaitoa *harjaannutetaan* tänä tilivuonna ('Adults whose literacy *is being / will be trained* this financial year')

In example (58), the entry in the English table is compact, not only because it consists of an elliptical clause (interpreted either as a head noun followed by a non-finite relative clause or as a passive main clause with the auxiliary *be* ellipted), but also because it contains a prepositional phrase composed of the preposition *with* followed by two nominal alternatives, *school fees* and *a scholarship*, separated off by a slash. Meaningwise, the whole entry thus refers to the total number of those children who were helped in the aid programme with either school fees or a scholarship in the financial year 1996. However, in the Finnish text the preposition appears to have been

misinterpreted as applying solely to the first noun, *koulumaksujen* 'school fees'. This can be seen in that only this noun has been inflected appropriately so as to go with the verb *avustettu* 'help', whereas the latter noun, *stipendi* 'a scholarship', is used in its basic nominative case. In the Finnish text, *stipendi* is thus presented as a unit of its own – as if it were an alternative to the number of the children helped with school fees and as if it referred to the number of scholarships.

In example (59), the English text likewise uses an elliptical clause to condense the message. There is thus no finite verb in the entry. The entry, instead, contains a non-finite verb, *receiving*. As a non-finite form, the verb is tenseless (Quirk et al., 1985, p. 995), and its tense has to be inferred from the context (ibid., p. 1264). In this context where all the other entries refer to a past event, to the results of the development organisation in the previous financial year (1996), it is only logical that this entry should have the same reference. However, in the Finnish text, where the tenseless non-finite clause has had to be turned into a finite clause (see p. 135), the verb has been put in the present tense (*harjaannutetaan* 'is being trained'). The most probable reason for the change is perhaps that because of being a *present* participle, *receiving* has erroneously been interpreted as referring to a present event. As a consequence of the change, however, the Finnish text may again lose part of its logic and coherence.

In both the above examples, syntactic reduction appears to have resulted in miscomprehension and mistranslation, which, in turn, brought about a change in meaning and led to denotative non-equivalence. Especially in example (59), this further led to a slight incoherence, which, again, may have increased the complexity of the Finnish text and made it non-equivalent in difficulty to the English text.

8.5.3.4 Summary

Mistranslations occurred in relatively small numbers in all three texts. In the expository text they had to do with figurative language and idioms, in the narrative text with polysemy, and in the non-continuous text with compact language. Mistranslations were among the most serious problems. This was not only because they always brought about changes in meaning and denotative non-equivalence. Rather, in the case of polysemy and compact language, they also led to partly incoherent and unintelligible translations and, in the end, to non-equivalence of difficulty.

8.5.4 Improvement and naturalisation

Among the problems related to the strategies used and choices made by the translators, by far the most common were those having to do with the translators' desire to improve and/or naturalise the target texts, the latter in this study referring to rendering the target text more natural and idiomatic. Improvement and naturalisation problems were thus the complete opposite of the interference problems discussed above, resulting from trying to imitate too closely the source text. Improvement and naturalisation problems were found in all three texts, but were clearly most common in Text 2, the narrative text. The problems centred around two main areas: explicitation and simplification.

8.5.4.1 Explicitation

Additions. A majority of the improvements and naturalisations in the texts were explicitations. Most of the explicitations, in turn, were additions (i.e. additions to the explicitness of the surface form) of different types. In examples (60) and (61), example (60) from Text 1 and example (61) from Text 2, the added elements are grammatical particles:

(60) This is what is known as "footballer's foot", a deformity caused by shoes with soles and ankle parts that are too flexible.

Tämä tunnetaan "jalkapalloilijan jalkana" *eli* epämuodostumana, joka aiheutuu kengistä, joiden pohjat ja nilkkaosat ovat liian joustavat.
('This is known as "footballer's foot" *or* a deformity that is caused by shoes whose soles and ankle parts are too flexible.')

(61) Then the river itself started rising, slowly at first until at last it paused…

Sitten jokikin alkoi nousta, alkuun hitaasti, kunnes se viimein *ikään kuin* seisahtui…
('Then even the river started rising, slowly at first until at last it paused *as it were*…')

In both the above examples the Finnish sentences contain words or morphemes that do not appear in the English versions. In example (60), the added element is the conjunction *eli* 'or, alias'; in example (61), it is the construction *ikään kuin* 'as it were, as if'.

Neither of the additions is obligatory. Rather, both the sentences would have been proper Finnish even without the additions. However, the additions do make the sentences sound more natural, which seems to suggest that the motivation behind the additions was the translators' desire to make the Finnish text as idiomatic as possible.

As a consequence of the additions, however, the Finnish sentences end up being slightly more explicit than the English sentences. Thus, in example (60) the implicit equative relationship between the English *footballer's foot* and *a deformity caused by shoes…* is made explicit by the Finnish connector *eli*. In example (61), likewise, the metaphor (*it*, that is, the river, *paused*) is turned into a more transparent simile (se *ikään kuin pysähtyi* 'it paused as it were').

This slightly higher degree of explicitness, in turn, may be expected to have repercussions on equivalence of difficulty. Specifically, thanks to their greater explicitness, the Finnish sentences may be assumed to require somewhat less inferencing and hence be easier to understand than their English counterparts, the differences, however, being small. On the other hand, if the additions had not been made, the Finnish sentences would not sound as natural as they do now. This, again, might have had a negative effect on the comprehensibility of the Finnish texts, because an unnatural text violates the expectations of readers and impedes fluent reading. (Kintsch & van Dijk, 1978.) In each case, in other words, the end result seems to be a slight shift in equivalence of difficulty.

A total of 14 grammatical particles were added to the Finnish texts in this study. Of these, 13 occurred in the narrative text (Text 2) and one in the expository text (Text 1), while no additions were made to the non-continuous text (Text 3). The addition of grammatical particles was accordingly restricted to the continuous texts and was most frequent in the literary text.

Apart from the addition of grammatical particles, the literary text (Text 2) also included additions of content or lexical words. A total of 19 such additions occurred, three of which are shown in examples (62)-(64) below:

(62) She had never seen a panther in her life. She had *heard about them* from others…

Hän ei ollut eläissään nähnyt puumaa. Hän oli *kuullut* muiden **puhuvan** *niistä…*
('She had never seen a panther in her life. She had heard others **talk** *about them …*')

(63) It did not seem so frightening now that she could see… its… *ribs showing.*

Se ei enää tuntunut niin pelottavalta nyt kun hän saattoi nähdä sen… **nahan alta** *erottuvat kylkiluut.*
('It no longer seemed so frightening now that she could see its… *ribs showing* **from under the skin**.')

(64) In the night, while she slept, it claimed the road and surrounded her so that she sat alone, *her boat gone*, the house like *a piece of drift lodged on its bluff.*

Yöllä, kun hän nukkui, se valtasi tien ja saartoi hänet niin, että hän jäi yksin, *veneenkin mentyä* **virran mukana**, kyhjöttämään taloonsa, joka oli kuin **virran siihen tuoma** *ja joentörmään takertunut ajopuu.*
('In the night, while she slept, it claimed the road and surrounded her so that she remained alone, *even the boat gone* **with the river**, sitting hunched up in her house, which was like *a piece of drift* **brought there by the river** *and lodged on the bluff*.')

In all the above examples the Finnish sentences again contain information that is missing in the English sentences. In example (62), where the English sentence simply says that the woman had heard about them (panthers) from others, the Finnish sentence adds that the woman had heard others *puhuvan* 'talk' about the panthers. In example (63), similarly, the English sentence merely speaks of ribs that were showing, whereas the Finnish text specifies that the ribs were showing *nahan alta* 'from under the skin'. Finally, in example (64) the English sentence briefly mentions that the woman's boat was gone and that the house was like a piece of drift lodged on its bluff, whereas in the Finnish sentence, it is added that the boat was gone *virran mukana* 'with the river' and that the house, which was like a piece of drift lodged on its bluff, was *virran siihen tuoma* 'brought there by the river'.

In example (62), the addition is not obligatory. Instead, the sentence could also have been translated literally, as *Hän oli kuullut niistä muilta*… Textually, however, from the point of view of information structure, this translation would have sounded somewhat odd. This is because in this context the new and important information seems to be that the woman had *heard* (as compared to the act of seeing mentioned in the preceding sentence) something and that she had heard it *from others*. However, had the sentence been rendered literally, with *muilta* 'from others' at the end of the sentence, the emphasis would only have been on the pronoun *muilta*. By adding the verb *puhuvan* to the sentence, it was possible to give the act of hearing the stress it deserved and to make the sentence textually natural and idiomatic.

In example (63), in a similar vein, the motivation for adding the phrase *nahan alta* to the Finnish sentence seems to have been to pursue greater naturalness and idiomaticity. At least in this context, the Finnish phrase *erottuvat kylkiluut* 'ribs showing', if used as such without specifying how the ribs were showing, would have sounded strange and incomplete. The addition gives the phrase its justification.

In example (64) the additions as well as the motivations behind the additions are somewhat different. Of the two additions in the sentence, the first, *virran mukana*, seems appropriate, because without the addition the sentence would have appeared to imply, for instance, that the boat had purposely gone somewhere. The addition makes it clear that this was not the case. The addition, in other words, explicates and improves the text. Another possibility would have been to translate the relatively empty verb *mentyä* 'gone' by a slightly more specific verb and say, for instance, *veneensä menettäneenä* 'having lost her boat'. Even this, however, would have specified, explicated and improved the text to a certain extent. The second addition, *virran siihen tuoma*, in contrast, appears largely needless. This is because the noun *ajopuu* 'piece of drift' in itself already entails that the house (likened to a piece of drift) had been driven by water. However, the translators seem to have judged also this latter phrase in need of explicitation. Both the additions in this sentence, then, appear to have been made to explicate and improve the text.

The consequences of these additions seem more complex than those of the grammatical words discussed above. In the first instance, some of the additions, such as those in examples (63) and (64), provide Finnish readers with background information which helps them to form a better picture of the setting of the story. The additions, in other words, partly compensate for the unfamiliarity of the setting of the narrative in

Finnish culture (see pp. 161–162) and contribute to a greater equivalence of difficulty between the texts.

Second, the additions also make the Finnish narrative more explicit as compared to the English narrative. Explicitness, in turn, often results in increased ease of comprehension, because it decreases the number of inferences needed (Kintsch & van Dijk, 1978). However, this might not be the case with some of the additions, such as the latter addition in example (64), which might even lead to increased text difficulty. This is because in example (64), for instance, the addition, apart from being close to a pleonasm, also adds to the number of words in the sentence and, even more importantly, in the left-branching subordinate clause, thereby increasing the memory load imposed on Finnish readers (see example 19). Without the additions, on the other hand, most of the Finnish sentences would have sounded unnatural. This, in turn, might have distracted the readers and complicated their comprehension of the text.

Third, the relatively high number (19) of additions and explicitations made in the Finnish narrative might also affect the style of the Finnish text and bring about a small shift in the direction of formal-aesthetic non-equivalence. Specifically, they may make the Finnish text slightly more verbose as compared to the English text. Hence, in comparison with the English narrative, which is deliberately concise and implicit and purposely holds back information so as to leave more to the reader's imagination, the Finnish narrative seems to provide more explications and leave less for the reader to infer and imagine. This might perhaps decrease the appeal of the Finnish text and the motivation of some Finnish readers to read it, thereby bringing about a shift in pragmatic equivalence, which might even result in poorer comprehension and in non-equivalence of difficulty (Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991).

To sum up, additions were found in great numbers in the narrative text, while two additions were also discovered in the expository text. The additions were either grammatical particles or content words, and they were usually made in order to naturalise or improve the text. As a result of the additions, the Finnish narrative may have become slightly more explicit and easier to understand. However, some of the additions may have made the style of the Finnish narrative slightly more prolix, which, in turn, may have had a negative effect on text comprehension.

Concretisation. Another way to explicate the texts was to concretise the language. The concretisations, however, differed somewhat between the text types. In the non-literary

texts, the concretisations concerned terms with relatively abstract or broad meanings. Text 1 contained three such terms, one of them shown in example (65), and Text 3 one such term (example 66):

(65)	It must also provide players with good *stability* so that they do not slip on a wet ground or skid on a surface that is too dry.	Sen täytyy myös antaa pelaajille hyvä *pito*, jotta he eivät liukastele märällä kentällä tai luisu pinnalla, joka on liian kuiva. ('It must also provide players with good *grip* so that they do not slip on a wet ground or skid on a surface that is too dry.')
(66)	Houses newly *served by electrification project*	Talot, jotka on *liitetty sähköverkkoon* ('Houses that have been *connected to an electrical network*')

In example (65), the English text uses the abstract noun *stability*. The closest Finnish denotative equivalent for *stability* is 'vakaus, pysyvyys, tasapainoisuus'. The foreign words *stabiliteetti* or *stabiili(su)us* are also sometimes employed, but typically only in more learned contexts. In example (65), however, none of these renderings is used in the Finnish text. The reason for this may have been that, because of their abstractness, the translators may have considered all these renderings too vague or unnatural in this context. The term *stability* has accordingly been replaced by the noun *pito*, whose meaning is 'grip' and which, in place of a pure abstraction, refers to a slightly more specific and concrete quality.

In example (66), the English text employs the phrase *served by electrification project*. Translated literally, the Finnish for the noun phrase *electrification project* would be 'sähköistämishanke' and for the verb *serve*, correspondingly, 'toimia, palvella, hoitaa, hyödyttää'. However, in this context especially the verb *serve* seems to have a very hollow and close-to abstract meaning. This, in turn, made the translation of the whole phrase demanding. The translators, more specifically, may have had difficulty finding a proper equivalent for the phrase, because a literal translation with an equally hollow and vague meaning did not seem possible in Finnish. Therefore, in the Finnish text the whole phrase has been turned into a more concrete phrase, *liitetty sähköverkkoon* 'connected to an electrical network'.

The consequences of these concretisations are evident. Firstly, they inevitably lead to denotative non-equivalences. The meaning of *pito* is not quite the same as that of *stability*; nor is the meaning of *liitetty sähköverkkoon* exactly the same as that of *served by electrification project*. However, these non-equivalences do not seem to affect the overall content of the texts. Rather, they do appear to have simplified the Finnish texts to some extent and hence made the texts non-equivalent in difficulty. Concrete language, after all, is typically more tangible than abstract language and as such more straightforward to understand (Paivio, 1986; Sadoski & Paivio, 2001).

In the literary text (Text 2), the concretisations did not involve abstract terms. Rather, the concretised terms were words that were already concrete; semantically, however, they were either relatively "empty" or static. The main difference between these concretisations (11 in all) and those in the non-literary texts, however, was that when translated into Finnish, these words often became not only more concrete, dynamic and specific but also more descriptive and expressive. Consider examples (67) and (68):

(67)   It *came* from out there, from the river.

Ääni *kuului* ulkoa, joesta.
('The sound *was heard* from outside, from the river.')

(68)   As far as she could see, to the treetops where the opposite banks had been, the swamp *was* an empty sea, awash with sheets of rain, the river lost somewhere in its vastness.

Niin kauas kuin hän saattoi nähdä, eli puunlatvoihin saakka, sinne missä joen vastakkainen ranta oli ollut, suo *lainehti* autiona kaatosateen huuhtomana merenä, jonka äärettömyyteen joki oli hävinnyt.
('As far as she could see, that is, to the treetops where the opposite banks had been, the swamp *undulated as* an empty sea, in the vastness of which the river had disappeared.')

In example (67), the English text states simply that the crying sound *came* from the river. However, in the Finnish text the verb *came* has been replaced by a verb of sense perception which specifies that the sound *kuului* 'was heard' from the river. Similarly, in example (68) the English text uses the metaphor that *the swamp **was** an empty sea*, but in the Finnish text the empty verb *be* 'olla' has been turned into a more specific, descriptive and figurative verb, and the swamp is said to have **lainehtia** *autiona merenä* '**undulated** as an empty sea'.

In both cases, the terms could have been translated literally. However, the literal translations would not have been as typically Finnish as the translations actually adopted, suggesting that the concretisations were again motivated by the translators' desire to make the sentences sound as natural, idiomatic and Finnish as possible. Another reason for the concretisations might have been the translators' attempt to compensate for some of the numerous losses of figurative and expressive language from the Finnish narrative.

Even though the concretisations in the Finnish text are semantically somewhat more specific and descriptive than the corresponding terms in the English text, they do not seem to bring about great shifts in denotative equivalence. They still refer to the same phenomena. Neither do the concretisations appear to affect equivalence of difficulty in a significant way. For instance, in example (67) it is self-evident that the sound was heard, and in example (68) it is likewise obvious that, irrespective of the verb employed, the swamp being likened to a sea is a figure of speech. Moreover, from the point of view of comprehending the text as a whole, the concretisations only play very marginal roles.

However, the concretisations do seem to have an influence on the style of the Finnish text. In the first instance, they add expressivity and vividness to the Finnish narrative. At the same time they also partly make up for the loss of metaphors and stylistic nuances in the Finnish text, thereby contributing to a greater formal-aesthetic and possibly even pragmatic equivalence between the texts.

In sum, even though concretisations were found in all the texts, they were most common in the narrative text. Typically, the motivation for the concretisations was to make the text more idiomatic. In the non-literary texts, the concretised elements were terms with abstract or broad meanings. As a consequence of these concretisations, the meanings of the terms changed somewhat, the changes, however, being relatively insignificant. The Finnish texts, the expository text in particular, also became somewhat easier to comprehend. In the literary text the concretisations concerned words with relatively low informational value or broad meanings. In this text, the main consequence of the concretisations was added expressivity in the Finnish text and greater formal-aesthetic equivalence between the texts.

8.5.4.2 Simplification

The other subcategory of problems related to the translators' desire to improve and naturalise the texts was that of simplifications. Simplifications were largely the reverse of explicitations. However, they were far less numerous. The problems centred on either semantic or stylistic simplification and consisted in omissions and paraphrases.

Semantic simplification. Semantic simplifications occurred in the narrative (Text 2) and in the non-continuous text (Text 3). A majority of these simplifications were *omissions*. This was the case in the narrative text in particular, where all the simplifications (ten in all) were of this type. In addition, one omission was found in the non-continuous text. The omitted elements were either grammatical particles or words with grammatical meaning. Of these, grammatical particles were more numerous, with altogether eight occurrences in the two texts, seven in the narrative and one in the non-continuous text (one of them, from Text 2, given in example 69); the remaining four omissions, all found in the narrative, were words with grammatical meaning (one of them in example 70):

(69) And *there* on the porch, gnawed to whiteness, was what was left of the ham.

Ja kuistilla, valkeaksi kaluttuina, olivat kinkun tähteet.
('And on the porch, gnawed to whiteness, were the remains of the ham.')

(70) She *could* get rid of the cat while light still hung in the rain.

Hän hankkiutuisi puumasta eroon nyt, kun sateen läpi vielä tuli valoa.
('She would get rid of the panther now while light still came through the rain.')

In both the above examples, the English text contains grammatical information that has been omitted from the Finnish text. In example (69), where the English text emphasises the location of the remains of the ham by using the adverb *there*, the Finnish text leaves out the adverb and states simply that the remains were *kuistilla* 'on the porch'. In example (70), in a similar vein, the English text uses the modal auxiliary *could* to emphasise the woman's contemplating the *possibility* of getting rid of the panther. In the Finnish text, the modality of possibility has been omitted, and the text says plainly that the woman *hankkiutuisi puumasta eroon* 'would get rid of the panther'.

Neither of the omissions is obligatory. Instead, it would have been quite possible to translate both the sentences literally and say that the remains were *siellä, kuistilla* '**there**, on the porch' and that the woman *voisi hankkiutua puumasta eroon* '**could** get rid of the panther'. However, the forms actually chosen are shorter and simpler and seem to convey the basic meaning of the English sentences. For instance, in example (69) only the emphatic *there* is omitted. And in example (70) the sentence is in the conditional mood, which as such already implies non-factuality and therefore the translators may have thought that the correspondence would be close enough. The omissions thus appear to have been motivated by the translators' desire to simplify or improve the text.

In example (69), the omission does not seem to have any significant effect on meaning and denotative equivalence. Therefore, the omission may be assumed not to have a major negative effect on the comprehensibility of the Finnish text either. Rather, the ensuing greater brevity and simplicity of the Finnish sentence may even be an advantage, in that it may make the Finnish sentence slightly easier to understand than the corresponding English sentence.

In example (70), by contrast, the non-equivalence appears of greater significance. This is because in the English version the woman is only described as contemplating the possibility of getting rid of the panther, whereas in the Finnish text she already seems to have made up her mind to do so. Thus, the woman in the Finnish translation differs from the woman in the English source text, in that in the Finnish text she is presented as more determined, while in the original text one of the main characteristics of the woman is ambivalence and indecision. In example (70), then, the non-equivalence in modality and grammatical meaning may even be reflected in the interpretation of the story and, ultimately, affect equivalence of difficulty. Otherwise, however, the shorter length and greater simplicity of the Finnish sentence may make the Finnish version slightly easier to understand as compared to the English sentence.

The other type of semantic simplification found in the data was *paraphrasing*. Paraphrases only occurred in the non-continuous text, where there were two cases (examples 71 and 72):

(71)   New houses built *for beneficiaries*   Uusia *asuin*taloja rakennettu
                                                    ('New *dwelling* houses built')

(72)   New *positive boreholes* drilled   Uusia *porakaivoja* kaivettu
                                                    ('New bore wells drilled')

In example (71) the English text speaks about *houses built **for beneficiaries***. In the Finnish version, the adverbial *for beneficiaries* has been omitted and replaced with the compound *asuintaloja* '**dwelling** houses'. In example (72), likewise, where the English text refers to *new **positive boreholes** drilled*, the Finnish version has simplified the text by translating the phrase, not in the more literal way, as *uusia onnistuneita porausreikiä kaivettu* 'new successful boreholes drilled', *uusia porausreikiä kaivettu onnistuneesti* 'new boreholes drilled successfully' or *uusia onnistuneita porauksia suoritettu* 'new successful borings made', but more freely and straightforwardly, as *uusia **porakaivoja** kaivettu* 'new **bore wells** drilled'.

In both the examples, the phrases could also have been translated more or less literally. In example (71), it would have been possible to say, word-for-word, *uusia taloja rakennettu **edunsaajille*** 'new houses built **for beneficiaries**'. The rendering, however, appears very abstract, bureaucratic and even pompous. The translation actually used, *uusia asuintaloja rakennettu* 'new dwelling houses built', certainly sounds more normal and natural, especially in every-day contexts.

In example (72) the phrase might perhaps also have been translated as, for example, *uusia onnistuneita porauksia suoritettu* 'new successful borings made'. Here too, however, the actual rendering, *uusia porakaivoja kaivettu*, is a better choice, whereas the more literal translation, with its largely vague (*onnistuneita* 'successful') and empty words (*suoritettu* 'made') and nominalisation (*porauksia suoritettu* 'borings made') again sounds abstract, hollow and bureaucratic; moreover, the meaning of the rendering is obscure and vague, with no hint as to what the borings are made for. Besides, in normal Finnish usage and contexts, *positive* or *successful boreholes* are referred to as *porakaivot* 'bore wells'. In both the above examples, the motive for simplifying the renderings thus seems to have been the translators' desire to improve the text and to make it idiomatic and natural.

The simplifications have several consequences for the texts. The first, most obvious consequence is that they also affect meaning and denotative equivalence. The entries, moreover, appear non-equivalent in difficulty: as a result of the simplifications, the Finnish entries, with their direct references to dwelling houses and bore wells, become not only shorter, but also more transparent, more explicit and more to-the-point, and therefore also less complicated to understand. In addition, the first entry is made slightly easier by the substitution of the word *asuintaloja* for *for beneficiaries*, because the substituted term is more frequent and familiar than the original English rendering (Chall, 1958; Chall & Dale, 1995; Klare, 1963).

Still a third consequence of the simplifications is that the style of the Finnish non-continuous text becomes slightly less formal, bureaucratic and frozen than that of the English text. This connotative non-equivalence might even affect the comprehensibility of the texts, in that the less formal Finnish text might be found more interesting to read, which, in turn, might lead to better comprehension (Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991).

To summarise, semantic simplifications were made in the narrative and the non-continuous text but not in the expository text. Once again, however, they were most numerous in the narrative text. The majority of the simplifications were omissions, and generally, the motivation behind them was the translators' aspiration to naturalise or improve the text. In the narrative text, the simplifications consisted in omissions of grammatical particles or grammatical meaning. On one hand, these simplified the Finnish narrative, making it slightly shorter and easier to understand. On the other hand, however, especially as concerns the omissions of modality, they did away with some of the nuances and clues present in the English text that helped to interpret the text. In the non-continuous text the simplifications were paraphrases or omissions. As a result, the Finnish non-continuous text ended up somewhat shorter, simpler and easier to comprehend. At the same time, it also became stylistically less formal and bureaucratic, which may further have increased the relative ease of the text.

Stylistic simplification. In addition to the numerous scattered cases where the Finnish texts became, inadvertently, stylistically simpler and flatter, the texts also contained simplifications that seemed more deliberate. These occurred mainly in the narrative text (Text 2), though two cases were also found in the expository text (Text 1).

Most of the stylistic simplifications concerned depersonalisation. Consider example (73), which is the heading of Text 1, and example (74), taken from Text 2:

(73)   *Feel* good in *your* runners   Hyvä olo lenkkareissa
                                                ('A good feeling in runners')

(74)   Staring into the dark, she eased back   Tuijottaen pimeyteen hän hivuttautui
        on the bed until *her hand caught* the taaksepäin vuoteellaan, kunnes *tunsi*
        cold shape of the rifle.   *käsissään* kiväärin kylmät muodot.
                                                ('Staring into the dark she eased back
                                                on her bed, until *felt in her hands* the
                                                cold shapes of the rifle.')

In example (73), the English text employs the second person imperative *feel* and the second person possessive pronoun *your* to address the reader. However, in the Finnish text the pronoun has been left out and the verb has been turned into an abstract and static noun, *olo* 'feeling'. In example (74), similarly, the English text uses a personification, **her hand caught** *the cold shape of the rifle*, whereas in the Finnish text the actor is the woman who *tunsi käsissään kiväärin kylmät muodot* 'felt in her hands the cold shapes of the rifle'.

In both the examples, the incentive for the depersonalisations seems to have been the translators' wish to make them more idiomatic and Finnish. In example (73), the literal translation *Tunne olosi hyväksi lenkkareissasi*, although grammatically possible, sounds very clumsy, un-Finnish and unattractive. Besides, contrary to what is the case in English, directly addressing the reader by using personal pronouns is not common in Finnish expository writing, where a more neutral style seems to be preferred (see Saukkonen, 1982, 1984). In example (73), the rendering *Hyvä olo lenkkareissa* 'A good feeling in runners' is a much more fluent, Finnish and catchy heading. In example (74) a literal translation, *hänen kätensä tavoitti kiväärin kylmät muodot*, would likewise have been possible. However, compared not only to the actual translation but also to the original English sentence, this clause appears artificial, forced and sterile. The actual translation is again a smoother, more idiomatic and more appealing rendering.

The depersonalisations seem to have slightly differing consequences in the two texts. In the expository text, apart from example (73), there was only one case where a depersonalisation closely comparable to that in the example was employed. This was one of the subheadings of the text, where the English version used second person singular imperatives (*Protect, support, stabilise, absorb*); in the Finnish text, however, the imperatives were replaced by nouns (*Suojaa, tukea, pitoa, vaimennusta* 'Protection, support, grip, absorption'). Quantitatively, the simplifications in the expository text are not significant. What makes them important, however, is their prominence in the text – their occurring in the headings of the text.

In the expository text the first consequence of the depersonalisations is that the Finnish text becomes less personal, more detached, more formal, and more matter-of-fact. At the same time the Finnish text may also lose some of its interestingness, which, in turn, may be negatively reflected in the motivation of Finnish readers to read the text and, ultimately, in their understanding the text (Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994;

Weaver & Kintsch, 1991). The connotative non-equivalence may thus further result in a non-equivalence of difficulty.

In addition, because of the depersonalised main heading, Finnish readers also appear to be provided with less definite signals and clues as to what to expect from the content of the text. English readers, who are addressed directly by means of the imperative and the personal pronoun, may find it evident that the text will provide them with directions and instructions as to what to do to feel good in their runners. The heading in the Finnish text, by comparison, seems to refer to a more general and neutral account. Therefore, Finnish readers might expect a less instructive and a more purely expository text. The depersonalised heading in the Finnish text, in other words, appears somewhat less predictive of the actual content of the text and less helpful in construing the text.

In the narrative text, where there were three cases of personification that were depersonalised when translated into Finnish, one of the apparent consequences of the simplifications is, again, stylistic flattening. Together with all the other flattenings, this formal-aesthetic non-equivalence may play a role in decreasing the appeal of the Finnish text, thereby making it not only pragmatically non-equivalent to the English text but also slightly more difficult to understand (see Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991).

Another, more subtle, consequence of the depersonalisations in the narrative text is a shift in agency, responsibility and, in the end, the characterisation of the woman. In the English version of example (74), it is the woman's hand, not the woman herself, that is described as having reached for the rifle, obviously with the intention of killing the panther. In the English narrative, the woman is thus cleared of the responsibility for contemplating killing a living creature. Instead, the blame is on her hand, which seems to be acting largely of its own accord. In the Finnish narrative, by contrast, the one getting hold of the gun is the woman. Consequently, in the Finnish narrative the responsibility lies more with the woman, although her responsibility is somewhat mitigated by her being not an active agent in the clause but an experiencer who *tunsi* 'felt' the gun in her hands. In the English narrative, owing to the use of the personification, the woman is portrayed as slightly less malicious, calculating and cold-blooded. This difference in the characterisation of one of the protagonists, in turn, may prove consequential in interpreting the text.

Apart from the depersonalisations, there was one other case of stylistic simplification in Text 2. In this case the simplification had to do with word order and thematic foregrounding (example 75, with the themes of the sentences italicised):

(75)   In the night, while she slept, it claimed the road... *Now even against the tarred planks of the supports the waters* touched. *And still they* rose.

Yöllä, kun hän nukkui, se valtasi tien… *Nyt vesi jo* tavoitteli tukirakenteiden tervattuja lankkuja. *Ja se* nousi yhä. (*'In the night, while she slept, it claimed the road... *Now the water already* touched the tarred planks of the supports. *And it* rose still.')

The extract in example (75) shows the last three sentences of the opening paragraph of Text 2. What is especially interesting about the English version of the extract is the thematic structure of the sentences. All the sentences have temporal themes. In the third last sentence the temporal theme is *In the night, while she slept*, in the second last sentence *Now*, and in the last sentence *still*. What is even more interesting, however, is that the theme of the second last sentence is marked. The theme could also have been the ummarked *Now the waters*, with *even against the tarred planks of the supports* moved to rheme position. However, the marked version seems to have been expressly chosen for stylistic effect, to emphasise the power and force of the rapidly rising flood waters.

By contrast, in the Finnish text the key principle in translating the sentences appears to have been naturalness, fluency and unmarkedness. Changes were thus made to the second last sentence, where the original ordering, with the subject and predicate at the end, would have been more suited for a poem than for a prose text. The sentence was accordingly turned into *Nyt vesi jo tavoitteli tukirakenteiden tervattuja lankkuja* 'Now the water already touched the tarred planks of the supports', with only *Nyt vesi jo* in theme position. In the last sentence, on the other hand, the original structure would have been quite natural. However, the literal rendering *Ja yhä se nousi* 'And still it rose' would have been slightly more emphatic than the rendering preferred by the translators (*Ja se nousi yhä* 'And it rose still'), which thus appears to have been preferred because of its still greater conventionality and unmarkedness.

The first consequence of the above dethematisations is a non-equivalence in difficulty between the English and Finnish sentences, the Finnish sentences apparently being slightly easier to understand than the English ones. This is not only because the word order in the Finnish sentences is more unmarked, expected and familiar than

that of the English sentences; it is also because in the Finnish sentences the head words are given early, and therefore less burden is in all likelihood put on the short-term memory of Finnish readers (Anderson & Davison, 1988; Bever & Townsend, 1979; Kemper, 1987; Nida & Taber, 1969; Schlesinger, 1968; Yngve, 1960).

The dethematisations also make the Finnish narrative textually non-equivalent to the English narrative: in the Finnish narrative, the themes in the first paragraph are not as neatly temporal as they are in the English text. Even though the individual sentences thus seem to be somewhat easier to understand in the Finnish narrative, textually the English version appears more cohesive and as such slightly simpler to comprehend than the Finnish one (Kintsch & van Dijk, 1978; see also Meyer, 1982).

Yet a third consequence of the greater stylistic simplicity and unmarkedness of the Finnish narrative is that the Finnish text once again forfeits a portion of its aesthetic and dramatic force, becoming stylistically somewhat flatter than the English narrative. This formal-aesthetic non-equivalence, in turn, might lead to a non-equivalence of difficulty, because stylistic flatness easily reduces the appeal and, in the end, the comprehensibility of a text (see Anderson & Davison, 1988; Green & Olsen, 1988; Guthrie & Wigfield, 2000; Mathewson, 1994; Ruddell & Unrau, 1994; Weaver & Kintsch, 1991).

In summary, stylistic simplifications were most common in the narrative text, with two simplifications, however, occurring in the expository text. The simplifications were either depersonalisations or dethematisations and were made to idiomatise and improve the texts. The most evident consequence of all the simplifications was that both the Finnish texts ended up stylistically flatter, which, in turn, may further have added to their difficulty. Moreover, in the expository text, where both the simplifications were depersonalisations and occurred in headings, the Finnish version also became less easy to predict and understand, a finding which emphasises the need to pay special attention to the translation of headings. In the narrative text the simplifications consisted in both depersonalisations and dethematisations, resulting in the former case in the Finnish narrative becoming slightly less helpful in interpreting the story, while in the latter case making the individual Finnish sentences slightly easier to understand. At the same time, however, they also changed the thematic structure of the text, thereby rendering the Finnish text somewhat harder to comprehend. Interestingly enough, this finding highlights the conflict that often obtains between different types of equivalence and the compromises that frequently have to be made in international reading literacy studies.

8.5.7   Summary

In view of the above, it is clear that the translation process itself, translators and their choices are one potential source of equivalence problems in international reading literacy studies. In this analysis these problems were found to consist in interference problems, writing errors, mistranslations, and problems related to the translators' desire to improve and naturalise texts.

Among these, improvement and naturalisation problems were clearly the most common, followed by writing errors, mistranslation and, finally, interference. At least in this study, then, the translators' tendency to explicate and improve the target texts seemed to be stronger than their desire to adhere closely to the source texts.

The aggregate number of all the translator-induced problems was clearly greatest in the narrative text. Moreover, with the exception of interference problems, which only occurred in the expository text, all the individual problem types were also most common in the narrative text. In the narrative text, the problems, more specifically, included writing errors, mistranslations of polysemous words, additions of both grammatical and content words, concretisations of "empty" words, omissions of words with grammatical meaning and, finally, depersonalisations and dethematisations.

Not counting the nine occurrences of slashes in the non-continuous text, the total number of translator-based problems was second greatest in the expository text and smallest in the non-continuous text. In the expository text the problems comprised interference problems, writing errors, mistranslations of idioms, additions of grammatical particles, concretisations of abstract language and depersonalisations. The problems in the non-continuous text, on the other hand, included writing errors, mistranslations of compact language, concretisations of close-to abstract language, and simplifications or paraphrases of lexical meaning. Interference thus seemed to be a problem in the expository text in particular. The expository text, on the other hand, was the only text type where there were no semantic simplifications. Moreover, no additions were found in the non-continuous text, which despite its inherent compactness did contain a few semantic simplifications.

The consequences of these problem categories were far from identical. The consequences of the interference problems, the writing errors and the mistranslations, to start with, were all negative, whereas those of the improvement and naturalisation problems were more positive. However, the negative consequences of the first three problem types differed in significance.

The most critical problem category seemed to be mistranslations, which resulted in all the Finnish texts being not only denotatively non-equivalent to the English source texts but also at times incoherent and unintelligible. The next most serious problem type was interference problems, which made the language of the Finnish expository text slightly unidiomatic and even ungrammatical, and as such somewhat more difficult to understand than that of the English text. The consequences of the writing errors, on the other hand, were more or less insignificant, their main effect possibly being a tiny negative attitude in some Finnish readers towards the text and the reading test.

In comparison with the above, the consequences of the problems related to the strategies used by the translators to improve and naturalise the texts were more varied. Most of the strategies did improve the Finnish texts and made them slightly easier to understand than the English source texts. This was the case with the additions of grammatical particles, the concretisations of abstract language and the simplifications of lexical meaning in particular, which added to the explicitness, concreteness and preciseness of the Finnish texts, making them shorter and less complicated. However, some of the strategies appeared on the contrary to increase the difficulty of the Finnish texts. This seemed to be especially true of the additions of content words, which appeared to add distracting information to the Finnish narrative.

Some of the improvement and naturalisation strategies also led to problems on the thematic and textual level. For instance, the grammatical particles added to the Finnish expository and narrative text resulted in the Finnish texts gaining somewhat in cohesiveness and, ultimately, in comprehensibility. The dethematisations made in the Finnish narrative, on the other hand, had a contrary effect: they reduced the cohesiveness and comprehensibility of the Finnish narrative. These findings provide further evidence that it is important in international reading literacy studies to take into account thematic factors and textual equivalence.

Besides thematic factors and textual equivalence, stylistic and aesthetic factors and connotative and formal-aesthetic equivalence should also be allowed for. In this analysis, stylistic shifts were found to be most common in the narrative text. Most of these shifts, moreover, were negative and resulted in the Finnish narrative becoming more prolix, less interesting and less supportive of the meaning of the story. These effects, in turn, may themselves both have added to the difficulty of the Finnish text. The Finnish expository text, for its part, ended up stylistically somewhat less personal and flatter, which may further have had a slight negative effect on its comprehensibility. On the other hand, the Finnish non-continuous text, from which some lexical

meanings were omitted, became somewhat less formal and less bureaucratic and hence possibly also slightly easier to understand than the English text.

In addition to all the above problems, further problems were sometimes caused by different types of equivalence being in conflict with each other. When this was the case, pursuing one type of equivalence inevitably led to non-equivalences of some other type. For example, omitting grammatical particles and meanings from the Finnish narrative simplified and shortened the text, thereby making it slightly easier to understand. At the same time, however, some stylistic nuances and clues that could have helped in interpreting the text were lost. Similarly, thanks to the dethematisations in the Finnish narrative the word order in some individual Finnish sentences ended up being less marked and easier to understand. At the same time the thematic structure and the style of the Finnish text suffered, which in itself may have had a negative effect on the comprehensibility of the text.

Taken together, in the light of this analysis, the Finnish expository and narrative texts appeared slightly more difficult to understand than the corresponding English texts. The Finnish non-continuous text, on the other hand, seemed easier than its English counterpart. However, the differences were usually small.

8.6   Problems related to editing

The last category of equivalence problems was problems related to editing. In their instructions, the translators were reminded of the need to respect the layout of the source texts (see Appendix II). While translating and processing the texts it was important to make sure that no unnecessary changes were made, for instance, to the page set-up, because exterior factors also serve as cues for interpreting texts (Goldman & Rakestraw, 2000; Meyer, 2003). However, there was one case in the data where the layout of the source text was changed, seemingly because of an error was made in editing the text.

8.6.1   Error in editing and unclear signalling of text structure

The error found appeared in Text 1 and had to do with paragraphing and the explicit signalling of text structure (example 76, with the original italics):

(76)   A good sports shoe must meet four criteria:

Firstly, it must *provide exterior protection*: resisting knocks from the ball or another player, coping with unevenness in the ground, and keeping the foot warm and dry even when it is freezing cold and raining

It must *support the foot*, and in particular the ankle joint, to avoid sprains, swelling and other problems, which may even affect the knee.

It must also provide players with good *stability* so that they do not slip on a wet ground or skid on a surface that is too dry.

Finally, it must *absorb shocks*, especially those suffered by volleyball and basketball players who are constantly jumping.

Hyvän urheilukengän tulee täyttää neljä kriteeriä:

Ensimmäiseksi sen täytyy *antaa ulkoista suojaa*: suojata pallon ja toisen pelaajan osumilta, selviytyä maanpinnan epätasaisuuksista sekä pitää jalka lämpöisenä ja kuivana silloinkin, kun on jäätävän kylmä ja sataa.

Sen täytyy *tukea jalkaa* ja erityisesti nilkkaniveltä, jotta vältettäisiin nyrjähdykset, turvotukset ja muut ongelmat, jotka saattavat vaikuttaa myös polveen. Sen täytyy myös antaa pelaajille hyvä *pito*, jotta he eivät liukastele märällä kentällä tai luisu liian kuivalla pinnalla.

Lopuksi sen täytyy *vaimentaa tärähdyksiä*, erityisesti sellaisia, joille alituiseen hyppivät lentopallon ja koripallon pelaajat altistuvat.

(*'A good sports shoe must meet four criteria:

Firstly it must *provide exterior protection*: protect from knocks from the ball or another player, cope with unevenness in the ground and keep the foot warm and dry even when it is freezing cold and raining

It must *support the foot*, and in particular the ankle joint, to avoid sprains, swellings and other problems, which may affect even the knee. It must also provide players with a good *grip* so that they do not slip on a wet ground or skid on a too dry surface.

Finally it must *absorb shocks*, especially such as constantly jumping volleyball players and basketball players expose themselves to.')

In example (76), the English text uses various ways to signal the hierarchical structure of the text and to make it clear and transparent: a superordinate introductory sentence; paragraphing (one paragraph per sub-point) and other, lower-level punctuation marks (the colon following the introductory sentence and the commas marking off the sequential connectors); italics (key words); repetition of sentence structure (*it must…*); and sequential connectors (*firstly, finally*).

In the Finnish text, one of these signalling devices, paragraphing, which because of its high position in the hierarchy of punctuation marks (see Quirk et al., 1985, pp. 1611-1612) is probably one of the most important, is slightly distorted. Hence, instead of examining the four sub-points separately, each in its own paragraph, the Finnish text merges paragraphs three and four together, discussing sub-points two and three in one and the same paragraph.

There does not seem to be any rational explanation for the Finnish text's deviant paragraphing, which appears rather to be due to pure human error. The error, moreover, could have occurred either during the translation process or during the technical editing of the text. In other words, it may have been made either by the translators or by the technical editors of the text.

The consequences of the error seem unexpectedly far-reaching. Firstly, on account of the merging of the two paragraphs, not only the transparency of the text structure but also the well-structuredness and cohesiveness of the Finnish translation suffer. As a result, the structure of the Finnish text becomes less suggestive of the content of the text and the text itself ends up being less coherent than the English one. At the same time, the Finnish translation also appears to be less fully in line with the conventions of plain, simple and to-the-point journalistic writing, and hence more against the expectations of readers than the English text.

As a consequence of all this, it may be expected to have been easier for English readers to find, for example, the four sub-points of the text, asked in one of the questions, and to construct the meaning of the text (Kemper, 1983). What thus started as a seemingly harmless technical slip-up in the end had an important impact on textual equivalence and even on equivalence of difficulty.

8.6.2   Summary

In the light of the above, even apparently small editing errors may cause significant equivalence problems in international reading literacy studies. In this study a layout error in the expository text evidently resulted in the Finnish text losing transparency, cohesiveness and coherence. The text was no longer equivalent – textually and in difficulty – to the English text.

CHAPTER 9

Results

9.1 Six major categories of equivalence problems

The analysis revealed six major categories of equivalence problems: problems related to language-specific differences in grammar, problems having to do with language-specific differences in writing systems, problems concerning language-specific differences in meaning, problems associated with differences in culture, problems related to strategies used and choices made by the translators, and problems linked to editing.

9.1.1 Problems related to language-specific differences in grammar

The problems in the first category related to language-specific differences in grammar, which made it impossible for the English and Finnish texts to be fully equivalent to each other (Figure 9.1[2]). The differences, more specifically, consisted in formal non-

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[2] The arrows in the figures have solid lines or dashes depending on the strength, significance or certainty of the effect. With solid lines the effect may be expected to have been stronger, more significant or more certain than with dashes.
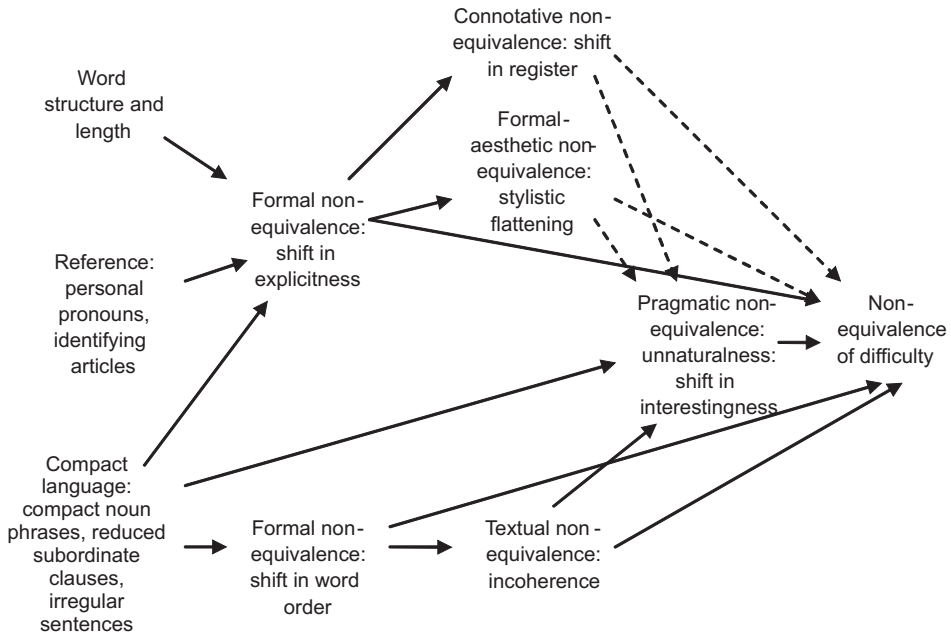
Figure 9.1 *Non-equivalences caused by language-specific differences in grammar.*

equivalences in three specific areas: word structure and length; compact language, especially as concerns compact noun phrases, reduced subordinate clauses and irregular sentences; and reference, or more precisely, personal pronouns and identifying articles. These in turn frequently resulted in differences in explicitness and word order and, ultimately, in individual words and clauses in the English and Finnish texts not being fully equivalent in difficulty.

These non-equivalences, even more importantly, often brought about also textual, connotative, formal-aesthetic or pragmatic non-equivalences. For instance, the thematic patterning of the Finnish non-continuous text (examples 21–26) ended up being distinctly less coherent than that of the English text, the Finnish narrative became stylistically somewhat flatter and less interesting than the English narrative, and the Finnish non-continuous text finished up less natural and fluent than the English text. These non-equivalences, especially those on the textual and pragmatic level, further made the Finnish texts somewhat more difficult to understand than the English texts.

Of the different types of non-equivalence, formal-aesthetic non-equivalence in particular was often in conflict with non-equivalence of difficulty. For example, the nouns used in place of personal pronouns in the Finnish narrative may be expected to have made the Finnish text slightly more explicit and easier to understand than the English text. At the same time, however, they also deprived the Finnish narrative of part of its stylistic and aesthetic force, which in turn may have had a negative effect on the comprehensibility of the text.

The total number of the non-equivalences of difficulty caused by language-specific differences in grammar found in the study was 128 (Figure 9.2), i.e. 5.7% of the total number of the words in the three texts. Especially frequent among the non-equivalences were those caused by differences in reduced subordinate clauses (51 in all). Those caused by differences in word structure and length were also common (34), whereas those caused by differences in the reference systems and irregular sentences were somewhat rarer (21 and 18 respectively). Altogether, compact language seemed to be a very common source of non-equivalence (73 cases).
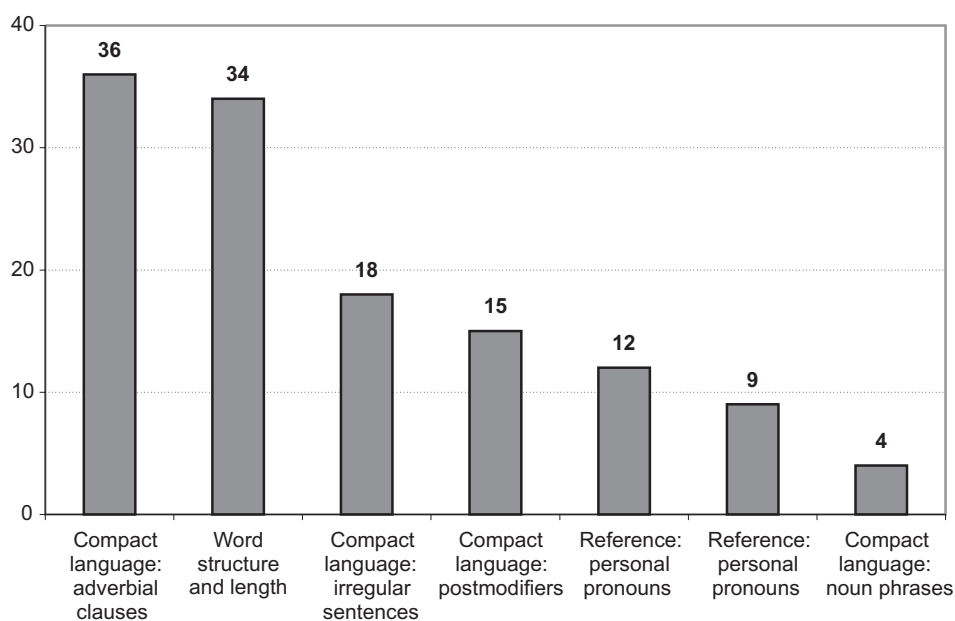
Figure 9.2 *Number of non-equivalences of difficulty caused by differences in grammar (N=128).*

199

9.1.1.1 Comparison of the problems across the text types

Non-equivalences caused by language-specific differences in grammar were found in all three texts (Table III.1, that is, Table 1 in Appendix III, and Figure 9.3). In absolute numbers, they were most common in the narrative text (76), second most common in the non-continuous text (30), and least common in the expository text (22). However, when adjusted to the length of the texts, the picture was completely different: proportionally, the non-equivalences were clearly most common in the non-continuous text (15.3% of the words in the text), second most common in the expository text (5.7%) and least common in the literary text (4.5%).
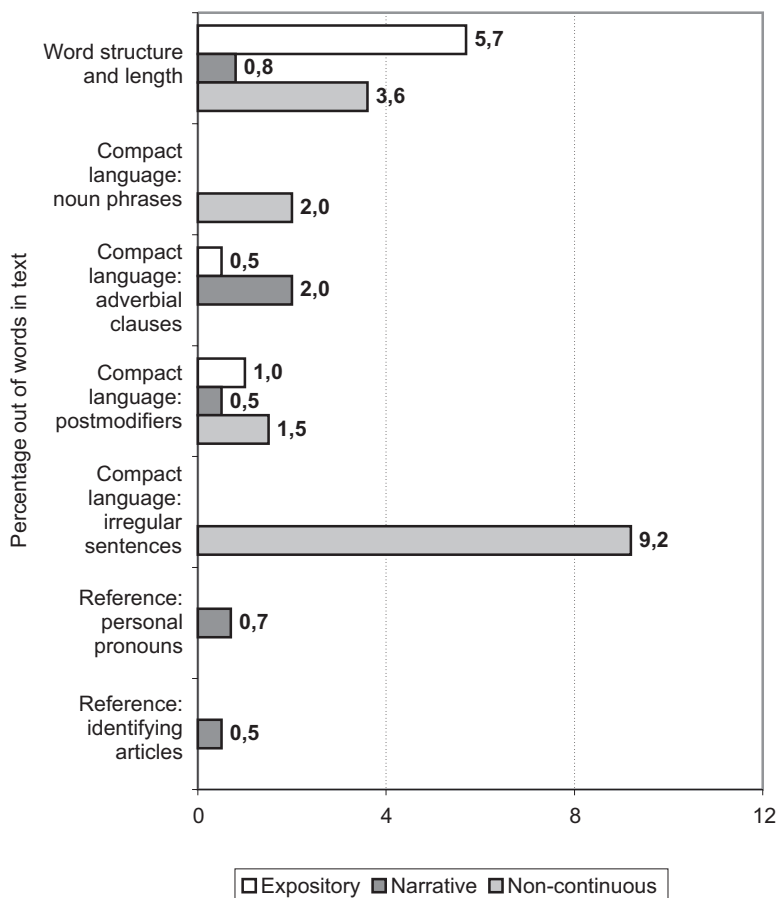
Figure 9.3 *Percentage of non-equivalences of difficulty caused by language-specific differences in grammar, by text type.*

The specific problem areas also differed somewhat between the text types. Reference, for example, only caused problems in the narrative text; irregular sentences and compact noun phrases were a problem only in the non-continuous text; reduced adverbial clauses were most problematic in the narrative text; and long words particularly caused problems in the expository text.

Looking at the situation from the point of view of the texts, the non-equivalences in the expository text mainly derived from differences in word length, though problems were also caused by reduced subordinate clauses; in the narrative text the non-equivalences primarily arose from differences in reduced subordinate clauses and reference systems; in the non-continuous text the main source of non-equivalence was compact language.

9.1.1.2 *The impact of the non-equivalences on text difficulty*

The non-equivalences varied in their significance. Some of them resulted in the Finnish and others in the English texts becoming slightly more difficult to understand (Figure 9.4). Among the former group were greater word length and lack of articles, while among the latter were compact noun phrases and a more extensive use of personal pronouns, though the smaller number of pronouns in the Finnish narrative may also have had a negative effect on the style of the text. Reduced subordinate clauses sometimes led to increased difficulty in the English texts and sometimes in the Finnish texts.

Taken together, the number of the non-equivalences making the Finnish texts harder to understand was twice as high (87) as that of the non-equivalences resulting in increased difficulty in the English texts (37 + 4 = 41). This seems to suggest that as far as grammatical structure is concerned, the Finnish texts may have been slightly more complicated to understand than the English texts. However, while this may have been true to a certain extent, it should be remembered that most of the non-equivalences were small and apart from a few exceptions, may be expected to have affected mainly the least skilled readers only. This seems to be all the more so because most readers are at any rate used to the grammar and structures of their own language and to reading texts in their own language, no matter how difficult or easy it may be.

However, the non-equivalences were also incommensurate: for instance, the non-equivalences produced by differences in the use of articles seemed less significant than those caused by differences in personal pronouns and compact noun phrases. When
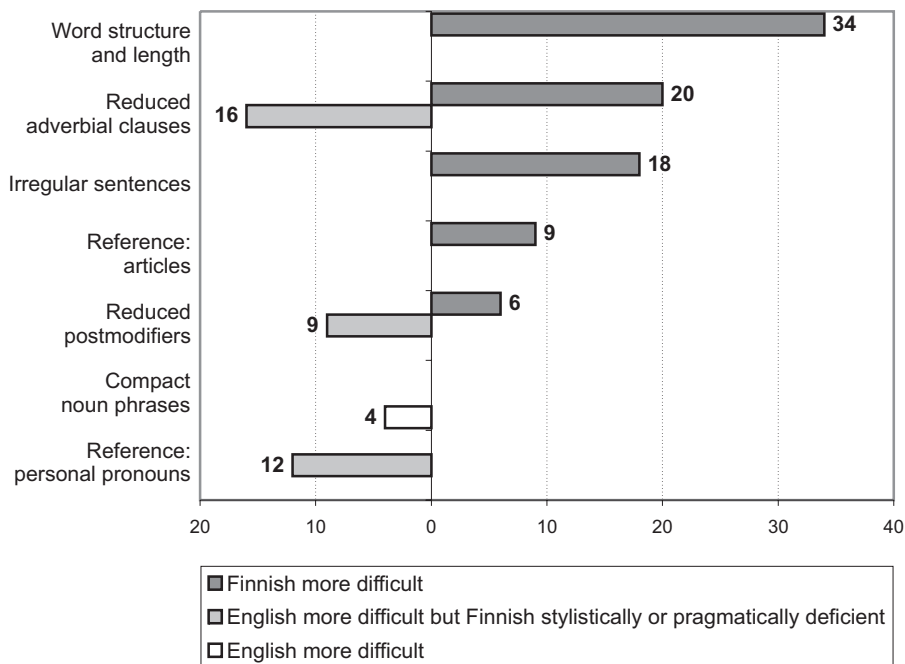
Figure 9.4 *Non-equivalences of difficulty caused by differences in grammar, by language.*

examined together, therefore, a significant number of the non-equivalences appeared to be largely compensated for, leaving the actual non-equivalences of difficulty between the English and Finnish texts much smaller than suggested by the mere numbers.

There was one exception to this. This was when the surface structure of a formally non-equivalent reduced subordinate clause was specifically addressed in one of the questions (example 9), in which case the question proved unequally difficult in the two languages. This seems to suggest, first, that individual micro-level non-equivalences, even though generally not decisive, may be significant if they are specifically addressed in the questions; and second, since languages vary considerably in form, questions where the form and exact wording of language play a central role are ill-suited for international reading literacy studies.

9.1.1.3 Summary

In sum, the results show that language-specific differences in grammar were a problem, not only because they often made it impossible for individual structures in the English and Finnish texts to be equally difficult, but also because they frequently further resulted in the Finnish translations being textually incoherent, stylistically flatter and more neutral and unidiomatic and, in the end, possibly slightly more difficult to understand than the English texts. Especially problematic in this respect were compact structures, differences in word length and reference, and differences in explicitness and order. However, the non-equivalences were usually small and inconsistent. Therefore, except for the least skilled readers, most of the non-equivalences may be expected not to have had a great impact on the comprehensibility of the texts. Relatively speaking, the non-equivalences were more common in the non-literary texts than in the literary text and most common in the non-continuous text.

9.1.2 Problems related to language-specific differences in writing systems

The second major problem category, which like the previous one was also concerned with the (written) form of language, was that of problems related to language-specific differences in the writing systems, which showed that even seemingly small differences may sometimes lead to significant non-equivalences (Figure 9.5). The non-equivalences in this category arose from differences in orthography, initial letters and alphabetical order, and in punctuation and the use of the comma.

In the first case, the differences in initial letters were notable in that they resulted in the Finnish non-continuous text failing to respect alphabetical order and thus being less coherent than the English text (see pp. 148–149). This incoherence, illogicality and textual non-equivalence may have unduly distracted some Finnish readers, thereby leading to a pragmatic non-equivalence, which, again, may have had a negative effect on their comprehension of the text. However, given the non-continuous nature and the clear structure of the text, this effect may be assumed to have been relatively insignificant.

Differences in the use of the comma – with English favouring a more semantic and rhetorical and Finnish a more grammatical use of the comma (examples 31 and 32) – were a problem because they resulted in the Finnish expository text signalling sentence
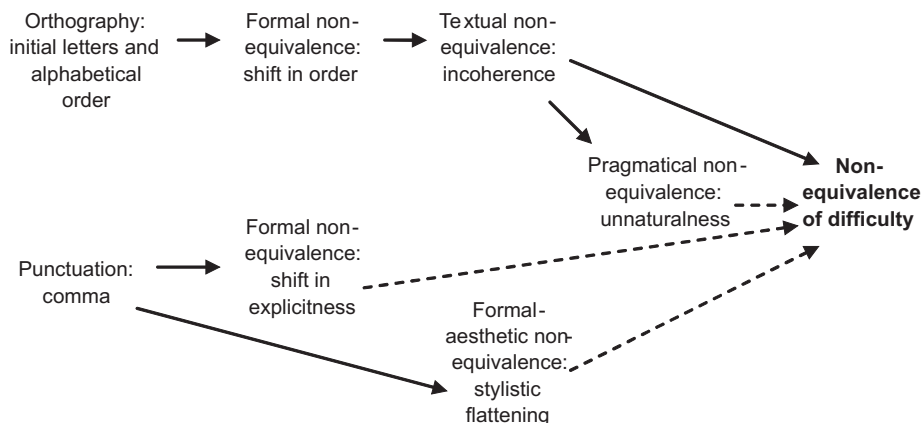
Figure 9.5 *Non-equivalences caused by language-specific differences in the writing systems.*

structure somewhat less explicitly than the English text, which in turn may have made the Finnish text slightly more difficult to understand. In the narrative text the differences resulted in a formal-aesthetic non-equivalence, since in the English narrative the comma served a rhetorical purpose, underlining the atmosphere of the story, whereas in the Finnish narrative the use of the comma was somewhat less rhetorical, more neutral and less supportive of the story. This may have slightly increased the relative difficulty of the Finnish narrative.

The total number of the non-equivalences of difficulty caused by language-specific differences in the writing systems amounted to 33 (1.4% of the words in the three texts). With one exception, these all (32) derived from differences in punctuation and in the use of the comma, with the rhetorical use of the comma proving especially problematic. The remaining non-equivalence was caused by a difference in orthography and initial letters.

9.1.2.1 Comparison of the problems across the text types

The non-equivalences appeared in all three texts (Table III.2 and Figure 9.6). However, they were clearly most common in the narrative text (30 or 1.7% of the words in the text), with only two non-equivalences (0.5%) found in the expository text and one (0.5%) in the non-continuous text. The distribution of non-equivalences also differed

Figure 9.6 *Percentage of non-equivalences of difficulty caused by language-specific differences in writing systems, by text type.*

between the text types. Orthography and initial letters only caused problems in the non-continuous text, where the structure of the text was, in part, based on alphabetical order. The comma, for its part, was a problem solely in the two continuous texts.

9.1.2.2 The impact of the non-equivalences on text difficulty

As distinct from the previous problem category, the non-equivalences caused by differences in the writing systems consistently led to increased difficulty in the Finnish translations (Figure 9.7). However, the added difficulty was usually largely inconsequential. This was the case with all 32 non-equivalences arising from differences in the use of the comma in particular. By contrast, the consequences of the non-equivalence deriving from orthography seemed slightly more significant, albeit not decisive. All in all, the real effects of the non-equivalences on the comprehensibility of the English and Finnish texts may therefore be expected to have been infinitesimal.

Figure 9.7 *Non-equivalences of difficulty caused by differences in writing systems, by language.*

9.1.2.3 Summary

Language-specific differences in the writing systems were a problem, because they consistently resulted in the Finnish translations being less explicit, less coherent, stylistically flatter, less natural and, in the end, also more difficult to understand than the English text. However, most of the non-equivalences, especially those caused by differences in the use of the comma, were again relatively small and insignificant. While the non-equivalences were most common in the narrative text, the most notable non-equivalence seemed to be the single instance having to do with alphabetisation found in the non-continuous text.

9.1.3   Problems related to language-specific differences in meaning

The third problem category, which differed from the above two categories in that it had to do, not with the structure and form of the texts but with their content, was that of problems related to language-specific differences in meaning (Figure 9.8). The differences centred on three specific semantic areas: specialised terminology; polysemy, connotations and aspectuality; and figurative language and metaphors.
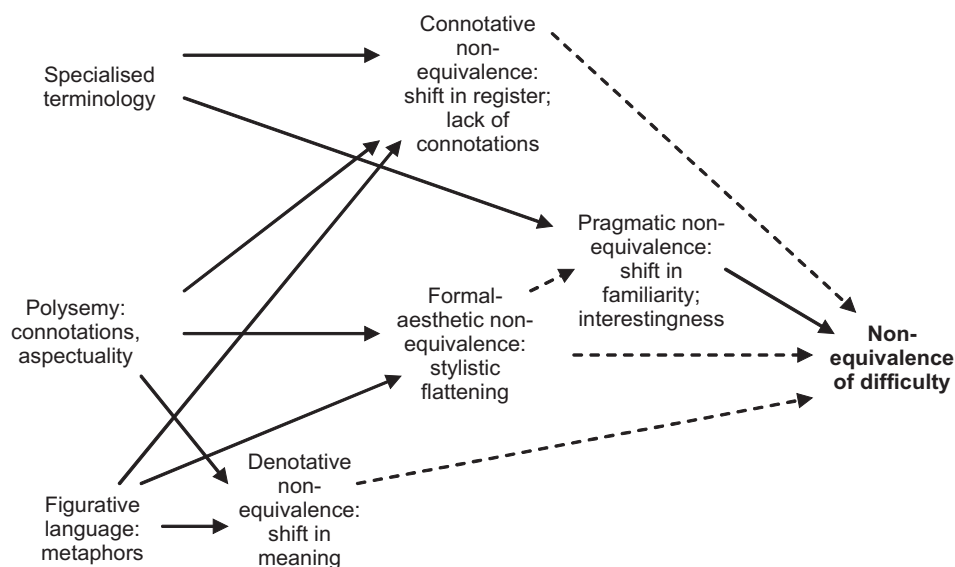
Figure 9.8 *Non-equivalences caused by language-specific differences in meaning.*

The differences further resulted in other, more serious non-equivalences. For instance, the vocabulary of the Finnish expository text became more familiar in character than that of the English text (examples 36–41), the end result being a pragmatic non-equivalence and a greater degree of comprehensibility in the Finnish text. The English and Finnish expository texts also proved slightly unequal in register, the English text representing more learned and the Finnish translation more popular exposition. In the narrative text, on the other hand, the differences resulted in the Finnish text being stylistically simpler and flatter, which in turn may also have slightly added to the difficulty of the Finnish text.

The total number of the non-equivalences of difficulty caused by language-specific differences in meaning found in the study amounted to 55 (2.4% of the words in the three texts; Figure 9.9). Two-thirds (31) of these had to do with polysemy, 15 with specialised terminology and 9 with metaphors.
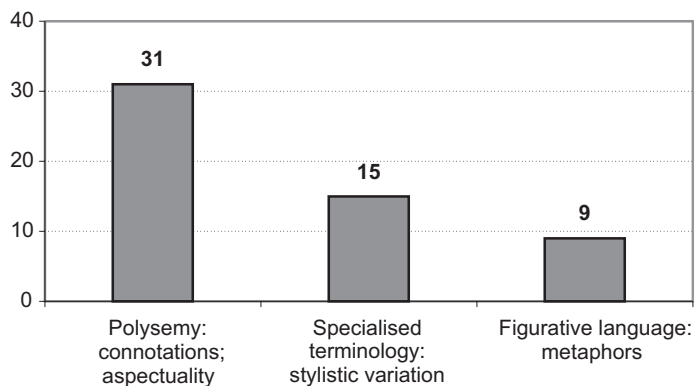
Figure 9.9 *Number of non-equivalences of difficulty caused by language-specific differences in meaning (N=55).*

9.1.3.1 Comparison of the problems across the text types

Of the non-equivalences (see Table III.3 and Figure 9.10), all the non-equivalences caused by differences in polysemy (31 instances) and figurative language (9 instances) appeared in the literary text. The remaining 15 non-equivalences, resulting from differences in specialised terminology, occurred in the expository text. This means that even though the number of these semantic non-equivalences was again highest in the narrative text (40 in all), proportionally it was greatest in the expository text (3.9% of the words in the text). There were no cases of non-equivalence caused by differences in meaning in the non-continuous text.
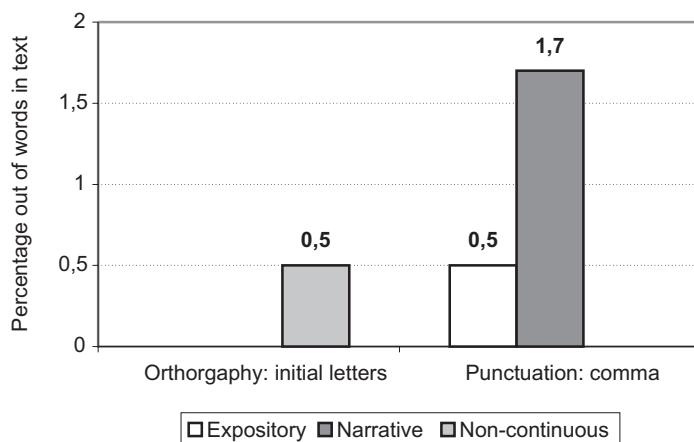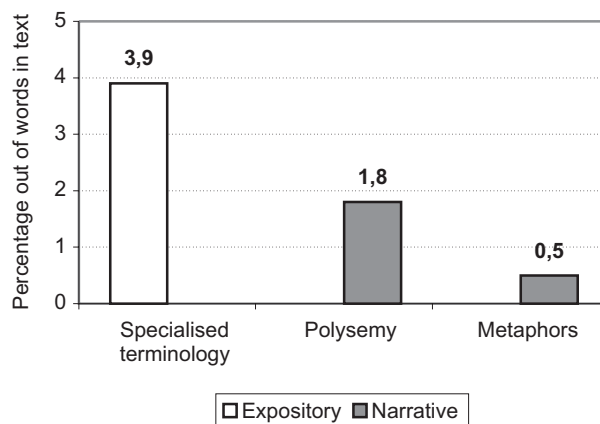
Figure 9.10 *Percentage of non-equivalences of difficulty caused by language-specific differences in meaning, by text type.*

9.1.3.2 The impact of the non-equivalences on text difficulty

The distribution of the non-equivalences (Figure 9.11) varied in such a way that those deriving from differences in polysemy – and occurring in the narrative text – resulted in the Finnish narrative being more difficult to understand, whereas those caused by differences in specialised terminology added to the difficulty of the English expository text. However, the effects of the differences in figurative language and metaphors were contradictory, in that because of their non-literalness they may have been slightly more difficult in English, whereas stylistically they may have lessened the interestingness of the Finnish expository text.
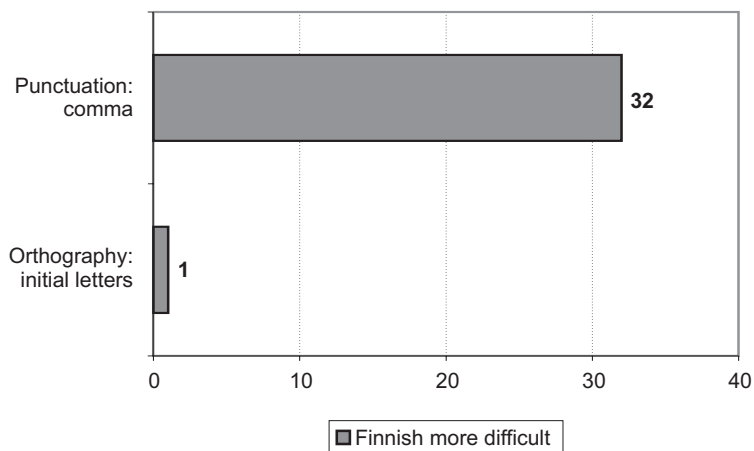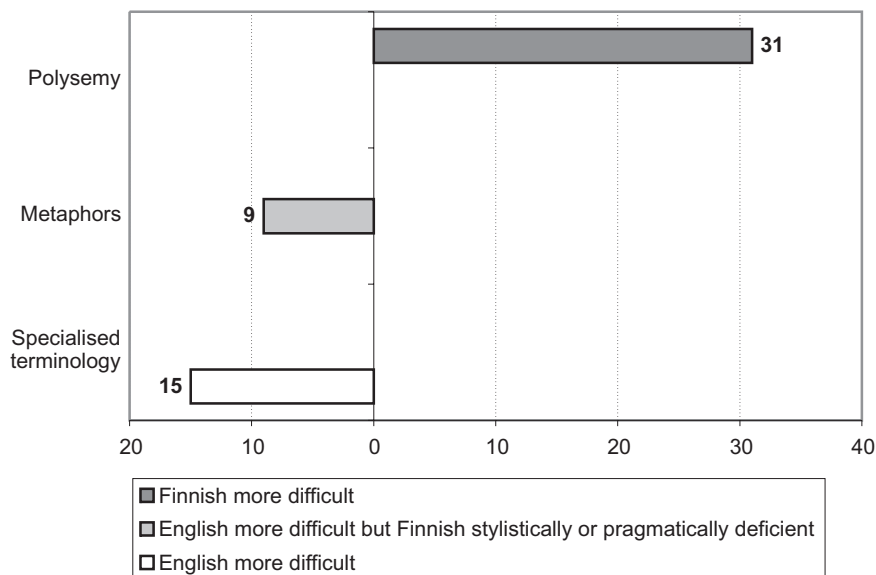
Figure 9.11 *Non-equivalences of difficulty caused by differences in meaning, by language.*

9.1.3.3 Summary

Language-specific differences in meaning were a problem, because they significantly affected familiarity, style and difficulty. The non-equivalences centred on specialised terminology, polysemy and metaphors and were, relatively speaking, most common in the expository text.

9.1.4   Problems related to differences in culture

The fourth problem category, also having to do with the content of the texts, was that of problems related to differences in culture, because of which the setting and content of one of the texts, the narrative text, were not as familiar to Finnish students as they were to their American peers, for example (Figure 9.12). The texts were thus pragmatically non-equivalent to each other, the Finnish narrative consequently being also somewhat harder for its readers to understand than the English narrative for American readers in particular. Once again it was the Finnish text that emerged as more difficult to understand.
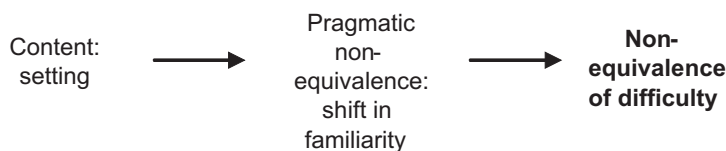
Figure 9.12 *Non-equivalences caused by differences in culture.*

9.1.5 Problems related to the strategies used and choices made by the translators

The fifth problem category was that of problems related to the strategies used and choices made by the translators (Figure 9.13). Unlike the case in all the preceding categories, where the non-equivalences mostly arose from features of the source texts, these non-equivalences were primarily produced by human agents. The non-equivalences, more specifically, resulted from interference; writing errors, or spelling and punctuation mistakes; mistranslations stemming from misunderstandings of either figurative language or idioms, polysemes, or else compact language; and from the translators' desire to improve and naturalise and hence to explicate the texts through addition or concretisation or to simplify them either semantically or stylistically.

Among these, the non-equivalences arising from interference resulted in the Finnish texts being slightly unidiomatic (example 49) and in one case, where a reference error was made (example 50), even ungrammatical and unintelligible. As a result, the texts were neither pragmatically equivalent nor equivalent in difficulty. The non-equivalences caused by writing errors (examples 51–54), for their part, were relatively insignificant. Their impact was mainly limited to a potential small shift away from pragmatic equivalence, inducing a possibly more negative attitude in some Finnish students towards the texts and the reading test. This, in turn, may have increased the difficulty of the Finnish texts for these readers. However, as these students would need to have been proficient readers to have noticed the errors, it may be assumed that they were also proficient enough not to have been strongly affected by the writing errors either. The non-equivalences resulting from mistranslation, in contrast, were among the most serious problems: they brought about shifts in meaning and denotative equivalence, which in the narrative (example 57) and non-continuous text (example
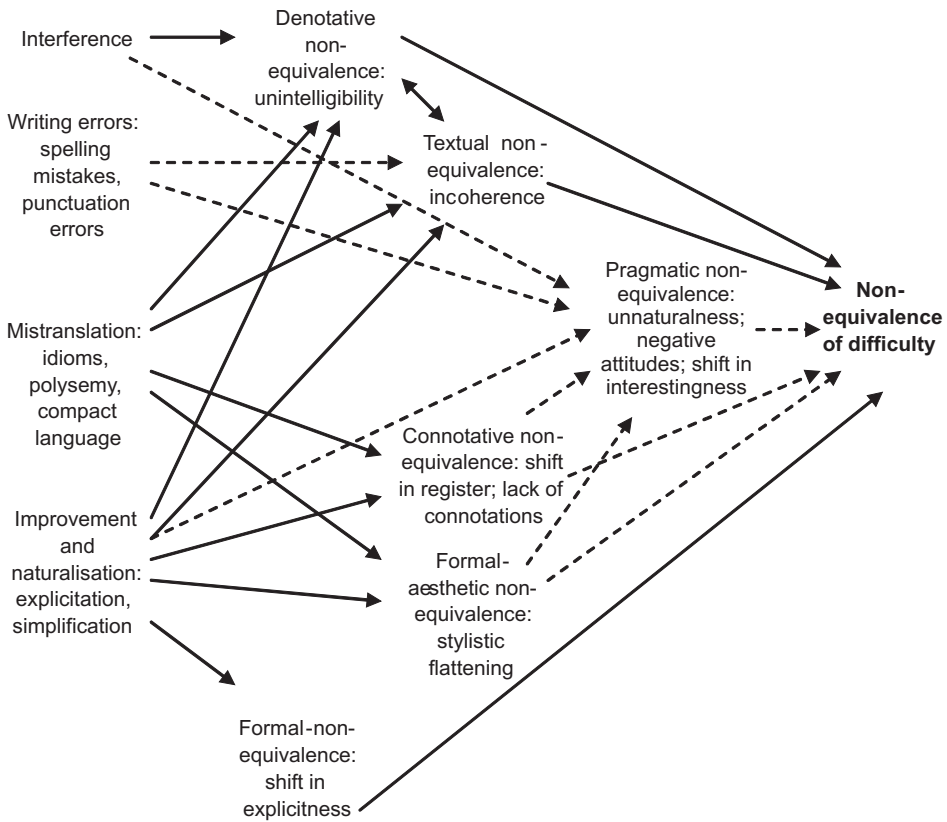
Figure 9.13 *Non-equivalences caused by the strategies used and choices made by the translators.*

59) in particular further resulted in the Finnish texts being textually incoherent and consequently also more difficult to understand than the English texts.

Finally, the non-equivalences caused by the translators' desire to improve and naturalise the texts were the most varied and at times even contradictory. Mostly, however, the strategies did explicate, simplify and improve the Finnish texts, thereby making them more comprehensible than the English texts. This was the case with the specifications and explicitations in particular, such as the additions of grammatical particles (example 60) and concretisations (examples 65 and 66). The strategies also brought about significant shifts in textual, connotative, formal-aesthetic and pragmatic equivalence. For example, the depersonalisations made in the Finnish expository text

(example 73) reduced the informality and personality of the Finnish text, whereas the paraphrases and simplifications (examples 71 and 72) in the Finnish non-continuous text resulted in the Finnish text being less formal and bureaucratic than the English text. In both texts, the simplifications further led to small non-equivalences in difficulty.

The total number of the non-equivalences resulting from the strategies used and choices made by the translators found in the study amounted to 91 (3.9% of the total number of words in the three texts; Figure 9.14). Of these, the vast majority, about three-fourths (67 in all), were caused by the translators' desire to improve and naturalise the texts. Among these, furthermore, explicitations (48) were far more common than simplifications (19).
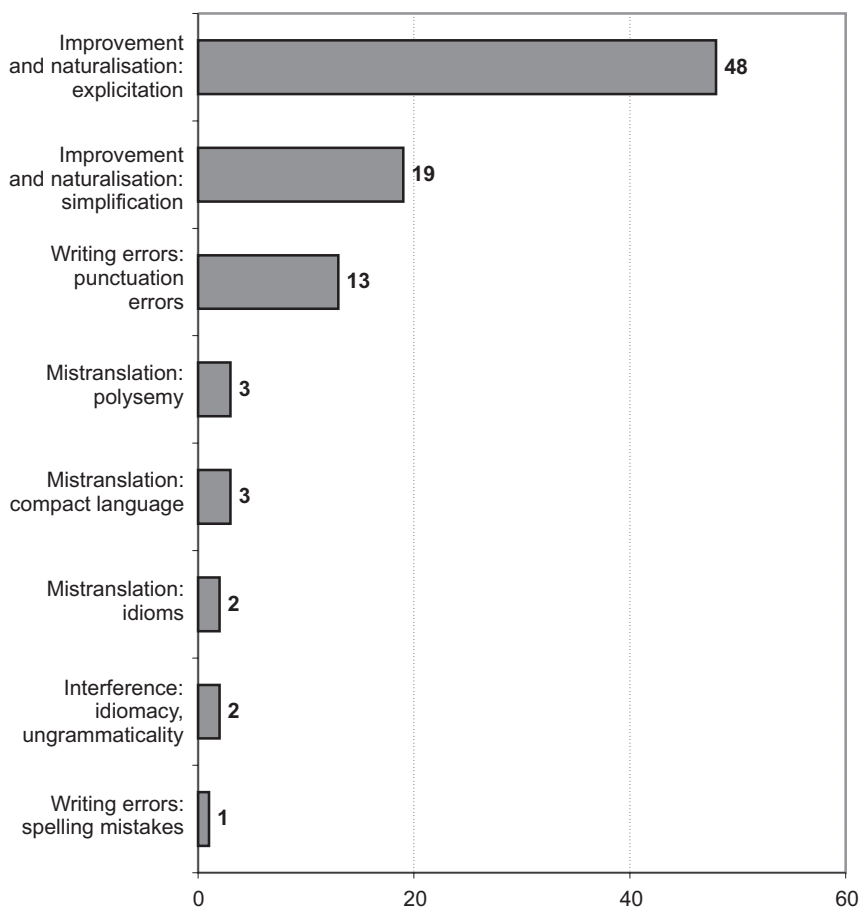
Figure 9.14 *Number of non-equivalences of difficulty caused by the srategies used and choices made by the translators (N=91)*

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As compared to the non-equivalences resulting from the translators' explicating or simplifying the texts, those caused by interference or outright errors were clearly less common (24 in all). Thus, non-equivalences arising from too close an imitation of the English source texts were far less numerous (2) than those resulting from attempts to improve the Finnish target texts. At least as found in this study, then, explicitation and simplification were more difficult problems than interference.

Altogether 23 linguistic errors were found in the texts. Of these the majority were writing errors (14), more precisely, punctuation errors (13), while the remaining error was a spelling mistake. Semantic errors or mistranslations were somewhat less common, eight in number, and one case of interference further led to a grammatical error.

9.1.5.1 Comparison of the problems across the text types

Non-equivalences of difficulty caused by the translators and their choices were found in all the texts (Table III.4 and Figure 9.15). Overall, the number of these non-equivalences was once again greatest in the narrative text (64), with 16 non-equivalences, moreover, appearing in the non-continuous text and 11 in the expository text. Proportionately, however, the non-equivalences were most common by far in the non-continuous text (8.2% of the words of the text), less common in the narrative text (3.8%) and least common in the expository text (2.9%). This was especially the case with the non-equivalences caused by errors, which were very common in the non-continuous text (6.1%) and much less common in the expository text (0.8%) and the narrative text (0.5%).

Among the non-equivalences caused by errors, those produced by punctuation errors (misplaced slashes) were exceptionally numerous (9 instances) in the non-continuous text, with only three punctuation errors occurring in the narrative text and one in the expository text. The narrative text also contained one spelling mistake, and in the expository text there were three non-equivalences stemming from interference. The non-equivalences caused by semantic errors or miscomprehensions differed markedly between the text types: in the expository text they had to do with idioms (2), in the narrative text with polysemy (3), and in the non-continuous text with compact language (3).

As opposed to the non-equivalences arising from errors, those resulting from the translators' desire to improve and naturalise the texts were most common in the
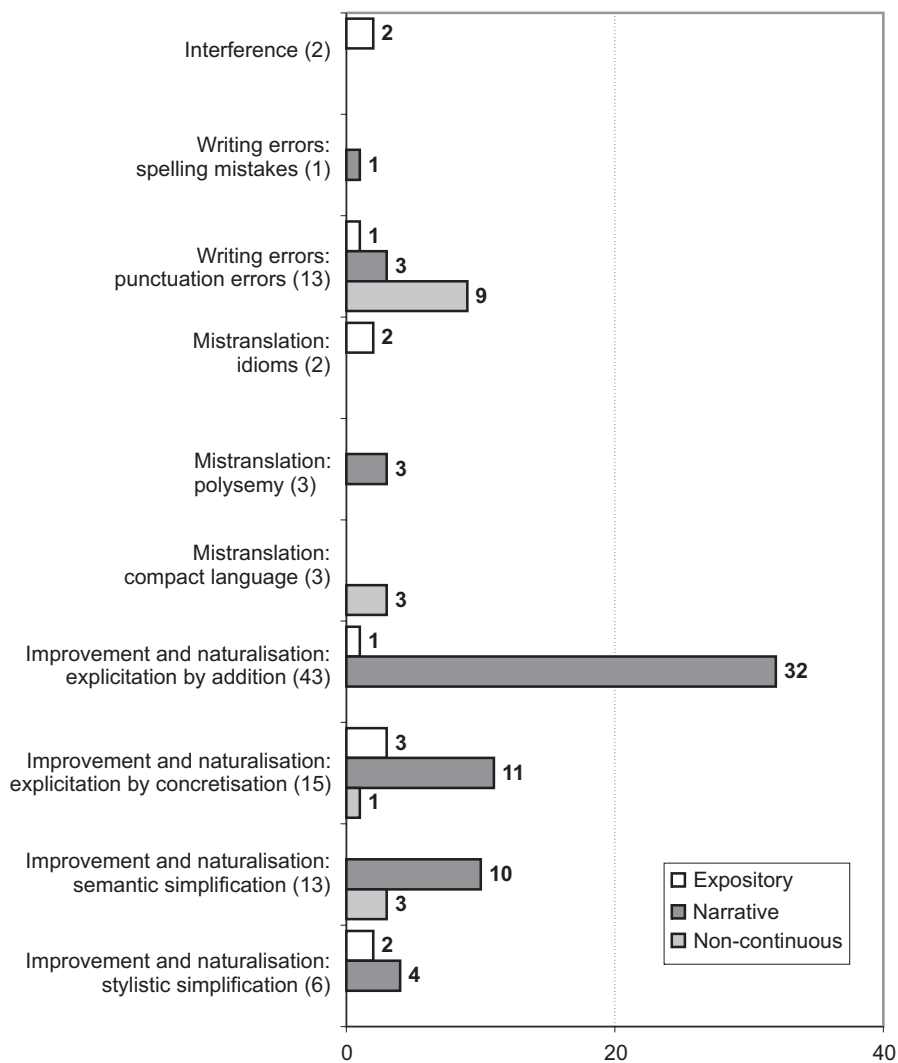
Figure 9.15 *Distribution of non-equivalences of difficulty caused by strategies used and choices made by translators, by text type.*

narrative text (3.3%), followed by the non-continuous text (2.1%) and least common in the expository text (1.6%). Especially common in the narrative text were additions (32), even though concretisations (11) and simplifications (14 in all) were not uncommon either. Proportionally, however, concretisations were most common in the expository text (0.8%), and semantic simplifications in the non-continuous text

(1.5%). The expository text, moreover, contained one addition of a grammatical particle and two stylistic simplifications, but no semantic simplifications. No additions or semantic simplifications, on the other hand, appeared in the non-continuous text.

In the narrative text, the main problem thus seemed to be the translators' desire to improve and naturalise and, more specifically, to explicate the text by means of additions. Outright errors, on the other hand, were relatively rare, the most significant of these being those caused by miscomprehensions of polysemes. In the non-continuous text the vast majority of the non-equivalences resulted from fairly insignificant punctuation errors, even though some semantic errors were also caused by compact language. Moreover, in translating the non-continuous text, the translators seemed to be inclined to simplify the text. Finally, in the expository text the main problems were interference and concretisation.

9.1.5.2 The impact of the non-equivalences on text difficulty

Unlike all the other problems, the non-equivalences having their roots in the translators' actions mainly resulted in the Finnish texts being easier to understand (see Table 9.1). This was because most of the attempts of the translators to improve and naturalise the texts (42 instances) – the additions of grammatical words (14), concretisations (15) and semantic simplifications (13) – did indeed improve the texts. The errors (22 instances), both semantic (8) and grammatical (14), and interferences (2), on the other hand, consistently resulted in the Finnish texts being more difficult to understand than the English texts, even though the non-equivalences caused by the grammatical errors were small and presumably affected the most skilled readers only. As the five instances of stylistic simplification also mainly had a slight negative effect on the Finnish texts, the total number of non-equivalences adding to the difficulty of the Finnish texts amounted to 29. In the case of additions of lexical meaning (19 instances), which only occurred in the narrative text, the consequences were contradictory, in that these additions, rather than being helpful, typically added to the verbosity and length of the Finnish narrative. The effects of one of the stylistic simplifications were also ambiguous.

Table 9.1 *Non-equivalences of difficulty caused by the strategies used and choices made by the translators, by language*

	English more difficult	English and Finnish approximately equally difficult	Finnish more difficult
Writing errors			14
Mistranslation			8
Interference			2
Stylistic simplification		1	5
Semantic simplification	13		
Explicitation: additions	14	19	
Explicitation: concretisations	15		
Total	**42**	**20**	**29**

9.1.5.3 Summary

The category of problems related to the strategies used and choices made by the translators consisted of interference problems, writing errors, mistranslations, and problems caused by the translators' desire to improve and naturalise the texts. These were problems because they resulted in the English and Finnish texts differing in explicitness, coherence, style, idiomaticity and naturalness and, in the end, difficulty. However, the resulting non-equivalences varied considerably in significance, those deriving from writing errors being the least consequential and those from mistranslations being the most consequential. They also varied in number and quality, in that in absolute terms the non-equivalences were most common in the narrative text, and in relative terms in the non-continuous texts, with, furthermore, interference being most common in the expository text, writing errors in the non-continuous text and explicitations and additions in the narrative text.

9.1.6   Problems related to editing

The sixth and last major problem category was that of problems related to editing (Figure 9.16). This category was closely related to the preceding one, in that in this category too the problems were produced by human agents. However, there was only one editing problem in the texts. This was the seemingly small layout error in the paragraphing of the expository text (example 76), because of which the structure of the Finnish expository text ended up being less explicit, less coherent and, in the end, also less straightforward to work out than that of the English text. As a result, the English and Finnish expository texts were not textually equivalent to each other, which in turn resulted in their also being non-equivalent in difficulty.

Layout error in paragraphing → Textual non-equivalence: incoherence → **Non-equivalence of difficulty**
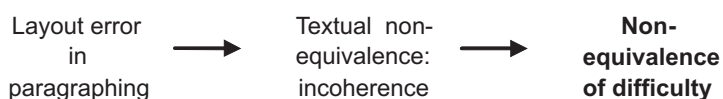
Figure 9.16 *Non-equivalences caused by problems related to editing.*

9.1.7   Summary of the main problems of equivalence

The analysis disclosed six major categories of equivalence problems: problems related to language-specific differences in grammar, problems having to do with language-specific differences in the writing systems, problems concerning language-specific differences in meaning, problems associated with differences in culture, problems related to the strategies used and choices made by the translators, and problems linked with editing. Of these (Figure 9.17), the first two, problems related to language-specific differences in grammar and those concerning language-specific differences in the writing systems, were closely associated with each other in that both had to do with differences in form, whereas the next two categories, problems related to language-specific differences in meaning and those connected with differences in culture, both involved differences in content.
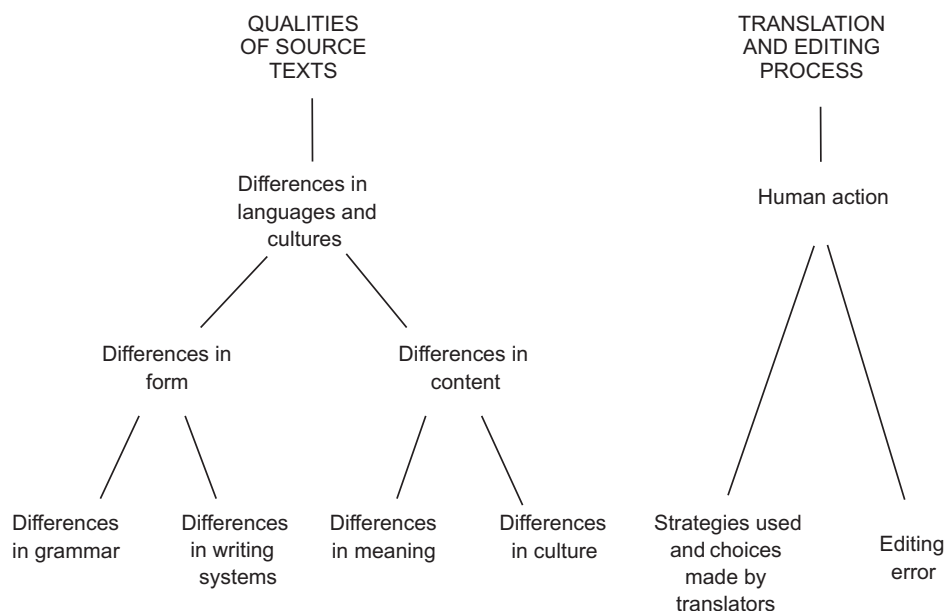
Figure 9.17 *Résumé of the six major categories of equivalence problems.*

Taken together, the first four categories all concerned differences between languages or cultures. In contrast, the last two categories, problems related to the strategies used and choices made by the translators and those having to do with editing, differed significantly from these four categories in that in these two categories the non-equivalences arose from human action. In the first four categories, in other words, the non-equivalences mainly resulted from qualities and hence from the selection and production of the source texts. Therefore, the non-equivalences in these four categories were also largely beyond the control of the translators. By contrast, the non-equivalences in the last two categories were produced during the very translation or editing process by the translators or editors themselves. Accordingly, the non-equivalences in these categories were more the responsibility of the translators.

Within the six major problem categories certain individual problems proved especially significant (Table 9.2, where the main problems are summarised). These were differences in word structure and length, differences in syntactic reduction and differences in the reference systems; differences in the use of the comma and in orthography; differences in the use of specialised terminology, polysemes and

Table 9.2   *The six main categories of equivalence problems, individual problems within them and their consequences (with less strong, less significant or less certain consequences shown in parentheses)*

Problem category	Individual problems	Resulting non-equivalences leading to non-equivalence of difficulty
Problems related to language-specific differences in grammar	Word structure and length Compact language Reference	• Formal non-equivalence: shift in explicitness, order • Textual non-equivalence: incoherence (Connotative non-equivalence: shift in register) • (Formal-aesthetic non-equivalence: stylistic flattening; less supportive of content) • Pragmatic non-equivalence: unnaturalness; (shift in interestingness)
Problems related to language-specific differences in writing systems	Punctuation: comma Orthography: initial letters and alphabetisation	• (Formal non-equivalence: shift in explicitness) • (Textual non-equivalence: incoherence) • (Formal-aesthetic non-equivalence: stylistic flattening; less supportive of content) • (Pragmatic non-equivalence: unnaturalness)
Problems related to language-specific differences in meaning	Specialised terminology Polysemy: connotations Figurative language: metaphors	• (Denotative non-equivalence: shift in meaning)· • (Connotative non-equivalence: shift in register) • (Formal-aesthetic non-equivalence: stylistic flattening; less supportive of content) • Pragmatic non-equivalence: shift in familiarity; (interestingness)
Problems related to differences in culture	Content: setting	• Pragmatic non-equivalence: shift in familiarity
Problems related to the strategies used and choices made by the translators	Interference Writing errors: spelling; punctuation (slash, comma) Mistranslation: polysemy; figurative language (idioms); compact language Improvement and naturalisation: explicitation (addition, concretisation); simplification (semantic, stylistic)	• Formal non-equivalence: shift in explicitness • Denotative non-equivalence? • Textual non-equivalence: incoherence • Connotative non-equivalence: shift in register • Formal-aesthetic non-equivalence: stylistic flattening; less supportive of content • (Pragmatic non-equivalence: unnaturalness; negative attitudes; shift in interestingness)
Problems related to editing	Text structure: paragraphing	• Formal non-equivalence: shift in explicitness • Textual non-equivalence: incoherence

metaphors; differences in the familiarity of the content; interference, writing errors, mistranslations of idioms, polysemes and compact language, and explicitation and simplification to improve and naturalise the text; and the layout error in paragraphing. All these were problems because they resulted in the English and Finnish texts or parts of them being non-equivalent in at least one of the following ways – formally, denotatively, textually, connotatively, formal-aesthetically or pragmatically – and, in the end, in difficulty.

9.1.8 Seven types of non-equivalence

The problems thus consisted of non-equivalences of seven different types between the English and Finnish texts. These were formal, denotative, textual, connotative, formal-aesthetic and pragmatic non-equivalence and non-equivalence of difficulty (Table 9.3). Interestingly enough, however, no text-normative non-equivalences were found in the study.

Formal non-equivalences, or shifts in form, were caused almost exclusively by language-specific differences in grammar or in the writing systems, with one non-equivalence, however, stemming from a human editing error. As a consequence, individual words, clauses or sentences in the English and Finnish texts often became slightly non-equivalent in difficulty with each other. At times the non-equivalences also led to textual, connotative, formal-aesthetic, and pragmatic non-equivalences, which, in turn, sometimes made the Finnish texts somewhat more difficult to understand than the English texts.

Denotative non-equivalences consisted in shifts in meaning brought about either by differences between the languages, or, as distinct from the previous type of non-equivalence, by errors, mistranslations or improvements made by the translators. Moreover, the consequences of these non-equivalences were often more far-reaching than those of the formal non-equivalences. This is because they sometimes resulted, not only in individual words, clauses and sentences in the Finnish texts being difficult to understand, but also in whole Finnish texts being illogical and partly unintelligible. Additions and omissions, furthermore, led to connotative and formal-aesthetic non-equivalences and possibly, moreover, to non-equivalences of difficulty between the texts.

Textual non-equivalences, or shifts in cohesion or information structure, arose from four basic sources: language-specific differences in grammar; language-specific differences in the writing systems; the translators' attempt to make the translations

Table 9.3 *The seven types of non-equivalence, their causes and consequences*

Causes	Non-equivalence	Resulting non-equivalences
• Language-specific differences in grammar and writing systems • Editing error	*Formal non-equivalence*: shifts in form	• Non-equivalence of difficulty: micro-level • Textual non-equivalence > non-equivalence of difficulty • Connotative non-equivalence > non-equivalence of difficulty? • Formal-aesthetic non-equivalence > non-equivalence of difficulty? • Pragmatic non-equivalence > non-equivalence of difficulty
• Language-specific differences in meaning • Interference • Mistranslation • Translators' desire to improve and naturalise texts: explicitation and simplification	*Denotative non-equivalence*: shifts in meaning	• Non-equivalence of difficulty: illogicality, unintelligibility • Connotative non-equivalence > non-equivalence of difficulty? • Formal-aesthetic non-equivalence > non-equivalence of difficulty?
• Language-specific differences in grammar and writing systems • Translators' desire to improve and naturalise texts: simplification • Editing error	*Textual non-equivalence*: shifts in cohesion, information structure	• Non-equivalence of difficulty • Connotative non-equivalence > non-equivalence of difficulty?
• Language-specific differences in grammar and meaning • Translators' desire to improve and naturalise texts: concretisation and simplification	*Connotative non-equivalence*: shifts in register; lack of connotations	• Non-equivalence of difficulty? • Pragmatic non-equivalence > non-equivalence of difficulty
• Language-specific differences in grammar, writing systems, and meaning • Translators' desire to improve and naturalise texts: explicitation and simplification	*Formal-aesthetic non-equivalence*: shifts in expressivity; stylistic flattening and/or lack of nuances	• Non-equivalence of difficulty? • Pragmatic non-equivalence > non-equivalence of difficulty
• Language-specific differences in grammar, writing systems, and meaning Differences in culture Interference Writing errors	*Pragmatic non-equivalence*: shifts in familiarity; idiomaticity; fluency; interestingness	• Non-equivalence of difficulty
• Language-specific differences in grammar, writing systems, and meaning • Differences in culture • Translators' desire to improve and naturalise texts: explicitation (addition, concretisation); simplification • Mistranslation; writing error • Editing error	*Non-equivalence of difficulty*: shifts in difficulty	• Pragmatic non-equivalence > non-equivalence of difficulty?

stylistically natural and idiomatic; and the layout error made in editing the expository text. The consequences of these non-equivalences were the most critical, in that they consistently resulted in the Finnish texts being less coherent and more difficult to understand than the corresponding English texts.

Connotative and *formal-aesthetic non-equivalences*, both of which involved stylistic shifts, the former in register and connotations and the latter in expressivity, were often a corollary to formal and denotative non-equivalences. A shift in form or meaning, in other words, frequently entailed also a shift in style – some additional shifts, moreover, being caused by the translators' attempts to improve the Finnish texts. The end result of all these shifts was that all three Finnish texts finished up stylistically more neutral or flatter than the English texts: both non-literary texts became slightly less formal and less personal than the corresponding English texts, the expository text even moving towards more popular exposition as compared to the English text; the narrative text, for its part, ended up being distinctly less expressive and less suggestive of the meaning of the story than the English narrative. This stylistic neutralisation, in turn, may have resulted in the English and Finnish texts being not only unequally interesting and motivating to read – and hence pragmatically non-equivalent – but also unequally difficult to understand.

Pragmatic non-equivalences, or shifts in familiarity, idiomaticity, fluency and interestingness, may have resulted, not only from differences between the languages in grammar, writing systems, meaning and culture, but also from the translators' either sticking too close to the English source texts and their writing errors or their explicating or simplifying the Finnish texts. The consequences of these non-equivalences varied in importance. Those caused by differences in meaning and culture were significant, because they resulted in the English and Finnish texts being unequally familiar and also unequally difficult to understand. Those caused by differences in grammar and reduced clauses were also critical, because they made the Finnish non-continuous text strange and clumsy and therefore somewhat harder to comprehend than the English text. By contrast, the consequences of the interferences and writing errors were clearly less significant: mainly they may be expected to have made the Finnish texts slightly unidiomatic, which in turn may have had a negative effect on some Finnish readers.

And finally, *non-equivalence of difficulty*, or shifts in difficulty, was often the ultimate consequence, direct or indirect, of all the other types of non-equivalence (Figure 9.18). However, sometimes these non-equivalences of difficulty may further have led to pragmatic non-equivalences between the texts, in that, for example, an increase in the

difficulty of a text may have made the text also less appealing to read – which, in turn, may have had a negative effect on the comprehensibility of that text.
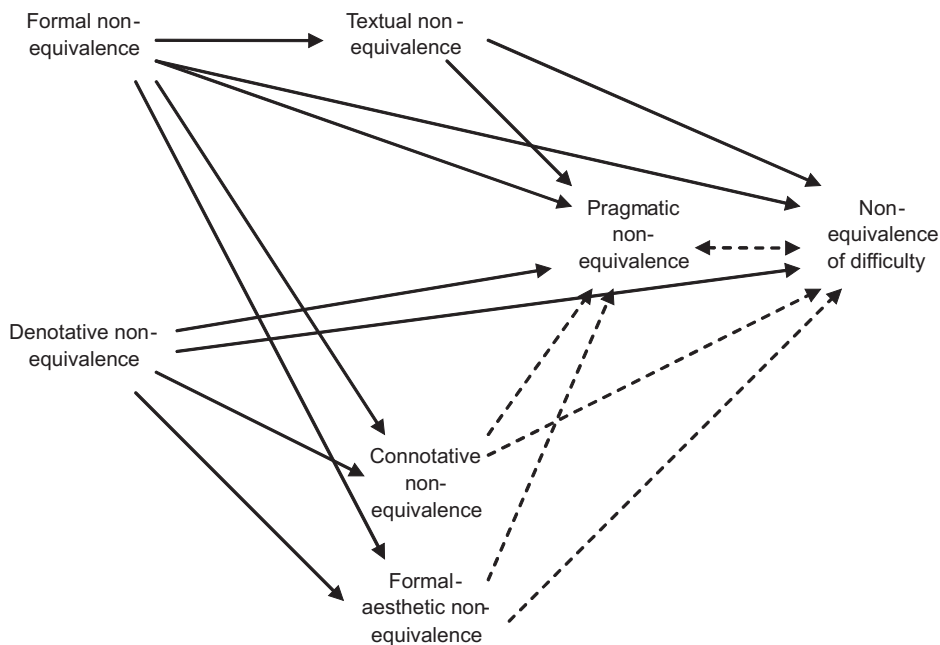
Figure 9.18 *Non-equivalences leading to non-equivalence of difficulty.*

9.2   A comparison of the problems between the text types

In this section the problems and non-equivalences are compared between the text types. Before comparing the texts, however, the following subsections provide an overview of the extent of the problems and non-equivalences in the whole data.

9.2.1 The six major problem categories by text type

9.2.1.1 Distribution of the non-equivalences in the whole data

The total number of non-equivalences of difficulty found in the study amounted to 309, which was 13.4% of the total number of words (2 306) in the three texts. Of these (Figure 9.19), the majority, 41.4% (128 non-equivalences), were caused by language-specific differences in grammar, 29.4% (91) by the strategies used and choices made by the translators, 17.8% (55) by language-specific differences in meaning, and 10.7% (33) by language-specific differences in the writing systems; non-equivalences arising from cultural differences and editing errors occurred only once (0.3%) each in the three texts.
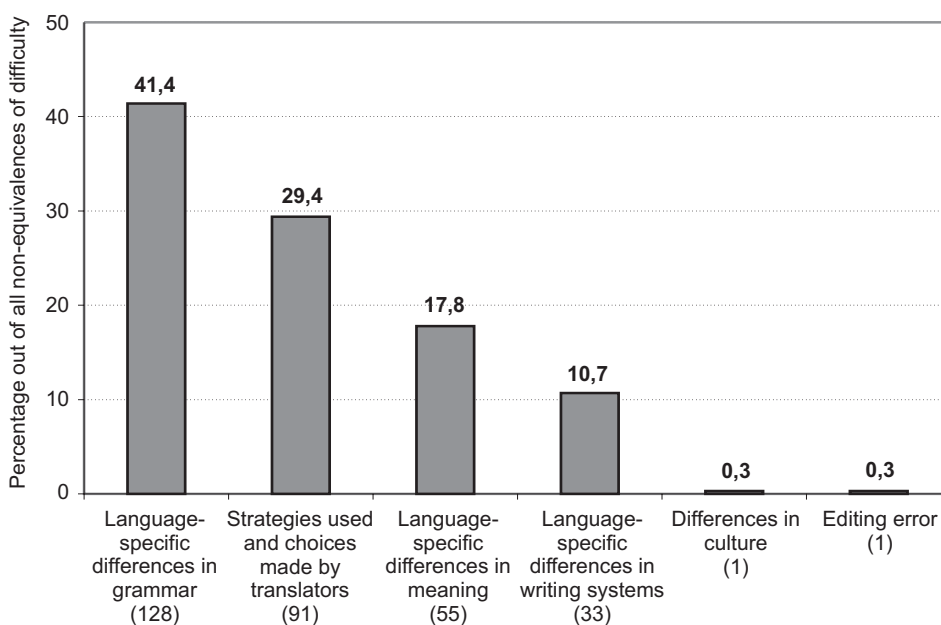
Figure 9.19 *Distribution of non-equivalences of difficulty caused by the six main problem categories (N=309).*

Over half of the non-equivalences (52.1%, or 161 instances) were thus caused by differences in form, that is, in grammar or in the writing systems. Non-equivalences originating in human action (92) – in the translation or editing process – were also

relatively common (29.8%); and non-equivalences stemming from differences in content (56) – in meaning or in culture – were also not uncommon (18.1%). Taken together, non-equivalences caused by differences in languages and cultures (217) were more than twice as common (70.2%) as those caused by human action (92 or 29.8 %).

9.2.1.2 Comparison between the text types

The non-equivalences were not evenly distributed across the three texts (Table III.5). In absolute terms, they were by far most common in the narrative text (211 in all), while in the expository text the number of non-equivalences was 51, and in the non-continuous text there were 47 non-equivalences. Furthermore, the narrative text showed the highest number of non-equivalences in all the other problem categories except for editing errors, which were only found in the expository text.

The number of non-equivalences, in other words, was greatest in the longest text, the narrative text and smallest in the shortest text, the non-continuous text, suggesting that the decisive factor may have been the length of the texts rather than text type. Text type and the length of the text, however, are of necessity not mutually exclusive. Rather, they go largely hand in hand, in that literary texts are usually the longest and non-continuous texts the shortest texts students have to read at school. The results thus seem to suggest that, partly because of their greater length, literary texts may cause more equivalence problems than non-literary texts, whereas in non-continuous texts, which are normally the shortest text type, the problems are typically fewest.

Relatively speaking (see also Figure 9.20), the non-equivalences were clearly most common in *the non-continuous text* (24.0% of the words in the text), second most common in the expository text (13.3%) and least common in the narrative text (12.3%). This was primarily due (see also Figure 9.21c) to the huge proportion (almost two-thirds or 63.8% of all the non-equivalences in the text) of non-equivalences caused by language-specific differences in grammar and strategies used and choices made by the translators (34.0%) in the non-continuous text. Apart from these, the non-continuous text only contained one non-equivalence of difficulty resulting from language-specific differences in the writing systems. The non-equivalences of difficulty in the non-continuous text thus centred strongly on language-specific differences in grammar. No non-equivalences arising from differences in content – meaning or culture – or editing errors, on the other hand, occurred in the non-continuous text.
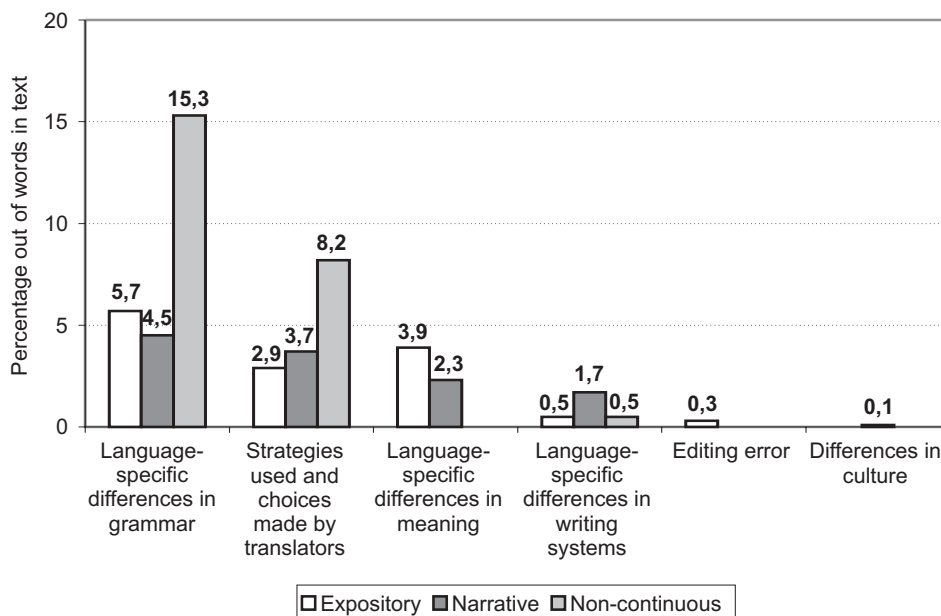
Figure 9.20 *Percentage of non-equivalences of difficulty caused by the six main problem categories, by text type.*

In the *expository text* (see also Figure 9.21a), the majority (43.1%) of non-equivalences were also caused by language-specific differences in grammar, even though the percentage was clearly smaller than in the non-continuous text. However, the next most common problem was language-specific differences in meaning (29.4%), which were, relatively speaking, most common in the expository text. And the rest of the non-equivalences resulted either from strategies used and choices made by the translators (21.6%), even though these were somewhat less common in this text than in the other two texts; from language-specific differences in the writing systems (3.9%); or from the only editing error found in the study. No non-equivalences caused by cultural differences appeared in this text either.

In the *narrative text* (see also Figure 9.21b), most (36.0%) of the non-equivalences again originated in language-specific differences in grammar. Relatively speaking, however, these non-equivalences were clearly less common in this text than in the other, non-literary, texts. Further non-equivalences in the narrative text were caused by strategies used and choices made by the translators (30.3%), language-specific differences in meaning (19.0%), language-specific differences in the writing systems

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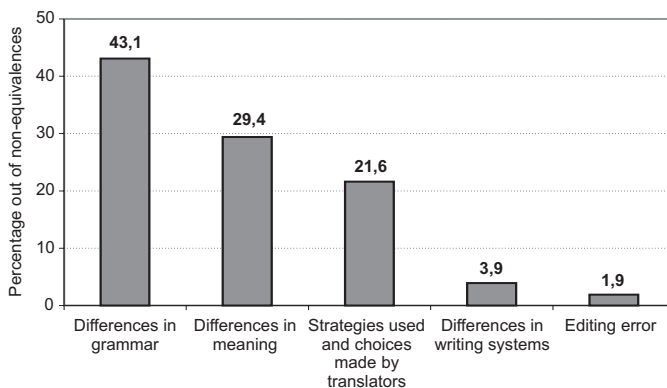
Figure 9.21a *Non-equivalences of difficulty caused by the six main problem categories in the expository text.*
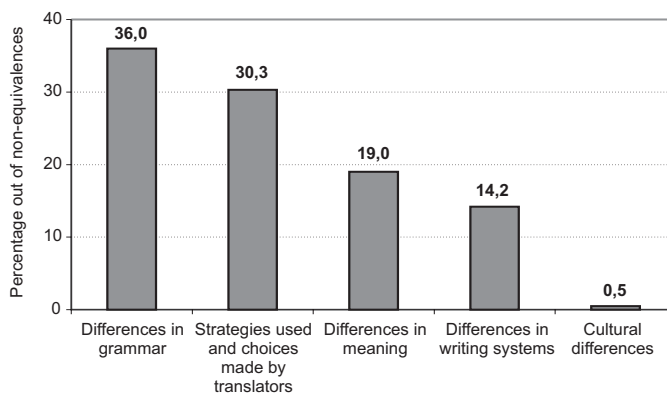
Figure 9.21b *Non-equivalences of difficulty caused by the six main problem categories in the narrative text.*
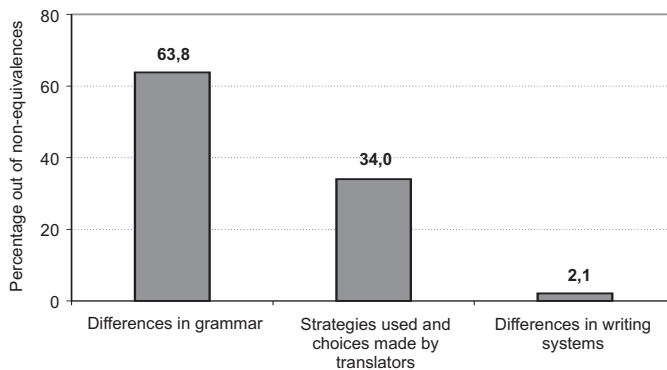
Figure 9.21c *Non-equivalences of difficulty caused by the six main problem categories in the non-continuous text.*

(14.2%), and cultural differences (0.5%). Among these, language-specific differences in the writing systems proved most problematic in this text, and only in this text did cultural differences caused problems. No editing errors appeared in the narrative text.

Of the six major problem categories, language-specific differences in grammar, strategies used and choices made by the translators, and language-specific differences in the writing systems caused problems in all three texts. Of the remaining three categories, language-specific differences in meaning proved problematic in the narrative and expository text but not in the non-continuous text, whereas cultural differences and editing errors both caused problems in only one of the texts, the former in the literary and the latter in the expository text.

9.2.2   The individual problems by text type

9.2.2.1 Distribution of the non-equivalences in the whole data

If looked at in more detail (Figure 9.22), the most common problems were explicitation (15.5% of all the non-equivalences) and language-specific differences in reduced subordinate clauses (11.7% + 4.9% = 16.6%). Also common were language-specific differences in word structure and length (11.0%), in the use of the comma (10.4%) and in polysemous meaning (10.0%). In addition to the large proportion of the non-equivalences caused by differences between the languages, in other words, an exceptionally high proportion (15.5% + 6.1% = 21.6%) of the non-equivalences derived from the translators' attempts to improve or, more precisely, to explicate the texts.

The least common problems included editing errors, cultural differences in content, spelling mistakes and language-specific differences in orthography (0.3% each of the non-equivalences). Mistranslations and interference problems were also relatively rare (0.6%-1.0% each). Thus, in general the least common problems were problems caused by the translators or editors, implying that altogether non-equivalences stemming from human error were comparatively rare in this study.
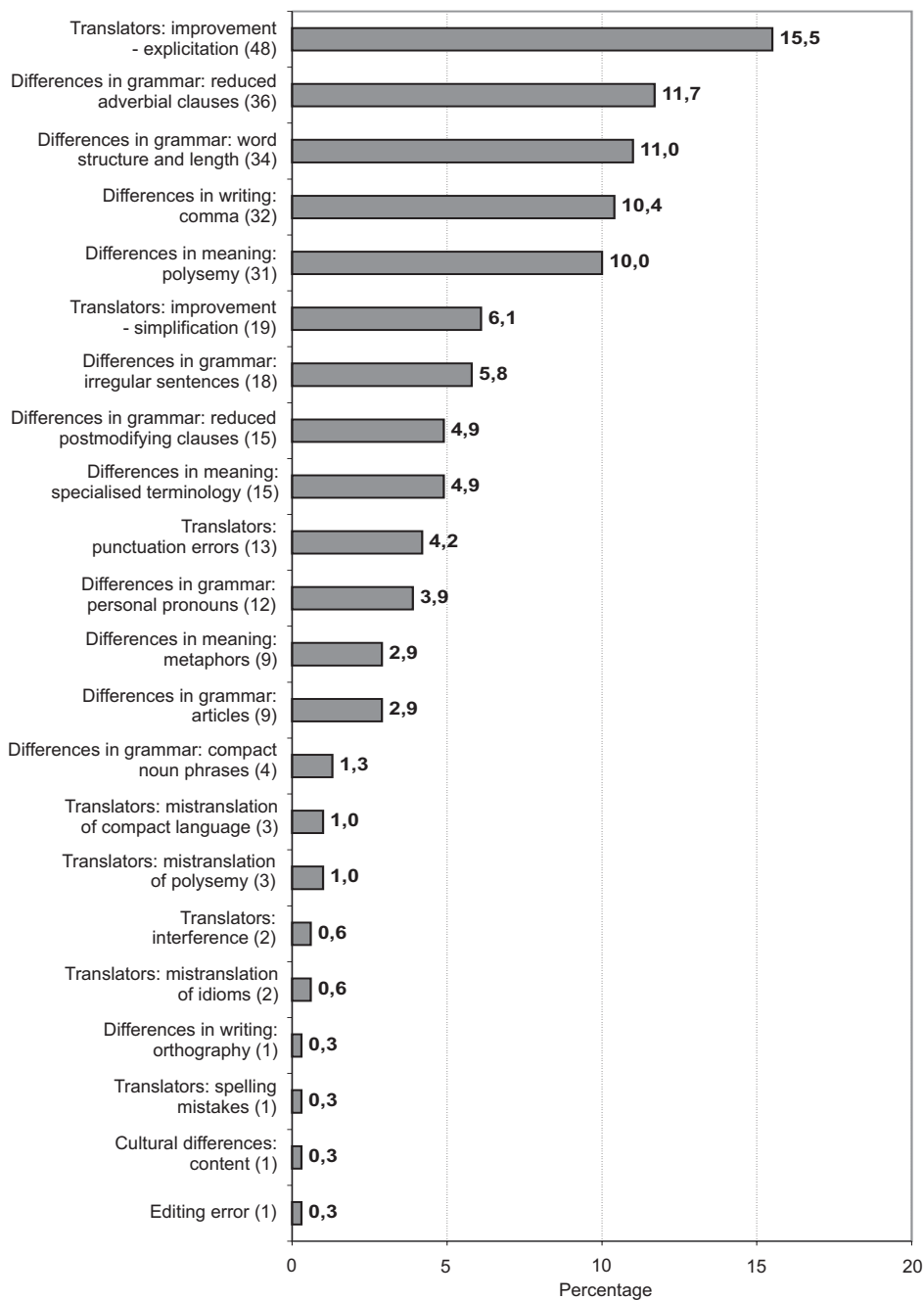
Figure 9.22 *Percentage of non-equivalences of difficulty caused by the individual problems.*

9.2.2.2 Comparison between the text types

Table III.6 and Figure 9.23 indicate the distribution of non-equivalences of difficulty caused by the individual problems across the three texts. They show that of all the individual problems only four were common to all three text types. These were language-specific differences in reduced subordinate clauses and in word structure and length, punctuation errors, and concretisations. Of these, all except one, concretisations, had to do with the written form of language and were more common in the non-literary texts than in the literary text.

The *expository text* contained 11 different types of problem. Among these the most significant (see also Figure 9.24) were language-specific differences in word length (31.4% of the non-equivalences) and specialised terminology (29.4%), both of which were lexical problems. Both problems were also specific to the expository text in particular: word length produced most non-equivalences in the expository text, and specialised terminology was a problem only in the expository text. Further sources of non-equivalence in the expository text were, in descending order, reduced subordinate clauses (11.8%), the comma (3.9% + 2.0% = 5.9%), concretisations (5.9%), interference (3,9%), stylistic simplifications (3.9%), mistranslations of idioms (3.7%), additions (2,0%), and editing (2.0%).

Among the problems, interference, idioms and editing errors were significant in that, like specialised terminology, they proved problematic only in the expository text. Additions, stylistic simplifications, and language-specific differences in the use of the comma, on the other hand, proved problematic in both the continuous texts, the expository and the narrative text, but not in the non-continuous text. Stylistic simplifications caused, relatively speaking, most problems in the expository text.

In the *narrative text* (Table III.6), there were 14 different types of problem, more than in any other of the three texts. Of these (see also Figure 9.25), the most important was explicitation, which caused one-fifth (19.9%) of the non-equivalences. Exceptionally common among these explicitations were additions (15.2% of all the non-equivalences), whereas concretisations were distinctly rarer (5.2%). Altogether, the proportion of the problems caused by the translators' attempts to improve and naturalise the text was exceptionally high (27.0%) in the narrative text

Also common in the narrative text were non-equivalences resulting from language-specific differences in reduced subordinate clauses (19.9%), polysemy (14.7%), the use of the comma (14.2%), and reference (10.0%). Less common, on the other hand, were
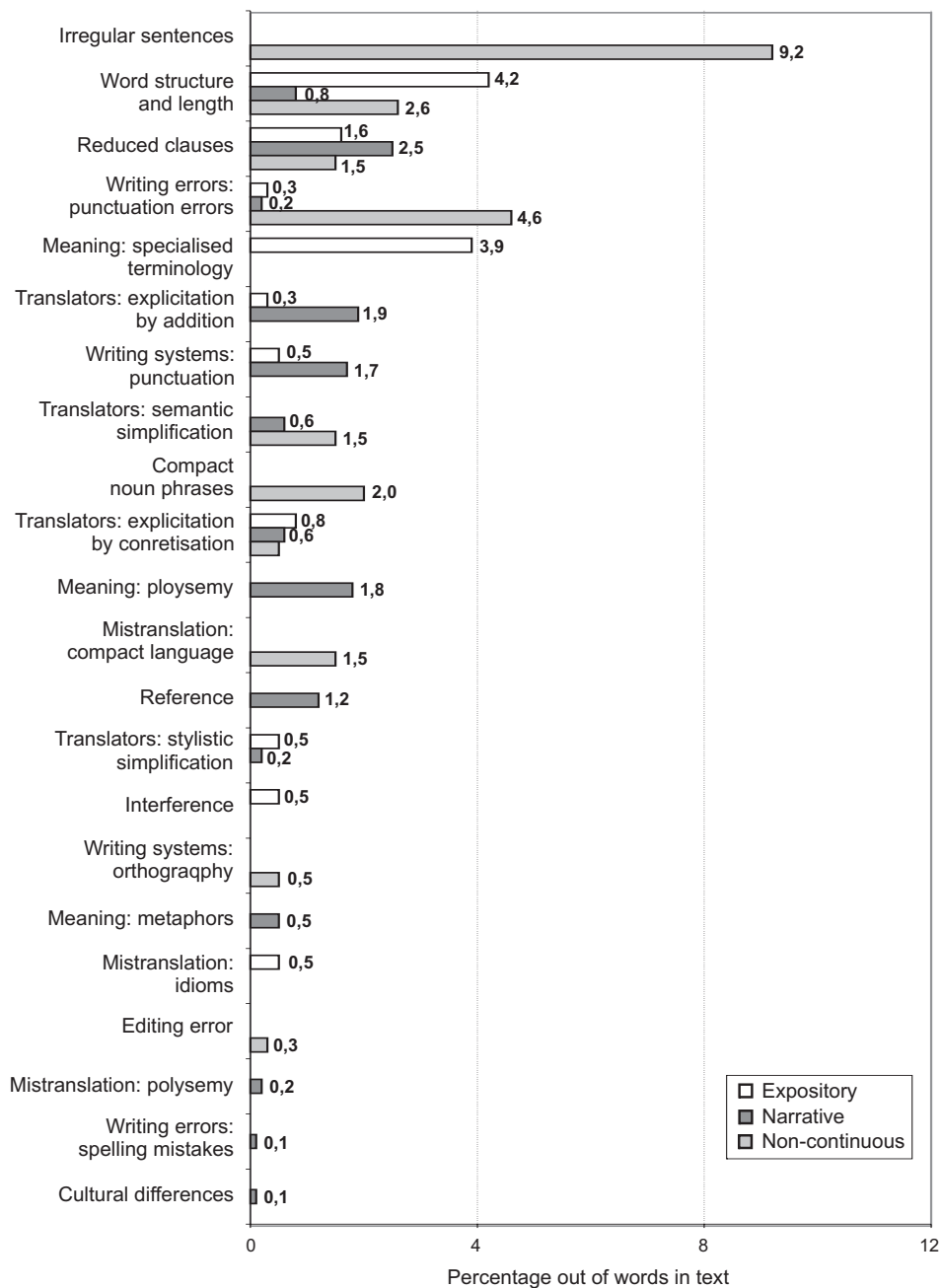
Figure 9.23 *Percentage of non-equivalences of difficulty caused by the individual problems, by text type.*
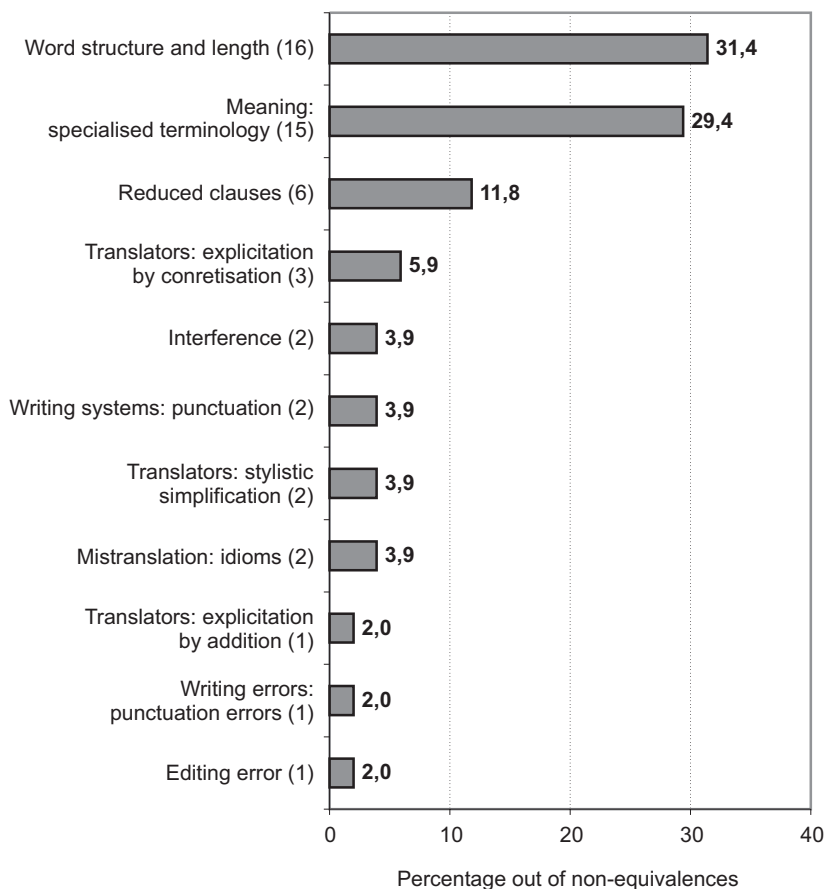
Figure 9.24 *Problems causing non-equivalence of difficulty in the expository text.*

non-equivalences caused by simplification (4.7% + 1.9% = 6.6%), language-specific differences in word structure and length (6.2%), metaphors (4.3%), writing errors (1.9%), mistranslations of polysemes (1.4%), and cultural differences (0.5%).

Of the 14 types of problem found in the narrative text, five occurred only in the narrative text. These were polysemy, reference, metaphors, spelling mistakes and cultural differences, most of which were semantic and cultural problems. Three of the problems – additions, the comma, and stylistic simplifications – were also found in the expository text and one problem also appeared in the non-continuous text. Of these, the first two, additions and the comma, caused most problems in the narrative text.

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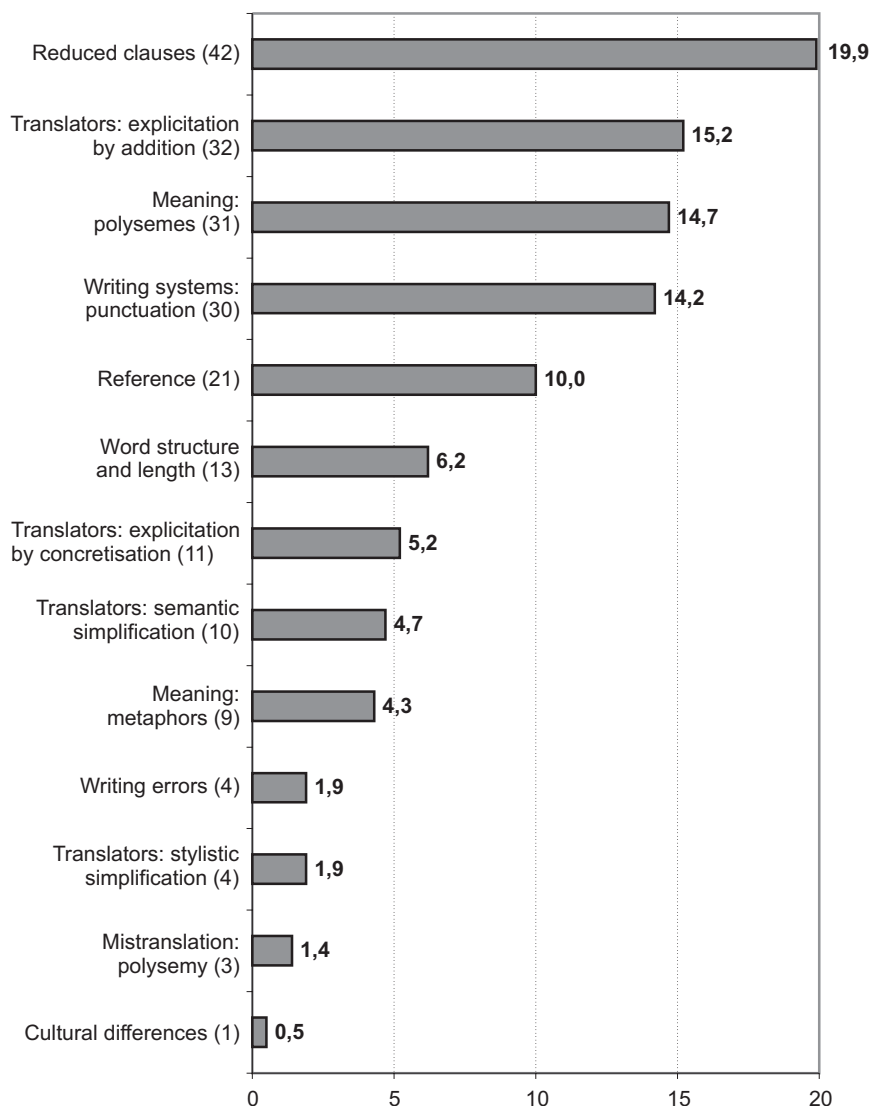
Figure 9.25 *Problems causing non-equivalence of difficulty in the narrative text.*

In the *non-continuous text* (Table III.6), the number of different types of problem was smallest among the three texts, eight. Of the non-equivalences caused by these problems (see also Figure 9.26), more than a third (38.3%) resulted from language-specific differences in irregular sentences, a problem confined to the non-continuous
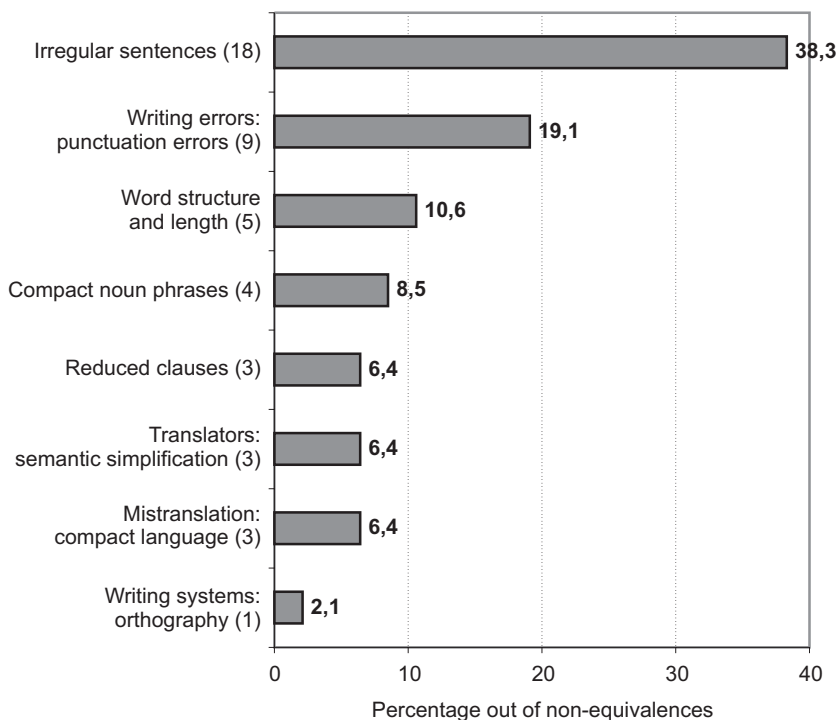
Figure 9.26 *Problems causing non-equivalence of difficulty in the non-continuous text.*

text. Also common in this text were non-equivalences arising from punctuation errors (19.1%), which were distinctly more common in this text than in the continuous texts. Further problems in the text were caused by word length, which, however, led to fewer non-equivalences in this text (10.5%) than in the expository text; semantic simplifications, which were most common (6.4%) in this text; and compact noun phrases (8.5%), mistranslations of compact language (6.4%) and language-specific differences in orthography (2.1%), which were all specific to the non-continuous text.

Figure 9.27 provides a summary of the most important of the above results by regrouping the individual problems according to three major criteria: 1) whether the problems were caused by differences between languages or cultures or whether they derived from human action (translation strategies or errors); 2) whether they originated in compact language or not; and 3) whether they had to do with language forms and structures or meaning and content.
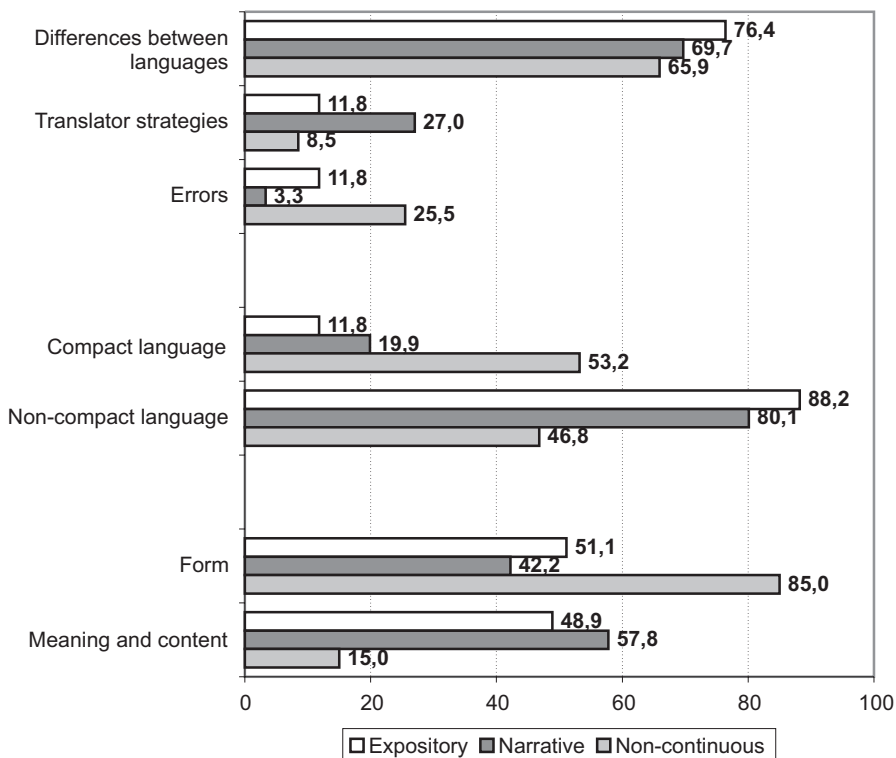
Figure 9.27 *Summary of the problems causing non-equivalences of difficulty, by text type.*

The figure shows that the problems differed considerably between the text types. This seemed to be the case with the *non-continuous text* in particular, which differed from the two continuous texts in that in this text an exceptionally great proportion of the problems (85.0%) had to do with language forms rather than meaning and content and, even more strikingly, with compact language (53.2%). In the two continuous texts, the corresponding percentages were distinctly lower: 51.1% and 11.8% respectively for the expository text, and 42.2% and 19.9% for the narrative text. The non-continuous text also showed by far the highest proportion of errors (25.5%, as opposed to 11.8% in the expository text and 3.3% in the narrative text).

What mainly differentiated the *narrative text* from the two non-literary texts, on the other hand, were the great proportion of semantic and cultural problems (e.g. polysemes, metaphors, familiarity of content) and improvements as well as the small

proportion of errors in the text: The narrative text was the only text where semantic and cultural problems accounted for more than half (57.8%) of all the non-equivalences (48.9% in the expository text and 15.0% in the non-continuous text). The narrative text also showed by far the highest proportion of non-equivalences caused by explicitation and simplification (27.0%, as opposed to 11.8 % in the expository text and 8.5% in the non-continuous text) and by far the lowest proportion of errors (3.2% as opposed to 25.5% in the non-continuous text and 11.8% in the expository text).

Finally, in the *expository text* the problems appeared the least differentiated. In the case of the expository text the most significant finding thus seemed to be the great proportion (three-fourths or 76.4%) of problems in the text caused by differences between the languages (as opposed to 69.7% in the narrative text and 65.9% in the non-continuous text). Furthermore, the vast majority (88.2%) of the problems were not caused by compact language.

9.2.3   The seven types of non-equivalence by text type

9.2.3.1 Distribution of the non-equivalences in the whole data

Figure 9.28 gives, in descending order, the distribution of the different types of non-equivalence found in the three texts. While reading the figure (and other figures in this section), it should be remembered that normally the non-equivalences were not of just one type but several types. Instances of formal non-equivalence, for example, frequently involved also connotative, formal-aesthetic, textual and/or pragmatic non-equivalences and non-equivalences of difficulty. Therefore, one instance of non-equivalence may occur several times in the statistics, which understandably increases the total number of non-equivalences.

As shown by the figure, the most common non-equivalence type was, quite expectedly, non-equivalence of difficulty (309 non-equivalences, or 31.7% of all the non-equivalences in the study). However, the second most common was, somewhat astonishingly, formal-aesthetic non-equivalence, which accounted for 17.8% of all the non-equivalences. Stylistic problems of the expressive kind thus proved very common in the study, even more common than formal non-equivalences (16.6%). The overall proportion of stylistic problems, however, was even higher than this: including the connotative non-equivalences (9.5%), stylistic non-equivalences accounted for no less than 27.3% of all the non-equivalences. With pragmatic, denotative and especially
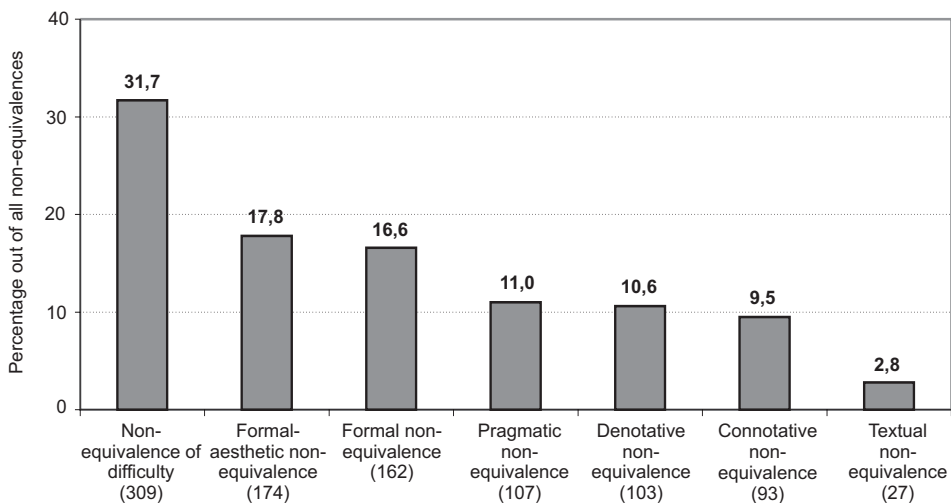
Figure 9.28 *Distribution of the seven types of non-equivalence.*

textual non-equivalences the percentages were lower (11.0%, 10.6% and 2.8% respectively).

9.2.3.2 Comparison between the text types

As shown by Table III.7, the total number of non-equivalences, in absolute terms, was again clearly greatest in the narrative text (704), with the non-continuous text containing 146 and the expository text 125 non-equivalences. In relative terms (see also Figure 9.29), however, the non-equivalences were most common by far in the non-continuous text – the proportion of non-equivalences being three-fourths (74,5%) of all the words in the text – second most common in the narrative text (40.8%) and least common in the expository text (32.3%).

The non-equivalence types varied markedly between the text types. In the *expository text* (see also Figure 9.30a), the most distinctive feature was perhaps the great proportion of connotative non-equivalences, indicative of the small shift in register that took place in the Finnish text. These non-equivalences were, after non-equivalences of difficulty and formal non-equivalences, the third most common equivalence type in the expository text (17.6% of all the non-equivalences) and clearly more common in this text than in the two other texts (8.8% in the narrative text and 6.2% in the non-continuous text).
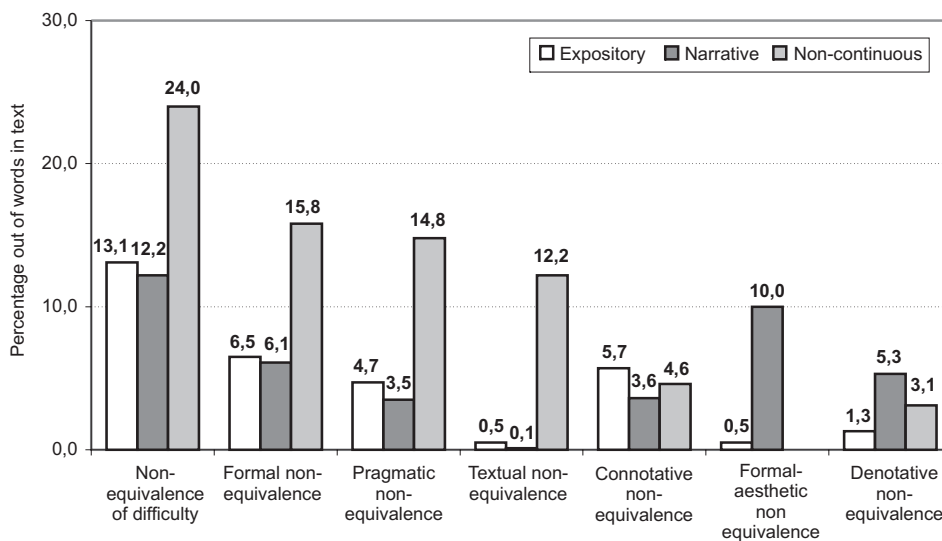
Figure 9.29 *Distribution of the seven types of non-equivalence, by text type.*

Otherwise, however, the expository text was often in the middle ground between the narrative and non-continuous text. This was true for as many as five of the remaining six types of non-equivalence – non-equivalence of difficulty, formal non-equivalence, pragmatic non-equivalence, formal-aesthetic non-equivalence, and textual non-equivalence – the only exception being denotative non-equivalence, where the expository text showed the lowest relative proportion of non-equivalences (1.3% of all the words in the text). Thus, the expository text differed from the two other texts in that it was the most neutral and least marked of the texts analysed in this study.

In the *narrative text* (see also Figure 9.30b), the most significant problem was style. This was shown up by the fact that formal-aesthetic non-equivalences accounted for as many as 24.4% of all the non-equivalences in the text and were, unlike the case in both the non-literary texts, the second most common non-equivalence type (after non-equivalence of difficulty) in the text. Moreover, formal-aesthetic non-equivalences were much more common in the literary text than in the two non-literary texts. In addition to this, however, the text also contained a fair – albeit not the highest – percentage (8.8%) of connotative non-equivalences. Taken together, the proportion of stylistic non-equivalences in the narrative text was thus 33.2%, much higher than in either of the non-literary texts.
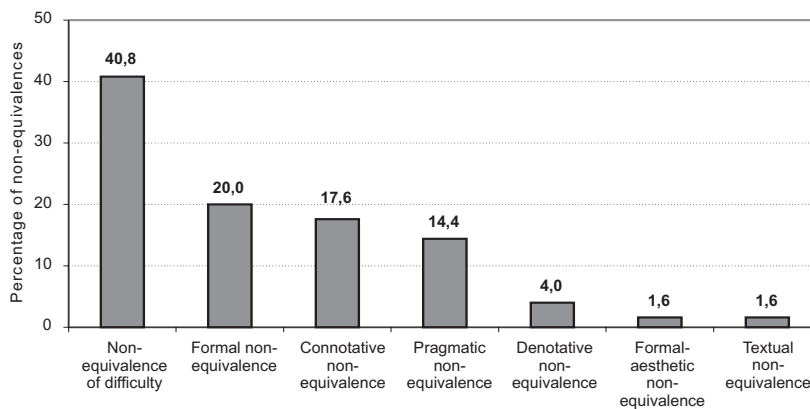
Figure 9.30a *Percentage of the seven types of non-equivalence in the expository text.*
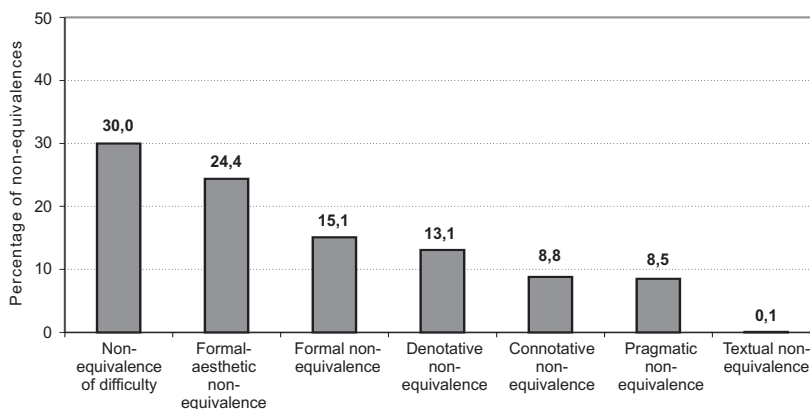
Figure 9.30b *Percentage of the seven types of non-equivalence in the narrative text.*
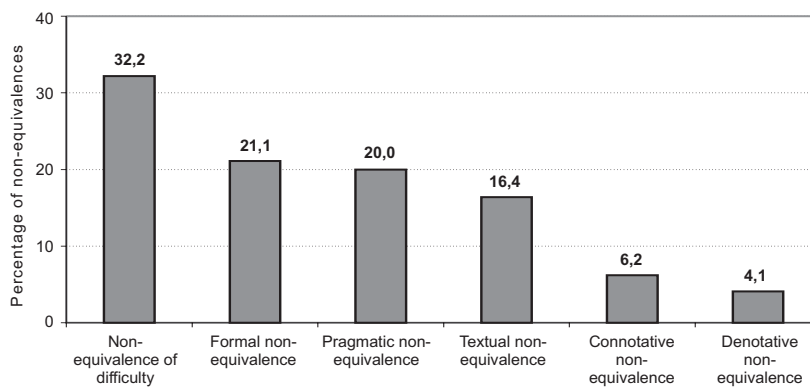
Figure 9.30c *Percentage of the seven types of non-equivalence in the non-continuous text.*

Another type of non-equivalence that was specific to the literary text in particular was denotative non-equivalence. The proportion of such non-equivalences of all the non-equivalences in the text was 13.1%, which was again much higher than the corresponding percentages for the non-literary texts. Apart from stylistic problems, then, semantic problems were also characteristic of the literary text in particular.

The other non-equivalence types were less important in the literary text than in the non-literary texts. This was the case with, for example, pragmatic non-equivalence, with only 8.5% of all the non-equivalences in the narrative text. This seems to be largely because in translating the literary text the translators appear to have put more emphasis on natural and idiomatic language than when translating the non-literary texts. In addition, the pragmatic non-equivalences in this text differed from those in the non-literary texts, in that in this text they were mostly related to shifts in interestingness. Formal and textual non-equivalences, mainly grammatical problems and textual incoherence, were also less common in the literary text than in the other two texts, the former accounting for 15.1% and the latter for 0.1% of the non-equivalences in the text.

In the *non-continuous text* (see also Figure 9.30c), the most significant non-equivalence type was textual non-equivalence. In this text textual non-equivalences accounted for up to 16.4% of all the non-equivalences, whereas in the two continuous texts the percentages were considerably lower (1.6% for the expository text and 0.1% for the narrative text). Also significant in the non-continuous text were formal and pragmatic non-equivalences, among which the proportion of the latter in particular (20.0%) was much higher than it was in the two continuous texts. Thematic and textual incoherence, grammatical and formal problems, and unidiomaticity and unnaturalness thus proved most problematic in the non-continuous text.

Connotative and denotative non-equivalences, or register and semantic problems, on the other hand, were not a significant problem in the non-continuous text. Connotative non-equivalences, for example, accounted for only 6.2% of all the non-equivalences in the text; and for denotative non-equivalences, the corresponding percentage was 4.1. Moreover, the proportion of both such non-equivalences was second lowest in the non-continuous text. No formal-aesthetic non-equivalences appeared in this text.

Of the seven types of non-equivalence, six could be found in all the three texts: non-equivalence of difficulty, formal non-equivalence, pragmatic non-equivalence, textual non-equivalence, connotative, and denotative non-equivalence. Among these, all except denotative and connotative non-equivalence were most common in the non-

continuous text, second most common in the expository text and least common in the narrative text, the risk of formal, pragmatic and textual problems thus increasing with the non-literariness and non-continuousness of the text. Denotative non-equivalences or semantic problems, for their part, were most common in the literary text; connotative non-equivalences or shifts in register appeared in greatest numbers in the non-literary texts; and formal-aesthetic non-equivalences occurred almost exclusively in the literary text.

9.2.4 Summary

The problems differed considerably between the text types, both quantitatively and qualitatively. First, in an absolute sense, they were most common in the narrative text, which was the longest of the three texts; in relative terms, they were most common in the non-continuous text; and taken together, the least problematic text seemed to be the expository text. Second, they were most varied in the narrative text, in which the number of different types of problem was greatest, and the least varied in the non-continuous text.

Third, the distribution of the problems varied noticeably between the text types (Table 9.4). In the expository text, the most difficult problems were the specialised terminology of the text, the ensuing shift in register, differences in word length, and interference. In the narrative text the main problems were the numerous polysemes, metaphors and personal pronouns used in the text, the stylistic flattening of the Finnish text, the cultural unfamiliarity of the text for Finnish readers, the translators' improving and explicating the Finnish text, especially by means of additions, and the loss of

Table 9.4 *Main problems by text type (with less important problems given in parentheses)*

Expository	Narrative	Non-continuous
• Specialised terminology • Register • (Word length) • (Interference)	• Semantic problems: polysemes, metaphors and personal pronouns • Stylistic flattening • Cultural unfamiliarity • Improvement and explicitation • Reduced interestingness	• Compact language • Thematic and textual incoherence • Unidiomaticity

interestingness in the Finnish text. And finally, in the non-continuous text, problems were mainly caused by compact language, thematic and textual incoherence, and unidiomaticity.

9.3 To what extent were the English and Finnish texts equivalent to each other?

As a result of all the above problems the English and Finnish texts or individual structures in them often ended up non-equivalent to each other. The non-equivalences ultimately led to either the English source texts or the Finnish translations being more difficult (Table 9.5).

Factors that consistently made the English texts more difficult than the Finnish texts included compact noun phrases, specialised terminology, less explicit, less concrete and less simple language, and possibly also the use of personal pronouns and metaphors. However, the list of factors seemingly adding to the difficulty of the Finnish texts was even longer: longer words, more complicated reduced clauses, irregular sentences, and lack of articles; the less semantic and less rhetorical use of the comma; less familiar content; textual incoherences and analphabetic order; stylistic neutralisation and flattening; and the errors and mistranslations produced by the translators (and editors). In total, the number of non-equivalences adding to the difficulty of the Finnish texts (182) was much higher than that of those adding to the difficulty of the English texts (61 + 66 = 127).

As shown by Figure 9.31, most of the non-equivalences of the different types also had a negative effect on the Finnish texts. This was the case with all the textual non-equivalences and the vast majority of the formal-aesthetic, formal and pragmatic non-equivalences, implying that the translation had a negative effect on the textual coherence, expressive style, grammatical difficulty, and idiomaticity and fluency of the Finnish texts. Denotatively the difference was the least significant. Connotative non-equivalence, on the other hand, was the only type of non-equivalence where the English texts seemed to be at a disadvantage. Taken together, the number of the non-equivalences leading to increased difficulty in the Finnish texts (467) was more than twice as high as that of the non-equivalences adding to the difficulty of the English texts (197).

The greater number of the non-equivalences increasing the difficulty of the Finnish texts seems to suggest that the Finnish texts may have been slightly more difficult to

Table 9.5 *Effect of the non-equivalences on the difficulty of the English and Finnish texts*

Main problem category	English more difficult than Finnish		English more difficult but Finnish stylistically or pragmatically problematic		Finnish more difficult than English	
	Problem	n	Problem	n	Problem	n
Differences in grammar					Word structure and length	34
	Compact noun phrases	4	Reduced adverbial clauses	16	Reduced adverbial clauses	20
			Reduced postmodifiers	9	Reduced postmodifiers	6
					Irregular sentences	18
			Reference: per. pronouns	12	Reference: articles	9
Differences in writing systems					Orthography: initial letters	1
					Punctuation: comma	32
Differences in culture					Content: setting	1
Differences in meaning	Specialised terminology	15	Metaphors	9	Polysemy	31
Translators' strategies and choices					Interference	2
					Writing errors	14
					Mistranslation	8
	Explicitation: additions	14	Explicitation: additions	19		
	Explicitation: concretisations	15				
	Semantic simplification	13	Stylistic simplification	1	Stylistic simplification	5
Editing error					Error in paragraphing	1
Total		**61**		**66**		**182**
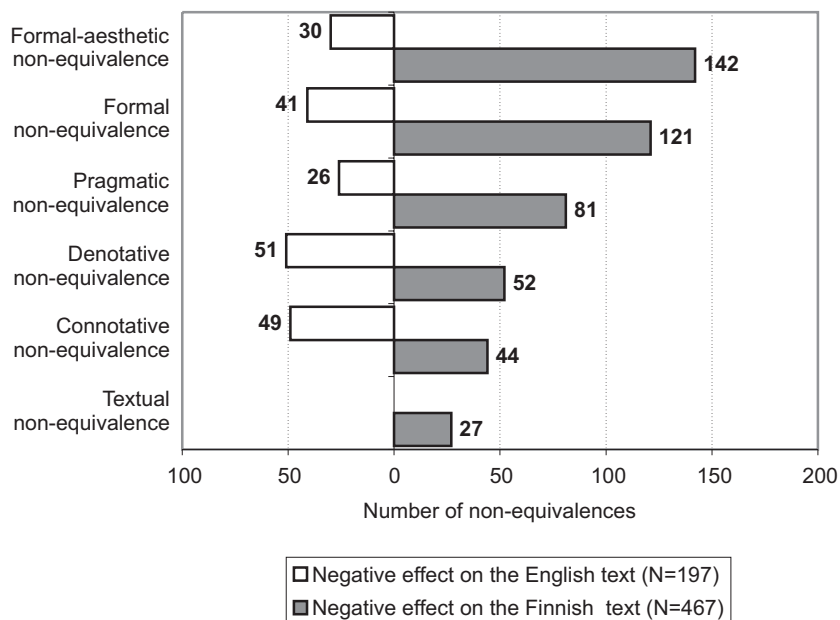
Figure 9.31 *Negative effect of the non-equivalences on the English and Finnish texts.*

understand than the English texts. However, this did not seem to be unequivocally the case. There were basically two reasons for this. First, the number and proportion of non-equivalences with a negative effect on the comprehensibility of the texts varied across the three texts. And second, the non-equivalences were not of the same significance: some of them were clearly more consequential and others less consequential.

9.3.1   Expository text

The Finnish expository text (Figure 9.32) was made slightly more difficult than its English counterpart by its longer words (16), all the errors made by the translators or editors (2 + 1 + 1 = 4), its two cases of interference, its less semantic punctuation (2), and its stylistic depersonalisations (2). Factors that increased the difficulty of the English text, on the other hand, included its more learned vocabulary (15), and the concretisations (3) and the one addition made in the Finnish text. Reduced subordinate clauses added sometimes to the difficulty of the Finnish text (3) and sometimes the English text (3).
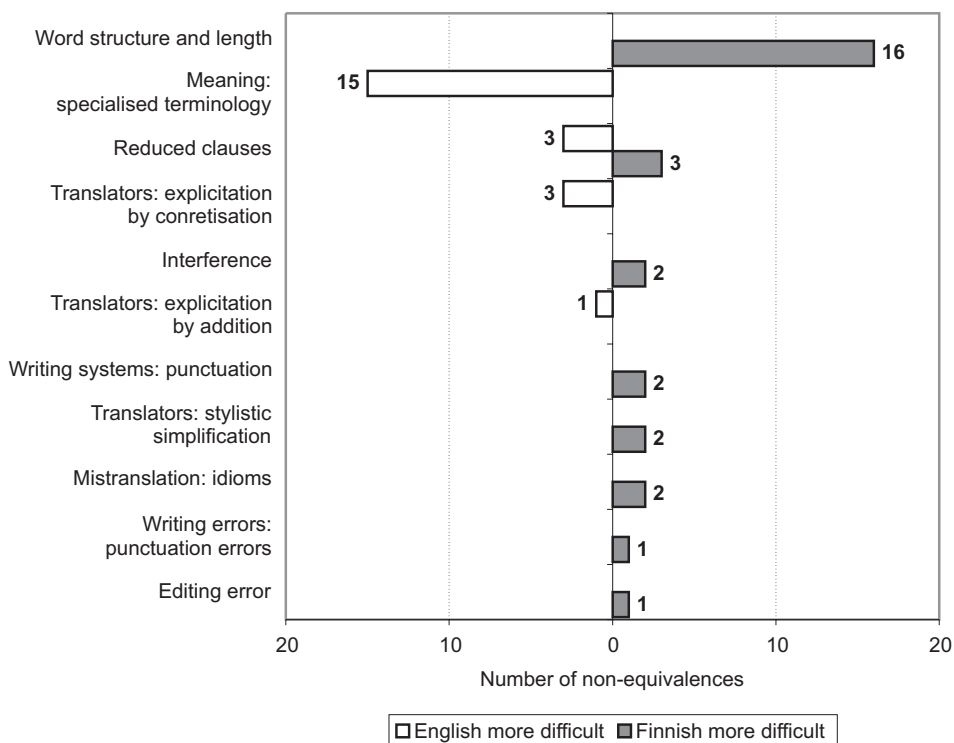
Figure 9.32 *Effect of the non-equivalences on the difficulty of the English and Finnish expository texts.*

Taken together, the number of non-equivalences contributing to greater difficulty in the Finnish text (29) was somewhat higher than that of the non-equivalences increasing the difficulty of the English text (22). This might suggest that the Finnish text may have been slightly more difficult to understand than the English text.

However, a closer look at the non-equivalences reveals that a great number of them were small and more or less insignificant. This was true of the non-equivalences produced by differences and errors in the use of the comma, by stylistic simplifications and by mistranslations of the idioms in particular, all of which were factors that would rather have added to the difficulty of the Finnish text. The non-equivalences resulting from the use of specialised terminology in the English text as well as those caused by explicitations and the editing error in the Finnish text, on the other hand, were clearly among the most critical non-equivalences. In the final analysis, then, a considerable

number of the non-equivalences in the text may be assumed to have been largely compensated for, leaving the actual non-equivalences in difficulty between the English and Finnish text relatively few in number. However, owing to the somewhat more learned, less familiar, less concrete and explicit vocabulary, the English expository text may have been slightly more difficult to understand than the Finnish text.

In Figure 9.33 the relative difficulty of the English and Finnish versions of the expository text is compared in the light of the different types of equivalence, except for equivalence of difficulty (which was looked at in detail above). The figure shows that the English and Finnish expository texts or parts of them were non-equivalent in several ways: formally, connotatively, pragmatically, denotatively, formal-aesthetically, and textually. Furthermore, some of these non-equivalences may have had either a positive or a negative effect on the comprehensibility of the English and Finnish texts.

For example, the majority of the formal non-equivalences (22 out of 25) seem to have led to increased difficulty in the Finnish text, implying that formally the Finnish text may have been somewhat more difficult to understand than the English text. The
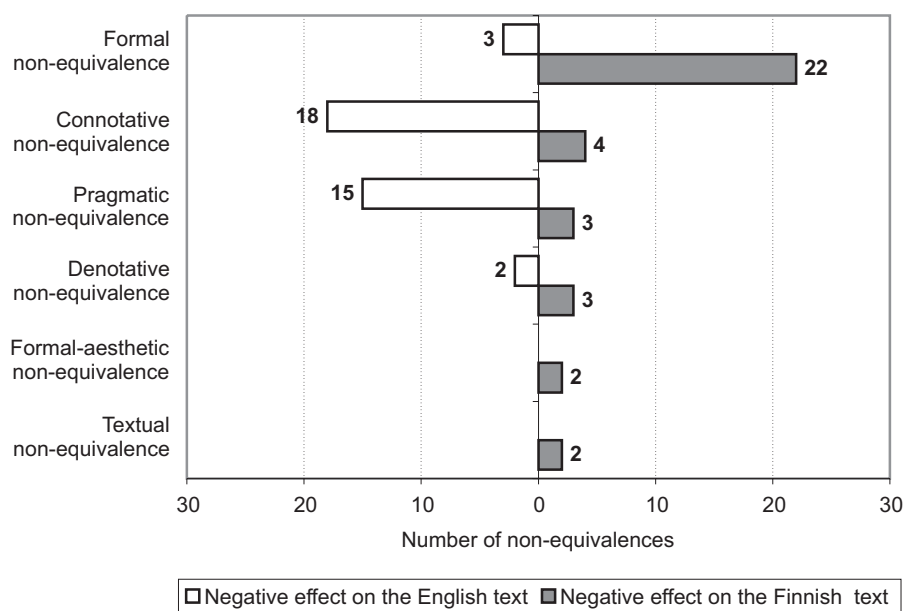
Figure 9.33 *Negative effect of the non-equivalences on the English and Finnish expository texts.*

Finnish text also appears to have been at a disadvantage formal-aesthetically and textually (2 cases of non-equivalence each). However, with connotative and pragmatic non-equivalences (in 18 cases out of 22 and in 15 cases out of 18, respectively), it seems to have been the English text which was more problematic. This was because the English text was slightly more formal, more learned and possibly also less interesting to read than the Finnish text. Semantically, there was no significant difference between the numbers of non-equivalences having a negative effect on the English and the Finnish text. All in all, formally and textually the expository text may consequently have been more difficult to understand in Finnish, but connotatively and pragmatically in English. However, most of the non-equivalences were small and may in the end be expected not to have had a great effect on the comprehensibility of the texts.

Altogether, the number of non-equivalences which may have had a negative effect on the English text amounted to 38, while the corresponding figure for the non-equivalences having a negative effect on the Finnish text was 36. These results also seem to support the finding that even though the English and Finnish texts were not fully equivalent to each other, overall there was no marked difference in difficulty between the texts. However, the English text, where the vocabulary in particular seems to have been more complicated than that of the Finnish text, may have been slightly harder to comprehend than the Finnish text.

9.3.2 Narrative text

In the narrative text (Figure 9.34), evaluating the final effects of the non-equivalences was even more challenging than in the expository text. This was because in this text style played a more significant role than in the two non-literary texts. For example, a linguistic phenomenon such as the use of personal pronouns instead of nouns, which are less explicit and as such more complicated to understand than nouns, may, nevertheless, serve a specific stylistic purpose in a literary text and convey important nuances. Consequently, if these pronouns are replaced by nouns in translation, the translation will probably become slightly easier to understand but at the same time also lose some of its stylistic nuances and cues. This neutralisation may in turn have its own negative effect on the comprehensibility of the translation.

In addition to the pronouns (12 in all), there were other linguistic phenomena which seemed to have a similar ambivalent effect on the difficulty of the English and Finnish narratives. These were the 16 reduced adverbial clauses not introduced by
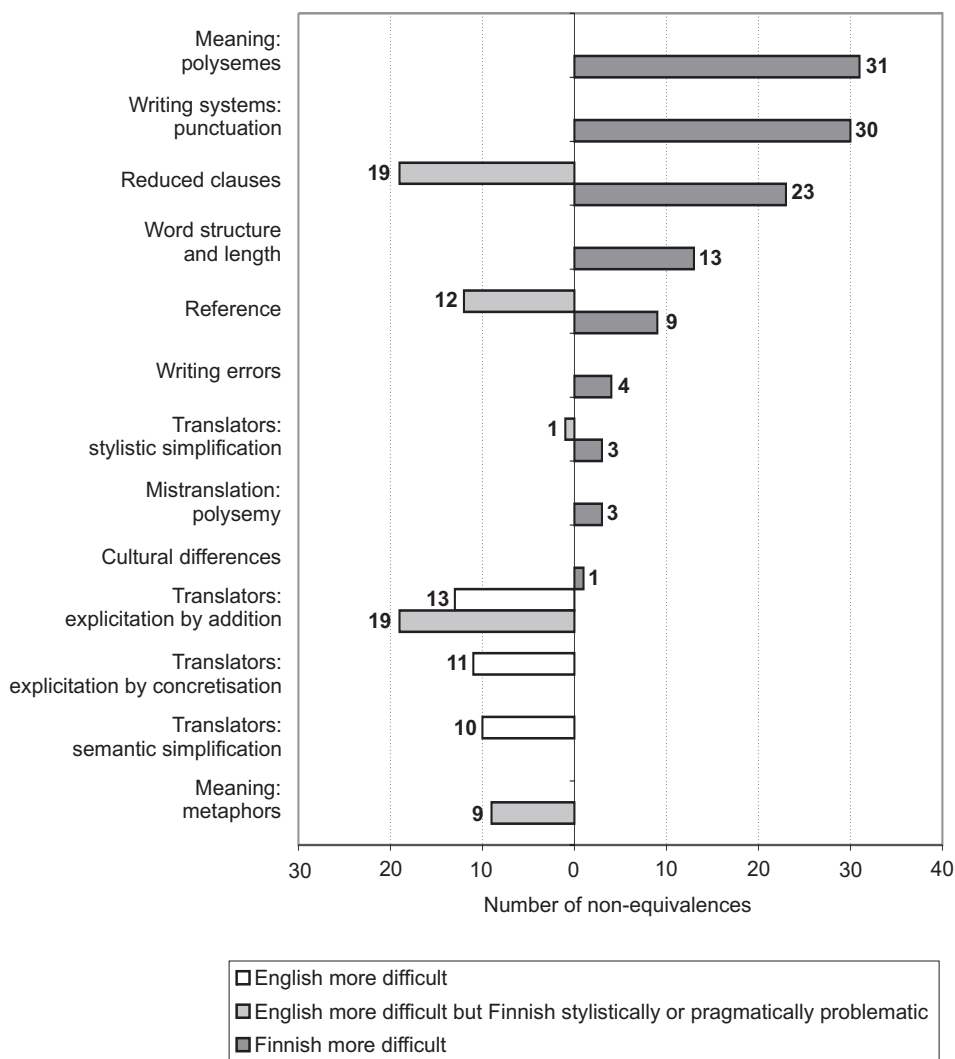
Figure 9.34 *Effect of the non-equivalences on the difficulty of the English and Finnish narratives.*

subordinators and the three reduced postmodifiers found in the English text but translated into Finnish as finite clauses (19 cases in all); the 19 content words added to the Finnish narrative; the nine metaphors found in the English text but translated into Finnish as non-figurative expressions; and the one dethematisation made in the Finnish narrative. Apart from these, the analysis also revealed factors which

consistently increased the difficulty of the English or the Finnish narrative. The former included the 13 grammatical words added to the Finnish narrative and the 11 concretisations and 10 semantic simplifications made by the translators to improve the Finnish text. Among the latter, were the 31 polysemes used in the English narrative which, when translated into Finnish, lost some of their nuances; the less rhetorical use of the comma in the Finnish narrative (30); the 19 reduced adverbial clauses introduced by subordinators and the four reduced postmodifiers found in the English text and translated into Finnish as even more reduced clauses (23 reduced clauses in all); the loss of the nine identifying articles from the Finnish narrative; the longer words (13), the four writing errors, the three depersonalisations and the three mistranslated polysemes in the Finnish narrative; and the culturally less familiar content of the Finnish narrative.

Taken together, the number of non-equivalences leading to increased difficulty in the English text was 33, that of non-equivalences adding to the difficulty of the English text while at the same time causing stylistic or pragmatic problems in the Finnish text 60, and that of the non-equivalences resulting in greater difficulty in the Finnish text 117. Quantitatively, the results seem to suggest that the Finnish narrative might have been slightly more difficult to understand than the English narrative.

However, here too, the non-equivalences of difficulty were far from commensurate. Those caused by differences and errors in the use of the comma or by the lack of articles in the Finnish narrative, for instance, were clearly among the least consequential. All were factors which might rather have added to the difficulty of the Finnish narrative. On the other hand, the non-equivalences produced by the mistranslated polysemes and the culturally more unfamiliar content (which also increased the difficulty of the Finnish text) were distinctly of far greater significance. The same goes possibly also for the non-equivalences resulting from the addition of grammatical words to the Finnish narrative, whereas the concretisations and semantic simplifications made in the Finnish text – all factors adding its comprehensibility – seemed of somewhat lesser significance. In the narrative text also, then, the actual non-equivalences of difficulty between the English and Finnish texts largely evened out when looked at collectively and in more detail. However, the Finnish narrative, whose setting was not completely familiar to Finnish students, which was at times even illogical and unintelligible and which lacked a considerable number of the cues provided by, for example, the polysemes in the English text, may have been slightly harder to understand than the original English narrative.
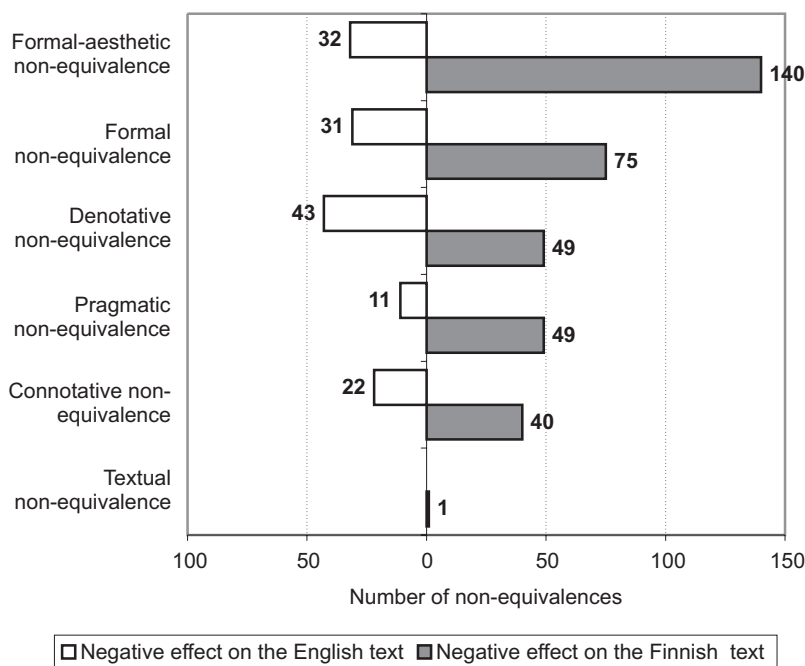
Figure 9.35 *Negative effect of the non-equivalences on the English and Finnish narrative texts*

In Figure 9.35, the English and Finnish narratives are compared in terms of the different types of equivalence. It can be seen that the narratives again differ from each other formal-aesthetically, formally, denotatively, pragmatically, connotatively and textually. Moreover, in the case of all these different types of non-equivalence it seems to have been the Finnish narrative where the consequences of the non-equivalences were more negative.

In the case of denotative non-equivalence, for instance, 49 out of the total of 92 cases of non-equivalence decreased the comprehensibility of the Finnish narrative. However, with formal, pragmatic, connotative and, most specifically, formal-aesthetic non-equivalence, the difference was even more striking: with formal non-equivalence, 75 out of altogether 106 formal non-equivalences added to the difficulty of the Finnish narrative; with pragmatic and connotative non-equivalence, the corresponding figures were 49 out of 60 and 40 out of 62 non-equivalences respectively; and with formal-aesthetic non-equivalence, no less than 140 out of the 172 non-equivalences resulted

in stylistic flattening and loss of nuance in the Finnish narrative. Textually, the Finnish narrative also ended up being slightly less coherent than the English narrative. On the whole, the Finnish narrative may be assumed to have been, not only formally and semantically but, even more importantly, stylistically, pragmatically and textually slightly more difficult than the English narrative.

In total, the number of non-equivalences which seem to have had a negative effect on the Finnish narrative (354) was clearly higher than the number of non-equivalences having a negative effect on the English narrative (139). Thus, in the light of these results, the Finnish narrative appears to have been distinctly more difficult to understand than the English narrative. However, it should be remembered that a great number of these non-equivalences, especially those caused by errors made by the translators and by the stylistic flattening of the Finnish narrative, were relatively small. Therefore, even though the Finnish translation did seem harder to comprehend than its English source text, the actual non-equivalence of difficulty between the texts was not as large as suggested by the figures.

9.3.3   Non-continuous text

In the non-continuous text (Figure 9.36), the factors that added to the difficulty of the English text included the four compact noun phrases, the three reduced subordinate clauses translated into Finnish as finite clauses, and the three semantic simplifications, together with the one concretisation made in the Finnish text. In contrast, the Finnish text was made more difficult than the English text by the 18 thematically problematic irregular sentences, the nine errors made in the use of the slash, the longer words (5), the three mistranslations of reduced clauses, and the divergence from alphabetical order in the table (as a result of a difference in orthography).

In all, the number of non-equivalences resulting in greater difficulty in the Finnish text (36) was again higher than that of the non-equivalences increasing the difficulty of the English text (11). Here too, the non-equivalences thus seem to have resulted in the Finnish text being more difficult to understand than the English text.

In this text too, however, some of the non-equivalences may be supposed to have been more or less inconsequential. This applies to the non-equivalences resulting from punctuation errors in particular, which were counted among the factors that may rather have added to the difficulty of the Finnish text. On the other hand, the non-equivalences caused by the use of compact noun phrases in the English text and the semantic
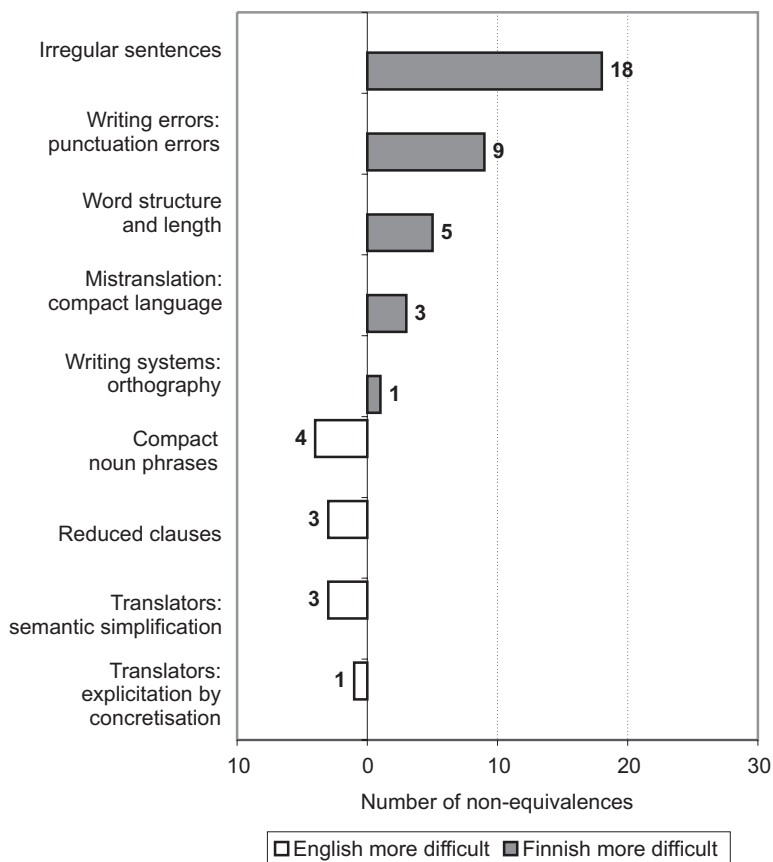
Figure 9.36 *Effect of the non-equivalences on the difficulty of the English and Finnish non-continuous texts.*

simplifications made in the Finnish text, which both increased the difficulty of the English text, as well as the non-equivalences arising from the use of the thematically problematic irregular sentences in the Finnish text, which had a negative effect on the Finnish text, were among the most significant non-equivalences. In the non-continuous text also, then, the actual non-equivalence of difficulty between the English and the Finnish versions seems to have been smaller than suggested by the figures. However, mainly because of the thematically problematic irregular sentences, the Finnish text may still have been somewhat harder to understand than the English text.

Like the other two texts considered above, however, the English and Finnish non-continuous texts were also formally, pragmatically, formal-aesthetically, denotatively, and textually non-equivalent to each other (Figure 9.37). These non-equivalences also had their own impact on the comprehensibility of the texts.
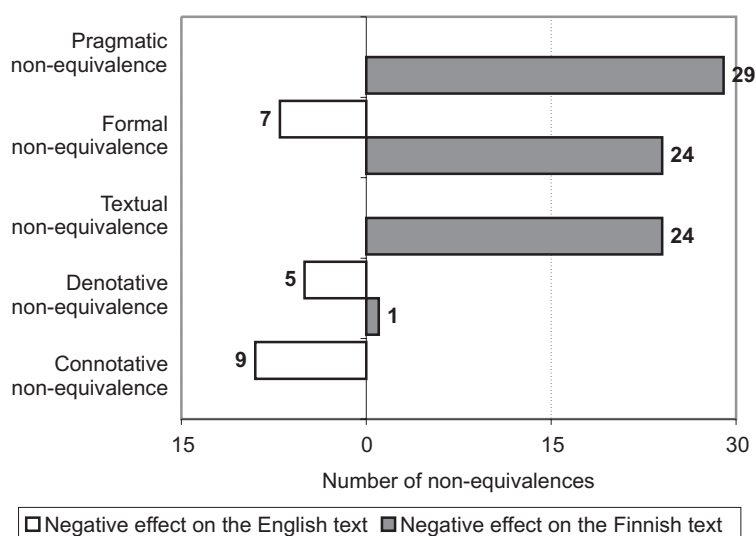
Figure 9.37 *Negative effect of the non-equivalences on the English and Finnish non-continuous texts.*

Without exception, for example, all the pragmatic (29) and textual non-equivalences (24) had a negative effect on the Finnish text. Thus, the Finnish text seems to have been not only clearly less idiomatic and less pleasant to read but also thematically and textually distinctly less coherent, less logical and more demanding to follow than the English text. In addition, the Finnish text appears to have been also formally and grammatically slightly more complex than the English text, with approximately three-fourths (24 out of 31) of the formal non-equivalences adding to the difficulty of the Finnish text. Stylistically and denotatively, however, it seems to have been the English text which was more problematic than the Finnish text. This was mainly because in the Finnish text the language was not as formal and bureaucratic as it was in the English text; also, the language in the Finnish text was at places semantically somewhat simpler than it was in the English text. Altogether, the Finnish text may be supposed to have been pragmatically, textually and formally slightly more difficult to understand than

the English text, with the English text being stylistically and semantically somewhat harder to comprehend than the Finnish text.

Taken together, the number of non-equivalences having a negative effect on the Finnish text (78) was almost four times as high as that of the non-equivalences having a negative effect on the English text (21). These results too seem to imply that the Finnish non-continuous text was probably harder to comprehend than the English text. Furthermore, even though some of the individual non-equivalences of difficulty between the English and Finnish texts were relatively insignificant, the actual non-equivalence between the texts did seem greater in this text than in the continuous texts. The Finnish non-continuous text, in other words, appears to have been somewhat more difficult to understand than the English text, the main reason being its thematic and textual unidiomaticity and incoherence.

9.3.4   Summary

The results show (Table 9.6), not surprisingly, that none of the three Finnish translations was fully equivalent to its English source text. Rather, all were formally, semantically, textually, stylistically, and pragmatically at least partly non-equivalent to their English counterparts. However, text-normatively, at discourse level, all the texts were more or less equivalent to each other.

Formally and textually, though, all the Finnish translations seem to have been somewhat more difficult to understand than their English source texts, the non-equivalence, in addition, being greater in the non-literary texts than in the literary text.

Table 9.6   *Relative difficulty of the English and Finnish versions in terms of the different types of equivalence*

Expository		Narrative		Non-continuous	
English more difficult	Finnish more difficult	English more difficult	Finnish more difficult	English more difficult	Finnish more difficult
Stylistically	Formally		Formally	Stylistically	Formally
Pragmatically	Textually		Textually	Semantically	Textually
Semantically			Semantically		Pragmatically
			Stylistically		
			Pragmatically		

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Pragmatically, the Finnish narrative and non-continuous text in particular also appear to have been slightly less idiomatic or less smooth and hence less easy to read than their English counterparts. With the expository text, on the other hand, it seems to have been the English version which was not only less familiar but also more challenging to understand than the Finnish text. Stylistically, the English versions of both the non-literary texts were slightly more formal than their Finnish counterparts, whereas the Finnish narrative was clearly more neutral and flatter than the English narrative. This formality and flatness, in turn, may have made the English non-literary texts and the Finnish literary text respectively somewhat less appealing to read. Finally, semantically the non-equivalences were the least consistent in their impact: in the narrative text, they added somewhat to the difficulty of the Finnish text; in the non-continuous text, it was the English version that became somewhat more difficult; and in the expository text, there was no significant difference between the English and Finnish versions.

As a result of all the non-equivalences, the Finnish and English texts could not be fully equivalent to each other either in difficulty (Table 9.7). The expository text appears to have been slightly more difficult to understand in English, mainly because the vocabulary of the English version was more complicated than that of the Finnish

Table 9.7 *Relative difficulty of the English and Finnish versions and the underlying reasons*

	Expository	**Narrative**	**Non-continuous**
Which was more difficult	English slightly more difficult	Finnish slightly more difficult	Finnish slightly more difficult
Main reasons	More difficult vocabulary	Lesser familiarity Mistranslations Missing stylistic cues Reduced interestingness	Thematic and textual problems Unidiomaticity

version. In contrast, both the narrative and the non-continuous text seem to have been harder to comprehend in Finnish than in English, the former because of the lesser familiarity of the text in Finnish culture (as compared to the experience of American readers in particular), the mistranslations found and the stylistic cues missing in the Finnish narrative and the loss of interestingness in the Finnish text; and the latter because of the thematic and textual anomalies and the ensuing undiomaticity of the

Finnish text. However, most of these non-equivalences were relatively small and, in the final analysis, largely evened out when examined all together. This applied to the expository text in particular, whereas in the narrative text and, even more specifically, in the non-continuous text the non-equivalences were slightly more significant.

CHAPTER 10

Conclusion

The study examined problems of equivalence that arise when translating texts used in international reading literacy studies, where equivalence of difficulty between all the different-language reading materials is a key prerequisite for the validity of the entire test. Such information was deemed crucial because it helps to increase the quality and the degree of equivalence of the translations used in these studies. Ultimately, the study thus aimed at developing international reading literacy studies and at enhancing their validity.

The study was carried out as a comparative text analytic study of three English source texts and their Finnish translations used in the PISA 2000 reading literacy test. In the analysis the three pairs of text, each representing a different type of text, were analysed and compared linguistically at different linguistic levels and strata. The objective of the analysis was to locate, analyse and evaluate equivalence problems in the texts, the problems being identified on the basis of cognitive theories of reading.

A summary is first given of the main findings of the study. This is followed by an evaluation of the trustworthiness of these results and then by a discussion of the implications of the study for international studies. In the discussion the focus will be on international reading literacy studies. However, the implications are also largely applicable to other cross-national studies. The chapter ends with suggestions for further research in the field of international studies.

10.1 Main findings of the study

10.1.1 The main problems of equivalence of difficulty

The analysis revealed six main categories of equivalence problems: 1) problems related to language-specific differences in grammar, 2) problems having to do with language-specific differences in the writing systems, 3) problems concerning language-specific differences in meaning, 4) problems associated with differences in culture, 5) problems related to the strategies used and choices made by the translators, and 6) problems having to do with editing. Basically, the problems derived from two main sources: differences between languages and cultures, and human action.

Looked at in more detail, the problems in the first category had to do with English and Finnish differing grammatically in three particular areas: word structure and length; syntactic reduction, especially as concerns compact noun phrases, reduced subordinate clauses and irregular sentences; and reference systems and, more precisely, personal pronouns and the identifying use of articles. In the second category, the problems were due to the two languages differing either in orthography, and initial letters and alphabetic order in particular, or in punctuation, and specifically the use of the comma. In the third category the problems were related to semantic differences in three specific areas: specialised, that is, medical and anatomical terminology, polysemes, and metaphors. In the fourth category, the problems had to do with the setting and content of the narrative text being culturally less familiar to Finnish than to American students. In the fifth category, the problems were due to four types of translational behaviour: interference; writing errors in spelling and punctuation; misunderstandings and mistranslations of idioms, polysemes and concise language; and the translators' improving the translations by explicating them through addition or concretisation or by simplifying them either semantically or stylistically. And in the last category, the problems were related to a layout error in the paragraphing of the expository text.

Among these main problem types those related to language-specific differences in grammar were clearly most common. These were followed by problems having to do with the strategies used and choices made by the translators and by those connected with differences in meaning and the writing systems. Problems associated with cultural differences and editing both appeared only once in the data. However, an analysis of the individual problems within the main categories showed that by far the most common

problems were explicitation and language-specific differences in reduced subordinate clauses; apart from explicitation, all the most common problems were also caused by differences between the two languages.

By definition, the above were problems because they resulted in the English and Finnish texts being non-equivalent in difficulty. However, the reason why they were non-equivalent in difficulty was that they were also non-equivalent in other ways: formally, denotatively, textually, connotatively, formal-aesthetically and pragmatically, or in form, meaning, textual cohesion and structure, style and register, familiarity, idiomaticity, interestingness and appeal. Usually, moreover, one problem led to several types of non-equivalence, and these different types of non-equivalence often had contrary effects on equivalence of difficulty.

Especially common among the types of non-equivalence were stylistic non-equivalences, particularly those of the formal-aesthetic kind. Also common were formal non-equivalences. The other types of non-equivalence – denotative, pragmatic, and textual – were clearly less common. And no text-normative non-equivalences were found in the data.

However, the non-equivalences differed in their degree of significance. The formal non-equivalences, for example, often appeared relatively inconsequential. This was the case with those formal non-equivalences in particular which mainly remained on the micro level, whereas those reflected on the text level typically led to greater shifts in difficulty. In one case, moreover, a formal non-equivalence resulted in a question being unequally difficult in the two languages and therefore ill-suited for international reading literacy studies. Like most formal non-equivalences, pragmatic non-equivalences consisting of unidiomacies caused by writing errors also seemed of little significance. Semantic non-equivalences, on the other hand, appeared more significant, in that because of them whole Finnish texts often ended up being illogical and partly unintelligible. The same was true of those pragmatic non-equivalences which resulted in the Finnish non-continuous text being strange and clumsy, as well as of stylistic non-equivalences which resulted in all three Finnish texts being stylistically more neutral or flatter than the English texts. However, the most critical non-equivalences seemed to be textual non-equivalences because they consistently made the Finnish texts less coherent than the English texts, and those pragmatic non-equivalences which arose from differences in meaning and culture and resulted in the English and Finnish texts not being equally familiar in character.

10.1.2   The problems varied across and between the text types

The problems varied significantly between the text types, both in number and quality. In absolute numbers they were clearly most numerous in the narrative text, the longest of the three texts. However, when adjusted to the length of the texts they were distinctly most common in the non-continuous text. Taken together, the least problematic text seemed to be the expository text. The number of different types of problem was greatest in the narrative and smallest in the non-continuous text.

The quality and distribution of the problems also varied considerably between the texts. In the expository text the most difficult problems were the specialised medical and anatomical terminology of the source text, which in the Finnish text had to be replaced by less specialised and more popular terminology, and the resulting shift in register, whereby the Finnish text became less formal and less learned than the English text. However, problems were also caused in this text by differences in word length, with the Finnish text containing longer words than the English text, and by interference, which resulted in the Finnish text being at places somewhat clumsy. In the narrative text the main problems were the numerous polysemes, metaphors and personal pronouns in the source text, some of which were at times difficult not only to understand but also to transfer to Finnish; the resulting stylistic flattening of the Finnish text; the content of the source text being less familiar to Finnish than, for example, to American readers; the translators' proneness to improve, edit and explicate the Finnish text; and the loss of interestingness in the Finnish narrative. In the non-continuous text, the most difficult problems were the compact language of the source text, which in addition to being at places hard to understand was also impossible to transfer as such into Finnish; the ensuing thematic and textual illogicality of the Finnish text; and the resulting unidiomatic language used in the Finnish text.

10.1.3   The translations were not fully equivalent in difficulty to the source texts

As a result of the above problems, none of the three Finnish translations was fully equivalent to its English source text. Instead, all were formally, semantically, textually, stylistically, and pragmatically at least partly non-equivalent to their English counterparts. Text-normatively, however, all the texts were equivalent to each other.

Moreover, as a consequence of all these non-equivalences, the Finnish and English texts were not fully equivalent in difficulty either. Instead, the expository text was slightly more difficult in English than in Finnish, primarily owing to its less familiar and more formal and learned vocabulary. Both the narrative and non-continuous text, on the other hand, were more difficult in Finnish than in English. In the narrative text this was not only because the content of the text was less familiar in Finnish culture (as compared to American culture in particular), but also because some mistranslations were made in the Finnish text which made it partly incoherent and illogical and because the Finnish text lacked some of the semantic and stylistic cues as well as the suspense and interestingness present in the English text; in the non-continuous text, again, it was mainly due to the thematic and textual anomaly and the resulting unidiomaticity of the Finnish translation.

However, most of the individual non-equivalences found in the texts were comparatively small and were often largely compensated for by other factors. Therefore, the true non-equivalences of difficulty between the English and Finnish texts were, in the end, relatively insignificant. This was true for the expository text in particular, whereas in the narrative and, even more so, in the non-continuous text the difference was more noteworthy.

10.2 Evaluating the trustworthiness of the results of the study

10.2.1 Limitations of the qualitative analysis

Following the above recapitulation of the main results of the study, this section continues with a discussion of the trustworthiness of the results. This takes the form of an evaluation of the study against the criteria of qualitative research, since even though it did contain quantitative comparisons, the study was primarily qualitative in nature. The relevant criteria, according to Miles and Huberman (1994, pp. 277–280), are the following: *confirmability*, the extent to which the study is neutral, free of researcher biases and consequently (in quantitative terms) objective; *dependability* and *auditability*, the extent to which the study is consistent and stable over time and across researchers and methods, and hence reliable; *credibility* and *authenticity*, the extent to which the findings "ring true", make sense, and are credible, authentic – and internally valid; *transferability*

and *fittingness*, the extent to which the findings are transferable or generalisable to other contexts, or externally valid; and *utilisation* and *applicability*, the pragmatic validity of the study. The emphasis in the discussion will be on the limitations of the study.

The first limitation of the study, a major one, is its *subjectivity*: the research has been done by one person only, and therefore the judgements about the non-equivalences between the texts and the classification of the problems also rest on the opinions of this one person. This, in turn, easily casts doubts not only on the confirmability but also, even more importantly, on the dependability and credibility of the study.

Today, it is readily acknowledged that all research is, in the end, subjective (Patton, 2002, p. 576). However, this is especially true of qualitative research, where the research is done by a human instrument (Miles & Huberman, 1994, p. 262), and even more true of translation quality assessment, where judgements have to be passed about translation, which in itself is "a complex hermeneutic process" and where the judgements, of necessity, contain an interpretative, subjective element (House, 1997, pp. 47, 103; see also Reiss, 2000). Reading, especially aesthetic reading, is also a most subjective experience (Rosenblatt, 1994).

Nonetheless, it is possible to reduce the subjective element. The primary means of doing this is by increasing the credibility of the researcher (for the credibility of the researcher in this study, see 7.5.2). Other techniques include a thick and rich description of the data collection and analysis procedures, a systematic analysis of the data, grounding the analysis in theory, an ample use of verbatim quotes in evidence, and triangulation. All these were also used in the present study (see 7.5.2).

As concerns *triangulation*, however, the study could have been more versatile. The study, most specifically, would have benefited from *analyst* (Patton, 2002, p. 556) or *investigator triangulation* (Denzin, 1978, p. 297). Analyst triangulation was not used in the study, the main reason being that, if done properly and credibly, with *prolonged engagement* and *persistent observation* and hence with sufficient scope and depth (Lincoln & Guba, 1985, pp. 301, 304), text analysis is an extremely laborious and time-consuming process. This may be expected, moreover, to be the more true, the more complicated the methods and criteria of the analysis and the less familiar the analyst is with them. In the present study the analysis consisted in judging the degree of equivalence of difficulty between texts in different languages, which in itself is an extraordinarily complicated and multi-faceted investigation and for which there are no clear-cut and unequivocal methods and criteria. In the present study, analyst triangulation was accordingly not used, because it would have been far too time-consuming and expensive.

Even though analyst triangulation proper was not used in the study, the study did have recourse to two other types of analyst triangulation: *expert audit review* and *audience review* (Patton, 2002, pp. 561–562). The study is a doctoral dissertation, and as such it has been evaluated – and authenticated – by expert reviewers. In addition, the study has also been submitted to audience review, the response of these primary intended users being, according to, for example, Patton (2002, p. 561) and Lincoln and Guba (1985, p. 314), the ultimate test of the credibility of a study. The findings of the study have accordingly been presented to developers and conductors of international assessments, who, moreover, have found them accurate, believable and reasonable.

Primarily, however, the focus in the study was on *methods triangulation* (Denzin, 1978, pp. 301–304) and, more specifically, on combining qualitative text analysis and quantitative frequency counts. In the main, the findings of these two methods were convergent. However, there was one exception to this. This was when the English and Finnish versions were compared to see which of them was more difficult to understand. In the comparison, the quantitative analysis – the frequencies of the non-equivalences – showed great differences between the English and Finnish texts. Yet, these frequencies could not be taken as a direct indication of the difficulty of the texts. This was because the non-equivalences differed greatly in significance: some were more or less inconsequential, while others had a clearly more significant impact on reading difficulty. Judged qualitatively, the true non-equivalence of difficulty between the texts was much less significant than suggested by the quantitative analysis.

A second limitation of the study, closely related to the above, is that the *judgements of difficulty* are at best only *hypotheses* of what might or seems to be the case. This, in turn, might diminish the dependability and, even more specifically, the credibility and transferability of the study.

At the same time, however, it should be remembered that one of the main reasons for the hypotheticality of the study is that to date there simply are no valid methods – and possibly there never will be – for reliably and exhaustively measuring text difficulty across languages. Therefore, also the analysis made in this study was not only highly simplistic and conjectural but also far too narrow and atomistic to yield a full picture of what is involved in the extremely complex process of reading comprehension (see 7.4).

In such a situation the best a researcher can do to reduce the hypotheticality and to add to the dependability, credibility and transferability of a study is to ground his or her judgements and argumentation in existing theory and previous research (Miles & Huberman, 1994, pp. 278–279) – and humbly and openly admit the uncertainty of the

findings (see Patton, 2002, p. 555). Also helpful are a thick description of the data collection and analysis procedures as well as of the findings of the study, and the technique of triangulation, especially as concerns analyst triangulation and expert audit reviews and audience reviews (Miles & Huberman, 1994, pp. 278–279). In the present study, except for analyst triangulation proper, all the above techniques were applied (see 7.5.2).

Another reason for the hypotheticality of the judgements of difficulty in the study is that only texts were used as data in the study. Text difficulty, after all, is not determined by textual factors alone but rather by the reader's interaction with the text (Harris & Hodges, 1995, p. 203). Therefore, textual data cannot alone disclose how easy or difficult a text is to understand. Data on the readers' responses to the texts are also needed.

Consequently, to get a more reliable (and less hypothetical) picture of the difficulty of the texts, it would have been useful to include an examination of the readers' responses to the texts in the study. In principle, this could have been done in either of the following two ways: by investigating the question items used in the PISA 2000 reading literacy study and the students' responses to these questions, or by arranging a new reading test. In practice, however, the second option, arranging a new test, was immediately out of the question, because it would have required far too much time, personnel and money.

The first option, investigating the question items and the students' responses to them, on the other hand, did seem feasible enough. Therefore, at the outset of the study I did investigate the question items, especially those where the responses of the Finnish students differed from those of other students and did consider examining the texts and their difficulty in the light of these items. However, it soon emerged that the items did not really provide answers to the question whether the Finnish texts or parts of them were easier or harder to understand than the English texts. There were two main reasons for this. First, the questions only addressed selected factors and points in the texts and did not cover the texts in their entirety and moreover it was often impossible to link the question items directly with anything specific in the texts. Second, even though the responses of the Finnish students did at times differ from those of other students, there was no way of saying what caused these differences: a non-equivalence of difficulty between the texts, a difference in the reading skills of the Finnish and other readers, or something else. Sometimes the differences did appear to stem at least partly from a non-equivalence of difficulty, but in most cases they seemed to be accounted for by differences between the participating countries in scoring the responses of the students.

Besides, such an examination would have revealed nothing of those cases – the vast majority – where there were no differences between the responses of Finnish and other students. Thus, even though an examination of the readers' reactions to the texts would undoubtedly have increased the dependability, credibility and transferability of the study, in this study such an examination proved, in the end, unfeasible.

A third limitation of the study, closely related to the above, is the use of solely textual data to examine and classify the *problems faced by the translators* when translating the texts (e.g. interference). Translated texts, after all, are merely the end products of the translation process and therefore can only provide indirect information on the problems encountered during the process. More direct and immediate information, on the other hand, could be obtained from translators, those who actually do the translation work and those truly faced with the problems.

Therefore, to gain more reliable data on the problems encountered by the translators when translating the texts it would have been beneficial to complement the textual data with interviews or think-aloud protocols of the translators. However, a preliminary interview with the translators engaged in making the translations used in PISA 2000 which are analysed in this study showed that the translators could no longer remember their reactions and decision-making at the time they were faced with the translation problems. This, in fact, was no surprise, because the translations had been made at the turn of 1999 and this study did not start until early 2004. Consequently, the data from the interviews would have been not only vague but also unreliable. Think-aloud protocols, on the other hand, were inconceivable, because they would need to have been made at the time the actual production of the translations, whereas at the time the translations were produced, no such protocols were made, because there was no need for them.

Using as data texts made for and employed in the PISA 2000 reading literacy test thus made it impossible to use as data interviews with or protocols of the translators. This could have been done, if it had been possible to employ and analyse texts from later PISA studies, but this was impossible because since PISA 2000 no new reading literacy texts have been translated. New texts have been produced, but these have been mathematics, science and problem-solving texts. New reading literacy texts, on the other hand, will not be translated until the turn of 2008, when the translations are made for PISA 2009, where reading literacy will be the major domain for the second time.

Finally, a fourth limitation of the study is its restricted *generalisability*. The data of the study consisted of three English source texts and their Finnish translations used in the

PISA 2000 reading literacy study. Therefore, the findings of the study are not statistically significant, nor generalisable. Moreover, they are directly applicable only to international reading literacy studies, and more specifically, when translating from English into Finnish and where texts are involved similar to those analysed in the study.

In qualitative research, however, generalisability, understood as "assertions of enduring value that are context-free", is not of concern (Lincoln & Guba, 1985, p. 110). In qualitative research, the interest lies rather in individual cases, each of which, moreover, is deeply rooted in its own context and hence unique (Patton, 2002, p. 41). In qualitative research, therefore, findings cannot in fact be generalisable (Lincoln & Guba, 1985, p. 110). However, they can and should be transferable (ibid., 1985, p. 297; Patton, 2002, p. 584).

The transferability of a study, again, can be increased by, for example, using as data cases which are as information-rich, representative and diverse cases as possible, tying the study to prior research and theory, and providing a thick description of the data, methods and findings of the study. In this study, as described in section 7.5.2, care was taken to ensure all the above. In the end, however, the transferability of qualitative studies is judged by the readers or potential appliers of the study, who, in turn, base their judgements on the degree of similarity between the "sending" and "receiving" contexts (Lincoln & Guba, 1985, p. 316).

Moreover, instead of being generalisable and statistically significant, qualitative research should be useful, or pragmatically valid (Patton, 2002, p. 579). This includes, among other things, that the findings of the study are intellectually and physically accessible to the potential users of the study, that they are usable and/or help the users to learn new capacities or solve problems, and that they provide guidance for future action (Miles & Huberman, 1994, p. 280). As concerns the present study, its findings have already been and will in the future be presented, both in writing and as presentations at international conferences, to developers and conductors of international studies. This doctoral thesis is itself, of course, one way of doing this. Moreover, the study is directly aimed at solving problems faced in translating international reading literacy assessments and at developing these assessments. It also offers direct suggestions as to how to do this. Finally, the study is the first piece of linguistic research on translations used in international reading literacy assessments and as such it contributes to creating a better foundation for an entire new field of investigation, providing, moreover, suggestions for further research in the field.

10.2.2   Limitations of the quantitative analyses

Not only the qualitative analysis, but also the quantative analyses of this study have their limitations. The most important of these is perhaps that in this study the proportions of non-equivalences were presented as percentages of words in the texts. This is a problem, because the non-equivalences were not all of a lexical kind and some of them were even textual. Therefore, the analysis fails to do full justice to some of the "weightier" problems. However, it seemed to be extremely difficult, if not impossible, to find a unit that would have covered all the non-equivalences at different levels and yet would have been easy to compare across the languages. Besides, comparing the words of the texts was a relatively simple and easily applied way of taking into account the greatly varying length of the texts. Furthermore, when discussing the results of the quantative comparisons and passing a final judgement of the difficulty of the English and Finnish texts, the relative weight and significance of the non-equivalences was also considered.

Another limitation of the quantitative analyses concerns *the variability of the level of difficulty* of the non-equivalences within the individual problem categories. For example, the premodifiers in the Finnish text varied in length and complexity and were therefore of slightly different levels of difficulty. However, allowing for this variation was not possible in this study, because it would have necessitated far more developed theories and methods than were yet available. In the final judgement of the relative difficulty of the English and Finnish texts, nevertheless, the variation was taken into account.

10.3   Developing translation work in international reading literacy studies

The discussion in this and the next section mainly applies to international reading literacy studies. However, a large part of it is also transferable to other types of international studies. These include, first and foremost, international comparative studies in subjects other than reading literacy, such as mathematics and science, where equivalence of difficulty is likewise a prerequisite for the validity of the studies. They also include, to a lesser extent, cross-national tests in fields beyond education, such as psychology and the social sciences, where translations are expected to be equivalent to

the source texts, albeit not always necessarily in difficulty. The transferability of the discussion is further strengthened by the fact that two of the three text types analysed in this study, the expository and the non-continuous texts, are also used extensively in non-literary writing, while even the third text type, narrative, often forms part of texts used in, for example, scientific literacy studies. However, in these other types of international studies, textual and especially stylistic factors usually play a less significant role, which means that the findings and suggestions concerning these textual and stylistic factors are less applicable to these other studies.

First and foremost among the categories of equivalence problems found in this study was, not surprisingly, problems related to language-specific differences in grammar, a finding consistent with previous research (Arffman, 2002; Bechger et al., 1998; Bonnet, 2002; Ercikan, 1998). The major problem areas in this category were differences in word structure and length; differences in compact structures, such as compact noun phrases and reduced subordinate clauses; and differences in reference systems, such as pronouns and the use of articles (see also Arffman, 2002). These problem areas may, of course, be expected to vary somewhat from language to language, not only in quality but also in quantity. For example, the languages examined in this study, English and Finnish, were unrelated, the former being an Indo-European and the latter a Finno-Ugric language. Therefore, the problems found in this study may be expected to be not only of a slightly different kind but also more numerous than would be the case with more closely related languages. At the same time, they may also be presumed to be different from and less numerous than with more distant languages (Nida, 2000).

Problems related to language-specific differences in grammar are often virtually impossible to avoid or solve. For example, little can usually be done to change the basic word length and the use of articles in languages. On the other hand, with phenomena such as compact structures and pronouns, avoidance might, at least in principle, be partly possible. However, this generally means that the source texts should not contain too many problematic structures and words (see also Brislin, 1986, pp. 143–149). This is because after the source texts have been selected and produced little can normally be done during the translation process proper to solve these problems. Another possibility, especially as concerns, for example, reduced subordinate clauses, might be to use a technique promoted in translation theory, that of compensation (Baker, 1992, p. 78): adding, say, extra reduced subordinate clauses to the target text so as to make up for those in the source text that cannot be translated as comparable reduced clauses (see also Arffman, 2002; Vehmas-Lehto, 1991, 1999). This technique, of course, should only be

used very circumspectly and sparingly in international studies; for instance, it could not be used in places specifically addressed in the questions. The technique also puts extremely high demands on the translators and their translational competence.

The second major category of equivalence problems revealed in this study, but not pointed to in previous study, was problems related to language-specific differences in writing systems. The problems, more precisely, had to do with initial letters and the alphabetisation of columns in a non-continuous text, and with the use of the comma, such problems, again, presumably varying across languages. On the whole, however, these findings show that even seemingly small and insignificant factors, such as differences in orthography and punctuation, may sometimes lead to unexpected problems and non-equivalences and therefore merit attention.

Like the other problems already discussed, these problems are also largely unavoidable. This applies to the problems associated with the use of the comma in particular. Those having to do with alphabetical order, on the other hand, are easier to solve by simply avoiding using alphabetisation in the source texts. Another solution might be to make technical adjustments to the source texts so as to make it possible to change the order of the alphabetically ordered items in the target text. However, this necessitates careful checking in order to make sure that the change does not bring about new problems. In continuous texts, changing the order of alphabetically ordered elements is usually not a major problem.

The third category of equivalence problems recognised in this study was that of problems related to language-specific differences in meaning (see also Bonnet, 2002; Elley, 1993; Sireci & Allalouf, 2003). Problems in this category were caused by specialised terminology, polysemy, and metaphors. All three, and metaphors in particular, are also acknowledged in translation studies as highly problematical to transfer across languages (Baker, 1992; Larson, 1984). They have likewise been found to cause problems in previous international comparative studies (Arffman, 2002; Bechger et al., 1998; OECD, 2004b). Moreover, these semantic problems seem to be more universal and vary less across languages than the above more formal and structural problems.

These semantic problems might also be somewhat easier to avoid and solve than both the more formal types of problem. Once again, the key would be to avoid the excessive use of specialised terminology, polysemes and metaphors in the source texts (see also Brislin, 1986, pp. 143–149). Another solution, which, however, should be used with circumspection, might here too be the technique of compensation: inserting, for

example, new metaphors to the target text to make up for those that are lost (Baker, 1992, p. 78).

The fourth category of equivalence problems found in this study was problems related to differences in culture, often identified as one of the most serious problems in international studies (Arffman, 2002; Artelt & Baumert, 2004; Bechger et al., 1998; Bonnet, 2002; C-BAR, 2003; Levine, 1998). In this study the problem was that the content of one text was not quite as familiar to Finnish students as it was to American students, for example (see also Arffman, 2002; Artelt & Baumert, 2004; Bonnet, 2002; C-BAR, 2003; Levine, 1998; Sireci & Allalouf, 2003), suggesting that the texts may still favour Anglo-Saxon cultures and be less relevant and familiar in non-Anglo-Saxon cultures (see also Hamilton & Barton, 2002). Structurally and text-normatively, however, all three texts did comply with Finnish text conventions. Even in this study, then, where both the cultures in question were Western, culture was a problem. However, it may be expected to be even more so with more distant cultures, where not only content but also, for example, text structures and conventions may be presumed to differ more from what is common in the Western world.

The most obvious solution to these cultural problems is that all the texts selected for these studies should be equally familiar – or unfamiliar – in all the cultures involved (see also Arffman, 2002). Like problematic structures and vocabulary, in other words, also contents and text formats that are not equally familiar in each culture should be avoided. However, in the light of this study, and also as claimed by critics (Artelt & Baumert, 2004; Bonnet, 2002; C-BAR, 2003; Levine, 1998), it seems that those conducting international reading literacy studies have not been entirely successful in selecting such texts. Simply allowing each participating country to suggest texts for the tests, as is done in PISA (McQueen & Mendelovits, 2003), is not enough to ensure cultural fairness. It does make the suggested texts more suitable in the countries suggesting them, thereby slightly decreasing the overall cultural bias; yet, it does not guarantee that all the texts are equally suitable in all the cultures concerned. One step forward might be to ensure that when selecting the source texts representatives of diverse cultures are heard (see also Behling & Law, 2000; Smith, 2003). After being selected, moreover, the texts could be "de-centred", or revised and modified so as to make them more easily transferable into other cultures (see also Hambleton, 2005, p. 11).

Another solution that might help to ensure greater cultural fairness might be to allow and encourage the participating countries to make more extensive adaptations

(Elley, 1993; McQueen & Mendelovits, 2003; OECD, 2004b) to the texts than is the case today. At present the adaptations are mainly lexical and phrasal adaptations (e.g. measurements and currencies), even though often more syntactic (related to e.g. frequencies of different clause structures in texts) and textual adaptations (concerning e.g. text structures) would be needed to make the translations more congruent with the conventions of the target culture (see also Arffman, 2002). However, making large-scale adaptations to the texts is not an easy solution either, because it easily leads to such extensive modifications in the texts that these bring about new problems and non-equivalences. It also requires a lot from the translators.

What is common to all the above problems having to do with differences between languages and cultures (and also to several of those not having to do with linguistic and cultural differences to be discussed below) is that by far the most common and often the only way to avoid or solve the problems is to follow the suggestion first presented by Brislin (1986, pp. 143–149) that problematic structures, vocabulary and topics should not be used in the source texts hence making them as "translatable" as possible. To be able to do this, however, linguistic and translational expertise is required. This is because not using problematic elements in the source texts necessitates not only knowledge and anticipation of translation problems but also a thorough and comprehensive analysis of the source texts, during which attention is paid not only to the more obvious and straightforward grammatical and semantic problems but also to textual, stylistic and pragmatic problems, which are often more difficult to detect and which also in this study proved significant.

One way of anticipating and avoiding linguistic and cultural problems is to involve translators in selecting and producing the source texts (see also Hambleton, 2005). It would also be beneficial to have the translators come from various languages and cultures. The translators could read the suggested source texts, check them for the possible problems they might lead to and for their translatability, and pass a judgement as to whether the texts are translatable enough to be selected. They could also suggest slight modifications to the texts so as to make them more translatable and more likely to lead to greater equivalence of difficulty.

Another way of anticipating and avoiding linguistic and cultural problems is to have the source texts translated into another language (see also Grisay, 2002: Hambleton, 2002, 2005). This, interestingly enough, is what is already done in PISA, where all the source texts are provided in both English and French (the two official languages of the OECD). In the light of this study, however, it appears that these two languages may be

too closely related to make it possible to detect all the problems that could be detected if, instead of two Indo-European languages representing Western cultures, two or even more languages from more distant language families and cultures were used (see e.g. Nida, 2000).

However, following Brislin's suggestion (1986, pp. 143–149) and not using problematic words, structures and topics in the source texts in international reading literacy studies is not unproblematic either. This is largely because Brislin's well-tried suggestion was originally meant, not for the translation of international reading literacy studies but, among other things, for questionnaire translation. However, the translation of reading studies differs from questionnaire translation in at least two significant respects, and therefore the suggestion may not be directly applicable to these studies. In the first place, in international reading literacy studies the texts used are not written for the tests, but are selected from texts that have been written and published before: they are authentic texts. Authentic texts, moreover, are seldom written with a view to translatability. Therefore, the first impediment to avoiding the use of problematic elements in the source texts is that in practice it is often hard, if not impossible, to find authentic texts that would not contain any such elements.

Secondly, in international reading literacy studies the texts should provide a rich and multifaceted picture of the kinds of texts read by, say, 15-year-olds, therefore the texts should represent different types of texts, deal with a broad range of topics and contain diverse and rich language. Not using problematic elements and topics in the source texts would seriously endanger this goal. It would mean, for example, that only relatively simple and straightforward language, words and structures, with, say, no metaphors, idioms, polysemes and reduced subordinate clauses, could be used in the source texts. This, of course, would impoverish the language of the texts and thus provide a poor model for language users. Avoiding problematic elements in the source texts would also significantly narrow the range of topics that can be covered in the texts. Anatomy and medicine, for example, would have to be excluded, because of the difficulty of translating specialised terminology. All topics not equally familiar in all the cultures involved would in like manner have to be left out (see also Arffman, 2002). This, in turn, apart from being difficult to accomplish, might also easily lead to cultural neutrality and to a limited, one-sided picture of culture (see also Hamilton & Barton, 2000). Finally, not using, for instance, metaphors and polysemes in the source texts would rule out huge numbers of literary texts, because, as shown by this study (see also Wilss, 1982), metaphors and polysemes are most common in narrative texts. Similarly,

avoiding compact language would lead to the exclusion of a great number of non-continuous texts as well as, for example, tables and figures. Consequently, the second problem with not using problematic vocabulary, structures and topics in the source texts in international reading literacy studies is that it impoverishes language and simplifies texts. This, in turn, makes it impossible for such studies to measure what they set out to measure – reading comprehension in all its depth and breadth (see e.g. OECD, 1999a) – and endangers construct validity (Popham, 1981, p. 60). Therefore, it seems evident that the recommendation not to use problematic elements in the source texts can only be followed to a limited extent and with circumspection in international reading literacy studies.

The fifth, relatively large category of equivalence problems identified in this study was that of problems related to the strategies used and choices made by the translators (see also Arffman, 2002; Hambleton, 2002). This category differed in a significant way from the first four categories, where the non-equivalences resulted from differences between languages and cultures and hence qualities of the source texts, since in this category the non-equivalences were primarily attributable to human action. The problems in this category could also therefore have been much more easily avoided. The major problem areas within this category were interference, writing errors, mistranslations of figurative language, polysemes and compact language, and the translators' improving the target texts by explicating or simplifying them.

Interference was not a very common problem in this study. This may have been at least partly because in the Finnish translation process more attention was paid to the target texts and to natural target language than is usually done in international comparative studies (see 7.3.4.1). However, interference has been repeatedly found to be a source of problems in international comparative studies (Arffman, 2002; Hambleton, 2002; OECD, 2004b). Moreover, as widely attested to by translation studies, interference is so common among translators that it has been termed a law or universal of translation (Laviosa-Braithwaite, 1998, p. 290-291; Toury, 1995, p. 275). Furthermore, interference easily leads to translationese, language that is artificial, unnatural and clumsy or to outright ungrammaticalities (Arffman, 2002), which divert the attention of the reader from making meaning of the text to marvelling at the strangeness of the text and may even make the translation hard to understand (Nida & Taber, 1969).

Therefore, it is evident that specific steps are needed to reduce interference. The first step might be to revise the translation instructions provided for translators working in PISA. At the moment these instructions are mainly detailed directions on how to stay

lexically and formally as close to the source text as possible. This easily imparts the message that literal translation and formal equivalence on the micro level is what is expected, which in turn easily leads to interference, especially if the translator is not experienced and well-qualified (Toury, 1995). To counterbalance the erroneous message, explicit warnings are needed in the instructions against too literal translation and translationese, the warnings, moreover, possibly being more pertinent when translating, for example, expository texts than when translating literary texts. At the same time, more emphasis should be placed in the instructions on the need to pursue idiomatic target language and dynamic equivalence (see also Arffman, 2002). The second step might be to use, as suggested in PISA, two parallel source texts in two different languages when translating the texts into the target languages, because the other text often provides clues as to how literal or free the translation should be. Third, only qualified translators should be employed to make the translations and, fourth, enough time should be allocated to their translation work, because it seems that the less competent the translator is and the less time s/he has to translate, the more literally s/he tends to translate (Chesterman, 1997; Toury, 1995). Fifth, more weight should be put in the translation process, as was done in Finland, on the finishing and naturalising of the target texts. In practice this might require making the finishing and naturalising stage a stage of its own in the translation and verification process, hiring a person specialised in the target language to take responsibility for this stage, and allotting enough time for the task. Sixth, it might be beneficial to have the target texts read by persons not involved in the translation process (see also Arffman, 2002). These outside readers would only see and read the target texts and therefore it would be easier for them to pick up possible unidiomacies in the texts. Finally, the use of pronouns seems to be a twofold problem in international studies: not only does pronominal reference vary considerably across languages, but pronouns are also prone to interference and grammatical errors. This, then, is further reason to avoid using pronouns in the source texts.

Writing errors were not a significant problem in this study. Neither have they been documented as such in previous studies. Yet, as they dilute the quality of the translations, provide an erroneous model for young language users and may disturb some readers and have a negative effect on them (Chesterman, 1997, pp. 140–141; Johansson, 1978) and their willingness to do the test properly, it is clear that the ideal would be for there to be no such errors.

To be able to reduce the number of these errors it is necessary, first, to allocate more time to the entire translation and verification process (see also Arffman, 2002). The present three-year PISA cycle seems too hasty, not leaving enough time for the translators to do their job properly. All this easily results in unnecessary errors. Second, more time should be allotted in the translation and verification process to the final national polishing, rereading and checking of the target texts: international verification is not enough. Third, it is important to use, as recommended and presupposed by PISA, only qualified translators to translate the texts, translators who are thorough, meticulous and fully cognisant of the grammar and writing rules of the target language. And fourth, using outside readers might help to show up possible errors.

Mistranslations resulting from misunderstandings were among the most serious problems in this study. This was the case with mistranslations of polysemes and compact language in particular, which sometimes resulted in the target texts being incoherent and even incomprehensible. Mistranslations of figurative language, on the other hand, were less critical, their impact mainly restricted to a flattening of style. Interestingly enough, miscomprehension is also recognised as one of the main sources of translation problems in translation studies (cf. Krings, 1986, pp. 144–152; Lörsher, 1992, pp. 94–95), and figurative language, polysemes and compact language are among the phenomena that are known to be especially problematic in this respect (Bogucka, 2002; Kemper, 1983; Kozanecka, 2002; Larson, 1984, pp. 100–108).

To avoid miscomprehension and mistranslation, the first and most obvious remedy – with certain reservations (see pp. 273–274) – might be not to use language which is ambiguous or hard to understand in the source texts (see also Brislin, 1986, p. 148; van de Vijver & Poortinga, 2005). This might involve being selective with, for instance, figurative language, polysemes and compact language, which, like pronominal reference, are all a twofold problem, not only difficult or even impossible to translate across languages but also easily misunderstood and mistranslated. There thus seems to be a dual reason why figurative language, polysemes and compact language, and texts using these devices, should be employed sparingly in international reading literacy studies. A second remedy is that provided and recommended by PISA: using parallel source texts in two different languages, one in English and the other in French, when translating the texts into the target languages (Grisay, 2003). In Finland this procedure was not followed to the full. Instead, the translations were mainly made on the basis of the English texts alone, and the French texts were only used for occasional cross-checks. However, in the light of this study, it seems that a more extensive use of the French texts

would have been beneficial also in Finland (see also Arffman, 2002), because it would have helped the translators to find the correct meanings of, say, polysemes and reduced clauses and to avoid misunderstandings and mistranslations. A third remedy might be to have the target texts backtranslated into the source language. This technique, which was used widely in international comparative studies up to the early 1990's, has nowadays been largely abandoned, because of its excessively heavy concentration on the source text and literal translation and because it therefore cannot alone guarantee comparability between the target and the source text (Behling & Law, 2000, p. 58; Brislin, 1986; Harkness, 2003, p. 41–43). However, backtranslation has been found to be especially effective in detecting mistranslations and it could therefore be used as a complement to the current double forward translation technique (see also Grisay, 2003, pp. 227–228; Hambleton, 2005, pp. 12–13). The final remedy for miscomprehensions and mistranslation is to use translators who are qualified and have a good knowledge of the source language in particular and to allocate enough time to the translation process (see also Arffman, 2002).

The translators in this study had a strong desire to improve and naturalise the target texts. They did this primarily by explicating the texts (see also Arffman, 2002), either by means of additions or concretisations, though simplifications, both semantic and stylistic, were also made. The translators in this study were thus like most other translators, since improvement, naturalisation, explicitation and simplification are strong universal tendencies or laws among translators, as widely attested to by translation research (Laviosa-Braithwaite, 1998, pp. 288–290; Séguinot, 1989). Often, in fact, translators are even expected and obliged to improve and edit texts. However, in international reading literacy studies improvement, explicitation and simplification may be problems, because they often inappropriately enhance the readability and comprehensibility of the target text.

One way to combat this problem might be to make sure that the source texts are of such a high quality (see also Hambleton, 2005) that the translators do not feel that they need to improve them. The source texts, in other words, should be well written. Overly obscure, ambiguous and abstract language should also be avoided (see also van de Vijver & Poortinga, 2005). Even more importantly, however, the translators working in international comparative studies need to be made more conscious of their tendency to improve, explicate and simplify texts. They need to be told explicitly, for example, in the written instructions provided for them, that one of the main differences between "normal" translation and the translation required for international studies is that in

the latter case improvement and editing is not a virtue, but something to be avoided (see also Arffman, 2002). They also need to be reminded that what counts as an improvement may be a seemingly insignificant element, such as the addition of a small grammatical word, and that the risk of improvement may be greatest when translating literary texts, where, as suggested by this study, translators may be more willing to translate more freely. Finally, having the target texts backtranslated into the source language might help to weed out some of the improvements.

The sixth and final category of equivalence problems identified in this study was that of problems related to editing, not recognised as such in previous research. The problem, more specifically, was a small layout error in the paragraphing of one of the Finnish texts. Because of the error, however, the Finnish text ended up being less explicit, less readable and less straightforward to work out than the English text, which in turn made it more difficult for Finnish readers to answer one of the questions accompanying the text. This study thus shows that editing can be another problem in international reading literacy studies and that more attention should therefore be paid to this stage of the translation and verification process.

One way of doing this is to apportion enough time in the translation and verification process not only to the translation but also to the technical editing and national checking of the texts. In addition, all the translators and technical editors employed should be diligent and fully computer literate. Backtranslation might be one way of spotting some errors. Finally, outsiders might be used to read and check the translations and possibly even to answer the questions. This, apart from showing up possible errors in the texts, might also help to test whether the texts and questions behave as desired.

Within all these six main categories of problems, there were often also problems caused by textual and thematic factors and, even more frequently, by style. Moreover, as a result of these problems, all three Finnish texts ended up being textually less logical and coherent than the corresponding English texts. Each Finnish text also became stylistically more neutral or flatter than its English source text, the non-literary texts becoming less formal and personal, and the expository text even more popular, than the English source texts, and the Finnish narrative less expressive and less suggestive of the meaning of the story than the English text. With one exception (Arffman, 2002), textual and stylistic problems have not been previously documented as problems in international reading literacy studies, largely because no wide and all-embracing text analyses have to date been done on the texts used in these studies. In translation

research, however, textual and stylistic factors (see e.g. Baker, 1992; Larson, 1984) are both known to be extremely problematic to translate, stylistic simplification even named one of the universals of translation (Laviosa-Braithwaite, 1998, pp. 288–289).

Textual and stylistic problems are often close to impossible to avoid or solve. This is because these problems are frequently rooted in differences between languages and cultures, which, in turn, cannot usually be avoided. Therefore, often the best way to avoid these problems is, once again, not to use the textually and stylistically problematic devices in the source texts (see also Brislin, 1986, pp. 143–149). These might include, for example, passivisation, thematic foregrounding, metaphors and personalisation, but also, say, reduced structures, medical terminology and pronouns. A second way to reduce textual and stylistic problems might be to put more weight in the translation instructions on textual and stylistic factors. At present, both are largely ignored, with the instructions mainly concentrating on lower-level phenomena and on grammatical and syntactic correspondence on this micro-level. Third, the translators could be encouraged in the instructions, with certain reservations, to make compensations in the target texts so as to make up for the stylistic flattening of the target texts (see also Arffman, 2002; Baker, 1992, p. 78; Vehmas-Lehto 1991, 1999). Fourth, backtranslation might here again help to locate some of the problems. Finally, in order to be able to pay more attention to textual and stylistic factors and to make compensations, the translators have to be highly qualified.

All the above problems often led to still another type of problem, shifts away from pragmatic equivalence. These mainly consisted in the Finnish texts either becoming partly unidiomatic, as seen in the case of the non-continuous text in particular, or losing part of their interestingness, as in the case of the narrative text. Of these, the problem of unidiomaticity has been widely recognised, not only in international assessments (Arffman, 2002; Hambleton, 2002; OECD, 2004b) but also in translation studies in general (e.g. Nida & Taber, 1969). Reduced interestingness, on the other hand, has not been previously mentioned among the problems in international reading literacy studies. However, it appears to be among the factors that are often lost in translation (cf. Bell, 1991, p. 6; Berman, 1985; Chesterman, 2004, pp. 36–39). Moreover, both unidiomaticity and lack of interestingness are widely known to have a significant negative effect on text comprehensibility (Anderson & Davison, 1988; Mathewson, 1994; Nida & Taber, 1969; Weaver & Kintsch, 1991). Therefore, specific care should be taken in international reading literacy studies to ensure that the translations are in

idiomatic and natural target language and that they preserve, as far as possible, the interestingness of the original texts.

To combat the problem of unidiomaticity largely the same remedies are required as when combatting the problem of interference – of which unidiomaticity is a result. More emphasis should consequently be put in the translation instructions on idiomatic target language and dynamic equivalence (see also Arffman, 2002). Two parallel source texts could be employed as a basis of the translations, because they often provide alternative ways of phrasing the same content, thereby encouraging more non-literal translation. Only qualified translators should be used to translate the texts, and they should be given enough time to do the translations (see Chesterman, 1996, 1997; Toury, 1995). More time should be allocated in the translation process to the finishing and naturalising of the target texts. Finally, the texts could be read by outside readers (see also Arffman, 2002).

To avoid the problem of reduced interestingness the remedies are also largely the same as those aimed at combatting stylistic flattening, of which reduced interestingness is often a consequence. The source texts should not contain too many stylistic elements such as metaphors because they are often hard to transfer into other languages (see also Brislin, 1986, pp. 143–149). In the translation instructions the translators should be reminded of the goal of dynamic equivalence and that the translations should preferably correspond with their source texts also in interestingness. To this end the translators might be encouraged to make compensations (see also Arffman, 2002; Baker, 1992, p. 78; Vehmas-Lehto, 1991, 1999). Understandably, to be able to do this the translators have to be highly qualified, and they also need enough time to do the translations.

In all, textual and stylistic problems as well as the problem of reduced interestingness may be expected to be specific to international studies of reading literacy in particular, while in other types of international studies, on the other hand, they are usually not a major problem. Therefore, when translating international reading literacy studies there are extra problems not usually encountered when translating other international studies. Moreover, because of these problems, ensuring equivalence of difficulty may be presumed to be harder in reading literacy studies than in other international studies.

In this study three text types were examined: expository, narrative and non-continuous. Among these text types the problems were clearly less numerous in the expository text than in the narrative and non-continuous text. This was also the text

type where the English and Finnish versions were most nearly equivalent in difficulty. This seems to imply that expository texts, which also in "normal" translation appear to be less problematic to translate than, for instance, literary texts, because of their focus on plain facts and basic meanings (Newmark, 1991, p. 101; 2003, p. 59; Wilss, 1982, pp. 129–133), might be the "safest" choice also in international reading literacy studies and those most likely to lead to equivalence of difficulty. This, again, is additional reason to surmise that in other types of international studies translating and attaining equivalence of difficulty may usually be easier than in reading literacy studies, because in the former the majority of the material is in expository prose.

However, even expository writing has its specific problems. In the light of this study (see also Arffman, 2002), these seem to include both the use of specialised terminology belonging to specific fields such as medicine (see also Newmark, 1991, p. 37), and interference. Therefore, when selecting expository texts for international studies, circumspection is needed if the texts deal with fields requiring specialised terminology. Moreover, while actually translating such texts, special care is needed to avoid excessively literal translation.

In both the narrative and non-continuous text, the problems were more numerous than in the expository text and moreover the English and Finnish versions of these texts were not as closely equivalent in difficulty as the English and Finnish versions of the expository text. For the narrative text this finding may be regarded as more or less to be expected because, as shown by translation theory, literary texts tend to be more problematic to translate than, for example, special language texts (Kuhiwczak, 2003, p. 118; Newmark, 1991, p. 37; Snel Trampus, 2002; Wilss, 1982, p. 126; 1990). For the non-continuous text, on the other hand, the numerous problems found in the text were slightly more surprising, because to my knowledge no research has previously been done where the translation difficulty of this text type has been examined or compared with other text types.

On the whole, however, the great number of problems and non-equivalences found in these two texts suggests that special care is needed when selecting narrative and non-continuous texts for international reading literacy studies – or similar material for other international studies. When selecting narrative texts, attention should be paid to polysemes, metaphors, personal pronouns and other devices used for aesthetic effect in the source text as well as to the familiarity of the content of the narrative. In the case of non-continuous texts, on the other hand, caution is required with compact language. Furthermore, while actually translating narrative texts, attention needs to be directed

to improvements and explications, whereas in non-continuous texts circumspection is needed with thematic and textual factors and idiomaticity in particular.

Item generation was not a specific concern in this study. In the course of the study, however, a question type was found that seems to be ill-suited for international reading literacy studies: questions asking about the exact wording of language. In previous research other question types have also been found to be problematic to translate: multiple-choice items in the incomplete stem format (Hambleton, 2002), sentence completion items (Sireci & Allalouf, 2003), and questions starting with fronting frames (Arffman, 2002). What is common to all the question types and makes them problematic is that they are all largely dependent on the surface structure or form of language. And yet, languages vary enormously in form. Therefore, questions resting heavily on the form of language seldom behave similarly across languages and should consequently be avoided in international studies.

Taken together, the number of the problems and non-equivalences found in this study was, even though not significant, not inconsequential either. Moreover, the fact that, for example, the errors and the question which behaved differently in English and Finnish were not detected and identified as problematic during the entire PISA translation and verification process suggests that the procedures used in PISA to ensure the high quality of the target texts and their comparability with the source texts were not as watertight and reliable as they should have been (see also Bechger et al., 1998; Manesse, 2000). Doubts are cast on the two primary means of ensuring equivalence in PISA in particular: verification and statistical item checks. In the light of this study these two do not alone seem to be sufficient to guarantee full comparability between the texts and translations used in international reading literacy studies. Instead, complementary procedures appear to be needed to make the studies more valid.

As demonstrated by this study, one such procedure is a more careful and thorough analysis and comparison of the source and target texts during which the texts are examined in-depth at different ranks, strata and metafunctions (see also C-BAR, 2003). This, in turn, requires not only a lot of time but also qualified translators to make the analyses. Another procedure might be backtranslation (see also Hambleton, 2005, pp. 12–13), which has proved helpful in detecting mistranslations in particular (see e.g. Grisay, 2003, pp. 227–228). Still another might be to have the translations read and the questions answered by outsiders (see also Arffman, 2002). This, in addition to picking up possible errors in the target texts, might also help to test whether the texts and items

function and behave as expected. However, both these latter procedures call for plenty of time.

For international reading literacy studies to be valid, nevertheless, it is not enough that the target texts are equivalent to their source texts. They also have to be equivalent to each other. However, that a target text is equivalent to its source text does not guarantee that it is also equivalent to other target texts. Nor are the statistical item analyses conducted today alone enough to establish comparability between the target texts, as shown by this and other studies (Hambleton, 2005; Sireci & Allalouf, 2003). Therefore, more decisive measures are needed in international reading literacy studies to ensure equivalence also between all the target texts (see also C-BAR, 2003). This is especially evident in countries such as Finland, where there is more than one official language and where the target texts need to be produced in not only one but several languages.

One way of pursuing greater comparability between the target texts might be to replace the currently used decentralised translation method, in which each country makes its translations separately and independently of any other country, by a more centralised approach, where a team of translators meets and works closely together. This would make it possible for the translators to analyse and compare the target texts and to discuss and solve potential problems on the spot. Another option would be to have the translators collaborate and network via the Internet. At any rate, the key to greater comparability between the target texts is close collaboration between all the translators of the different-language target texts and comparisons between these texts. Moreover, the collaboration should not be limited to the actual translation of the texts but should continue also during the verification phase.

To summarise, the present study provides several suggestions as to how to increase the equivalence of texts used in international reading literacy studies and consequently also the validity of these studies. As shown by Table 10.1, the whole process begins with a careful selection and production of the source texts. During this phase, the goal is to produce translatable and good-quality source texts, which in turn are best attained by avoiding, to a reasonable degree, elements that are known to be problematic and/or by making slight modifications to the source texts. This, again, is more easily done if representatives of different cultures and translators are involved in selecting and producing the source texts and/or if the source texts are translated into another language. These suggestions are also largely applicable to the selection and production of question items.

Table 10.1 *Summary of the suggestions as to how to develop translation work in international reading literacy studies*

Phase	Suggestion

Selection and production of source texts	• Translatable source texts:
	  o Avoidance of unequally familiar topics, contents and formats
	  o Avoidance of poor-quality texts and obscure language
	  o Avoidance of grammatically problematic language: compact language, personal pronouns
	  o Avoidance of semantically problematic language: polysemes, metaphors, specialised terminology, compact language
	  o Avoidance of textually and stylistically problematic language
	  o Avoidance of alphabetisation (non-continuous texts)
	  o Possibility of technical adjustments
	  o Expository texts the "safest" choice; need to be careful when selecting narrative and non-continuous texts
	• De-centring, modifications
	• Multicultural team selecting source texts
	• Translators involved in selecting and producing source texts
	• Translating source material into another language

Question format	• Avoiding questions relying on exact wording

Translation process	• Use of two parallel source texts in two languages
	• Translation instructions:
	  o More extensive adaptations
	  o Emphasis on idiomatic target language; warnings against too literal translation, interference
	  o Warnings against improvement, explicitation and simplification
	  o More weight on thematic and textual factors
	  o More weight on stylistic factors
	  o Use of compensations
	• Qualified translators:
	  o source language competence
	  o target language competence
	  o translational competence, knowledge of translation theory (compensations, adaptations)
	  o computer literacy
	  o care
	• Qualified editors
	• More time
	  o for translation
	  o for polishing and finishing the target texts (a separate phase?)
	  o for checking
	  o for editing
	• Centralised translation / networking between translators of the different target versions: comparisons between target texts

Verification and judgement of quality	• Thorough text analysis and comparisons • Backtranslation • Outside readers • More time • Centralised translation / networking between translators of the different target versions: comparisons between target texts

During the translation process proper the translators' goal is to make as high-quality and equivalent translations of the selected and produced source texts as possible. The translations, in other words, must be error free. They must also be in idiomatic target language and, for example, textually and stylistically equivalent to the source texts. Undue improvements, on the other hand, should be avoided. In this task the translators are helped, first, if they have two source texts in different languages on which to base their translations; second, if they are reminded in the translation instructions of the most typical pitfalls to be expected in the translation, such as excessively literal translation and undue improvement, as well as of the techniques that have been found to be most effective when translating international reading literacy studies, such as adaptations and compensation; third, if they have a good command of both the source and target language, if they have a good knowledge of both translation theory and practice, and if they are fully computer literate and careful; and fourth, if they are given enough time to make the translations, to polish and finish them, to check, and to edit them. The editors also need to be qualified and careful and to have enough time to do their job. Furthermore, to ensure comparability not only between the source and target texts but also between all the target texts, comparisons are required between all the target versions, which in turn necessitates close collaboration between the translators of these target versions.

Finally, when verifying and judging the quality of the translated texts, the goal is to ensure that the translations are of high quality and equivalent not only to the source texts but also to each other. This requires that thorough linguistic analyses be made comparing both the source and target texts and the target texts with each other, which in turn calls for highly qualified translators and collaboration between them. Also helpful might be backtranslations and having outsiders read the texts and answer the questions. However, all this again requires plenty of time.

Taking everything into account, the study showed that to develop the translation work in international reading literacy studies, more weight needs to be put on linguistics and knowledge about translation than seems to be done today. Moreover, such knowledge is needed not only while actually translating the texts but also while selecting, producing and verifying them.

10.4   Theoretical considerations and suggestions for further research

In international reading literacy studies it is imperative that the different-language texts are equivalent in difficulty to each other. Today, however, there is no universally accepted model for reliably evaluating text difficulty across languages. Therefore, one of the most urgent needs facing those conducting international reading literacy studies is to develop such a model. Understandably, such a model needs to be based on modern theories of reading literacy. It should thus take into account both reader and text, and, ideally, also different kinds of readers and different types of text. It should allow for both the low- and high-level processes involved in comprehension. It should be able to take note of the different purposes of reading and to specify to what extent all the potential factors having an effect on text difficulty really affect students' reading and comprehension of a text and to weight the relative significance of these factors. Moreover, it should be applicable across languages. It is easy to see that developing such a model is a daunting task. However, without such a model, how does one ensure the comparability of the texts used in international reading literacy studies and the validity of these studies?

The first step towards ensuring equivalence of difficulty in international reading literacy studies concerns the selection and production of the source texts. What makes this phase especially challenging, however, is that there seem to be at least three important requirements that the texts should meet and yet these requirements appear to be in conflict with each other. First of all, the texts must be authentic. They must also be rich and versatile so as to provide a true picture of the texts read by and the reading skills required of today's and tomorrow's readers. Finally, to avoid translation problems and to ensure a high comparability with their target texts, they should preferably be easily translatable and contain as few problematic elements as possible (see also Brislin, 1986, pp. 143–149). Of these requirements, the first two seem to be easily compatible. The problem, then, is the third requirement, which appears to be in disagreement with both of the other two requirements. Firstly, as we have seen (see pp. 266–267), if a text is to contain as few problematic elements as possible it usually cannot be fully authentic, but has to be revised and modified at least to a certain extent. Therefore, a far-reaching, informed decision has to be made in international reading literacy studies as to how authentic the texts need to be: whether they must be absolutely so, or whether modifications are allowed in them to ensure greater equivalence of difficulty; furthermore, if modifications are allowed, how extensive can they be?

However, in addition to being in conflict with the requirement of authenticity, the requirement for the texts not to contain problematic elements seems to disagree even more with the requirement for them to provide a rich and representative picture of texts read and reading skills needed today. Trying to avoid problematic elements in the texts, after all, inevitably leads to linguistic and textual simplification and impoverishment (see pp. 266–267), and simple and impoverished texts are hardly sufficient to test all that is involved in reading literacy. Therefore, in future research it is important to examine whether the texts used in international reading literacy studies are rich and multifaceted enough for the studies to be able to assess reading literacy in all its depth and breadth or whether they only capture part of it. If the latter is true, the studies lack construct validity (Popham, 1981, p. 60). This, in turn, means that changes must be made either to the construct or to the texts. In the light of this study it seems that the texts can hardly be made more complex, because the more complex they are, the more difficult it will be to ensure equivalence of difficulty between the different-language texts, or measuring instruments. What seems to need modification, then, is the construct. However, more research is needed to establish whether this is indeed the case, and if so, how the construct should be modified. More research is required to find out how to reconcile the two requirements: how to ensure both construct validity and a high level of equivalence between the texts or measuring instruments.

In PISA the participating countries are advised to use, not only one, but two parallel source texts in different languages, one in English and the other in French, when making translations of the texts. This study too suggests that the use of two source texts in different languages would have helped Finnish translators to produce better translations for the PISA 2000 reading test. However, this puts extremely high demands on the two source texts: it is absolutely necessary that the two texts are equivalent to each other, since otherwise the non-equivalences will multiply as the source texts are translated into the target languages. At the same time it is also evident that – as argued by translation theory (Chesterman, 1997, 1998; Jakobson, 1959, p. 114; Nida, 2000; Pym, 1992, 1995) – because absolute equivalence does not exist, the two source texts cannot be fully equivalent.

It is therefore imperative that more research be done on the source texts, on their comparability and on the impact the use of two source texts has on the quality of the translations as compared to the use of only one source text. Research is also needed to find the best way of using the two source texts: whether it is to make two separate translations from two source languages, as recommended in PISA, or whether a less

extensive use of the other source text, for cross-checking, for instance, would be enough – both the above procedures having been found to be approximately equally effective in international comparative studies (Grisay, 2003). Finally, at present there are in PISA two source languages, English and French, both of which represent Indo-European languages and Western cultures. In future studies it would be beneficial to examine whether it would be possible to produce the source texts in two or even more languages from more distant language families and cultures, provided, of course, that a relatively high equivalence can be guaranteed between all the texts. Furthermore, if several source texts are produced, research is also required to find out the most effective way of using these source texts: whether each country should still use only two of the texts, or whether several or even all of the source texts should be employed; what would be the ideal division of labour between the source texts; for example, should one or two of them be used as the "key" texts, the primary basis on which the translations are made, while the others, or some of them, could be used for cross-checking only; how should these key texts or languages be chosen; should they be those linguistically and culturally nearest to the country in question or those in which it is easiest to find competent translators in the country?

One possible way of gaining information on the relative difficulty of the source and target texts is to analyse students' responses to the question items accompanying the texts and to see whether these differ across countries. This, in fact, is the procedure used in most international reading literacy studies today as a principal means of guaranteeing equivalence of difficulty between the different-language tests. However, it seems that the responses and the statistical analyses conducted on them do not necessarily provide information on the difficulty of the *texts* as such (see pp. 265, 282). What they do provide, instead, is information as to whether the *items* behave similarly across the countries – which in turn may or may not be because of the difficulty of the texts (see also Binkley & Pignal, 1998). For example, an item may be equally difficult in all the countries. However, it is highly questionable whether this can be taken as proof that all the different-language texts on which the item is based are equally easy or difficult to understand (see also Bonnet, 2002).

Consequently, more research is required to determine to what extent the questions and statistical checks conducted on them really measure the difficulty of the texts. To this end, it is also necessary to find reliable methods for ascertaining why an item behaves as it does (see e.g. Sireci & Allalouf, 2003): whether an item that is not equally easy or difficult in all the countries is so because of differences in text difficulty or for

other reasons; and whether an item that does behave similarly across the countries does so because the texts are equally difficult to understand or for some other reason. All this requires linguistic and translational expertise. However, the answers to these questions will help to decide to what extent statistical item analyses can be relied on when ensuring equivalence of difficulty between the texts and hence to what extent they have to be complemented by other, more direct and reliable ways of measuring, verifying and ensuring equivalence in text difficulty.

In the light of this study it seems that because of differences between languages and cultures it will never be possible to guarantee full equivalence of difficulty between all the texts used in international reading literacy studies. In this study too, all three Finnish translations were at least partly non-equivalent in difficulty to their English source texts. Interestingly enough, these findings are congruent with what has been claimed by both translation theorists, according to whom there is no such thing as absolute equivalence (Chesterman, 1997, 1998; Jakobson, 1959, p. 114; Nida, 2000; Pym, 1992, 1995), and by critics, according to whom those conducting international reading literacy studies have not been able to ensure full equivalence between the texts used in these studies (Bonnet, 2002; C-BAR, 2003; Levine, 1998; Manesse, 2000), and hence the studies have not been fully valid either (Bechger et al., 1998).

At the same time, however, it is noteworthy that this study also showed that the majority of non-equivalences, especially those caused by language-specific differences in grammar, were small and, when examined together, were largely compensated for by other factors, leaving the true non-equivalences of difficulty between the English and Finnish texts relatively insignificant (see also Arffman, 2002). This, in turn, suggests that when translating international reading literacy studies one should not be overly concerned about attaining equivalence between individual words and structures; instead, it is usually better to pursue dynamic equivalence and idiomatic target language at the text level (see also ibid., 2002), as also recommended by most translation theorists today (e.g. Nida & Taber, 1969). This is not only because attaining full formal (and semantic) equivalence is often impossible, but also because most readers are at any rate used to the grammar and structures of their own language and to reading texts in their own language. Even more importantly, however, the fact that most of the non-equivalences were relatively insignificant also suggests that while it may not be possible to reach full equivalence of difficulty in these studies, a high degree of equivalence – and hence also validity – can, nevertheless, be attained (see also Elley, 1993, 1998).

More research is needed in the future to determine whether most non-equivalences are indeed inconsequential and levelled out by other factors. To this end, research is required on a greater number of languages and the problems encountered when translating into these languages (see also Binkley & Pignal, 1998), because both the number and quality of the problems and non-equivalences may be expected to vary across languages. This research should also preferably involve more distant and exotic languages and cultures (see e.g. Nida, 2000).

By the same token, research is also needed on greater numbers and different types of texts. An especially interesting type of text might be argumentative texts, which have been claimed to be the most difficult text type to understand (C-BAR, 2003, p. 29; see also Connor & Lauer, 1988). Argumentation also varies considerably across languages (Hatim, 1997). Another interesting type of text might be poems, which, because of their reliance not only on content but also form, are generally considered the most difficult genre to translate or, as claimed by, for example, Jakobson (1959), even untranslatable. More research is likewise needed on the wide variety of non-continuous texts, where apart from the verbal content also non-verbal content plays a significant role (Kress & van Leeuwen, 1996) something that, nevertheless, may vary noticeably from one language to another (Cattrysse, 2001). More research is also needed to ascertain whether it is indeed the case, as suggested by this study, that it is in (continuous) non-literary texts in particular that translators may risk translating too literally, whereas literary texts tend to be translated even too freely.

Along with this research on the problems of equivalence faced when translating different types of text into different languages, research is urgently needed also on the level of equivalence necessary in international reading literacy studies. If it is indeed the case that non-equivalences are for the most part small and insignificant and that a high degree of equivalence can therefore usually be attained between the texts, it is vital to know whether this high degree of equivalence is enough. To what extent, in other words, do the texts used in international reading literacy studies have to be equivalent to each other for the studies still to be valid? What is the minimum level of equivalence required in these studies?

Of the three texts analysed in this study, two seemed to be more difficult to understand in Finnish than in English, while one was more difficult in English, yet in this text the non-equivalence was the least significant. At least in this study, then, it was more often the translation which was harder to comprehend than the source text, rather than vice versa. This finding is interesting, because it seems to suggest that the

top performance of Finnish students in the PISA 2000 reading test (OECD, 2001) was not due to the Finnish translations being easier to understand than all other texts. Rather, it appears to suggest that the non-equivalences between the English and Finnish texts were indeed so small that they did not have any significant effect on text difficulty. More research is, of course, needed to see whether the findings and conclusions also hold true for greater numbers of texts and languages.

On a more general level, however, the finding further appears to imply that translation as such may have a negative effect on the comprehensibility of the texts. In translation theory too, translations are known to be different from untranslated texts, to possess properties not shared by original texts (Mauranen, 2004). Moreover, the trend often seems to be for translations to be somehow deficient or inferior to untranslated texts (Berman, 1985; Chesterman, 2004, pp. 36–39). In future studies it is therefore important to examine whether translation indeed has a negative impact on the comprehensibility of texts used in international reading literacy studies. If this is the case, countries participating in international studies and using texts written in the source language, such as Anglo-American countries, would have an advantage over countries using translated texts. The use of texts in the source language might even partly account for the relatively high performance of these countries in international reading tests (OECD, 2001, 2004b). Furthermore, if countries using source language texts are indeed at an advantage, the bias must, of course, be counterbalanced somehow. This could be done either during the translation process proper, during which more attention could be paid to improving the quality of the translations by means of, for example, compensations, or by making up for the bias during calculating, weighing and assessing the results.

The obvious problems connected with translation and the fact that translation can never guarantee full equivalence has led some researchers (see e.g. Bonnet, 2002; C-BAR, 2003) to suggest and experiment with an alternative way of conducting international reading literacy studies. In this approach each country uses indigenous texts originally written in its own language, the comparability of these texts being evaluated text analytically by comparing the texts against a given set of criteria of text difficulty. The advantage of this approach is that it seems to reduce the number of cultural problems and lead to greater cultural fairness. The number of errors may also be expected to be smaller in these untranslated texts than in translated texts. At the same time, however, in this approach, despite the common criteria against which the texts are compared, the texts used by all the different countries seem inevitably to end up

being so different from each other, for example, syntactically, lexically, textually, stylistically and contentwise that ensuring equivalence of difficulty between them – and hence the validity of the results – appears to be even more challenging than in the more traditional approach. This, in fact, is the reason why even in this alternative approach, in addition to the untranslated texts, a small number of traditional, translated texts are also used in the reading test.

All this suggests that translations will continue to be needed and play an important role in future international reading literacy studies – and should therefore be researched and developed further. It also seems to suggest that, of the two approaches, using translations may, after all, be a better choice, because translated texts may be expected to have a higher degree of equivalence than untranslated texts. Untranslated texts, on the other hand, also have their merits: they appear to be better able to ensure cultural fairness and may be assumed to contain fewer errors. Consequently, more research is required on and comparisons needed between the two approaches. In this research the goal should be to find the optimal way of conducting international reading literacy studies and hence to see to what extent it would be possible to combine the strengths of each approach: whether, for example, poems, which are known to be especially difficult to translate (Jakobson, 1959), could be replaced by untranslated texts; or whether untranslated texts could be revised and modified so as to make them more compatible and equivalent to those of other countries.

In this study only hypotheses could be formed about the problems encountered and errors made by the translators during the translation process and, even more specifically, about the causes of the problems and errors, the choices made by the translators and the reasoning behind these choices. This was because only texts were used as data (see p. 266). In fact, however, it is the translator who is faced with all the problems, is responsible for all the possible errors and has to make all the choices necessary to solve the problems. Moreover, only the translator knows his or her thinking and reasoning behind the choices. Therefore, the best source of information on all of these is the translator. Consequently, it is important in the future to study not only the texts but also the translators. This might be done by means of, for example, interviews (see also Sorvali, 1996) and think-aloud protocols (see also Jääskeläinen, 1993, 1999; Lörscher, 1991).

Finally, not only this but also other studies (Arffman, 2002; Hambleton, 2002; Sireci & Allalouf, 2003) have shown that there are question types which do not seem to behave similarly in all the languages but rather may elicit different responses across languages

and which may therefore gravely distort the validity of international reading literacy studies. Therefore, in addition to examining the texts themselves, more research is needed also on the questions accompanying them. In this research the goal should be to find and develop question types that are most likely to behave similarly across languages and hence to be those most likely to ensure validity in these studies.

10.5 Epilogue

The translation of texts in international reading literacy studies is a highly responsible task. It is, after all, on the basis of these translations that the reading skills of the students and the reading instruction of the participating countries are assessed. These assessments and their results, in turn, are largely the basis on which nations make decisions as to how to develop their reading instruction and how to improve the reading proficiency of their citizens, which, again, are a prerequisite for the welfare and prosperity of the nations. It is clear that such decisions cannot be grounded in poor-quality and mutually non-equivalent translations. Rather, it is in everyone's interest to make sure that translations with such sweeping and far-reaching consequences are of high-quality and comparable with each other.

This study was one attempt towards this end. Thus, it provided some tentative answers to some of the most daunting problems encountered in the translation of texts used in international reading literacy studies. It showed, for example, that full equivalence of difficulty between all the texts and translations in different languages will probably never be attained in these studies. At the same time it also showed that a relatively high level of equivalence does seem attainable – but that this requires better and more sophisticated translation and verification practices. More than anything, however, the study showed that more research is badly needed on the translations used in international reading literacy studies, research where the questions only briefly touched on in this study will hopefully be examined in more depth.

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TEXT 1 – ENGLISH: FEEL GOOD IN YOUR RUNNERS
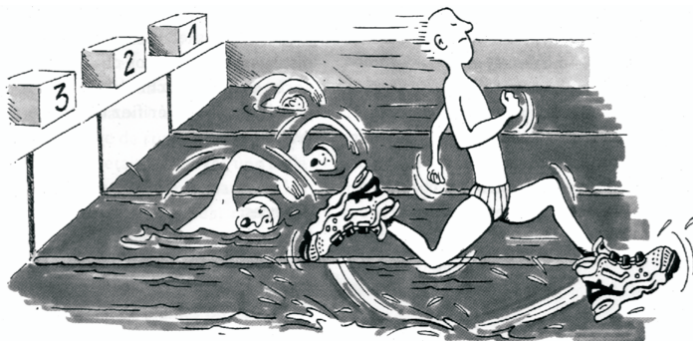
For 14 years the Sports Medicine Centre of Lyon (France) has been studying the injuries of young sports players and sports professionals. The study has established that the best course is prevention … and good shoes.

Knocks, falls, wear and tear...

Eighteen per cent of sports players aged 8 to 12 already have heel injuries. The cartilage of a footballer's ankle does not respond well to shocks, and 25% of professionals have discovered for themselves that it is an especially weak point. The cartilage of the delicate knee joint can also be irreparably damaged and if care is not taken right from childhood (10–12 years of age), this can cause premature osteoarthritis. The hip does not escape damage either and, particularly when tired, players run the risk of fractures as a result of falls or collisions.

According to the study, footballers who have been playing for more than ten years have bony outgrowths either on the tibia or on the heel. This is what is known as "footballer's foot", a deformity caused by shoes with soles and ankle parts that are too flexible.

Protect, support, stabilise, absorb

If a shoe is too rigid, it restricts movement. If it is too flexible, it increases the risk of injuries and sprains. A good sports shoe should meet four criteria:

Firstly, it must *provide exterior protection*: resisting knocks from the ball or another player, coping with unevenness in the ground, and keeping the foot warm and dry even when it is freezing cold and raining.

It must *support the foot*, and in particular the ankle joint, to avoid sprains, swelling and other problems, which may even affect the knee.

It must also provide players with good *stability* so that they do not slip on a wet ground or skid on a surface that is too dry.

Finally, it must *absorb shocks*, especially those suffered by volleyball and basketball players who are constantly jumping.

Dry feet

To avoid minor but painful conditions such as blisters or even splits or athlete's foot (fungal infections), the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in. The ideal material for this is leather, which can be water-proofed to prevent the shoe from getting soaked the first time it rains.

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Translation note: In some countries "football" is referred to as "soccer". Use whichever term is appropriate in your country.

Translation note: The words "provide exterior protection", "support the foot" etc. should be marked with italics or some equivalent textual device so they are equally prominent in all languages.

Use the article on the opposite page to answer the questions below.

Question 1: RUNNERS   R110Q01

What does the author intend to show in this text?

A   That the quality of many sports shoes has greatly improved.
B   That it is best not to play football if you are under 12 years of age.
C   That young people are suffering more and more injuries due to their poor physical condition.
D   That it is very important for young sports players to wear good sports shoes.

Question 2: RUNNERS   R110Q04-019

According to the article, why should sports shoes not be too rigid?

. . . .

Question 3: RUNNERS   R110Q05-019

One part of the article says, "A good sports shoe should meet four criteria."

What are these criteria?

. . . .

. . . .

. . . .

. . . .

Question 4: RUNNERS   R110Q06

Look at this sentence from near the end of the article. It is presented here in two parts:

"To avoid minor but painful conditions such as blisters or even   *(first part)*
splits or athlete's foot (fungal infections),…"

"…the shoe must allow evaporation of perspiration and must   *(second part)*
prevent outside dampness from getting in."

What is the relationship between the first and second parts of the sentence?

The second part

A   contradicts the first part.
B   repeats the first part.
C   illustrates the problem described in the first part.
D   gives the solution to the problem described in the first part.

TEXT 1 – FINNISH: HYVÄ OLO LENKKAREISSA
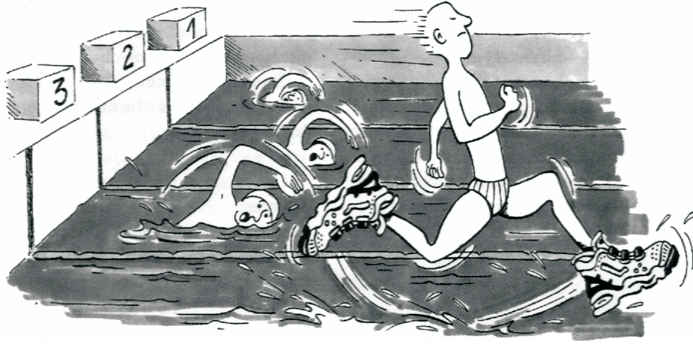
Lyonin urheilulääketieteen keskuksessa (Ranskassa) on 14 vuoden ajan tutkittu nuorten pelaajien ja ammattiurheilijoiden vammoja. Tutkimuksessa on todettu, että paras apu on ennaltaehkäisy … ja hyvät kengät.

Kolhuja, kaatumisia, kuluttavaa rasitusta...

Kahdeksallatoista prosentilla iältään 8 -12- vuotiaista pelaajista on jo kantapäävammoja. Jalkapalloilijan nilkan rusto on arka tärähdyksille, ja 25 ammattilaisista onkin itse saanut havaita sen erityisen heikoksi kohdaksi. Herkän polvinivelen rusto voi myös vaurioitua parantumattomasti, ja jollei sitä varota jo lapsuudessa (10 -12 vuoden iässä), se voi aiheuttaa ennenaikaista nivelrikkoa. Lonkkakaan ei säästy vaurioitumiselta, ja etenkin väsyneinä pelaajat ovat vaarassa saada luunmurtumia kaatumisten tai yhteentörmäysten seurauksena.

Tutkimuksen mukaan jalkapalloilijoilla, jotka ovat pelanneet kauemmin kuin kymmenen vuotta, on luukyhmyjä joko sääriluussa tai kantapäässä. Tämä tunnetaan "jalkapalloilijan jalkana" eli epämuodostumana, joka aiheutuu kengistä, joiden pohjat ja nilkkaosat ovat liian joustavat.

Suojaa, tukea, pitoa, vaimennusta

Jos kenkä on liian jäykkä, se rajoittaa liikkumista. Jos se on liian joustava, se lisää vammautumisten ja nyrjähdysten vaaraa. Hyvän urheilukengän tulisi täyttää neljä kriteeriä:

Ensimmäiseksi sen täytyy *antaa ulkoista suojaa*: suojata pallon ja toisen pelaajan osumilta, selviytyä maanpinnan epätasaisuuksista sekä pitää jalka lämpöisenä ja kuivana silloinkin, kun on jäätävän kylmä ja sataa.

Sen täytyy *tukea jalkaa* ja erityisesti nilkkaniveltä, jotta vältettäisiin nyrjähdykset, turvotukset ja muut ongelmat, jotka saattavat vaikuttaa myös polveen. Sen täytyy myös antaa pelaajille hyvä *pito*, jotta he eivät liukastele märällä kentällä tai luisu liian kuivalla pinnalla.

Lopuksi sen täytyy *vaimentaa tärähdyksiä*, erityisesti sellaisia, joille alituiseen hyppivät lentopallon ja koripallon pelaajat altistuvat.

Jalat kuivana

Vähäisten mutta kivuliaiden vaivojen, kuten rakkojen tai jopa haavaumien tai "urheilijan jalan" (sienitulehduksien) välttämiseksi kengän täytyy sallia hien haihtuminen ja estää ulkopuolista kosteutta pääsemästä sisään. Ihannemateriaali tähän on nahka, joka voidaan tehdä vedenkestäväksi, jottei kenkä kastu läpimäräksi heti ensimmäisessä sateessa.

Käytä viereisen sivun artikkelia vastatessasi alla oleviin kysymyksiin.

TEHTÄVÄ 1: LENKKARIT   R110Q01

Mitä kirjoittaja haluaa tuoda esiin tässä tekstissä?

A   Että monien urheilukenkien laatu on suuresti parantunut.
B   Että on parasta olla pelaamatta jalkapalloa, jos on alle 12-vuotias.
C   Että nuoret kärsivät yhä enemmän vammoista, jotka aiheutuvat heidän huonosta
    fyysisestä kunnostaan.
D   Että nuorten pelaajien on hyvin tärkeää käyttää hyviä urheilukenkiä.

TEHTÄVÄ 2: LENKKARIT   R110Q04-019

Miksi urheilukengät eivät artikkelin mukaan saisi olla liian jäykät?

. . . .

TEHTÄVÄ 3: LENKKARIT   R110Q05-019

Yhdessä artikkelin kohdassa sanotaan: "Hyvän urheilukengän tulisi täyttää neljä
kriteeriä".

Mitkä nämä kriteerit ovat?

. . . .

. . . .

. . . .

. . . .

TEHTÄVÄ 4: LENKKARIT   R110Q06

Katso tätä artikkelin loppupuolelta otettua virkettä. Se esitetään tässä kahdessa osassa:

" Vähäisten mutta kivuliaiden vaivojen, kuten rakkojen tai jopa haavaumien tai "urheilijan jalan" (sienitulehduksien) välttämiseksi…"   *(ensimmäinen osa)*

"… kengän täytyy sallia hien haihtuminen ja estää ulkopuolista kosteutta pääsemästä sisään."   *(toinen osa)*

Mikä on virkkeen ensimmäisen ja toisen osan suhde?

Toinen osa

A   on ristiriidassa ensimmäisen osan kanssa.
B   toistaa ensimmäisen osan.
C   havainnollistaa ensimmäisessä osassa kuvattua ongelmaa.
D   esittää ratkaisun ensimmäisessä osassa kuvattuun ongelmaan.

TEXT 2 – ENGLISH: THE GIFT

How many days, she wondered, had she sat like this, watching the cold brown water inch up the dissolving bluff. She could just faintly remember the beginning of the rain, driving in across the swamp from the south and beating against the shell of her house. Then the river itself started rising, slowly at first until at last it paused to turn

5 back. From hour to hour it slithered up creeks and ditches and poured over low places. In the night, while she slept, it claimed the road and surrounded her so that she sat alone, her boat gone, the house like a piece of drift lodged on its bluff. Now even against the tarred planks of the supports the waters touched. And still they rose.

As far as she could see, to the treetops where the opposite banks had been, the

10 swamp was an empty sea, awash with sheets of rain, the river lost somewhere in its vastness. Her house with its boat bottom had been built to ride just such a flood, if one ever came, but now it was old. Maybe the boards underneath were partly rotted away. Maybe the cable mooring the house to the great live oak would snap loose and let her go turning downstream, the way her boat had gone.

15 No one could come now. She could cry out but it would be no use, no one would hear. Down the length and breadth of the swamp others were fighting to save what little they could, maybe even their lives. She had seen a whole house go floating by, so quiet she was reminded of sitting at a funeral. She thought when she saw it she knew whose house it was. It had been bad seeing it drift by, but the owners must

20 have escaped to higher ground. Later, with the rain and darkness pressing in, she had heard a panther scream upriver.

Now the house seemed to shudder around her like something alive. She reached out to catch a lamp as it tilted off the table by her bed and put it between her feet to hold it steady. Then creaking and groaning with effort the house struggled up from

25 the clay, floated free, bobbing like a cork and swung out slowly with the pull of the river. She gripped the edge of the bed. Swaying from side to side, the house moved to the length of its mooring. There was a jolt and a complaining of old timbers and then a pause. Slowly the current released it and let it swing back, rasping across its resting place. She caught her breath and sat for a long time feeling the slow

30 pendulous sweeps. The dark sifted down through the incessant rain, and, head on arm, she slept holding on to the bed.

Sometime in the night the cry awoke her, a sound so anguished she was on her feet before she was awake. In the dark she stumbled against the bed. It came from out there, from the river. She could hear something moving, something large that

35 made a dredging, sweeping sound. It could be another house. Then it hit, not head on but glancing and sliding down the length of her house. It was a tree. She listened as the branches and leaves cleared themselves and went on downstream, leaving only the rain and the lappings of the flood, sounds so constant now that they seemed a part of the silence. Huddled on the bed, she was almost asleep again when another

40 cry sounded, this time so close it could have been in the room. Staring into the dark, she eased back on the bed until her hand caught the cold shape of the rifle. Then crouched on the pillow, she cradled the gun across her knees. "Who's there?" she called.

The answer was a repeated cry, but less shrill, tired sounding, then the empty

45 silence closing in. She drew back against the bed. Whatever was there she could hear it moving about on the porch. Planks creaked and she could distinguish the

sounds of objects being knocked over. There was a scratching on the wall as if it would tear its way in. She knew now what it was, a big cat, deposited by the uprooted tree that had passed her. It had come with the flood, a gift.

50   Unconsciously she pressed her hand against her face and along her tightened throat. The rifle rocked across her knees. She had never seen a panther in her life. She had heard about them from others and heard their cries, like suffering, in the distance. The cat was scratching on the wall again, rattling the window by the door. As long as she guarded the window and kept the cat hemmed in by the wall and
55   water, caged, she would be all right. Outside, the animal paused to rake his claws across the rusted outer screen. Now and then, it whined and growled.

        When the light filtered down through the rain at last, coming like another kind of dark, she was still sitting on the bed, stiff and cold. Her arms, used to rowing on the river, ached from the stillness of holding the rifle. She had hardly allowed herself to
60   move for fear any sound might give strength to the cat. Rigid, she swayed with the movement of the house. The rain still fell as if it would never stop. Through the grey light, finally, she could see the rain-pitted flood and far away the cloudy shape of drowned treetops. The cat was not moving now. Maybe he had gone away. Laying the gun aside she slipped off the bed and moved without a sound to the window. It
65   was still there, crouched at the edge of the porch, staring up at the live oak, the mooring of her house, as if gauging its chances of leaping to an overhanging branch. It did not seem so frightening now that she could see it, its coarse fur napped into twigs, its sides pinched and ribs showing. It would be easy to shoot it where it sat, its long tail whipping back and forth. She was moving back to get the gun when it turned
70   around. With no warning, no crouch or tensing of muscles, it sprang at the window, shattering a pane of glass. She fell back, stifling a scream, and taking up the rifle, she fired through the window. She could not see the panther now, but she had missed. It began to pace again. She could glimpse its head and the arch of its back as it passed the window.

75   Shivering, she pulled back on the bed and lay down. The lulling constant sound of the river and the rain, the penetrating chill, drained away her purpose. She watched the window and kept the gun ready. After waiting a long while she moved again to look. The panther had fallen asleep, its head on its paws, like a housecat. For the first time since the rains began she wanted to cry, for herself, for all the people, for
80   everything in the flood. Sliding down on the bed, she pulled the quilt around her shoulders. She should have got out when she could, while the roads were still open or before her boat was washed away. As she rocked back and forth with the sway of the house a deep ache in her stomach reminded her she hadn't eaten. She couldn't remember for how long. Like the cat, she was starving. Easing into the kitchen, she
85   made a fire with the few remaining sticks of wood. If the flood lasted she would have to burn the chair, maybe even the table itself. Taking down the remains of a smoked ham from the ceiling, she cut thick slices of the brownish red meat and placed them in a skillet. The smell of the frying meat made her dizzy. There were stale biscuits from the last time she had cooked and she could make some coffee. There was
90   plenty of water. While she was cooking her food, she almost forgot about the cat until it whined. It was hungry too. "Let me eat," she called to it, "and then I'll see to *you.*" And she laughed under her breath. As she hung the rest of the ham back on its nail the cat growled a deep throaty rumble that made her hand shake.

After she had eaten, she went to the bed again and took up the rifle. The house
95   had risen so high now it no longer scraped across the bluff when it swung back from
the river. The food had warmed her. She could get rid of the cat while light still hung
in the rain. She crept slowly to the window. It was still there, mewling, beginning to
move about the porch. She stared at it a long time, unafraid. Then without thinking
what she was doing, she laid the gun aside and started around the edge of the bed to
100   the kitchen. Behind her the cat was moving, fretting. She took down what was left of
the ham and making her way back across the swaying floor to the window she
shoved it through the broken pane. On the other side there was a hungry snarl and
something like a shock passed from the animal to her. Stunned by what she had
done, she drew back to the bed. She could hear the sounds of the panther tearing at
105   the meat. The house rocked around her.

The next time she awoke she knew at once that everything had changed. The rain
had stopped. She felt for the movement of the house but it no longer swayed on the
flood. Drawing her door open, she saw through the torn screen a different world. The
house was resting on the bluff where it always had. A few feet down, the river still
110   raced on in a torrent, but it no longer covered the few feet between the house and the
live oak. And the cat was gone. Leading from the porch to the live oak and doubtless
on into the swamp were tracks, indistinct and already disappearing into the soft mud.
And there on the porch, gnawed to whiteness, was what was left of the ham.

*Use the story "The Gift" on the previous three pages to answer the questions which
follow. (Note that line numbers are given in the margin of the story to help you find
parts which are referred to in the questions.)*

Question 1: *GIFT*   R119Q09A-019
                                                                           R119Q09B-019

Here is part of a conversation between two people who read "The Gift":

I think the woman in the story is heartless and cruel.

How can you say that? I think she's a very compassionate person.
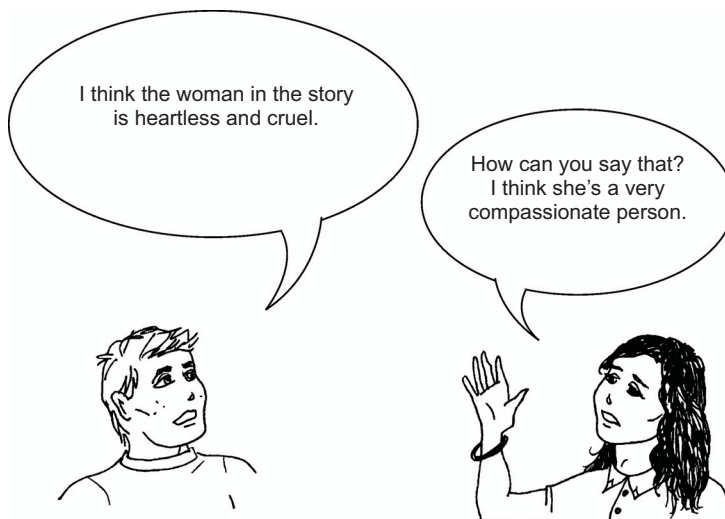
Give evidence from the story to show how each of these speakers could justify their point of view.

Speaker 1 . . . .

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Speaker 2 . . . .

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Question 2: GIFT   R119Q01

What is the woman's situation at the beginning of the story?

A   She is too weak to leave the house after days without food.
B   She is defending herself against a wild animal.
C   Her house has been surrounded by flood waters.
D   A flooded river has swept her house away.

Question 3: GIFT   R119Q07-01239

Here are some of the early references to the panther in the story.

"the cry awoke her, a sound so anguished…" (line 32)

"The answer was a repeated cry, but less shrill, tired sounding…" (line 44)

"She had…heard their cries, like suffering, in the distance." (lines 52–53)

Considering what happens in the rest of the story, why do you think the writer chooses to introduce the panther with these descriptions?

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Translation note: Check line numbers.

Question 4: GIFT   R119Q06

"Then creaking and groaning with effort the house struggled up …" (line 24)
What happened to the house in this part of the story?

A   It fell apart.
B   It began to float.
C   It crashed into the oak tree.
D   It sank to the bottom of the river.

Translation note: Check line numbers.

Question 5: GIFT   R119Q08-0129

What does the story suggest was the woman's reason for feeding the panther?

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Question 6: GIFT   R119Q04

When the woman says, "and then I'll see to *you*" (line 92) she means that she is

A   sure that the cat won't hurt her.
B   trying to frighten the cat.
C   intending to shoot the cat.
D   planning to feed the cat.

Translation note: Please ensure that the phrase, "and then I'll see to *you*" allows BOTH of the following interpretations: "and then I'll feed you" AND "and then I'll shoot you".

Translation note: Check line numbers.

Question 7: GIFT   R119Q05- 01239

Do you think that the last sentence of "The Gift" is an appropriate ending?

Explain your answer, demonstrating your understanding of how the last sentence relates to the story's meaning.

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TEXT 2 – FINNISH: LAHJA

Montakohan päivää, nainen mietti, hän olikaan jo istunut tällä tavoin katsellen kylmän ruskean veden hivuttautumista syöpyvää törmää ylös. Hän saattoi vain hämärästi muistaa sateen alkamisen, kuinka se tuli suon yli etelästä ja piiskasi hänen talonsa ulkovuorausta. Sitten jokikin alkoi nousta, alkuun hitaasti, kunnes se viimein ikään
5   kuin seisahtui, ja vesi alkoi tulvia joelta poispäin. Tunti tunnilta se mateli ylöspäin puroja ja ojia pitkin ja peitti alavat paikat. Yöllä, kun hän nukkui, se valtasi tien ja saartoi hänet niin, että hän jäi yksin, veneenkin mentyä virran mukana, kyhjöttämään taloonsa, joka oli kuin virran siihen tuoma ja joentörmään takertunut ajopuu. Nyt vesi jo tavoitteli tukirakenteiden tervattuja lankkuja. Ja se nousi yhä.

10   Niin kauas kuin hän saattoi nähdä, eli puunlatvoihin saakka, sinne missä joen vastakkainen ranta oli ollut, suo lainehti autiona kaatosateen huuhtomana merenä, jonka äärettömyyteen joki oli hävinnyt. Hänen talonsa oli veneenmuotoisine perustoineen varta vasten rakennettu niin, että se kelluisi tällaisessa tulvassa, jos sellainen joskus tulisi, mutta nyt talo oli jo vanha. Ehkäpä pohjarakenteiden laudat
15   olivat osaksi lahonneet. Ehkäpä vaijeri, jolla talo oli ankkuroitu vanhaan kasvavaan tammeen, napsahtaisi poikki ja hän lähtisi ajelehtimaan alavirtaan, kuten hänen veneelleen oli jo käynyt.

Kukaan ei nyt päässyt tänne. Hän voisi huutaa, mutta siitä ei olisi mitään hyötyä, kukaan ei kuulisi. Kautta koko suoalueen ihmiset taistelivat pelastaakseen sen
20   vähän, mitä kykenivät, ehkä jopa henkensä. Hän oli nähnyt kokonaisen talon ajelehtivan ohitse niin hiljaisena, että se toi hänen mieleensä hautajaisissa istumisen. Talon nähdessään hän arveli tietävänsä, kenen se oli. Oli tuntunut pahalta nähdä sen ajelehtivan ohi, mutta asukkaiden oli täytynyt paeta korkeampaan maastoon. Myöhemmin, sateen ja pimeyden laskeutuessa painostavana, hän kuuli puuman
25   kiljaisevan yläjuoksulla.

Nyt talo tuntui värisevän naisen ympärillä kuin jokin elollinen olento. Hän kurottautui ottamaan kiinni lampun, kun se keikahti pöydältä hänen vuoteensa vieressä, ja pani sen jalkateriensä väliin estääkseen sitä kaatumasta. Sitten talo ponnistautui rasituksesta kirskahdellen ja valittaen irti savesta, kellui vapaasti
30   pomppien vedessä kuin korkki ja heilahti hitaasti ulommas virran vetämänä. Hän piteli kiinni vuoteensa laidoista. Huojahdellen puolelta toiselle talo liikkui kiinnitysvaijerinsa salliman matkan. Tuntui voimakas nykäys ja vanhat puurakenteet valittivat, sitten tuli tauko. Hitaasti virran imu hellitti ja talo heilahti rahisten takaisin yli entisen olosijansa. Naisen hengitys salpaantui, ja hän istui pitkän aikaa tuntien miten
35   talo liikkui hitaasti edestakaisin kuin heiluri. Pimeys siivilöityi taukoamattoman sateen lävitse, ja pää käsivarren päällä hän nukkui vuoteesta kiinni pidellen.

Johonkin aikaan yöstä kiljahdus herätti hänet. Ääni oli niin tuskainen, että hän oli jalkeilla ennen kuin ehti herätäkään. Pimeässä hän kompasteli sänkyään vasten. Ääni kuului ulkoa, joesta. Hän saattoi kuulla jonkin liikkuvan, jonkin ison, joka sai
40   aikaan raapivan, laahaavan äänen. Se saattoi olla toinen talo. Silloin se törmäsi, ei aivan suoraan päin, vaan viistosti sivuten ja liukuen pitkin hänen talonsa kylkeä. Se oli puu. Hän kuunteli, kuinka oksat ja lehdet irtautuivat ja jatkoivat matkaansa alavirtaan, jättäen jälkeensä vain sateen ja tulvaveden loiskeen, joiden äänet olivat jatkuneet jo niin kauan, että ne tuntuivat olevan osa hiljaisuutta. Vuoteeseensa
45   käpertyneenä hän oli taas melkein unessa, kun kuului uusi kiljahdus, tällä kertaa hyvin läheltä, kuin samasta huoneesta. Tuijottaen pimeyteen hän hivuttautui taaksepäin vuoteellaan, kunnes tunsi käsissään kiväärin kylmät muodot. Sitten hän

kyyristyi tyynylleen pidellen kivääriä poikittain polviensa päällä. "Kuka siellä?", hän huusi.

50   Vastauksena oli toistuvaa kiljahtelua, mutta vähemmän läpitunkevaa, väsyneen kuuloista, sitten talon ympäröi taas autio hiljaisuus. Hän peräytyi sänkyä vasten. Mitä tahansa siellä olikin, hän saattoi kuulla sen liikehtivän kuistilla. Lankut narahtelivat, ja hän kuuli kaatuilevien esineiden ääniä. Seinää raavittiin aivan kuin se yrittäisi repiä siihen kulkuaukon. Hän tiesi nyt, mikä se oli: iso kissaeläin, jonka hänet ohittanut
55   juuriltaan irronnut puu oli tuonut mukanaan. Se oli tullut tulvan mukana, lahjana.

      Tiedostamattaan hän painoi kätensä kasvoilleen ja kireäksi käyneelle kurkulleen. Kivääri keinahteli poikittain hänen polvillaan. Hän ei ollut eläissään nähnyt puumaa. Hän oli kuullut muiden puhuvan niistä, ja hän oli kuullut niiden kärsivältä kuulostavia kiljahduksia matkan päästä. Puuma raapi taas seinää niin, että oven vieressä oleva
60   ikkuna helisi. Niin kauan kun hän vartioisi ikkunaa ja pitäisi puuman pinteessä, vangittuna seinän ja veden väliin, hänellä ei olisi hätää. Ulkopuolella eläin seisahtui haromaan kynsillään ruostunutta verkko-ovea. Silloin tällöin se vingahti ja murisi.

      Kun valo viimein alkoi siilautua sateen lävitse ikään kuin toisenlaisena pimeytenä, hän istui yhä vuoteellaan, kankeana ja kylmissään. Hänen käsivartensa olivat
65   tottuneet soutamiseen joella, mutta kiväärin liikkumaton pitely oli saanut ne särkemään. Hän oli tuskin uskaltanut liikahtaakaan pelätessään minkä tahansa äänen antavan kissapedolle uutta voimaa. Jäykkänä hän huojahteli talon liikkeiden mukana. Sade jatkui entisellään niin kuin se ei koskaan loppuisikaan. Harmaan valon läpi hän saattoi viimein nähdä sateen täplittämän tulvaveden ja kaukaisuudessa
70   veden hukuttamien puidenlatvojen utuisen hahmon. Puuma ei kuulunut liikkuvan.
      Ehkä se oli lähtenyt. Pannen aseensa syrjään hän luikahti vuoteelta ja siirtyi äänettömästi ikkunan luo. Se oli vielä siellä, kyyristellen kuistin reunalla, tuijottaen ylös tammipuuhun, talon kiinnityspaikkaan, kuin mittaillen mahdollisuuksiaan loikata ylleen kaartuvalle oksalle. Se ei enää tuntunut niin pelottavalta nyt kun hän saattoi
75   nähdä sen, sen karhean turkin hieraantuneet karvasäikeet, sen laihat pingottuneet kupeet ja nahan alta erottuvat kylkiluut. Se olisi helppo ampua siihen, missä se istui pitkä häntä edestakaisin viuhtoen. Hän oli menossa takaisin hakemaan asettaan, kun puuma kääntyi ympäri. Äkkiarvaamatta, kyyristymättä tai jännittämättä lihaksiaan, se syöksähti ikkunaa vasten pirstoen yhden sen ruuduista. Nainen heittäytyi taaksepäin
80   kirkaisunsa tukahduttaen, tarttui kivääriinsä ja ampui ikkunan läpi. Puumaa ei näkynyt, mutta hän ei ollut osunut. Se alkoi jälleen käyskennellä edestakaisin. Hän saattoi nähdä vilauksen sen päästä ja selän kaaresta, kun se kulki ikkunan ohi.

      Väristen nainen vetäytyi vuoteelleen ja kävi pitkäkseen. Joen ja sateen tyynnyttävän muuttumaton ääni ja ilman läpitunkeva viileys haihduttivat hänen
85   päättäväisyytensä. Hän vahti ikkunaa ja piti aseen valmiina. Odotettuaan pitkän tovin hän meni jälleen katsomaan. Puuma oli nukahtanut pää tassujensa päällä kuin kotikissa. Ensimmäistä kertaa sateiden alkamisen jälkeen häntä itketti, itsensä takia, kaikkien ihmisten ja kaiken tulvan alle jääneen takia. Liukuen alaspäin vuoteellaan hän vetäisi täkin harteilleen. Hänen olisi pitänyt lähteä silloin, kun vielä voi, kun tiet
90   olivat vielä auki tai ennen kuin hänen veneensä huuhtoutui tiehensä. Naisen keinahdellessa edestakaisin talon huojunnan tahdissa hänen vatsassaan tuntuva vihlaisu muistutti, ettei hän ollut syönyt. Hän ei muistanut, kuinka kauan oli ollut syömättä. Kuten puumakin, hän oli heikkona nälästä. Hän hivuttautui keittiöön ja teki tulen vähistä jäljellä olevista polttopuun rippeistä. Jos tulva jatkuisi, hänen olisi
95   poltettava tuoli, ehkä pöytäkin. Hän otti katosta roikkuvan palvikinkun lopun, leikkasi ruskehtavan punaisesta lihasta paksuja siivuja ja laittoi ne paistinpannuun.

Käristyvän lihan tuoksu pyörrytti häntä. Edellisestä ruuanlaittokerrasta oli jäänyt kuivettuneita keksejä, ja hän voisi keittää kahvia. Vettä oli runsaasti.

100   Ruokaa laittaessaan hän melkein unohti puuman, kunnes se vinkaisi. Silläkin oli nälkä. "Annahan minun syödä", nainen huusi sille, "niin sitten huolehdin *sinusta*." Ja hän naurahti puoliääneen. Hänen ripustaessaan kinkun loppua takaisin naulaansa puuma päästi kurkustaan kumeana jylisevän murinan, joka sai hänen kätensä vapisemaan.

105   Syötyään hän meni taas vuoteensa luo ja tarttui kivääriin. Talo kellui nyt niin ylhäällä, ettei se enää raapinut törmää heilahtaessaan joelta rantaan päin. Ruoka oli lämmittänyt häntä. Hän hankkiutuisi puumasta eroon nyt, kun sateen läpi vielä tuli valoa. Hän hiipi hitaasti ikkunan luo. Siellä se vielä oli, se mourusi ja alkoi liikuskella kuistilla. Hän tuijotti sitä pitkän aikaa, pelkäämättä. Sitten, ajattelematta mitä oli tekemässä, hän pani aseen syrjään ja kiersi sängyn kulman ympäri keittiöön. Hänen
110   takanaan puuma liikkui kärttyisänä. Hän otti alas mitä kinkusta oli jäljellä ja kulki vaappuvan lattian poikki takaisin ikkunalle ja heitti kinkun rippeet rikkoutuneesta ruudusta. Toiselta puolelta kuului nälkäinen murina, ja jonkinlainen tyrmistys siirtyi eläimestä häneen. Tekemästään typertyneenä nainen peräytyi takaisin vuoteen luo. Hän saattoi kuulla, miten puuma repi lihaa. Talo keinahteli hänen ympärillään.

115   Kun nainen seuraavan kerran heräsi, hän tunsi heti, että kaikki oli muuttunut. Sade oli lakannut. Hän tunnusteli, liikkuiko talo, mutta se ei enää vaappunut tulvassa. Vetäessään ovensa auki hän näki revityn verkon läpi erilaisen maailman. Talo lepäsi taas törmällä, kuten aina ennenkin. Vähän toista metriä alempana joki ryöppysi yhä vuolaana, mutta enää se ei peittänyt kapeaa kaistaletta talon ja pihatammen välissä.
120   Ja puuma oli tiessään. Kuistilta tammelle ja epäilemättä edelleen suolle johtavat jäljet erottuivat epäselvinä ja alkoivat jo kadota pehmeään mutaan. Ja kuistilla, valkeaksi kaluttuina, olivat kinkun tähteet.

326

Lue kertomus "Lahja" kolmelta edelliseltä sivulta ja vastaa seuraaviin tehtäviin sen pohjalta. (Huomaa, että kertomuksen marginaaliin on merkitty rivinumerot, jotta tehtävissä mainitut kohdat olisi helpompi löytää.)

Tehtävä 1: LAHJA

R119Q09A- 019

R119Q09B- 019

Alla on osa keskustelusta kahden henkilön välillä, jotka ovat lukeneet "Lahjan":

Esitä kertomuksesta perusteluja osoittaaksesi, kuinka nämä puhujat voisivat puolustaa näkemyksiään.

Puhuja 1 . . . .

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Puhuja 2 ·

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327

Tehtävä 2: LAHJA   R119Q01

Mikä on naisen tilanne kertomuksen alussa?

A   Hän on liian heikko lähtemään talosta oltuaan päiväkausia ilman ruokaa.
B   Hän puolustaa itseään villieläintä vastaan.
C   Hänen talonsa on tulvaveden saartama.
D   Tulviva joki on pyyhkäissyt mukaansa hänen talonsa.

Tehtävä 3: LAHJA   R119Q07-01239

Tässä on joitakin kertomuksen alkuvaiheessa esiintyneitä viittauksia puumaan:

"...kiljahdus herätti hänet. Ääni oli niin tuskainen..." (rivi 37)

"Vastauksena oli toistuvaa kiljahtelua, mutta vähemmän läpitunkevaa, väsyneen kuuloista..." (rivit 50 - 51)

"...hän oli kuullut niiden kärsivältä kuulostavia kiljahduksia matkan päästä." (rivit 58 - 59)

Ottaen huomioon, mitä kertomuksessa muuten tapahtuu, miksi arvelet kirjoittajan halunneen esitellä puuman näiden kuvausten kautta?

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Tehtävä 4: LAHJA   R119Q06

"Sitten talo ponnistautui rasituksesta kirskahdellen ja valittaen irti..." (rivit 28 - 29)

Mitä talolle tapahtui kertomuksen tässä kohdassa?

A   Se hajosi kappaleiksi.
B   Se alkoi kellua.
C   Se törmäsi tammeen.
D   Se upposi joen pohjaan.

Tehtävä 5: LAHJA   R119Q08-0129

Miksi nainen tarinan perusteella ruokkii puumaa?

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Tehtävä 6: LAHJA   R119Q04

Kun nainen sanoo "niin sitten huolehdin *sinusta*" (rivi 100), hän tarkoittaa, että hän

A   on varma, ettei puuma vahingoita häntä.
B   yrittää pelotella puumaa.
C   aikoo ampua puuman.
D   aikoo ruokkia puuman.

Tehtävä 7: LAHJA   R119Q05- 01239

Onko "Lahja"-kertomuksen viimeinen virke mielestäsi sovelias lopetus?

Perustele vastauksesi ja esitä käsityksesi siitä, miten viimeinen virke liittyy kertomuksen kokonaissanomaan.

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TEXT 3 - ENGLISH: PLAN International Program Results Financial Year 1996

Region of Eastern and Southern Africa · RESA

Growing up Healthy

	EGYPT	ETHIOPIA	KENYA	MALAWI	SUDAN	TANZANIA	UGANDA	ZAMBIA	ZIMBABWE	TOTALS
Health posts built with 4 rooms or less	1	0	6	0	7	1	2	0	9	**26**
Health workers trained for 1 day	1 053	0	719	0	425	1 003	20	80	1 085	**4 385**
Children given nutrition supplements > 1 week	10 195	0	2 240	2 400	0	0	0	0	251 402	**266 237**
Children given financial help with health/dental treatment	984	0	396	0	305	0	581	0	17	**2 283**

Learning

	EGYPT	ETHIOPIA	KENYA	MALAWI	SUDAN	TANZANIA	UGANDA	ZAMBIA	ZIMBABWE	TOTALS
Teachers trained for 1 week	0	0	367	0	970	115	565	0	303	**2 320**
School exercise books bought/donated	667	0	0	41 200	0	69 106	0	150	0	**111 123**
School textbooks bought/donated	0	0	45 650	9 600	1 182	8 769	7 285	150	58 387	**131 023**
Uniforms bought/made/donated	8 897	0	5 761	0	2 000	6 040	0	0	434	**23 132**
Children helped with school fees/a scholarship	12 321	0	1 598	0	154	0	0	0	2 014	**16 087**
School desks built/bought/donated	3 200	0	3 689	250	1 564	1 725	1 794	0	4 109	**16 331**
Permanent classrooms built	44	0	50	8	93	31	45	0	82	**353**
Classrooms repaired	0	0	34	0	0	14	0	0	33	**81**
Adults receiving training in literacy this financial year	1 160	0	3 000	568	3 617	0	0	0	350	**8 695**

Habitat

	EGYPT	ETHIOPIA	KENYA	MALAWI	SUDAN	TANZANIA	UGANDA	ZAMBIA	ZIMBABWE	TOTALS
Latrines or toilets dug/built	50	0	2 403	0	57	162	23	96	4 311	**7 102**
Houses connected to a new sewage system	143	0	0	0	0	0	0	0	0	**143**
Wells dug/improved (or springs capped)	0	0	15	0	7	13	0	0	159	**194**
New positive boreholes drilled	0	0	8	93	14	0	27	0	220	**362**
Gravity feed drinking water systems built	0	0	28	0	1	0	0	0	0	**29**
Drinking water systems repaired/improved	0	0	392	0	2	0	0	0	31	**425**
Houses improved with PLAN project	265	0	520	0	0	0	1	0	2	**788**
New houses built for beneficiaries	225	0	596	0	0	2	6	0	313	**1 142**
Community halls built or improved	2	0	2	0	3	0	3	0	2	**12**
Community leaders trained for 1 day or more	2 214	95	3 522	232	200	3 575	814	20	2 693	**13 365**
Kilometres of roadway improved	1.2	0	26	0					5.34	**80.6**
Bridges built	0	0	4	2	11	0	0	0	1	**18**
Families benefited directly from erosion control	0	0	1 092	0	1 500	0	0	0	18 405	**20 997**
Houses newly served by electrification project	448	0	2	0	0	0	0	0	44	**494**

Source: Adapted from PLAN International Program Output Chart financial year 1996, appendix to Quarterly Report to the International Board first quarter 1997

The table on the opposite page is part of a report published by PLAN International, an international aid organisation. It gives some information about PLAN's work in one of its regions of operation (Eastern and Southern Africa). Refer to the table to answer the questions below.

Question 1: PLAN INTERNATIONAL

R099Q02

According to the table, where was PLAN International involved in the widest range of activities?

A Zambia
B Malawi
C Kenya
D Tanzania

Question 2: PLAN INTERNATIONAL

R099Q04A

What does the table indicate about the level of PLAN International's activity in Ethiopia in 1996, compared with other countries in the region?

A The level of activity was comparatively high in Ethiopia.
B The level of activity was comparatively low in Ethiopia.
C It was about the same as in other countries in the region.
D It was comparatively high in the Habitat category, and low in the other categories.

Question 3: PLAN INTERNATIONAL

R099Q04B-01239

In 1996 Ethiopia was one of the poorest countries in the world.

Taking this fact and the information in the table into account, what do you think might explain the level of PLAN International's activities in Ethiopia compared with its activities in other countries?

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Question 4: PLAN INTERNATIONAL

R099Q03

Some additional aid activities are listed below. If these activities were added to the table, which category would each activity belong to? Show your answer by placing a cross in the correct box next to each of the activities.

The first one has been done for you.

	Growing up Healthy	Learning	Habitat
Public telephones installed	☐	☐	☒
Children vaccinated	☐	☐	☐
Mothers advised on feeding of infants	☐	☐	☐
Solar powered electricity generation plant built	☐	☐	☐

TEXT 3 – FINNISH: PLAN International -ohjelman tulokset tilivuonna 1996

Itäinen ja Eteläinen Afrikka

Terveenä kasvaminen

	EGYPTI	ETIOPIA	KENIA	MALAWI	SUDAN	TANSANIA	UGANDA	SAMBIA	ZIMBABWE	IEA YHTEENSÄ
Rakennettu terveysasemia, 4 huonetta tai vähemmän	1	0	6	0	7	1	2	0	9	26
Koulutettu terveydenhuollon työntekijöitä, 1 päivä	1 053	0	719	0	425	1 003	20	80	1 085	4 385
Annettu lapsille ravintolisiä > 1 viikko	10 195	0	2 240	2 400	0	0	0	0	251 402	266 237
Annettu lapsille rahallista apua terveyden- / hammashoitoon	984	0	396	0	305	0	581	0	17	2 283

Oppiminen

	EGYPTI	ETIOPIA	KENIA	MALAWI	SUDAN	TANSANIA	UGANDA	SAMBIA	ZIMBABWE	IEA YHTEENSÄ
Koulutettu opettajia, 1 viikko	0	0	367	0	970	115	565	150	303	2 320
Koulun työkirjoja ostettu / lahjoitettu	667	0	0	41 200	0	69 106	0	150	0	111 123
Oppikirjoja ostettu / lahjoitettu	0	0	45 650	9 600	1 182	8 769	7 285	150	58 387	131 023
Koulupukuja ostettu / tehty / lahjoitettu	8 897	0	5 761	0	2 000	6 040	0	0	434	23 132
Lapsia avustettu koulumaksujen hoitamisessa / stipendi	12 321	0	1 598	0	154	0	0	0	2 014	16 087
Pulpetteja rakennettu / ostettu / lahjoitettu	3 200	0	3 689	250	1 564	1 725	1 794	0	4 109	16 331
Pysyviä luokkahuoneita rakennettu	44	0	50	8	93	31	45	0	82	353
Luokkahuoneita korjattu	0	0	34	0	0	14	0	0	33	81
Aikuisia, joiden lukutaitoa harjaannutetaan tänä tilivuonna	1 160	0	3 000	568	3 617	0	0	0	350	8 695

Asuinolot

	EGYPTI	ETIOPIA	KENIA	MALAWI	SUDAN	TANSANIA	UGANDA	SAMBIA	ZIMBABWE	IEA YHTEENSÄ
Käymälöitä tai vessoja kaivettu / rakennettu	50	0	2 403	0	57	162	23	96	4 311	7 102
Taloja liitetty uuteen viemäriverkkoon	143	0	0	0	0	0	0	0	0	143
Kaivoja kaivettu / parannettu (tai lähteitä katettu)	0	0	15	0	7	13	0	0	159	194
Uusia porakaivoja kaivettu	0	0	8	93	14	0	27	0	220	362
Painovoimaan perustuvia juomavesijärjestelmiä rakennettu	0	0	28	0	1	0	0	0	0	29
Juomavesijärjestelmiä korjattu / parannettu	0	0	392	0	2	0	0	0	31	425
Taloja kunnostettu PLAN-projektissa	265	0	520	0	0	0	1	0	2	788
Uusia asuintaloja rakennettu	225	0	596	0	0	2	6	0	313	1 142
Kyläkeskuksia rakennettu tai kunnostettu	2	0	2	0	3	0	3	0	2	12
Kyläkeskusten ohjaajia koulutettu, 1 päivä tai kauemmin	2 214	95	3 522	232	200	3 575	814	20	2 693	13 365
Teitä parannettu, kilometreinä	1,2	0	26	0	0	0	0	0	53,4	80,6
Siltoja rakennettu	0	0	4	2	11	0	0	0	1	18
Perheet, jotka hyötyivät suoraan eroosion säätelystä	0	0	1 092	0	1 500	0	0	0	18 405	20 997
Talot, jotka on liitetty sähköverkkoon	448	0	2	0	0	0	0	0	44	494

Edellisen sivun taulukko on osa raportista, jota julkaisee kansainvälinen kehitysapujärjestö PLAN International. Se antaa tietoja PLANin työstä yhdellä sen toiminta-alueella (itäisessä ja eteläisessä Afrikassa). Vastaa alla oleviin kysymyksiin taulukon pohjalta.

TEHTÄVÄ 1: PLAN INTERNATIONAL   R099Q02

Missä PLAN Internationalin toiminta oli taulukon mukaan laajinta?

A Sambiassa
B Malawissa
C Keniassa
D Tansaniassa

Tehtävä 2: PLAN INTERNATIONAL   R099Q04A

Mitä taulukko kertoo PLAN Internationalin toiminnasta Etiopiassa vuonna 1996 verrattuna muihin alueen maihin?

A Toiminta oli suhteellisen vilkasta Etiopiassa.
B Toiminta oli suhteellisen vähäistä Etiopiassa.
C Se oli suurinpiirtein samanlaista kuin muissa alueen maissa.
D Se oli suhteellisen vilkasta Asuinolot-luokassa ja vähäistä muissa luokissa.

Tehtävä 3: PLAN INTERNATIONAL   R099Q04B-01239

Vuonna 1996 Etiopia oli yksi maailman köyhimmistä maista.

Ottaen huomioon tämän seikan sekä taulukossa esitetyt tiedot, mikä voisi mielestäsi selittää PLAN Internationalin toiminnan tasoa Etiopiassa verrattuna sen toimintaan muissa   maissa?

. . . .

. . . .

. . . .

Tehtävä 4: PLAN INTERNATIONAL   R099Q03

Alla on lueteltu joitakin muita avustustoimintoja. Jos nämä toiminnot lisättäisiin taulukkoon, mihin luokkaan kukin toiminto kuuluisi? Merkitse vastauksesi laittamalla rasti oikeaan laatikkoon kunkin toiminnon kohdalla.

Ensimmäinen on tehty puolestasi.

	Terveenä kasvaminen	Oppiminen	Asuinolot
Yleisiä puhelimia asennettu	☐	☐	☒
Lapsia rokotettu	☐	☐	☐
Äitejä neuvottu vauvojen ruokinnassa	☐	☐	☐
Aurinkovoimalla toimiva sähköntuotantolaitos rakennettu	☐	☐	☐

APPENDIX II. Translation instructions in PISA 2000 (abbreviated and adapted from OECD, 1999b, pp. 23–38).

INTRODUCTION

The PISA tests and questionnaires are measuring tools. One of the vital challenges for the study will be to guarantee the equivalence of these tools: it must be possible to interpret in the same way an identical test mark or an identical answer to the educational context questionnaire from students responding in Japanese in Osaka, in Norwegian in Oslo, in German in Munich, in English in Wellington, etc. Consequently, the quality of the translation of the survey materials into the various languages of the participating countries is an issue of the highest importance.

In particular, it is essential to ensure that the translation process in each country does not introduce biases likely to distort international comparisons:

- either by making more difficult (or easier) the comprehension of text extracts, graphics or tables used as stimulus in the various test units;

- or by unintentionally modifying the difficulty of the questions asked of the student, through a formulation which changes the type of mental strategy required.

ADVICE REGARDING TRANSLATION TRAPS

Many factors can undesirably bias the answers to items presented to the students in different languages. The list of advice provided below will help you to control some of the most commonly encountered among these. Take good note of the fact that they are to be regarded as *advice*. In practice, too strict an application of one or the other of the following recommendations may lead to an overly cumbersome translation, or it may occur that applying one recommendation would lead to violation of another. One should then give priority to one or the other, with a view to choosing the lesser of two evils. Please regard the following as an informative list of what MIGHT raise a problem with respect to equivalence between the source version and your version.

Respect, As Far As Possible, The Layout And Presentation Shown In The Source Document

It often happens that a translated document is longer that the original. This is due to the characteristics of each language, and does not seem likely to have a significant effect on performance (for example, languages less concise than English often have a morphology and a syntax which are more redundant, and overall the latter is likely to make up for the former in terms of reading difficulty). However, changes must be avoided in the page set-up of the test — which would oblige the student, for example, to turn a page to read the questions, whereas in the source version text and questions appear side by side. If necessary, use a slightly smaller or bigger font than the one in the original, if this enables you to keep a page set-up true to that of the source version.

Respect the cues provided in the original material (titles, subtitles, possible numbering of lines and paragraphs, and numbering of items).

Be very vigilant about the rendering of illustrations and graphic elements. Check that no alteration occurs during the importing of these elements into your translated file, or during printing.

Do not forget to translate the verbal material contained in these graphic elements (in particular the captions, scales, units of measurement).

Think about the motivation of students. Presentation which is denser, big blocks of text which are less spaced out, printing which is more careless than the original may encourage some of the weaker students to turn the page without answering the questions.

In the following example, taken from the IEA/TIMSS survey, too pale a rendering of the graphic element of this item when printed can make the grey tint which is used as background for the flowered picture disappear, making distractor D much more attractive than in the original version.

A rectangular picture is pasted to a sheet of white paper as shown.
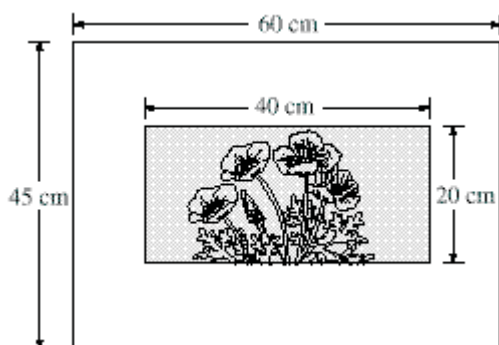
What is the area of the white paper not covered by the picture?
   A. 165 cm^2
   B. 500 cm^2
   C. 1900 cm^2
   D. 2700 cm^2

Avoid Complicating Or Simplifying The Vocabulary And The Syntax Of Text Excerpts Which Are Used As Stimulus, Or The Wording Of The Items (Stem And Distractors)

It is no coincidence that average word length and sentence length almost always appear among the indices of complexity used in readability formulas, whatever the language for which the formulas have been developed. Longer words tend to be less frequent, more technical and/or more abstract than short words. The basic vocabulary of a language (the

most frequent and easiest 1500 to 3000 words of a language) is, more often than not, made up of very short words. Long sentences often contain many subordinate clauses and/or embedded clauses; the word order and the syntax in those sentences are usually more complex than when the passage is made up of two or three separate sentences rendering the same content.

In the following example, the *b* version is more complex than the *a* version, not only because of its vocabulary (term: *relief variation*) but also because of its syntax (subordinate clause):

a. *It was easy: the route of the marathon consisted of few important differences in height.*

b. *I found that easy, inasmuch as the route of the marathon consisted of few important relief variations.*

Except where it is necessary, avoid translating difficult words in the text by expressions which paraphrase them in more common terms (or vice versa).

In the following example, *b* is easier than *a*:

a. *Viewers empathise with good characters more so than with bad ones.*

b. *Viewers have more sympathy for good characters than for bad ones.*

Do not unnecessarily modify the degree of abstraction of the sentence by using nouns where the author uses verbs, or vice versa:

In the following example, *a* will be more difficult than *b*:

a. *The presence of humour in a violent scene can increase the chances that viewers will imitate or learn aggression.*

b. *When humour is present in a violent scene, viewers are likely to imitate or learn aggression.*

Avoid, insofar as this appears possible, translating an active turn of phrase in the original by a passive one, or vice versa.

In the following example, the *b* version increases the difficulty of the sentence, not only by the use of the passive form, but also because this version (as is often the case) uses as the subject an abstract word (*problems*) instead of an animate term (*families*):

a. *Many Russian families traditionally present their children with hundreds of problems of this type.*

b. *In Russia, traditionally, hundreds of problems of this type are presented to children by their families.*

Be very vigilant during the translation of passages containing negations, especially when double negations are involved: the latter significantly increase the difficulty of understanding.

In the following example, the *b* version is more difficult than *a,* as a result of the replacement of a negative term (*harmless*) by a double negation, syntactic and lexical (*is not harmful*):

a. *This does not mean that the violence in cartoons is harmless.*

b. *This does not mean that the violence in cartoons is not harmful.*

Modify as little as possible the reference chain(s) which is/are contained in the passage. A reference chain is the set of occurrences in the text where the same character or the same notion is alluded to, often with the help of various linguistic tools (pronouns, synonyms, etc.).

The following passage contains three of these chains, one relating to the notion of violence (V), the other to the notion of punishment (P), and the third referring to the young viewer (Y).

"*If the* punishment (P1) *for* violence (V1) *is delayed until the end of the program*, this deterrent (P2) *may go unnoticed by a* young child (Y1). Punishment (P3) *must occur in the same scene for a younger* viewer (Y2) *to connect* it (P4) *to the original* aggressive behaviour (V2) *which gave rise to* it (P5)."

In a case of this type do your best to respect the nature of the elements of reference:

• Repeat the word if the author repeated it (punishment in P1 and P3).

• Use a synonym if the author used one (*violence* in V1 / *aggressive behaviour* in V2).

• Use the combined repetition and synonym when this is the case with the author (*young child* in Y1 and *younger viewer* in Y2).

• Use pronouns where the author uses them (P4, P5).

The text will be more difficult, for example, if you choose to avoid the repetition in P3 by using a synonym (*sanction* instead of *punishment*), or in Y2 by using a reference by position (*the latter* instead of *younger viewer*).

When Translating The Items, Avoid Involuntarily Providing Clues Which Direct The Student Towards The Correct Answer, Or Which Make A Wrong Answer More Attractive.

In multiple choice items, make every effort not to modify the respective lengths of the various distractors unnecessarily. Long answers are more attractive than short ones;

therefore the item might become easier in your version if the correct answer is more elaborate (in relation to other answers), than in the source version. On the other hand, the item might become more difficult if an incorrect answer stands out from the others because of its length more than it does in the source version.

If the stem of the item (or some of the distractors) literally reproduces expressions contained in the text, take care that the same is true in the translation. If, on the contrary, the author of the item uses a different formulation from that of the text (synonym, indirect allusion) do not simplify the student's task by using words of the text or derivatives of the same word in the stem or distractors. This aspect deserves special attention, since it is a very frequent cause of bad item functioning.

Take care to provide all the information which is contained in the item.

For example, if the item says *"On line 20, the author uses the expression…"*, do not forget to check whether this passage is in fact on that line in your version.

The order in which the author has presented the various pieces of information contained in the the stem of an item is often important. Try to reproduce that order insofar as possible.

When the stem is long, you may occasionally observe that the author has privileged certain elements of the question by placing them either beyond or right at the end of the phrase.

All conventions with respect to word order significantly differ from one language to the other. However, various stylistic devices often make it possible to enhance this or that segment of the question.

Teachers generally prove to be outstanding judges where way of formulating the questions of a test is concerned. If some members of your national panel are teachers, draw their attention to that point and ask them to be particularly aware of it: they will probably assist you in improving those items whose formulation is somewhat awkward or unclear due to the translation.

It may occur in a multiple-choice item that some of the alternatives proposed only differ by one key detail. Be particularly vigilant on that subject during the course of the translation procedure, the element that makes the difference between the two responses may inadvertently be toned down, thus impairing the item.

The items based on nuances of vocabulary often raise difficult problems of translation. It is rarely easy to find terms in one's own language having exactly the same connotations as those in the source language.

Example: One of the questions relating to the text *Me—An Exchange Student?* reads as follows:

Basically, the tone of this article is

English Version:	French Version 1:	French Version 2:

A. stern   *A. sévère*   *A. dur*
B. cautious   *B. prudent*   *B. circonspect*
C. humorous   *C. humoristique*   *C. comique*
D. encouraging*   *D. encourageant**   *D. encourageant**

We can expect that the pattern of answers to this item will not be the same in the French version 1 as in version 2, because of the slightly less attractive character of distractors A and B in version 2.

More often than not, when an item proves easier or more difficult in one language than in another one (for students of equal ability), this is because the formulation has somewhat modified the strategy required to find the correct answer. Therefore, it is essential for the translator to fully understand the **nature** of the item. The PISA documents help you to do that by specifying, for each item, which category it belongs to (**Question Intent**) as well as by describing the expected answers (Scoring).

ADVICE RELATING TO THE USE OF THE HEADINGS *QUESTION INTENT, SCORING* AND *NOTES FOR TRANSLATORS*

The **_Question Intent_** and the **_Scoring Instructions_** inform translators about the strategy that the test authors wish to assess. In the case of the reading tests, the following categories are used.

Forming a broad general understanding
In items of this category students are asked to grasp the essence of a text as a whole, for example, to identify the main topic or the audience of a text, to propose a title for an article, to name the main characters in a narrative, to work out what kind of book could contain a certain type of text, to explain the purpose or use of a map or a figure etc.

Students may be invited to *circle*, *underline* or give line references for the sentence or the paragraph containing the central idea of the text in these questions. Be careful that the passage to be identified is delimited in the same way as in the source text.

Retrieving information
In items of this type, students must match information given in the item with either literal or synonymous information in the text and use this to find the new information called for.

The item can be easy when there is a *literal* match (the item uses the same terms as the text, or derivatives where one of the words of the text is recognisable). The difficulty is often greater when the item only provides a *synonym* or a *paraphrase* of the information to be found in the text. This is a frequent source of faults of equivalence in international tests, and requires particular care on the part of the translator.

Developing an interpretation
Items in this category require students to go beyond a global comprehension. They must be able to make the link between the information present in various places in the text, to establish a relationship of cause and effect, to make inferences about the author's intent, to compare information from several sources, to identify a particular character's motive or intention — in brief, to show a detailed and in-depth understanding of the contents.

When the text merely suggests an idea, do not make it more explicit when translating it into the target language (for example, by adding to it connectors like *however, because, on the other hand*, where the author did not put any – or the reverse).

Reflecting on the content of the text
Items in this category require students to connect information found in a text to knowledge from other sources of information, using both general and specific knowledge as well as the ability to reason abstractly. Students must also assess the claims made in the text against their own knowledge of the world. For example, they have to assess the relevance of particular pieces of information in the text, they are asked to offer or identify alternative pieces of information that might strengthen the author's argument or they are asked to evaluate the sufficiency of information provided in the text**.**

Reflecting on the form of a text
The items in this category require students to stand apart from the text, to consider it objectively and to evaluate its quality and appropriateness. Examples of tasks in this category are: determining the utility of a particular text for a particular goal, evaluating an author's use of particular text features, commenting on the author's use of style and what the author's purpose and attitude are.

It can be important in this case for the translation to convey accurately the various subtleties of the source text: a note of irony, the particular colour of a word, or the nuances in the motives attributed to a character.

Translation notes have been written by the test developers whenever they thought it necessary to draw attention to an important aspect. Scrupulously conform to the instructions contained in these notes. Depending on the particular case, their aim is:

- to ask the translator to imitate as closely as possible one or the other of the stylistic characteristics of the source version (for example, the ironic tone conveyed by inverted commas in the *Graffiti* unit, or the familiar tone of a letter in the *Telephone* unit);

- to point out the aspects for which the translator is expressly asked to adopt a national formulation. Notes of this type are particularly frequent in questionnaires and manuals; or

- to indicate a particular case where the translated text must remain strictly true to the original and where even a slight deviation could compromise the efficient functioning of one or several test items.

NATIONAL ADAPTATIONS

A great deal of effort has been expended during the development of the material to prevent the content or presentation from abnormally favouring or putting at a disadvantage students of certain countries or certain cultures. The texts and documents which have been selected are of very varied origins; they have been selected by taking into account as much as possible the likely common interests and concerns of 15-year-old young people everywhere in the world. Moreover, the National Centre of each participating country was asked to have its committee of national experts evaluate the texts and documents, and to indicate to the International Centre those which the national committee judged not to be well suited to the culture of the country.

It should be said that to reach perfect cultural neutrality for the tests is probably not possible, nor even desirable. How literate would the youth of the year 2000 be if their competence did not allow them insight into cultures other than their own?

Therefore, the general principle will be to restrict adaptations to those cases in which they are truly required, so as to avoid needlessly disconcerting the students by confronting them with expressions or concepts which are much less familiar to them than to students in other countries, without that affecting the very substance of the text or the items.

The majority of the PISA texts are texts that the student would normally be likely to encounter in daily life when reading books, newspapers, magazines etc. Make it a rule to make adaptations only in those cases *where it would appear usual to make them in your country, should the text be published in a magazine or occur in a school textbook.*

In particular:

- When the text is a *literary* one, do not adapt the names of people, places, curren- cies etc. The only acceptable changes are those slight spelling adaptations that are generally used by your country's translators.

  It would be ridiculous to translate "the brothers Karamazov " into "the Thom(p)son brothers".

- Adapt *the biographical names of famous characters* if they are usually adapted in your country.

· Both the English and French source versions refer to the Portuguese explorer *de Magalhães* as *Magellan*.

- Do not adapt the names of *institutions or agencies* (unless there is a well-known national version of the same); rather, leave the name of the institution or agency in the source language and add its translation in square brackets if some of the in- formation it contains is deemed important for the understanding of the passage.

- Similarly, please leave *the references presented at the bottom of the text* in the original language (and add their translation in square brackets if needed). For the test booklets these will go on the back of the front cover.

- In *geographical maps*, only those proper names, for which it is customary to have translation in your country's atlases, are to be translated.

- In *graphs*: the captions, units of measure, coordinates of the axes must practically be translated every time.

- In *newspaper cuttings*, only translate or adapt what you would expect to see translated or adapted if the article were published in one of your country's daily newspapers or periodicals.

- In *functional texts* (advertisements, instruction manuals, catalogues etc.), make sure that you comply with the Translation notes: they generally specify which aspects could licitly be adapted – to bring the document "closer" to advertisements, instruction manuals, catalogues etc. such as those which the student is likely to encounter in their daily life – without making amendments that could be harmful to proper item functioning.

The most common adaptations are well known by the teams responsible for the preparation of international tests. Most of them will be described in the **Translation notes**. However, not everything can be provided for. Your team of translators will probably be confronted with new problems requiring deviations from the source versions.

For example, in the countries where the school week goes *from Monday to Saturday*, it would be necessary to modify the headings of a possible school timetable, which would go *from Monday to Friday* in the source version. Of course, one must be careful that this modification does not affect the item(s) in any way.

In this case, the principles to be followed are the following:

- It is mandatory that **all** the modifications be mentioned by translators in the **National Adaptations** form. The verifier and the national experts are asked to monitor their relevance carefully and to see to it that they do not present any risk to the items, after checking whether solutions, which are closer to the source version, can be found. In the **National Adaptations** form that the verifier himself/herself will complete for the *International Project Centre*, only the deviations, which have been actually retained after this review, will be mentioned and justified.

- It is imperative that these modifications not affect the difficulty of the items. In particular, four aspects must be watched for:

  - the modification must not alter the complexity of the text;
  - it must not make more plausible or acceptable an answer other than the expected correct answer;

- conversely, it must not make the correct answer immediately obvious. This would be the case for the question: *How many sides has a hexagon?,* in the languages where the term used to indicate a *hexagon* is in fact a transparent expression (*six sided figure*); and
- It must not introduce inconsistencies. If you change a proper noun or the name of a currency, do not forget to do it every time these terms appear in the text or in the items referring to them, or in any illustration accompanying the excerpt.

If a *literary text* has been submitted by your country, in principle the English and the French source versions are scrupulously faithful to the original. Please report to the consortium any deviation you might observe and which could be liable to affect the equivalence between the original version and one or the other source versions. The latter will be corrected if needed, so that you can use the author's original without having to amend it.

If a literary text included in the PISA test material stems from an author in a different language than yours and if there exists a version of that text translated in your language, you may use that translation, provided that:

- permission has been granted by the owners of the copyright and the references are duly quoted, and

- the translated version's equivalence with the English and French source versions has been carefully verified. In case of diverging versions, the PISA source version will be the reference.

In various types of non-literary texts, slight adaptations may have been introduced in order to comply with certain needs of the assessment. If the test material for a particular task stems from your submission, please never use it in its original state without having checked whether it is consistent with the PISA source versions.

APPENDIX III. Tables III.1 – III.7.

Table III.1. *Non-equivalences of difficulty caused by language-specific differences in grammar, by text type*

	Expository		Narrative		Non-continuous	
	n	% of words in text	n	% of words in text	n	% of words in text
Word structure and length	16	4,2	13	0,8	5	2,6
Compact language: noun phrases	0	0	0	0	4	2,0
Compact language: adverbial clauses	2	0,5	34	2,0	0	0
Compact language: postmodifiers	4	1,0	8	0,5	3	1,5
Compact language: irregular sentences	0	0	0	0	18	9,2
Reference: personal pronouns	0	0	12	0,7	0	0
Reference: identifying articles	0	0	9	0,5	0	0
Total	**22**	**5,7**	**76**	**4,5**	**30**	**15,3**

Table III.2. *Non-equivalences of difficulty caused by language-specific differences in writing systems, by text type*

	Expository		Narrative		Non-continuous	
	n	% of words in text	n	% of words in text	n	% of words in text
Orthorgaphy: initial letters	0	0	0	0	1	0,5
Punctuation: comma	2	0,5	30	1,7	0	0
Total	**2**	**0,5**	**30**	**1,7**	**1**	**0,5**

Table III.3. *Non-equivalences of difficulty caused by language-specific differences in meaning, by text type*

	Expository		Narrative		Non-continuous	
	n	% of words in text	n	% of words in text	n	% of words in text
Specialised terminology	15	3,9	0	0	0	0
Polysemy	0	0	31	1,8	0	0
Metaphors	0	0	9	0,5	0	0
Total	**15**	**3,9**	**40**	**2,3**	**0**	**0**

Table III:4. *Non-equivalences of difficulty caused by strategies used and choices made by translators, by text type*

	Expository		Narrative		Non-continuous	
	n	% of words in text	n	% of words in text	n	% of words in text
Interference	2	0,5	0	0	0	0
Writing errors: spelling mistakes	0	0	1	0,1	0	0
Writing errors: punctuation errors	1	0,3	3	0,2	9	4,6
Mistranslation: idioms	2	0,5	0	0	0	0
Mistranslation: polysemy	0	0	3	0,2	0	0
Mistranslation: compact language	0	0	0	0	3	1,5
Improvement and naturalisation: explicitation by addition	1	0,3	32	1,9	0	0
Improvement and naturalisation: explicitation by concretisation	3	0,8	11	0,6	1	0,6
Improvement and naturalisation: semantic simplification	0	0	10	0,6	3	1,5
Improvement and naturalisation: stylistic simplification	2	0,5	4	0,2	0	0
Total	**11**	**2,9**	**64**	**3,8**	**16**	**8,2**

Table III.5 *Distribution of non-equivalences of difficulty caused by the six main problem categories, by text type*

	Expository			Narrative			Non-continuous		
	n	% of words in text	% of non-equiv.	n	% of words in text	% of non-equiv.	n	% of words in text	% of non-equiv.
Problems related to language-specific differences in grammar	22	5,7	43,1	76	4,5	36,0	30	15,3	63,8
Problems related to strategies used and choices made by translators	11	2,9	21,6	64	3,7	30,3	16	8,2	34,0
Problems related to language-specific differences in meaning	15	3,9	29,4	40	2,3	19,0	0	0,0	0,0
Problems related to language-specific differences in writing systems	2	0,5	3,9	30	1,7	14,2	1	0,5	2,1
Problems related to differences in culture	0	0,0	0,0	1	0,1	0,5	0	0,0	0,0
Problems related to editing	1	0,3	1,9	0	0	0,0	0	0,0	0,0
Total	**51**	**13,3**		**211**	**12,3**		**47**	**24,0**	

Table III.6. *Distribution of non-equivalences of difficulty caused by individual problems, by text type*

	Expository			Narrative			Non-continuous		
	n	% of words in text	% of non-equiv.	n	% of words in text	% of non-equiv.	n	% of words in text	% of non-equiv.
Irregular sentences	0	0,0	0,0	0	0,0	0,0	18	9,2	38,3
Word structure and length	16	4,2	31,4	13	0,8	6,2	5	2,6	10,6
Reduced clauses	6	1,6	11,8	42	2,5	19,9	3	1,5	6,4
Writing errors: punctuation errors	1	0,3	2,0	3	0,2	1,4	9	4,6	19,1
Meaning: specialised terminology	15	3,9	29,4	0	0,0	0,0	0	0,0	0,0
Translators: explicitation by addition	1	0,3	2,0	32	1,9	15,2	0	0,0	0,0
Writing systems: punctuation	2	0,5	3,9	30	1,7	14,2	0	0,0	0,0
Translators: semantic simplification	0	0,0	0,0	10	0,6	4,7	3	1,5	6,4
Compact noun phrases	0	0,0	0,0	0	0,0	0,0	4	2,0	8,5
Translators: explicitation by conretisation	3	0,8	5,9	11	0,6	5,2	1	0,5	2,1
Meaning: ploysemy	0	0,0	0,0	31	1,8	14,7	0	0,0	0,0
Mistranslation: compact language	0	0,0	0,0	0	0,0	0,0	3	1,5	6,4
Reference	0	0,0	0,0	21	1,2	10,0	0	0,0	0,0
Translators: stylistic simplification	2	0,5	3,9	4	0,2	1,9	0	0,0	0,0
Interference	2	0,5	3,9	0	0,0	0,0	0	0,0	0,0
Writing systems: orthography	0	0,0	0,0	0	0,0	0,0	1	0,5	2,1
Meaning: metaphors	0	0,0	0,0	9	0,5	4,3	0	0,0	0,0
Mistranslation: idioms	2	0,5	3,9	0	0,0	0,0	0	0,0	0,0
Editing error	1	0,3	2,0	0	0,0	0,0	0	0,0	0,0
Mistranslation: polysemy	0	0,0	0,0	3	0,2	1,4	0	0,0	0,0
Writing errors:spelling mistakes	0	0,0	0,0	1	0,1	0,5	0	0,0	0,0
Cultural differences	0	0,0	0,0	1	0,1	0,5	0	0,0	0,0
Total	**51**	**13,4**		**211**	**12,4**		**47**	**24,0**	

Table III.7. *Distribution of the seven types of non-equivalence, by text type*

	Expository			Narrative			Non-continuous		
	n	% of words in text	% of non-equiv.	n	% of words in text	% of non-equiv.	n	% of words in text	% of non-equiv.
Non-equivalence of difficulty	51	13,1	40,8	211	12,2	30,0	47	24,0	32,2
Formal non-equivalence	25	6,5	20,0	106	6,1	15,1	31	15,8	21,2
Pragmatic non-equivalence	18	4,7	14,4	60	3,5	8,5	29	14,8	20,0
Textual non-equivalence	2	0,5	1,6	1	0,1	0,1	24	12,2	16,4
Connotative non-equivalence	22	5,7	17,6	62	3,6	8,8	9	4,6	6,2
Formal-aesthetic non-equivalence	2	0,5	1,6	172	10,0	24,4	0	0,0	0,0
Denotative non-equivalence	5	1,3	4,0	92	5,3	13,1	6	3,1	4,1
Total	**125**	**32,3**		**704**	**40,8**		**146**	**74,5**	

Recent years have witnessed a considerable increase in the number of and interest in international reading literacy studies. Thanks to the widely cited PISA study, for instance, we have been told that Finnish students are the best readers in OECD countries. Such a result, however, would only be valid if all the texts and translations used in the reading test, written in all the different languages, were equivalent and hence equally easy or difficult to read.

This study examines the special problems of equivalence that arise when translating texts in international reading literacy studies, where equivalence of difficulty between all the different-language reading texts is a key prerequisite for the validity of the entire test. Knowledge of such problems, in turn, helps to increase the quality and the degree of equivalence of the translations used in these studies and, in the end, the validity, fairness and — equity of these studies.

The book will provide important reading for all those developing and conducting international reading literacy studies. It will also be of relevance to those involved or interested in other types of cross-cultural studies and in translation.

Cover: Martti Minkkinen