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Lexicography in the Borderland between Knowledge and Non-Knowledge

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General Lexicographical Theory
with Particular Focus on Learner's Lexicography

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»A container other than the brain had been found for information and a particular kind of reference; from this new system it was possible to see that certain kinds of data were better off outside our brains and mouths than inside them. Just as for millennia we had been putting physical objects like food and tools in bags and carrying them around or leaving them be, so we now began to put mental objects in the new equivalent of bags, fossilizing the achievement in such expressions as 'the contents' of a book. In doing this, we ceased to be slaves of transience; it was, in fact, the intellectual equivalent of storing up the harvest for later consumption.«

Tom McArthur, Worlds of reference, p. 7

1. Preface

A wit once wrote that dictionaries were probably the most successful literary genre in history. And another wit added that lexicographers were probably the authors least likely to be nominated for the Nobel Prize in Literature. Both statements contain a good deal of truth. The vast majority of people leave their dictionaries lying around on the bookshelves, and the authors of these dictionaries are completely unknown. If this is true of practical lexicographers, it applies even more to academic researchers working with dictionaries. They live in the shadows of fame, scorned by their fellows and indeed by everyone else as well.

This book is the English translation of a doctoral dissertation which was defended at the Aarhus School of Business in October 2006. During the preparation two different applications for funds to complete the dissertation were submitted to the former Danish Research Council for the Humanities. And on both occasions the Council replied that although the project was certainly sufficiently academic, the money was unfortunately not available. It is of course true that the Council is always forced to make priorities when disbursing its limited funds. And yet the reply was neither unexpected nor unique – it reflects a general tendency in society: lack of knowledge of the role and necessity of dictionaries goes hand in hand with lack of funding. For instance, a couple of years ago the richest man in Denmark declined to support a specific dictionary project because he felt that the words it contained were too long (as if the lexicographers had invented them!) And the following year, the body with overall responsibility for cultural life in Denmark issued a similar refusal, accompanied by public statements that revealed very little insight into the world of dictionaries. One can only have a qualified guess as to who advised the minister in question. But contributing to a wealth of dictionaries and encyclopedias does not necessarily make you an expert on lexicography. As in many other human activities, what you need is theoretical knowledge transcending the practical problems of practical everyday life.

Theoretical lexicographers love practical lexicography because its products are their very raison d'etre. But this love is not wholly reciprocated. More than anything else, practical lexicography is characterised by a fear of the unknown. Conferences on lexicography in the Nordic countries are now marked by ever-increasing anxiety when it comes to contact with the theory of lexicography. Researchers working academically with lexicography are regarded as presumptuous and irrelevant. New ideas inspire amazement or terror. The motto of many publishers and authors of dictionaries appears to be *business as usual*. Their dictionaries are still being sold, so their customers must be satisfied. If engineers adopted the same attitude with regard to their work, we would still be sending our post by stagecoach and sailing ship. It takes a long time for modern electronic devices to gain acceptance; and even when they do, the process of acceptance is so slow and unimaginative that Jules Verne must surely be turning in his grave.

But theory is always visionary, always one step ahead of its time – like Da Vinci's famous drawings of flying machines. Theory needs wings – but it must also keep its feet on the ground. The fundamental belief on which this dissertation is based is that theory and practice are closely interconnected. The dissertation has been written in a research envi-

ronment incorporating hundreds of theoretical publications hand-in-hand with dozens of practical dictionaries. Nothing relevant has been excluded.

The original plan, hatched in 1999, was to draw up a general theory for learner's dictionaries. No such theory has existed until now. But the need for this theory is obvious in a globalised world, where millions of people need to learn and communicate in foreign languages for a wide variety of reasons. Dictionaries have always been closely connected to interlingual communication, and there are now learner's dictionaries for a range of different languages. But as in all other areas, there is a need for product development. And to prevent such product development from going off the rails, there is a need for basic research and an advanced theory capable of providing guidance for the most important decisions.

Any general theory about learner's dictionaries needs to be an integral part of a general lexicographical theory. But in the years after 1999 it became increasingly obvious that the general lexicographical theory that I intended to use for this purpose was in a crisis. Justified doubts had been raised regarding central postulates of this theory, and as a result it was necessary to reconsider the foundations on which the theory was built. Nobody seemed anxious to assume this task, and yet it was necessary in order to develop a modern theory of learner's lexicography. Consequently, the original plan was naturally adjusted, making the re-foundation of general lexicographical theory a central feature of the dissertation – with the theory on learner's dictionaries playing second fiddle in the form of a supplement providing perspective on the general theory. As a result, the dissertation consists of three main sections: 1) development of a general lexicographical theory, 2) development of a general theory for learner's dictionaries, and 3) development and discussion of a range of specific theories for learner's dictionaries. In addition, there is a short section on existing Danish learner's dictionaries, which in lexicographical terms are still living in the Stone Age.

The general and specific theory resulting from this work makes no claim to be the definitive truth. It is not a closed system, in which the slightest change risks bringing down the entire building – leading the creator to zealously protect and if necessary perpetuate statements which have long been seriously doubted due to theoretical and practical developments. The theory presented below is different – it constitutes an open system which expects (and is delighted to receive) criticism which may lead to improvements and further development. In addition, there is a certain amount of tension between some of the statements made in the dissertation. This is deliberate because it reflects the struggle between knowledge and non-knowledge stated in the title, a struggle which is ultimately an important driving force on the road leading to new progress in theoretical and practical lexicography.

When the work started, it was obvious that some results would be generated. But one specific result was not predicted. A total of 495 publications have been consulted. Some of these have been studied repeatedly; while others have only been read carefully once, and others have merely been skimmed in the hunt for relevant lexicographical information. But all these dictionaries, books and articles have passed through my hands at some point, resulting at one stage in a serious case of golf elbow (perhaps this complaint should be called "dissertation elbow" in future?) Despite all the personal pain, despite strong criticism of certain publications, and despite a few cases in which my thumb had no option but to point downwards, all these works have helped to sharpen my thoughts and thus improve the foundations on which the work presented here has been based. Consequently, my first thanks are due to all the authors of these books, dictionaries and academic publications.

cial developments and international relations in any given period. Similarly, social needs were the reason why dictionaries were bilingual at first and only became monolingual at a later date (cf. Hannesdóttir 1998, for instance). And what is true from a diachronic point of view is also true from a synchronic point of view. Without a causal relationship between dictionaries and social needs, theoretical lexicography will remain a pre-, semi- or even pseudo-science.

At this point it is worth adding that the relationship between social needs and dictionaries is not like that pertaining between the chicken and the egg. In lexicography the primary factor is undoubtedly social needs, while dictionaries are a secondary derivative. However, this does not of course mean that dictionaries cannot have a positive or negative effect on social needs. Nor does it mean that the relationship is always clear and unambiguous, since on the one hand some dictionaries are written for which there is no great need (they rather reflect the author's wish to record his knowledge in the form of a dictionary), while on the other there are also needs that have not yet been adequately covered by dictionaries. Learner's dictionaries in the modern sense of the word arose when English became a dominant world language in the period around the Second World War (Cowie 1999), while on the other hand there are languages which a large group of non-native speakers need to learn for which there are no learner's dictionaries – or at least no learner's dictionaries of the required quality (cf. Gouws 1993, 1996, 2000 and Gouws/Tarp 2004, for instance).

Dictionaries are the object of study of lexicography. Ever since the first dictionaries were produced thousands of years ago, tens or even hundreds of thousands of dictionaries have been published. In Danish alone, no fewer than 1,541 monolingual or bilingual specialised dictionaries had been published by 1990 (Mikkelsen 1994). And the frequency of publication has not abated since the advent of the electronic media. This fund of empirical data is enormous – so it is hardly surprising that a literature on dictionaries arose and gradually developed into a separate branch of science. The first lexicographical ideas can be found in the prefaces which authors of dictionaries (Samuel Johnson in 1755, for instance) used to express their thoughts on this subject – thoughts which now constitute a great fund of data for lexicographical history research (Hausmann 1989c, 1989f, Osselton 1989); or in reviews – one of the most remarkable of which is that written by Beni (1612), containing nearly 400 pages of criticism of an Italian dictionary published in 1543, complete with suggestions for improvements. But there are also a few independent publications on lexicography, some of the most famous of which are probably d'Alembert's and Diderot's special articles on dictionaries and encyclopedias respectively in the Great French Encyclopedia, of which they themselves were the editors (d'Alembert 1754, Diderot 1755).

All these valuable contributions were pre-theoretical by nature, since it was not until the 20th century that true lexicographical theory arose – defined as a systematic set of statements about dictionaries and their relationship to social needs. Since then, lexicographical thinking has developed using a range of competitive and successive paradigms, of which the following examples from western cultural circles are worthy of particular attention: Scerba's »Draft for a general lexicographical theory« (Scerba 1940); Hausmann's theoretical considerations (Hausmann 1977); Kromann et al.'s »active-passive theory« (Kromann et al. 1984, 1992); Wiegand's »general lexicographical theory« (Wiegand 1977a, 1998a); and the lexicographical function theory on which this dissertation is based, which will be presented in a later section.

Thanks to Wiegand (1989a), there is now a tradition for considering four main components within dictionary research: research in dictionary usage, critical dictionary research, historical dictionary research, and systematic dictionary research. Depending on the criteria on which these categories are based, the number of components could be more than four or less than four. But no matter how many components are considered, Wiegand's classification constitutes a sound framework for a branch of research which is distinguished from other disciplines because dictionaries are the object of its study. In other words, lexicography is fundamentally different from linguistics because its object of study is a culture-specific product (dictionaries); while the object of study of linguistics is something inherent in mankind without which Man would not be Man (language). And lexicography can be distinguished from the study of literature because dictionaries have a special function as reference works and objects of use, etc.

As pointed out by Wiegand (1989a), lexicographical literature also includes methodological contributions. Wingate (2002) and Thumb (2004) are just two of the many works containing important methodological contributions to research into dictionary usage. Bergenholtz/Mogensen (1994) and Nielsen (1993) are examples of a discussion of the methods used in dictionary criticism. Mikkelsen (1992b, 1992c) are just two of many articles that contribute methodological elements to historical dictionary research. Wiegand (1998a) contains general methodological ideas associated with systematic dictionary research. And there are also a great number of methodological contributions and instructions regarding lexicographical practice, including Bergenholtz (1990) and Bergenholtz/Kaufmann/Tarp (1994).

To summarise, we can conclude that lexicography satisfies all the demands made on any branch of human activity that claims to be a separate science or area of academic study:

1. It has its own object of study: dictionaries, or to be more precise the production, structure and dictionary usage and the close relationship between dictionaries and specific types of social need;

2. it is rooted in the form of concepts, categories, theories and hypotheses;

3. it comprises both the history of dictionaries and its own history, including pre-theoretical ideas;

4. it contains independent contributions to methodology;

5. it includes directions for practical action.

The aim of the science of dictionaries is partly to gain greater knowledge about dictionaries and their role as culture-specific products that seek to satisfy specific types of social need; and partly to help develop new and better dictionaries.

2.2 Competing concepts

The researchers by no means all agree on this perception of lexicography, and have expressed a wide variety of different opinions on the subject. Some theorists attribute no scientific status at all to lexicography, regarding it as nothing more than a practice. For instance, the Australian researcher Anna Wierzbiecka writes that:

> »Lexicography has no theoretical foundation, and even the best lexicographers, when pressed, can never explain what they are doing, or why.« (Wierzbiecka 1985:5)

Landau (1981) speaks of lexicography as *art and craft*. Other theorists regard it as a *subdiscipline of linguistics* or of an area of linguistics (like lexicology), or merely as *applied linguistics*. One well-known Spanish book from the 1980s is simply entitled *Lexicography: from theoretical linguistics to practical lexicography* (Haensch et al. 1982), and nor does Meier (2003) leave us in any doubt as to his views on the subject:

> »Dictionary making, though often regarded as 'a special technique rather than a branch of linguistics', may be considered an instance of applied linguistics.« (Meier 2003:307)

Other researchers share the view that lexicography has an *independent status*, although they do not clearly define the nature of this status. One of them is the author of a recently published handbook in lexicography (Svensén 2004). Wiegand (1989a) contains a detailed and critical analysis of all these different views. Until now, Wiegand has discussed the scientific and philosophical status of lexicography more extensively than any other researcher. Wiegand (1989a) – and subsequently Wiegand (1998) – draw a very clear distinction between the practice of *lexicography* and *dictionary research*, which he regards as an independent *academic discipline* or a *scientific research area* which is becoming a *scientific discipline* but which does not yet fulfil two of his fifteen necessary criteria:

1. »daß von der Anlage der Forschungstätigkeit in einer Disziplin insgesamt her ersichtlich ist, daß ihr Gegenstandsbereich in seiner Gesamtheit, d. h. die Gegenstände in ihren Zusammenhängen unter den disziplinspezifischen Perspektiven zu erforschen sind. Das kann von der derzeitigen Wörterbuchforschung nicht gesagt werden«.

2. [»that from the system of research activity in a discipline it is altogether apparent that its area of study in its entirety, i.e. the objects in their relationships, is to be investigated from the specific perspectives of the discipline. That cannot be said of current dictionary research.«]

3. »Zwar gibt es in der neueren Wörterbuchforschung eine ganze Reihe von Ansätzen zur Theoribildung. Es gibt aber bisher keine konsistente metalexikographische Theorie, die in einer falsifizierbaren Form vorliegt und einen größeren zusammenhängenden Ausschnitt aus dem Gegenstandsbereich erklärt.« (Wiegand 1989a:261)

4. [»In fact, in the more recent dictionary research, there is a whole series of approaches to theory formation. However, up to now there is no consistent metalexicographical theory available in a confutable form which explains a larger related portion from the subject area.«]

These two claims are debatable – are they prerequisites before a discipline can be regarded as a science, and are they completely correct? Wiegand bases his views on a concept of science formulated by Posner (1988), which is also linked to a tradition stating that there is only one science, and that this science is divided into countless disciplines. Among other things, this concept of science means that most of the disciplines taught and researched into at universities all over the world cannot be regarded as scientific (Wiegand 1998). If different definitions of science are used to determine the scientific and philosophical status of a research area, it is easy to reach different conclusions as to this status. The definition of science on which this dissertation is based does not cover the first of the two points above. And at the same time, the question is what demands are made on a consistent theory (cf. Bergenholtz/Tarp 2002, 2003).

As mentioned above, Wiegand prefers to use the term *dictionary research*, which he classifies as a sub-discipline of *metalexicography*, which in his view also includes other sub-disciplines. In this connection, he argues strongly against the use of terms such as *theoretical lexicography* and *lexicography as a theory* as counterparts to *practical lexicography* and *lexicography as a practice*. He argues that the first two terms mean nothing to him; and that they may also lead to an incorrect understanding of the relationship between theory and practice:

> »Im Interesse der wissenschaftlichen Lexikographie ist es m. E. zweckmäßiger, den wechselseitigen Zusammenhang von Theorie und Praxis nicht dadurch zu markieren, daß man von theoretischer und praktischer Lexikographie spricht, weil dadurch die Gefahr besteht, daß die praxiszugehörige reflexive Komponente von lexikographischen Prozessen zur theoretischen Lexikographie gerechnet wird und eine Kompilationstechnik als stupide, bloße Anwendungspraxis übrigbleibt. Es kommt m. E. darauf an (wenigstens in der gegenwärtigen Phase der Entwicklung), die Lexikographie als Praxis von der wissenschaftlichen Beschäftigung mit dieser Praxis möglichst deutlich zu unterscheiden, und zwar auch terminologisch, wobei eine deutliche Unterscheidung nicht mit einer Trennung verwechselt werden darf.« (Wiegand 1989a:253)

> [»In the interest of scientific lexicography, it is in my opinion more purposeful not to characterise the mutually dependent relationship of theory and practice by speaking of theoretical and practical lexicography, because there is a risk that the reflexive component of lexicographical processes belonging to practice will be deemed theoretical lexicography and a compilation technique remains as mere stupid, practical drudgery. In my opinion, it depends (at least in the current phase of development) on differentiating as clearly as possible between lexicography as a practice and the scientific study of this practice and on doing so in fact by the use of terms, whereby a clear differentiation is not to be confused with separation.«]

Wiegand's concern that ideas connected with the use of practical lexicography should be regarded as theoretical lexicography is understandable. In fact, some of the confusion regarding the independent scientific status of lexicography is due to the very fact that the concept of theory fails to rise above such considerations. If lexicography is regarded solely as a combination of practice and the mental processes associated with practice, which include tools, concepts, methods and ideas which are shared with other disciplines, its status as an independent discipline becomes less obvious. As a result, it is vital that lexicographical theory should be placed correctly in relation to lexicographical practice. On the other hand, one is tempted to feel that Wiegand's consistent terminological distinction between lexicography and dictionary research opens the door leading to a one-sided understanding of the relationship between theory and practice as a one-way relationship going from prac-

tice to theory that does not necessarily go the other way as well. In this dissertation the term *theoretical lexicography* is used to cover the area of lexicography dealing with theory and the formation of theory, with theory being regarded (in accordance with the concept of science used here) as a counterpart to lexicographical practice and a component of lexicography as dictionary science. However, it should be added that Wiegand actually accepts that the term *theoretical lexicography* can be used as long as its precise meaning is made clear:

> »Dann is es aber erforderlich anzugeben, was genau unter theoretischer Lexikographie verstanden werden soll, was die Autoren, die diese Sprachgebrauch vorschlagen, unterlassen haben.« (Wiegand 1989a:253)

> [»Then, however, it is necessary to specify what exactly is to be understood by theoretical lexicography, something which the authors who propose this use of language have omitted.«]

2.3 Lexicographical theory

Wiegand is right to criticise the fact that many authors use the concept of *theoretical lexicography* without explaining exactly what they mean by the term. But this criticism can also be extended to include the entire category of *theory*. In the lexicographical literature the term *theory* is often used in an unclear, rather prosaic meaning without being strictly defined as a scientific category. Consequently, it is necessary to clarify what the term *theory* is taken to mean in this dissertation. This can be done based once again on PHILOSO-PHISCHES WÖRTERBUCH:

> A theory is a systematically organised set of statements about an area of objective reality or consciousness, i.e. logical structures reflecting the fact that certain things have certain properties, or that certain relationships exist between these things. (cf. PHILOSOPHISCHES WÖRTERBUCH:155, 1083ff.)

As a result, the term *lexicographical theory* in general is taken to mean a systematically organised set of statements about dictionaries and their relationship with specific types of social need. However, at this point it is necessary to distinguish between different types of theory.

The first distinction is between *general theories*, containing general summarising statements about lexicography; and *specific theories*, containing statements about its sub-areas. As mentioned briefly in the previous section, there is a range of competing general theories (Scerba 1940, Kromann et al. 1984 and others). The theory of lexicographical functions (function theory) on which this dissertation is based is one of these general theories. In addition, there are a number of specific theories focusing on sub-areas of lexicography, such as selection for monolingual dictionaries (cf. Bergenholtz 1989). The opposition between general and specific theories is not absolute but relative, since there are also a number of »intermediate« theories characterised by the fact that they are specific in relation to a general theory, and general in relation to specific theories. For instance, this applies to the theory of learner's lexicography developed later on in this dissertation, which is specific in relation to the general theory of lexicographical functions, and general in relation to spe-

2.4 The relationship of lexicography to other sciences

The fact that lexicography has developed over recent decades into a true, independent science does not mean that it is now surrounded by watertight shutters. All (or at least most) of the sciences that currently have independent status are related to some extent to other similar sciences. This is due on the one hand to the fact that sciences are all historical categories which have been separated from each other as human knowledge has developed over time; and on the other hand to the fact that the borderlines established by human knowledge between respective areas of study are seldom clearly defined in the real world, where there are a number of grey areas as well as countless phenomena capable of transcending these borderlines. This applies in particular to lexicography, and is one of the main reasons why there is still such great discussion as to its scientific-theoretical status.

Dictionaries, which are the object of study for lexicography, are characterised by the fact that they contain data from all areas of human knowledge: language, society, philosophy, history, science etc. The true core of lexicography is the essence that remains when we ignore the specific content of all this data. And this must be done if we wish to deal with lexicography on a scientific level, since otherwise we will be left with an eclectic mixture of elements from all areas of human knowledge. But a science cannot simply maintain an abstract attitude to its object of study. In accordance with the concept of science used in this dissertation (cf. section 2.1), lexicography must also deal in concrete fashion with its object of study – and in this connection it is forced to enter into fruitful interplay with other disciplines. For instance, it is impossible to produce a comprehensive, scientifically acceptable criticism of specialised dictionaries without specialised knowledge of the subject in question. Bergenholtz/Kaufmann (1997) is an example of a critical study of a dictionary which would have been impossible if the authors had not possessed specialised knowledge of both lexicography (Bergenholtz) and molecular biology (Kaufmann).

The points made above with regard to the object of study of lexicography apply equally to the scientific superstructure rising above this object of study. For none of the main lexicographical components with which Wiegand (1989a) operates is it possible to imagine the development of lexicographical concepts, theories and methods that do not allow for and enter into dialectical interplay with the concepts, theories and methods used in connection with social and historical research, literary reviews and criticism, philology, user surveys etc. For instance, serious studies of the history of dictionaries and their relationship with social developments are not possible without a minimum of knowledge of history and sociology; and serious studies of dictionary usage that do not take account of the standard principles for user analysis and other relevant factors are not possible either.

However, this necessary interaction with other disciplines does not mean that lexicography can automatically take over the arsenal of concepts, theories and methods used by these other disciplines. The fact that the object of study is delimited, and the fact that lexicography has its own independent core distinguishing it from other disciplines, mean that all these concepts, theories and methods must be subjected to critical analysis with a view to determining what should be rejected, what can be used, and how the useful factors can be adjusted and adapted to suit the particular nature of lexicography. For instance, Bergenholtz/Vrang (2004a, 2005) have argued that lexicography cannot easily use the synonymy

concept used by linguistics. Tarp (2001a) has argued the same with regard to the homonymy and polysemy concepts of linguistics.

To summarise, we can conclude that as an independent science lexicography develops thanks to complex and necessary interaction with other sciences; and that its object of study (dictionaries) is characterised by a distinct interdisciplinary dimension.

3. General lexicographical theory: other traditions and paradigms

Modern theories that focus on a cultural practice extending back for thousands of years rarely appear out of the blue – naturally, they normally owe a great debt of gratitude to a long tradition of pre-theoretical and theoretical ideas. The modern theory of lexicographical functions is no exception to this rule, since it acknowledges the great efforts and achievements of its predecessors. As a general theory, it is the direct result of a critical surmounting of a series of previous (and to a certain extent still competing) paradigms: Scerba's »draft of a general lexicographical theory« (Scerba 1940), Hausmann's theoretical ideas (Hausmann 1977), Kromann et al.'s »active-passive theory« (Kromann et al. 1984, 1992), and Wiegand's »general lexicographical theory« (Wiegand 1977a, 1998a). But the fact that the theory of lexicographical functions has developed in dialectical contradiction to these paradigms does not mean that it is blind to other traditions and ideas, which have often been either historical stepping stones along the path leading to these paradigms, or (to some extent) a direct component of them. As a result, by way of introduction to this section we will briefly consider a range of European lexicographical traditions.

3.1 Other traditions

In his article entitled *Kleine Weltgeschichte der Metalexikographie* [Small World History of Metelexicography], Hausmann (1989f) studies a range of Italian, Spanish, French, German, British and North American publications that demonstrate developments in lexicographical thinking in the period from the 17th century until the last third of the 20th century. He demonstrates that right from the start these publications resembled linguistic comments and suggestions regarding the linguistic data of dictionaries. For instance, this applies to the first major metalexicographical work known in the European tradition (Beni 1612). Ideas leading cautiously to a differentiated approach to linguistics and lexicography only started appearing gradually. One key work in this respect is d'Alembert's special article in the great French encyclopedia, where he produces the first classification of dictionaries that extends beyond the purely linguistic. For instance, d'Alembert distinguishes between *language dictionaries*, *historical dictionaries* and *science and art dictionaries*, which differ in terms of content: they can be regarded as *word dictionaries*, *fact dictionaries* and *encyclopedic dictionaries* depending on their quality and author:

> »On peut distinguer trois sortes de *dictionnaires* de langues, *dictionnaires* historiques, et *diction-naires* de sciences et d'Arts: division qu'on pourrait présenter sous un point de vue plus général, en cette sorte; *dictionnaires* de mots, *dictionnaires* de faits, et *dictionnaires* de choses: néanmoins nous retiendrons la première division, parce qu'elle nous paraît plus commode et même plus précise. En effet, un *dictionnaire* de langues, qui paraît n'être qu'un *dictionnaire* de mots, doit être souvent un *dictionnaire* de choses quand il est bien fait : c'est alors un ouvrage très philosophique. [...] Un *dictionnaire* de sciences ne peut et ne doit être qu'un *dictionnaire* de faits, toutes les fois que les causes nous sont inconnues, c'est-à-dire presque toujours. [...] Enfin un *dictionnaire* histo-

rique fait par un philosophe, sera souvent un *dictionnaire* de choses: fait par un écrivain ordinaire, par un compilateur de Mémoires et de dates, il ne sera guère qu'un *dictionnaire* de mots. [...] *Dictionnaire* de langues. On appelle ainsi un *dictionnaire* destiné à expliquer les mots les plus usuels et les plus ordinaires d'une langue; il est distingué du *dictionnaire* historique, en ce qu'il exclut les faits, les noms propres de lieux, de personnes, etc. et il est distingué du *dictionnaire* de sciences, en ce qu'il exclut les termes de sciences trop peu connus et familiers aux seuls savants.« (d'Alembert 1754)

[»It is possible to distinguish between three types of *dictionary*: language dictionaries, historical dictionaries, and science and art dictionaries. This subdivision could be presented from a more general point of view as *dictionaries* of words, *dictionaries* of facts and *dictionaries* of things. Nevertheless, we retain the first subdivision because we believe that it is more convenient and even more precise. In fact, a language *dictionary*, which would seem to be nothing other than a word *dictionary*, when well done must often be a *dictionary* of things and is thus a very philosophical work. [...] A science *dictionary* can, and must, only be a *dictionary* of facts, whenever the causes are unknown to us, that is, almost always. [...] Finally, a historical *dictionary*, assembled by a philosopher, will often be a *dictionary* of things. Produced by an ordinary writer, by a compiler of facts and dates, it will be but a *dictionary* of words. [...] Language *dictionary*. This is how we refer to a *dictionary* destined to explain the most common and ordinary words in a language. It is different from the historical *dictionary*, in that it excludes facts and the names of places and people, and is different from the science *dictionary*, in that it excludes little-known scientific terms and those familiar only to the knowledgeable«.]

Another interesting contribution is Ponsonby A. Lyons's article entitled *Dictionary* from the 1877 edition of *Encyclopedia Britannica*. The author includes a bibliography comprising several thousand dictionaries which are arranged not only chronologically and by language, but also systematically using a complex system of classification which he himself developed. But the most remarkable aspect of Lyons's article is that it opens up to the user perspective which was to revolutionise metalexicographical thinking in the centuries to come:

»A Dictionary of Language should contain all the words which may be reasonably looked for in it, so arranged as to be readily and surely found and so explained as to make their meaning and if possible their use clear to those who have a competent knowledge of the language or languages in which the explanations are given.« (quoted in Hausmann 1989f:89)

En passant, it is worth pointing out that both Lyons and d'Alembert use the concept of *language dictionary*, which is now the focus of extensive and bitter controversy among supporters of various lexicographical schools. With the passing of the years, other lexicographers started focusing on users and their various needs – the German lexicographer Arnold Schröer, for instance, who had the following to say in an article on British lexicography in 1909:

»Wie man die bisher erschienenen Wörterbüchern und Wörterbucharbeit überhaupt beurteilen soll, um mit sicherem Urteil für eigenen Gebrauch oder für den Sprachunterricht, für diese oder jene allgemeinen oder besonderen Zwecke nach einem Wörterbuche zu greifen oder es richtig zu gebrauchen, darum handelt es sich.« (quoted in Hausmann 1989f:92–93)

[»Finding a way to judge the quality of the dictionaries and dictionary work to date in order to be confident in one's own use or language instruction, to take a dictionary for this or that general or particular purpose or use it correctly: that's the issue.«]

In the same spirit, in 1913 the German Romanist Eugen Herzog started to make differentiated demands on bilingual dictionaries into and from a mother tongue respectively, thereby paving the way for subsequent user-oriented lexicography (cf. Hausmann 1989f). It is not without good cause that Hausmann concludes that metalexicography did not begin with Scerba.

The theoretical paradigms constituting the immediate precursors to function theory all originated in Europe in the final two-thirds of the 20th century. Apart from Scerba, who was a Russian but who was also anchored in Western European tradition, the other paradigms are associated with German theorists – or Danes with their roots in German tradition. However, this does not mean that lexicography stood still in the rest of Europe during this period. It simply means that the other traditions were only included indirectly in the development of function theory. In particular, it is worth mentioning the boom experienced by French metalexicography in the mid-20th century involving theorists such as Robert-León Wagner, Bernard Quemada, Georges Matoré, Josette Rey-Debove, Alain Rey and T.H. Wooldridge, most of whom were associated with major French dictionary projects and thereby connected directly with lexicographical practice. Hausmann writes:

>»Der Zustand der verstreutheit und Zusammenhangloskeit der Wörterbuchforschung, deren Arbeiten mehr oder weniger zufällig aus bestimmten Wissenschaftstraditionen erwachsen, ändert sich in Frankreich deutlich in der zweiten Hälfte der 60er Jahre. Es kommt zu einer metalexikographischen Wende...« (Hausmann 1989f:96)

>[»The state of disorganisation and lack of context in dictionary research, the work of which grew more or less by chance from particular scholastic traditions, underwent a significant change in France in the second half of the 1960s. A metalexicographical turning point came about...«]

A range of central metalexicographical concepts originate in this period. For instance in a book on the origin of French lexicography in 1977, Wooldridge used and defined the concept of *metalexicography* for the first time; and it was Rey-Debove who made a vital contribution to lexicographical structure thinking using concepts such as *microstructure and macrostructure* (Rey-Debove 1971). However, Hausmann's optimistic comment must be taken with a very large pinch of salt, because although it is true that French metalexicography gained a more uniform focus from the 1960s onwards, this focus was still strongly anchored in linguistics. Hausmann himself associated the boom in metalexicography in the last half of the 20th century (not only in France but all over Europe) with the boom in linguistics:

>»die als eine Art Mutterdisziplin der Metalexikographie gelten darf. Die Linguistik hat die Metalexikographie aus ihrer Bindung an historische Fragestellungen befreit und sie für systematische Fragestellungen geöffnet.« (Hausmann 1989f:101–102)

>[»which can be considered as a kind of parent discipline to metalexicography. Linguistics freed metalexicography from its connection to historical questions and opened it up for systematic issues.«]

Owing to the language barrier, the French tradition has only made a very indirect contribution to the development of function theory – not least through the writings of Hausmann. The same cannot be said of the British tradition, which is probably the best known tradition in the world owing largely to the international status of the English language. Some of the

aries are primarily used to acquire the system of a mother tongue, and to aid the process of communication. Similarly, translating dictionaries are not intended to aid the process of translation in a narrow sense. Instead, they are primarily intended for use in understanding texts in a foreign language. In this article, Scerba also discusses a wide range of translating dictionaries available at the time in some of the many languages he mastered, demonstrating in this connection:

> »that ordinary translating dictionaries do not give the real meaning of foreign words, but only help one to guess at their sense in context.« (Scerba 1940:340)

It is clear that Scerba is not particularly interested in translation. For Scerba true translation is a creative activity which should in general take place without using dictionaries. According to Mugdan (1982), his main idea was that once you had understood a text you could translate it and find the suitable equivalents. Scerba's real aim in writing this article was concerned with the educational aspects of learning a foreign language. In this connection, his didactic thinking emphasises that we learn foreign languages by growing accustomed to thinking in the foreign language concerned and thereby acquiring its system (lexis and grammar), instead of basing the learning process on our own mother tongue. For the same reason, the contrastive method was not in particular favour in Scerba's foreign-language learning theory, because in the long term this approach could lead to »*a mixed bilingualism due to numerous transfers from L1*«, and consequently »*only goes for L2 learning at the beginner's level*« (Mikkelsen 1992a:34). As a result, in his article Scerba recommends that language students should abandon bilingual translating dictionaries as soon as possible and replace them with defining dictionaries in the foreign language concerned:

> »In light of all this, any true pedagogue advises students to discard translating dictionaries as soon as possible and switch to the defining dictionary of the foreign language. A translating dictionary, then, is only useful for beginning foreign language students.« (Scerba 1940:341)

This distinction between different levels of foreign-language student is interesting not only for learner's lexicography in particular, but also for lexicographical theory in general, since it suggests that a more flexible approach should be adopted to user typology. Incidentally, Scerba allows that the problems of existing translating dictionaries could be partially overcome if various notes and examples were added. However, this would never be a completely satisfactory solution, so he puts forward the following radical suggestion for a new type of dictionary:

> »Already in 1936, I indicated a radical solution to the problem in the preface to my *Russian-French Dictionary*: One could create foreign defining dictionaries in the students' native language. Of course, translations of words could also be included when this would simplify definition and would no be detrimental to a full understanding of the foreign word's true nature.« (Scerba 1940:341)

Scerba concludes that until such dictionaries have been produced, traditional translating dictionaries from a foreign language into the user's mother tongue will remain a *malum necessarium*, but to overcome this situation as soon as possible he suggests specifically that Larousse's monolingual French dictionary should be "translated" into Russian. It is once more necessary to remember that Scerba's suggestion for a foreign-language dictionary

with explanations in the user's mother tongue was intended primarily to be a dictionary for use in acquiring what he called the foreign language's system (its lexis and grammar), and that only in this connection could it be used for reception and production in the foreign language. However, he does acknowledge that foreign-language learners at beginner's level will find it very difficult to use such a dictionary for foreign-language production. In this connection, he draws a distinction not only between foreign-language users at various levels, but also between users with various mother tongues:

> »However, a special type of translating dictionary must still be retained for the people who do not know the foreign language very well, but nevertheless need to translate something into that language from time to time. Generally speaking, the basic rule of a competent foreign-language teaching methodology is that one should not – even mentally – translate from one's own native language, but try to think in the foreign language within the limits of one's knowledge, referring when necessary to ideological or synonym dictionaries as well as to good foreign defining dictionaries, but by no means to translating dictionaries. However, when applied to practical life, this presupposes a rather high level of skill in the foreign language. Therefore, dictionaries are still needed that would enable the person who knows the basics of a given foreign language's grammar in its active aspect […] to translate nonfictional texts into the foreign language without making gross mistakes. Such a dictionary intended for Russian speakers is certainly not meant to provide the foreigner with a full understanding of the meanings of Russian words. Instead, it should provide Russians with exact indications of how to translate Russian words in various contexts in order to be understood and to avoid appearing ridiculous.« (Scerba 1940:341–342)

Scerba himself never managed to convert these thoughts about a special type of translating dictionary into a practical result, but according to Mikkelsen (1992a) elsewhere in his writings he defined a series of general principles for a Russian-French dictionary of a special type designed for Russian users. Mikkelsen summarises these principles as follows:

> »1. Provide a translation, not an explanation, that will, in the appropriate grammatical form, fit into a correct French sentence which has been translated from a Russian sentence. Of all candidates choose the one which fits into most of the Russian contexts. If no general equivalent is found, make sure that the intended user has enough information to judge which one will serve him best.
>
> 2. Reject the translations which are "too French" and metaphorical, and take only the simplest ones in order not to let the user seem ridiculous.
>
> 3. Throw away all approximate translations and synonyms – again in order not to make anecdotal translations possible.
>
> 4. If no precise equivalent is available, give the approximate ones together with the corresponding explanations. If not even an approximate equivalent can be found, leave the lemma as untranslatable, followed by an explanation in brackets. Under certain circumstances bring a translation of whole contexts.
>
> 5. Provide the necessary grammatical information, so that the user can produce the correct morphological and syntactic forms.« (Mikkelsen 1992a:27)

Even though Scerba never had the opportunity to put these ideas into practice, others picked up the baton in Eastern Europe and the former Soviet Union, testing them in various dictionary projects – leading to minor adjustments, but not changing the basic elements of Scerba's theory. Duda (1986) and Duda et al. (1986) summarise a series of points of criticism arising in reviews of a Russian-German dictionary by Bielfeldt, who had applied

Scerba's principles for an explanatory dictionary. In this connection, Duda comments that Scerba's great idea that the meanings of words in a foreign language should be explained in the user's mother tongue would have proved impossible in practice:

> »Der Benutzer ist offensichtlich in der Lage, die Analyse einer Wortbedeutung, wie sie in einer Bedeutungsbeschreibung im einsprachigen Wörterbuch gemacht ist, nachzuvollziehen. Viel schwieriger scheint es für ihn zu sein, auf Grund einer gegebenen Bedeutungsbeschreibung die Bedeutung zu benennen, d.h. die Lexikalisierung vorzunehmen.« (Duda 1986:13)

> [»The user is apparently able to understand the analysis of a word's meaning as it is given in the definition in a monolingual dictionary. It appears to be much more difficult for the user to state the meaning based on a given definition, i.e. to perform lexicalisation.«]

As a result, Duda concludes that Bielfeldt's and Scerba's principle of providing explanations rather than equivalents needed to be changed so that equivalents were given priority whenever possible and adequate. However, Duda does not believe that this proposal substantially changes Scerba's principle of explaining the meaning of foreign-language words »ungeschmälert und eindeutig« (Duda 1986:14).

Scerba's revolutionary ideas had a great influence on the development of function theory, as presented in Tarp (1992). However, they were not adopted uncritically – first they had to be assimilated using a process of filtration because Scerba stands at the crossroads between two different perceptions, representing an incipient break with traditional lexicography. On the one hand his lexicographical thinking is greatly influenced by a classical linguistic approach (in the above-mentioned oppositions 3, 4 and 6, for instance). And on the other it shows new roads leading to an approach focusing more on users and user situations. However, this complex dual character made it almost inevitable that elements of previous ideas would be incorporated in the new theory, which only gradually became visible in its pure form. It took more than ten years for Tarp (2004a, 2004b) to challenge Scerba's principle that learner's dictionaries should be designed based on specific, didactic foreign-language ideas, replacing this with a user-oriented principle stating that dictionary authors should take account of the way foreign languages are actually learned and design dictionaries matching the didactic principles used – whether or not they agreed with them.

3.3 Hausmann

Unlike Scerba, Franz Josef Hausmann from Germany lent his name to an extensive production of articles and other publications on lexicography, and consequently he must be regarded as one of the greatest German metalexicographers of the 20th century. Like Scerba, Hausmann came from the world of linguistics, which is perhaps why he clearly defines lexicography as a sub-discipline of linguistics. Many of Hausmann's publications are important lexicographical contributions, such as his publications on the history of lexicography (Hausmann 1989a, 1989c, 1989f). Other documents are also of great value, but owing to their linguistic approach they need a metalexicographical moult before being used in the

modern theory of lexicographical functions. For instance, this applies to his many articles on collocations (Hausmann 1979, 1985a, for instance).

Unlike Scerba, Hausmann does not pretend to sponsor any general lexicographical theory. But in 1977 he published the book *Einführung in die Benutzung der neufranzösischen Wörterbücher* [Introduction to the Use of New French Dictionaries], in which he systematically analyses modern French dictionaries and produces statements of such a systematic nature that they resemble elements of a future or underlying theory. Hausmann divides dictionaries in relation to foreign languages into two main categories: *learning dictionaries*, which are designed for partial or complete processing with a view to *global issues*, and *consultation dictionaries*, which are designed for consultation with a view to *punctual issues*. Hausmann explains the criteria for this classification as follows:

»Die Frage lautet nun: Wozu dienen die Wörterbücher? Zu welchem Zweck schlägt man sie auf? Welche Wörterbücher sind für welche Funktionen besonders gut geeignet? Die einfachste und häufigste Art der Benutzung von Wörterbüchern ist gewiß die punktuelle Konsultation zur Beantwortung einer ganz speziellen Frage. Wie wird das Wort geschrieben? Wie wird es ausgesprochen? Ist das Substantiv maskulin oder feminin? Wie ist das Wort markiert? Was bedeutet es? Welche Äquivalente gibt es? Solchen punktuellen Fragestellungen, mit denen man meist ein nicht gefestigtes Vorwissen überprüfen will, stehen global Fragestellungen gegenüber: Wie ist der französische Wortschatz insgesamt strukturiert? In welchen Wortfamilien, Synonymen-, Antonymenstrukturen, Wortfeldern oder Sachgruppen stehen bestimmte Wörter? Welches lexikalische Material steht zum Ausdruck eines Gedankens, zur Beschreibung eines Vorgangs, zur sprachlichen Bewältigung einer Situation zur Verfügung? Die zweite Fragestellung, wir können sie im Gegensatz zur punctuellen auch die systematische nennen, ist weit weniger geläufig. Viel seltener werden die Wörterbücher zu ihrer Beantwortung herangezogen.« (Hausmann 1977:144)

[»The question is now: What are the dictionaries for? For what purpose are they used? Which dictionaries are particularly well suited for what functions? The simplest and most frequent type of dictionary usage is undoubtedly selective consultation to answer a very particular question. How is the word written? How is it pronounced? Is the noun masculine or feminine? How is the word marked? What does it mean? What are its synonyms? Such selective questions, with which one usually wants to check uncertain prior knowledge, stand in contrast to global questions: How is the French vocabulary structured overall? In which word families, synonym and antonym structures, semantic fields or subject groups are particular words found? Which lexical material is available to express a thought, describe a process or master a situation verbally? The second type of question, which we can call systematic in contrast to selective, is much less frequent. It is much less common for dictionaries to be used to answer these questions. »]

This shows partly that despite his linguistic approach to lexicography, Hausmann adopts a clearly user-oriented launchpad for his dictionary classification; and that this launchpad does not consist of user needs per se, but more or less accurate mirror images of these needs in the form of dictionary references. This launchpad is a clear example of progress in relation to Scerba's somewhat unclear and inconsistent classification criteria.

Hausmann divides the class of learner's dictionaries again into *primary* and *secondary learning dictionaries*. Primary learning dictionaries are designed for thorough processing from one end to the other, while secondary learning dictionaries are only designed for partial processing. He also divides the class of consultation dictionaries into two types, which he defines using the somewhat misleading expressions *writing dictionary* and *reading dictionary*. He regards a writing dictionary as a dictionary that can help when writing foreign-language texts, and a reading dictionary as a dictionary that can help when reading and

understanding foreign-language texts. With regard to reading dictionaries, he distinguishes between dictionaries designed to help translation into the mother tongue, and dictionaries to help the reception (understanding) of foreign-language texts. He also points out that this understanding can take place both within the foreign language and using the mother tongue:

> »Das Aufnehmen von Texten kann sich mit dem Verstehen zufriedengeben oder bis zur Herstellung eines äquivalenten deutschen Textes fortschreiten (Herübersetzung). Beim Verstehen ist seinerseits zu unterscheiden zwischen einem Verstehen innerhalb der Fremdsprache und der punktuellen Angabe eines deutschen Äquivalents. [...] Ein Wort im Text verstehen und ein deutsches Äquivalent nennen können, sind zwei verschiedene Dinge. [...] Zum zweisprachigen Wörterbuch sollte man in der Tat beim erschließen des französischen Textes so spät wie möglich greifen.« (Hausmann 1977:145/149)

> [»Understanding of texts may be all that is expected of learning, or learning may progress up to the creation of an equivalent German text (translation from the foreign language). For understanding a distinction must be drawn between understanding within the foreign language and the selective specification of a German equivalent. [...] To understand a word in the text and to be able to name its German equivalent are two different things. [...] In fact, to decode a French text, one should wait as long as possible before using a bilingual dictionary.«]

With regard to writing dictionaries, he makes a similar distinction between dictionaries designed to help free foreign-language production, and dictionaries designed to help translation into the foreign language:

> »Die Produktion fremdsprachlicher Texte kann als freie Produktion vom eigenen Gedanken ausgehen oder einen vorgegebenen muttersprachlichen Text in die Fremdsprache übertragen (Hinübersetzung).« (Hausmann 1977:145)

> [»The production of texts in the foreign language may occur in the form of free production from one's own thoughts or transmit a specified text in one's native language into the foreign language.«]

Based on these ideas, Hausmann constructs the following typology of dictionary functions in connection with the language pair French-German, targeted at German users:
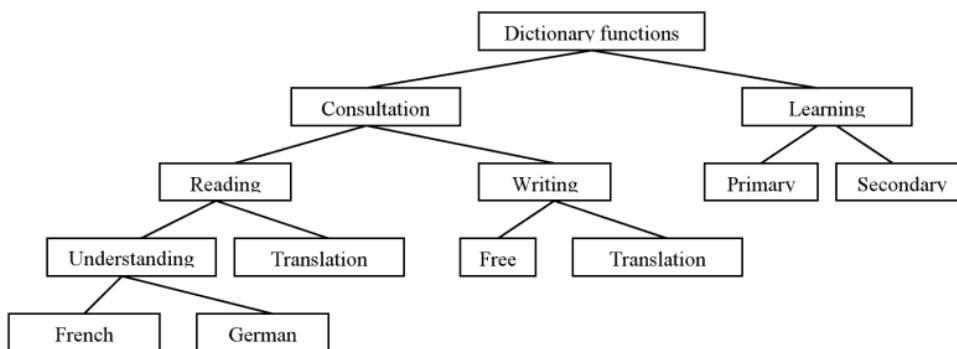

Figure 3.1: Typology of functions according to Hausmann (1977:146)

preparation of programs for electronic storage and presentation of lexicographical information; – for dictionary criticism as well as for reviews of bilingual dictionaries; – for teaching vocabulary and the analysis of errors in translation as part of foreign-language instruction.«]

Like Scerba and Hausmann, Kromann et al. are anchored in linguistics; but it is to their great credit that in drawing up their bilingual dictionary typology they clearly seek to place users in the centre:

»Vor der Erstellung eines zweisprachigen Wörterbuch sollte der Lexikograph zuerst sowohl die Bedürfnisse als auch die Kompetenz des relevant gesetzten Benutzerkreises näher bestimmen, im die Konsequenzen für die Wortauswahl und für den Artikelaufgebau berechen zu können. Diese Forderung aktualisiert die Frage nach einer relevanten Typologie der zweisprachigen Wörter-bücher.« (Kromann et al. 1984:182)

[»Before creating a bilingual dictionary, the lexicographer should first determine in more detail the needs and competence of the relevant target user group, in order to determine the consequences for the selection of words and for the structure of the articles. This requirement clarifies the question of a relevant typology for bilingual dictionaries.«]

Using this as their point of departure, Kromann et al. present a detailed theoretical discussion and analysis of bilingual dictionaries, which they summarise in eight theses:

»1. These (die Grundannahme): Die Benutzerkompetenz und -bedürfnisse steuern bei der Wörter-bucherstellung Auswahl und Darbietung der mikro- und makrostrukturellen Informationen. 2. These (die grundlegende Wörterbuchtypologi): Unter Berücksichtigung der Benutzerkompetenz und -bedürfnisse sind je Sprachen vier Wörterbücher zu erstellen, und zwar zwei aktive und zwei passive Wörterbücher. 3. These (die Hauptimplikation der Typologie): Der Wörterbuchtyp be-stimmt die Glossierung der Lemmata und der Äquivalente und ist mitbestimmend für die Lemma-auswahl. 4. These (die Mikrostruktur) [...] 5. These (die Makrostruktur) [...] 6. These (die Meta-sprache): Als Metasprache ist sowohl in aktiven als passiven Wörterbüchern die Muttersprache des Benutzers zu wählen. 7. These (das Sprachenpaar) [...] 8. These (Fachsprache)...« (Kromann et al. 1984:223–224)

[»Thesis 1 - basic thesis: The competence and needs of users determine the selection and presentation of microstructural and macrostructural information during the creation of a dictionary. Thesis 2 - basic dictionary typology: Taking into account the competence and needs of users, four dictionaries are to be created per language - two active and two passive dictionaries. Thesis 3 - primary implication of the typology: The dictionary type determines the glossarisation of the dictionary lemmata and equivalents, and is codeterminant for the selection of lemmata. Thesis 4 – microstructure [...] Thesis 5 - macrostructure [...] Thesis 6 - metalanguage: The native language of the user is to be chosen as the metalanguage in both active and passive dictionaries. Assumption 7 - the language pair [...] Assumption 8 - technical terminology...«]

In referring to four dictionaries per language pair in thesis 2 above, Kromann et al. are basing their ideas on four different functions which bilingual dictionaries need to perform in their view. These four functions involve helping users to ”translate” to and from a foreign language when they have one or the other language as their mother tongue. Dictionaries designed to help translate from a mother tongue into a foreign language are described by the authors as *active dictionaries*, while dictionaries designed to help in the opposite linguistic direction are described as *passive dictionaries*. This division into »active« and »passive« dictionaries apparently corresponds to Hausmann's distinction between *Hinüberset-zungwörterbücher* [dictionaries for translation from the mother tongue] and *Herüberset-*

zungswörterbücher [dictionaries for translation into the mother tongue]. But only apparently, because Kromann et al. define the concept of *translation* far more broadly than Hausmann:

> »Übersetzen definieren wir operational als eine sprachenpaarbezogene unidirektionale Handlung, bei welcher der Übersetzer seine Muttersprache als eine der zwei Sprachen benutzt und welche entweder auf eine Produktion äquivalenter fremdsprachiger Texte oder aber auf eine äquivalente Rezeption fremdsprachiger Texte gerichtet ist.« (Kromann et al. 1984:185)

> [»We define translation operationally as a language pair related, unidirectional activity in which the translator uses his native language as one of the two languages and which is either intended to produce equivalent foreign-language texts or an equivalent reception of foreign-language texts.«]

Within the framework of bilingual lexicography, Kromann et al.'s typology is therefore a major step backwards in relation to Hausmann, who operates not only with *translation* but also with the functions of *reception* and *production* in connection with dictionaries intended to support bilingual communication.

With regard to the above-mentioned theses 4 and 5, and as in Hausmann, the dictionary user's mother tongue determines the macrostructure and microstructure. In »passive« dictionaries the macrostructure increases because there is a need to include synonyms, regionalisms etc. owing to the user's lack of competence in the foreign language; but this is not the case in »active« dictionaries, where the user can use his/her competence in the mother tongue and look something up under a synonym, for instance. Conversely, the microstructure increases in »active« dictionaries because the user needs more linguistic information about the foreign language, such as »meaning differentiating and compensating semantic glosses, idiosyncratic syntagmas and a maximum of grammatical information« (*bedeutungsdifferenzierende und kompensierende semantische Glossen, idiosynkratische Syntagmen sowie ein Maximum an grammatischer Information*, p. 223), whereas much of this information is not necessary in »passive« dictionaries owing to the user's knowledge of their own language. So according to the three authors, it should be sufficient in the mother tongue to include »a non-differentiated number of equivalents, except in special cases« (*eine undifferenzierte Reihung der Äquivalente, abgesehen von Sonderfällen*, p. 223) to ensure that the user can understand the meaning of a foreign-language lemma and choose the correct equivalent in the context in question.

As mentioned above, the main advantage of Kromann et al.'s ideas is that based on a user perspective they pose a series of central lexicographical questions and thereby help to inspire similar thoughts in connection with the development of function theory. But apart from this inspiration, they only form a very small part of this theory. For instance, if we consider the consequences of the function typology shown above in terms of the micro and macrostructure of bilingual dictionaries, there is very little that is new in relation to Hausmann (1977). And as far as the actual typology is concerned, Kromann et al. represented a retrograde step in relation to Hausmann, who had a more flexible function concept. In a review written in 1990, the German lexicographer Reinhold Werner states clearly that Kromann et al.'s basic idea regarding active and passive dictionaries cannot be used as an important basis for a theory about bilingual lexicography – for one thing, the fact that the three authors focus on translation does not take account of other functional differences with regard to bilingual dictionaries:

»Die Aspekte Rezeption/Produktion und Äquivalentherstellung müssen in der Theorie klar unter-
schieden werden.« (Werner 1990:270)

[»The aspects of reception/production and equivalent creation must be clearly differentiated in
theory.«]

Kromann et al. (1984) was published two years after Scerba (1940) became available in
German for the first time, and the authors were clearly inspired by Scerba's ideas even
though they point out that their four dictionary types are not the same as Scerba's proposal
for four dictionaries per language pair. And as both Mikkelsen (1992a) and Mugdan (1992)
demonstrated, nor are their concepts of *active* and *passive* the same as those of Scerba. In
this connection, Duda et al. (1986), based directly on Scerba, outline their plans for »a
"active" Russian-German dictionary for German users« (*ein "aktives" russisch-deutsches
Wörterbuch für deutsch-sprachige Benutzer*); in other words, a type of dictionary that
would have been impossible using Kromann et al.'s typology. And in addition, as Nielsen
comments as early as 1992, the term *passive* is rather misleading in relation to translation –
which will always be an *active* activity. As a result, Kromann et al.'s concepts of *active* and
passive were rejected by function theory from the outset, although the terms were used in
another meaning for a while. Having said this, it should in all fairness be added that Kro-
mann et al.'s ideas were an important catalyst for the study of Scerba, who played a very
important role in the development of function theory as mentioned above.

3.5 Wiegand

The above-mentioned authors of three of the four paradigms that played an important role
in the development of the theory of lexicographical functions all regarded lexicography as a
sub-discipline of linguistics. Herbert Ernst Wiegand, the author of the fourth paradigm,
differs from the others because he explicitly declares that lexicography is an independent
academic discipline that is not in any way subordinate to linguistics. Wiegand is undoubt-
edly the most important lexicographical theorist in Germany in the 20th century, and has
probably published more documents on lexicography than any other author in the world.
Wiegand's theoretical production spans three decades from the end of the 1970s up to the
present day. The relationship of function theory to this vast production is like a complicated
love/hate relation. On the one hand function theory shared (and shares) a range of basic
postulates with Wiegand, and on the other it has grown increasingly aware over a lengthy
period of time of the differences between its own basic approach to lexicography and that
of Wiegand. During the early years of function theory its authors regarded their own theo-
ries and those of Wiegand as two different, independent expressions of the same lexicogra-
phical paradigms. But this perception changed gradually as function theory moved from the
general to the specific and was forced to develop and test its own postulates in a wide range
of lexicography's sub-areas, where they increasingly confronted Wiegand's well argued
and systematic sub-theories and viewpoints – leading to renewed consideration of the basic
relationship between the two general theories. As a result, the relationship of function theo-

ry to Wiegand will be a recurring theme in the sections below. So this section will merely describe briefly the basic postulates which the two theories have in common, as well as indicating the differences which later grew into chasms between the two.

The common point of departure for the two theories is that they are both based on the fundamental idea that lexicography or dictionary research is an independent discipline with its own object of study (dictionaries) and the appurtenant social practice involved in producing and using dictionaries. The immediate conseqence of this is that a general theory for lexicography must be developed which has an independent approach in relation to theories from other areas of science such as linguistics. This does not, however, prevent it from critically assimilating parts of such theories.

Another common point of departure is that the two theories both regard dictionaries as objects of use which are produced (like all other objects of use) with a view to satisfying specific human needs. Wiegand reites that:

> »Alle Wörterbucher gehören zu einer bestimmten Klasse von Gebrauchsgegenständen. Für all Gebrauchsgegenständen gilt: Sie werden hergestellt, damit ihre potentialn benutzer, wenn sie sie in usuellen Gebrauchskontexten benutzen, bestimmte Handlungsziele erreichen können. Usuelle gebrauchskontexte können wie folgt definiert weerden: Ein usueller Gebrauchskontext für einen bestimmten Gebrauchsgegenstand ist ein Handlungskontext, in dem dieser Gebrauchsgegenstand gemäß seinen genuinen Zwecken gebraucht wird.« (Wiegand 1987:199)

> [»All dictionaries belong to a particular class of objects of use. The following applies to all objects of use: they are made so that their potential users can achieve particular objectives if the objects are used in their typical context of use. Typical contexts of use can be defined as follows: A typical context of use for a particular object of use is a context of action, in which this object of use is used according to its genuine purpose.«]

The introduction of the concept of genuine purpose in connection with dictionaries in their role as objects of use was a decisive step along the path leading to the development of a lexicographical theory that was user-oriented – not only formally, but also in fact. Wiegand himself provides the following definition of the genuine purpose of dictionaries:

> »Aus det höchsten Ebene der Generalisierung gibt es nur einen genuinen Zweck, den alle Wörterbücher haben. Dieser kann so definiert werden: Der genuinen Zweck eines wörterbuches besteht darin, daß es benutz werden kann, um aus lexikographischen Daten, die zu bestimmten Datentypen gehören, bestimmte Informationen über Sprache zu gewinnen oder solche über die nichtsprachliche Welt, wobei Informationen über das benutzte Wörterbuch ausgeschlossen sind.« (Wiegand 1987:200)

> [»At the highest level of generalisation there is only one genuine purpose which all dictionaries have. It can be defined thus: The genuine purpose of a dictionary is that it can be used to acquire particular information about language or the non-linguistic world from lexicographical data belonging to certain data types, excluding information about the dictionary used.«]

Based on this idea of the genuine purpose of dictionaries, Wiegand seeks to narrow down the needs of dictionary users. In this connection, he operates with three mutually related typologies: 1) a typology of dictionary users, 2) a typology of situations in which dictionaries are used, and 3) a typology of so-called search questions. He defines the first of these as follows:

»Ein Wörterbuchbenutzer ist eine Person, solange sie wenigstens ein Wörterbuchexemplar entwe-
der als Sprachnachschlagewerk oder als Lesebuch zur Sprache oder als Prüfgegenstand benutz,
oder solange sie die Benutzung einübt.« Wiegand 1987:218)

[»A person is a dictionary user as long as he or she uses a copy of a dictionary either as a language
reference or as a reading book for language or as a test object, or as long as use is practised.«]

Incidentally, it is worth noting that at this point Wiegand is using largely the same basic di-
vision of dictionaries into *linguistic reference works* and *reading books* as already seen in
Hausmann (1987). Linked to the above-mentioned definition of dictionary users, Wiegand
lists a number of »metalexicographical« typology criteria such as language competence,
distinguishing between *mother-tongue* and *non-mother-tongue users*; metalexicographical
knowledge, distinguishing between *expert* and *non-expert users*; result of use, distin-
guishing between *successful* and *unsuccessful users*; and scientific insight, distinguishing
between *layman* and *scientific users*. In addition, he lists a number of typology criteria
which he defines as sociological and not metalexicographical: a group of German learners,
for instance. And finally, he introduces concepts such as *trained users*, *potential users*, *dic-
tionary addressees* and *exemplary users* (Wiegand 1987:218).

The above-mentioned criteria for a user typology was an inspiration in the development
of the typology of function theory. But it is necessary at this point to mention a problem
which was subsequently partially responsible for the division of the two ideas: Wiegand
starts with users when they pick up a dictionary for the first time, thereby locking himself
into the shadow world of dictionaries like Hausmann. Even though he introduces the con-
cept of *potential users* which function theory subsequently adopted, he does not develop
this important concept – which never achieves any major significance in his lexicographical
theory. This failure means that he cannot develop the important distinction between expert
and non-expert users sufficiently – a distinction which he introduces, and which is subse-
quently included in function theory's division into function and usage-related needs after a
extensive process of negation.

The same issue applies to the above-mentioned concepts of *situations in which diction-
aries are used* (Wörterbuchbenutzungssituation) and *search questions* (Suchfrage), where
the point of departure for the study of users is dictionary usage and not needs prior to this
usage. But studies of dictionary usage also form a natural feature of the research area of
function theory, so these inherent tensions in Wiegand's theory were initially ignored. At
that stage, the main interest focused on gaining more knowledge of the user, who Wiegand
(1977a) called the *bekannte Unbekannte* [well-known unknown] and Neubauer (1987) the
unbekannte Wesen [unknown entity]. As a result, and despite Wiegand's somewhat elabo-
rate approach, which is often marked by exaggerated definititis, function theory initially
shared his basic interests and postulates – including his basic division of dictionaries into
language dictionaries, *encyclopedic dictionaries* and *all-round dictionaries*. And it also
initially adopted (almost uncritically) the extensive system of concepts that he had devel-
oped for his detailed description of dictionaries – including his highly complex structure
theory.

In a later section we will argue that the problems in Wiegand's theory indicated here
were actually rooted in the fact that despite his definition of dictionary research as an inde-
pendent academic discipline, he did not fully make a break with the previous tradition for a
linguistic approach to lexicography. This was perhaps due to his own background in lin-

4. General lexicographical theory: function theory

4.1 The genesis of function theory

As shown in the previous section, the theory of lexicographical functions regarded itself as the culmination of a long historical process in which various elements of realisation accumulated gradually and finally developed into a new quality. However, the new theory, which was the result of this *transformation of quantity into quality*, did not suddenly appear in a finished state from one day to the next like Athene, who was born fully armed from Zeus' forehead. Instead, the theory had to go through a lengthy anchoring process. There were three main reasons for the slowness of the birth. First, the new theory was a very general, abstract theory. It had to be made more specific, and it had to be transferred to specific sub-areas of lexicography, from where it could be tested in practice – leading to a certain amount of adjustment and narrowing down of the theory's central tenets. Second, it was unavoidable that in connection with the complex assimilation of previous lexicographical thinking, which took place using the method that Hegel (1979) calls *the negation of negation*, a number of unprocessed and ill-considered elements from previous paradigms were transferred at the same time, which initially "contaminated" the new theory and gave it a certain eclectic character. And third, the fact that the theory of lexicographical functions regarded itself for a while as an independent expression of the same paradigm as Wiegand's theory also played a part – leading temporarily to the uncritical acceptance of a number of Wiegand's postulates.

The tangible evidence of the development of function theory was the establishment of a professorship in lexicography at the Aarhus School of Business in Denmark in 1987. In an article published in 1989 entitled *Leksikografi på HHÅ. Udvikling og perspektiver* [Lexicography at the ASB, Development and Perspectives], Sven-Olaf Poulsen (the then dean of the Faculty of Business Languages) and the new professor in lexicography, Henning Bergenholtz, presented the current status of lexicographical work at the School of Business and outlined a range of plans and perspectives. It was clear that the work ahead would attach great importance to *dictionary users as an object of research*. The two authors also presented a number of semi-finished or finished dictionary projects in which they clearly sensed the wish to connect lexicographical theory with practical dictionary work – which owing to the nature of the School of Business meant specialised dictionaries in particular. Bergenholtz and Poulsen concluded:

> »Den leksikografiske forskning, herunder også terminologien, styrkes både ved foredrag i handelshøjskolens lingvistiske kollokvium, hvortil særligt sagkyndige fra ind- og udland inviteres, ved seminarrækker gennemført af gæsteprofessorer og ved artikler i tidsskriftet *Hermes*, som bliver udgivet af det Erhvervssproglige Fakultet. Grundforskningen vil især koncentrere sig om den i høj grad forsømte fagsproglige metaleksikografi. Der er således skabt de bedste forudsætninger for en frugtbar vekselvirkning mellem teori og praksis, som vil kunne komme arbejdet med fremtidige fagordbøger til gode.« (Bergenholtz/Poulsen 1989:117)

[»Lexicographical research, including terminology, can be strengthened by giving lectures at linguistic symposiums at the School of Business to which experts from both Denmark and abroad should be invited in particular, by arranging seminars carried out by visiting professors, and by publishing articles in *Hermes*, a publication issued by the Faculty of Business Languages. Basic research will concentrate in particular on the neglected area of specialised metalexicography. This will create optimum conditions for a fruitful interplay between theory and practice which can only benefit the work carried out on specialised dictionaries in future.«]

During the following years a number of PhD projects were completed at the School of Business which provided new input for lexicographical thinking in general and specialised lexicography in particular (Nielsen 1994, Tarp 1992, Pedersen 1995, Geeb 1998, Sørensen 1999, Leroyer 2001, Simonsen 2001). There were also a large number of Master's theses, some of the most interesting of which have been collected in Tarp (1998b). At the same time, staff from the School of Business worked as editors, authors, co-authors or consultants on more than 30 dictionary projects, resulting in the publication of a large number of dictionaries in which the theories were tested in practice. And once the theoretical and practical dictionary work had been gathered together under a new *Centre for Lexicography* in 1996, the physical framework for a fruitful research environment had been created.

4.1.1 The formation of a theory

The first attempt to formulate the new theory of lexicographical functions was Tarp (1992). This was the second PhD project at the School of Business to be completed, and the central parts were published shortly afterwards in German (Tarp 1994a, 1995). The fundamental section of the dissertation consisted of a critical assimilation of previous lexicographical thinking accompanied by the independent development and presentation of the basic elements of the new theory. This was done based on Wiegand's basic postulate that dictionaries are objects of use with a genuine purpose. Against this background, various types of *user, user situation* and *user need* were discussed and described.

The division of users into various types was very similar to corresponding divisions made in the literature of the time. However, the study of various user situations was different because its point of departure was a simple model of communication leading (among other things) to a main distinction between so-called *direct* and *indirect functions*, which are now known as cognitive and communicative functions. In the former function there is direct communication between dictionary authors and dictionary users with the dictionary as a medium; whereas in the latter there is already some extra-lexicographical communication between two or more people involving problems that can be solved by consulting a dictionary – so the dictionary and its author are only involved in the process of communication indirectly. Based on these ideas, and with all the enthusiasm of youth, the dissertation proposed several hundred possible communicative and cognitive functions based on specialised dictionaries alone.

The dissertation also introduced an important distinction between the so-called *objective* and *subjective user needs*, which are known as the primary, function-related needs and the secondary, usage-related needs respectively, and which are central categories when it comes to developing user-friendly dictionary concepts. In addition, the dissertation added other important lexicographical concepts such as *megastructure*, which is now called distri-

bution structure, and *integrated* and *non-integrated component parts*, which were subsequently developed into the so-called function- and usage-related component parts.

Even though this dissertation resulted in a range of models for corporate dictionaries, it remained on a largely general, abstract level which had to be made more specific and detailed before being tested. Viewed with the benefit of hindsight, the dissertation contained obvious problems and defects. The break with previous thinking had not yet been completed. Wiegand's distinction between semantics and encyclopedics, and his division of dictionaries into language dictionaries, encyclopedic dictionaries and all-round dictionaries was accepted without criticism. The definitions and terminology also contained weaknesses. But despite these limitations, the first step had been taken and the dissertation must be regarded as the first publication to mark a qualitative break with previous traditions, ushering in an entirely new theoretical paradigm.

The next important step in the development of function theory was *Manual i Fagleksiko-grafi*, which was published in Danish in 1994 and English the following year. This manual was written by a team of authors who (apart from one member) were all members of staff at the School of Business, This was the most important of the five sub-projects in a large, inter-disciplinary research project on »translation of specialised texts«, financed by the Danish Research Agency. In the preface the two editors make the following remarks:

> »Contrary to what was the case only a few decades ago, a countless number of contributions on LGP lexicography are available today. In comparison, however, it is possible to survey all important theoretical literature on specialised lexicography within a short period of time. Due to the lack of a theoretical basis, the authors of this manual have only been able to build upon the findings of existing scholarly research as far as a few sub-fields are concerned. A number of the issues discussed in this manual have, at least to some extent, been taken up in practical LSP lexicography, but they still lack a theoretical foundation. In addition to being the first 'textbook for would-be LSP dictionary makers', the manual has thus had to break new ground, which must be considered unusual for a manual.« (Bergenholtz/Tarp 1995)

The manual was based on the central postulates in the new theory on lexicographical functions, seeking to develop this theory in the new areas mentioned by the two editors above. However, the result was not completely clear because the manual was very much of a hybrid. On the one hand, this was because it was written by a team of different authors. And on the other, it was because the task was predefined with insufficient time to develop the theory in all its sub-areas with adequate care. However, the advantages far outweighed the disadvantages – particularly in view of the time allowed – and the manual (particularly its English version) led to widespread popularisation of the new ideas, which were exposed to a larger audience with all the inspiration that this always generates.

The next important step in the development of the general theory was the article Leksi-kografi på egne ben. Fordelingsstrukturer og byggedele i et brugerorienteret perspektiv (Tarp 1998a) [Lexicography on its own feet. Distribution structures and component parts in an user-oriented perspective]. Despite its modest length of 17 pages, this must be regarded as a key work. It defines lexicography clearly as an independent science, which was not yet the case in Tarp (1992), and all the basic elements of function theory were presented far more clearly and logically than previously. For the first time there was a final showdown with some of Wiegand's basic postulates, which the two theories had shared until this date. The article directly states that

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»adskillelsen af sprog- og sagordbøger bunder i et irrelevant og atavistisk forsøg på at skelne mellem semantiske og encyklopædiske data i ordbøgerne.« (Tarp 1998a:123)

[»the distinction between language dictionaries and encyclopedic dictionaries is based on an irrelevant and atavistic attempt to distinguish between semantic and encyclopedic data in dictionaries.«]

Against this background, a definition of the concept of *genuine purpose* was formulated as an alternative to the definition adopted previously by function theory from Wiegand. According to this definition, the genuine purpose of a dictionary is as follows:

»ordbogen dækker det og det område og er beregnet til at give brugere med de og de forudsætninger hjælp i den og den situation til at løse problemer af den og den art.« (Tarp 1998a123)

[»dictionaries cover specific areas, and are designed to give users with specific qualifications help in specific situations to solve problems of a specific nature.«]

As pointed out in the article, it was obvious that this definition was on a highly abstract level requiring more specific application in relation to specific dictionaries. In extension of this point, the first attempt was made to define a *lexicographical function*:

»ordbogens bestræbelse på og evne til at give svar på det kompleks af behov, som opstår hos en bruger i en bestemt brugssituation.« (Tarp 1998a:123)

[»the efforts and ability of a dictionary to provide answers to the complex of needs arising in a user in a specific usage situation.«]

But perhaps the most interesting point in the article was its draft of a new theory on lexicographical structures and component parts, based on a user perspective and not on formal aspects as in Wiegand's structure theory. In this new theory, which is linked to a so-called *integrated model of lexicography*, the *distribution structure* was given a vital role; and in this respect it is worth pointing out that the article distanced itself from some of the thoughts formulated in Bergenholtz/Tarp/Wiegand (1998), published the same year. The article concluded that:

»Den teoretiske leksikografi har en stor opgave foran sig med hensyn til at undersøge de nyopdagede fordelingsstrukturer og deres konsekvenser for fremtidige ordbogsprojekter. Ud over at blotlægge, hvilke typer fordelingsstrukturer der overhovedet findes, kunne det f.eks. være relevant at se på, hvilke af disse typer der er bedst egnede til bestemte funktioner og brugerforudsætninger. Det er en opgave for den kommende tids forskning. [...] Men forskningen vil løbe af sporet, hvis den ikke til stadighed fastholder et brugerorienteret perspektiv. Dette perspektiv er alfa og omega, hvis leksikografien skal udvikle sig som en videnskab, der står på egne ben.« (Tarp 1998a:135–136)

[»Theoretical lexicography faces a major task in exploring the newly discovered distribution structures and their consequences for future dictionary projects. Apart from revealing which types of distribution structure exist, it might be relevant to study which of these types are best suited to specific functions and user qualifications. This is a task for future research. [...] But research will go off the track if it does not constantly retain a user-oriented perspective. This perspective is absolutely crucial if lexicography is to develop as a science capable of standing on its own two feet.«]

This article represented great progress, but it also revealed that function theory was not yet prepared for a comprehensive showdown with Wiegand's theory. With the benefit of hindsight, it can be described as the mature expression of the first stage of function theory, and as a clear warning that a new stage was now in sight. What was missing was an initiator – but one was to appear from an unexpected angle: Wiegand himself.

Parallel to this development of general function theory, the first stage also involved the development of the theory in a range of sub-areas. Apart from the contributions available in the PhD dissertations mentioned above, the following examples will be referred to here:

– Bergenholtz/Tarp (1994b), which was a great step towards the formulation of a lexicographical theory for *collocations* and other *multi-word combinations*, particularly with regard to specialised dictionaries.

– Bergenholtz (1996, 1998a), which criticised the division between semantics and encyclopedics in connection with dictionaries.

– Bergenholtz/Kaufmann (1997), which developed function theory in the area of *specialised lexicography* and helped to clarify the *relationship between lexicography and terminology/terminography*. Incidentally, Bergenholtz and Kaufmann also outlined the concept of a so-called lexinom – a revolutionary type of reference work combining traditional specialised dictionaries with the potential of information searches on the internet. These ideas were subsequently developed by Simonsen (2001), and put into practice in the intranet dictionary TELELEX in partnership with TeleDanmark.

– Tarp (1999b), which developed the theory of *distribution structure* and laid the foundations of an entirely new theory on *lexicographical references*.

– Almind/Bergenholtz (2000), which outlined a theory contributing to greater clarity regarding the importance of dictionary *layout* and *aesthetic design*.

– Tarp (2001a), which outlined a method describing how lexicography should deal with concepts developed within linguistics based on the linguistic concepts of *homonymy* and *polysemy*.

4.1.2 New foundations

As shown in the previous section, over the course of a number of years the supporters of function theory became increasingly critical of Wiegand's general lexicographical theory. The basic elements of this theory – such as dictionary typology and the distinction between semantics and encyclopedics – were analysed and found to be useless from a lexicographical, user-oriented perspective. The same thing happened to a large extent with another central component of Wiegand's theory – his lexicographical structure theory. The increasing focus on distribution structure as a central lexicographical structure, which was not incorporated in Wiegand's extensive theory, gave rise to the initial tension. In connection with the preparation of an article for an *Internationales Handbuch zur Fachsprachenforschung und Terminologiewissenschaft* [International Manual of LSP Research and Terminological Science], Wiegand suggested collaboration based on Bergenholtz/Tarp's first draft. This collaboration led to a contradictory and complex compromise in the form of

pear in more or less recognisable form in the new theory. In this way function theory both includes and does not include previous theories. But it certainly owes a great debt to them, because they have constituted part of its vital food and fuel.

As shown in section 3, Hausmann's theoretical ideas on users and user situations focus to a large extent on the situations in which dictionaries are actually consulted. And this tendency is even more marked in Wiegand. It is true that Wiegand introduces the concept of *potential user* and lists a number of social situations in which people experience needs that can be fulfilled by consulting a dictionary. But he does not expand on these aspects. It is symptomatic that in a book of more than one thousand pages on dictionary research (Wiegand 1998a), Wiegand dedicates only a few lines to potential users and their needs in an extra-lexicographical situation, while the actual *dictionary user* (Benutzer-in-actu), *dictionary usage situation* (Wörterbuchbenutzungssituation) and the *search questions* (Such-frage) presumably asked by this user when consulting a dictionary are the focus of his attention for more than 750 pages. And even the brief reference to and definition of potential users provided by Wiegand is so interconnected with the future dictionary user role that it leaves very little space for ideas about other user characteristics:

> »Ein potentieller Benutzer eines Wörterbuchs w_x vom Typ T_x ist eine Person, die die Voraussetzungen dafür hat, um den Erwartungen entsprechen zu können, welche die – vom Wörterbuchtyp T_x festgelegte – Benutzerrolle ausmachen«. (Wiegand 1998a:504)

> [»A potential user of a dictionary w_x of type T_x is a person who meets the requirements to be able to fulfil the expectations which constitute the defined user role for the dictionary type T_x.«]

In connection with a discussion of how to draw up a user profile, this focus on the actual dictionary usage situation is also very evident:

> »Für die Profilzugehörigen Aussagen gelten wenigstens die beiden folgenden Bedingungen: 1) Die Basis der Aussagen müssen überprüfbare empirische Daten über die Person sein. 2) Aus den Aussagen insgesamt muß nicht ausschließlich, aber in erster Linie entnommen werden können, welche Eigenschaften die Person als Wörterbuchbenutzer aufweist.« (Wiegand 1998a:598–599)

> [»At least the following two conditions apply to information belonging to the profile: 1) The basis of the information must be verifiable empirical data regarding the person. 2) Altogether the information must show, not exclusively but primarily, the characteristics of the person as a dictionary user.«]

The basic difference between Wiegand's general theory and the theory of lexicographical functions is that the latter shifts the focus from actual dictionary users and dictionary usage situations to potential users and the social situations in which they participate. There are several reasons for this shift.

– First, dictionaries are basically an answer to specific types of need registered in society among specific types of user in specific situations. Historically speaking these needs arose before dictionaries existed, and are in principle not dependent on the existence of dictionaries. As a result, the useful value of dictionaries must be seen in relation to these needs, instead of being determined phenomenologically based on whether the dictionary user's consultation is successful or not (does the dictionary provide an answer to the search question).

- Second, the demands and expectations of a dictionary user may only be mirror images or shadows of their real needs. Users consult dictionaries when they expect them to provide answers to their questions, and do not consult dictionaries if they do not expect to find answers to their questions there. However, these expectations are not necessarily the same as the real needs of users, since they are influenced by the previous use of more or less suitable dictionaries and/or the instruction they have received in dictionary usage. This means that theoretically speaking there may be some uncovered needs which never lead to a dictionary consultation – and if these needs are not examined, the theory cannot become complete.

- Third, the user-friendliness of dictionaries in terms of the ease and speed with which the required data can be found by users cannot depend solely on a study of dictionary usage either, since user-friendliness also depends on instruction and previous experience. Like all other objects of use, dictionaries can be used more or less correctly, more or less expediently. So it is necessary to study the user's lexicographical qualifications independently of any specific usage situation.

Indeed, the question is whether users are fully aware of their own needs – or whether they simply know that they have a number of more or less well defined needs which they seek to satisfy by consulting a dictionary. Rather than Wiegand's search questions, which are precise, concrete questions requiring a high level of awareness among users, it may therefore be preferable to refer to *data searches*, in which users search for the data that may satisfy their more or less well defined needs. In this connection, Wiegand's theory contains a tendency that was criticised as long ago as Mentrup (1984), a tendency to reconstruct search questions based on data in existing dictionaries – on a phenomenological analysis of these dictionaries. Wiegand's search questions are formulated so they can be answered using a single item of lexicographical data. But in reality user needs are often so complex that a whole set of data is required to satisfy them. Consequently, lexicographical data is (or should be) selected and combined with a view to covering specific types of user need.

Shifting the focus from dictionary consultation to the previous extra-lexicographical situation makes it possible to explore all user needs, whether or not attempts have been made to satisfy these needs by using dictionaries. In this way the relationship of dictionaries to social needs can be re-established on a scientific basis. On a highly abstract level, the task of lexicography involves tracing and examining social needs. But such needs are never abstract in themselves – they are always connected to a specific person located in a specific situation in which the needs concerned have arisen. So the task of lexicography then involves classifying the various types of person, situation and need in question, and then finding out which of these needs can be satisfied using lexicographical data. Only when seen in this light do the various types of person become types of potential dictionary user, and the various types of situation become types of user situation, and the types of need become types of user need. But unlike Wiegand's concepts, these types of user, user situation and user need do not actually require a dictionary consultation. This shift of focus also makes it possible to draw a far clearer and more subtle distinction than that performed by Wiegand between expert and non-expert users by introducing the concepts of *primary user needs* (also known as function-related user needs), which arise in extra-lexicographical user situations, and *secondary user needs* (also known as usage-related user needs), which do not arise until an actual lexicographical situation occurs, when the potential user turns into

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an *actual dictionary user* and may need guidance in the form of *secondary lexicographical data* to find and interpret the *primary lexicographical data* needed to satisfy their primary user needs. This shift of focus in relation to Wiegand's theory can be illustrated as follows:
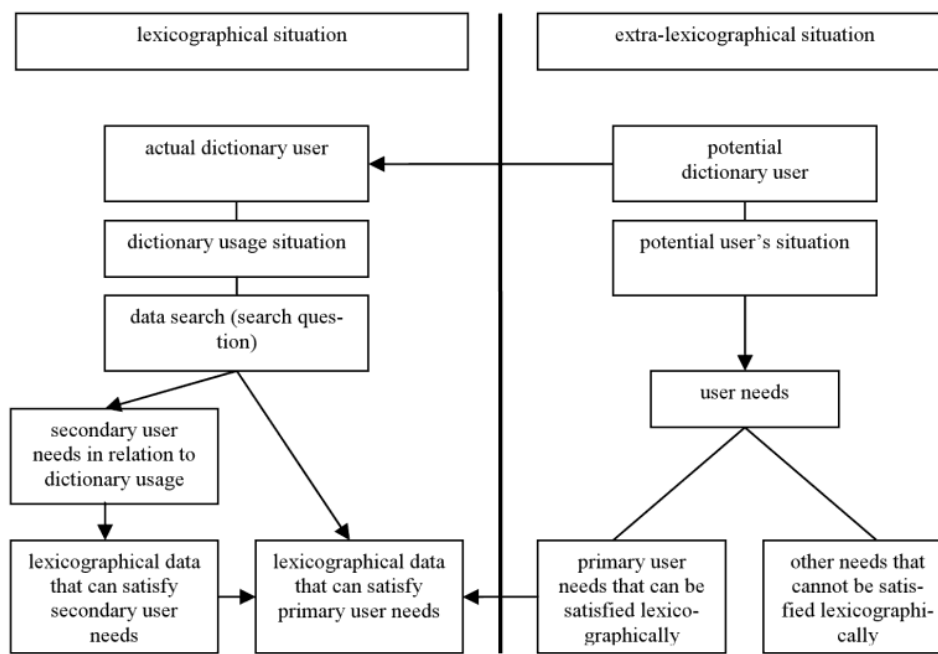
Figure 4.1: Diagram of the user-oriented focus of function theory

Naturally, the fact that function theory focuses on the extra-lexicographical situation does not mean that it is not interested in the lexicographical situation, but only that it views the concepts of actual dictionary user, dictionary usage situation, data searching and lexicographical data in relation to extra-lexicographical user needs, and that it therefore regards dictionaries as implements designed to satisfy these needs.

The basic viewpoints that unite and divide Wiegand's general lexicographical theory and the theory of lexicographical functions can provisionally be summarised in the following seven points:

1. Like Wiegand's theory, function theory defines lexicography as independent in relation to linguistics and other disciplines; but while Wiegand defines it as an academic discipline, function theory goes further and defines it as an actual science.

2. Like Wiegand's theory, function theory concludes that it is necessary to develop a separate general theory for lexicography; but while Wiegand's theory is primarily a contemplative theory, a result of observing finished dictionaries, function theory is not only contemplative but also transformative with a view to developing new dictionary concepts.

3. Like Wiegand's theory, function theory defines the object of study of lexicography as dictionaries and their production and use; but unlike Wiegand's theory it is also greatly interested in pre- and extra-lexicographical user needs.

4. Like Wiegand's theory, function theory defines dictionaries as objects of use; but while Wiegand primarily regards their useful value from a phenomenological standpoint, function theory primarily views this useful value in relation to extra-lexicographical needs.

5. Like Wiegand's theory, function theory takes its point of departure in the user; but while Wiegand primarily focuses on the actual user type, function theory focuses initially on the potential user type.

6. Like Wiegand's theory, function theory is interested in the user's situation; but while Wiegand focuses on the dictionary usage situation, function theory focuses initially on the extra-lexicographical situation of the potential user.

7. Like Wiegand's theory, function theory is interested in the needs of users; but while Wiegand's primary point of departure is the presumed questions that users ask of dictionaries, function theory's point of departure is the extra-lexicographical needs of users before they actually look for assistance in a dictionary – and whether or not they actually do so.

These statements, which taken together constitute the foundations of function theory, can also be presented positively:

Lexicography is a separate science whose object of study is dictionaries and their production and use. Consequently, there is a need to develop a general theory for this object of study. The theory of lexicographical functions is just such a theory, and is based on the idea that dictionaries are objects of use which are produced or should be produced to satisfy specific types of social need. These needs are not abstract – they are linked to specific types of user in specific types of social situation. Attempts are made to cover these needs using specific types of lexicographical data collected and made available in specific types of dictionary.

4.3 Main elements of lexicographical functions

In function theory the actual function concept is ambiguous. On the one hand, a dictionary is regarded as a function of specific types of need which can be registered in society. And on the other, the function of a dictionary is to satisfy these specific types of need. In addition, needs are not regarded as separate and isolated – instead, they are seen as being closely linked to specific types of potential user in specific types of situation. Types of potential *user*, *user situation* and *user need* are three of the four main elements included in the function concept. They are all *extra-lexicographical* to the extent that they exist independently of actual dictionary usage. The fourth element is the *assistance* that dictionaries can provide to cover these needs. This fourth element is by its very nature *intra*-lexicographical, and it

is also the mediating element that makes it possible to connect the extra-lexicographical with the lexicographical.

In other words, the categories of *potential users*, *user situations*, *user needs* and *dictionary assistance* are interlinked. To gain a deeper understanding of this complex relation, each category must first be analysed separately and then compared with the other categories to make it possible to synthesise the elements that are identified by analysis. This is the general method on which this section and the following sections are based, while the specific method used to analyse the individual categories has been adapted to suit each individual case.

However, at this point it is necessary to distinguish between the methods used for this study and the way its results are presented. The former sometimes pursue a tortured course, returning repeatedly to the point of departure to deal once again with issues which had seemed to be fully clarified, thereby exploring the interplay between the individual categories. But the latter must seek to present the results as logically as possible. In this spirit of tension between the logical and the actual, the potential user's situations and characteristics will be investigated below with a view to identifying the specific types of need that are relevant in a lexicographical context. Conversely, this relevance will be identified by comparing these needs with the specific type of assistance which dictionaries can provide. On this basis, a theory of lexicographical functions will then be formulated.

4.3.1 Situations of potential users

The idea that dictionaries should be based on their users is not new. The historical overview in section 3 showed that there is a long tradition for considering the needs of dictionary users. For instance, at the end of a classic conference on lexicography in 1960, Fred W. Householder made a famous recommendation that has been quoted repeatedly ever since, not least in English-language lexicography:

> »Dictionaries should be designed with a special set of users in mind and for their specific needs.«
> (Householder 1967:279)

It is hard to disagree with Householder's recommendation. But one vital factor is missing that makes it difficult to use in practice, and which therefore allows far too much latitude for subjective interpretations and preferences. The needs of potential users are left hanging in a vacuum. To be useful in practice, Householder's recommendation must not only define which types of user have which needs, but also the types of situation in which these needs may arise. The needs are linked to specific situations, but not all situations are relevant for lexicography – only situations in which needs arise that can be satisfied using dictionaries.

But how can theoretical lexicography find the relevant situations? In principle, it could go out and study all the hypothetical social situations in which people are involved. But that would be like trying to fill the leaking jar of the Danaids. Instead, initially lexicography needs to use a deductive procedure and focus on the needs that dictionaries have sought to satisfy until now, and on the situations in which these needs may arise. This reverse, pragmatic procedure reveals that there are two fundamentally different situations in which dictionaries can be of assistance: *communicative situations* (situations in which problems arise

There are a huge number of sciences, disciplines and subjects in the world today, so needs for knowledge arising in various cognitive situations may relate to countless areas of knowledge. Consequently, the classification of these needs is in principle an open classification. In this field, lexicography must be aware of developments in society which lead to new interests and wishes. However, it is possible to perform a basic division into four main types of cognitive need which are relevant for lexicography: the needs to acquire *encyclopedic knowledge of a linguistic (LGP), specialised linguistic (LSP), general, cultural and subject-specific nature* respectively.

4.3.1.2 Communicative situations

The method used to study and classify communicative situations is far more complex than that used for cognitive situations. The communicative situations that are normally examined in communication studies are therefore a striking example of the way lexicography has to borrow from other sciences on the one hand, while reshaping the things it borrows in its own image on the other. Complex communication models have been developed in communication studies, each serving to cover various communicative aspects which are of interest in this area of science. But lexicography, which has different perspectives and goals, does not derive any advantage from these complex models – instead, it must be content to take its point of departure in a simple model revealing the aspects that are lexicographically relevant:

Figure 4.2: Simple communication model revealing lexicographically relevant situations in which the potential user is involved

This abstract model operates on three levels – player, process and text level – and is based on a social situation which repeats itself millions of times every single day and hour: a person (sender) produces a text which is then received by another person. A translator can also be added to the model, which then reflects another social situation which also repeats itself countless times every single day. This new abstract model can be illustrated as follows, with the dotted line at text level indicating the relationship between the original text and the translated text:

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sender → text production → original text - - - → translated text → text reception → receiver
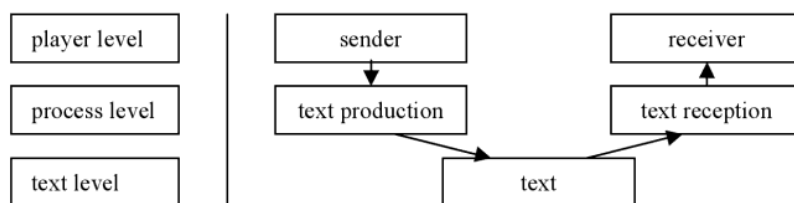
translator → translation →
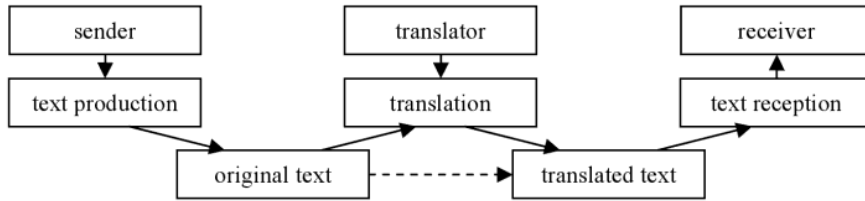
Figure 4.3: Simple translation model revealing lexicographically relevant situations in which the potential user is involved

In these two models (figures 4.2 and 4.3) it is also possible to vary the mother tongues of the players and the language used at process and text level respectively. La, Lb and Lc indicate the respective languages used, generating (at a slightly lower level of abstraction) a total of six communication models that are lexicographically relevant. In the first model the entire process of communication takes place in the common mother tongue of the players:

La sender → La production → La text → La reception → La receiver
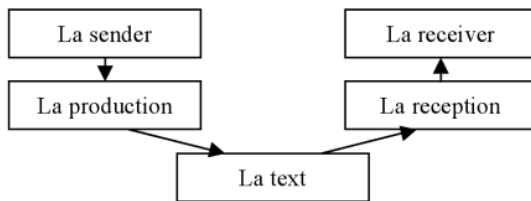
Figure 4.4: Communication model with production and reception in the mother tongue

In the next model the receiver's mother tongue has been changed – the receiver now receives a text in a foreign language, while the sender still produces the text in his/her mother tongue:

La sender → La production → La text → La reception → Lb receiver
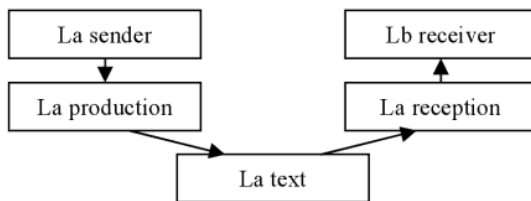
Figure 4.5: Communication model with production in the mother tongue and reception in the foreign language

In the last of the three models the language in which the text is produced has also been changed. The sender now produces directly in a foreign language, and the receiver again receives in his/her mother tongue:
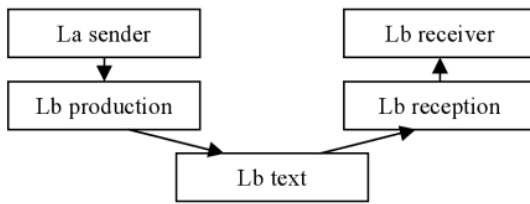
Figure 4.6: Communication model with production in the foreign language and reception in the mother tongue

In the next three sub-models a translation stage has been inserted. In all these cases the sender and receiver produce and receive respectively in their mother tongue. In the first of these three translation models the translator has the same mother tongue as the sender, and thus translates from their mother tongue into a foreign language:
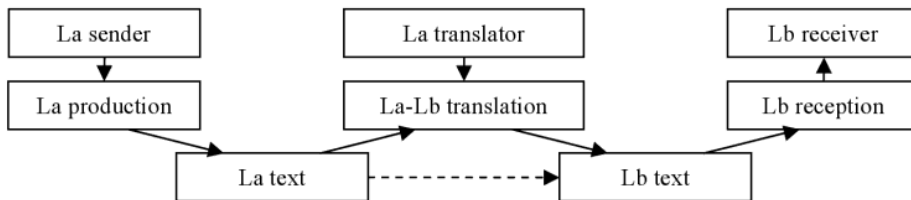
Figure 4.7: Communication model with translation from a mother tongue into a foreign language

In the second translation model the translator has the same mother tongue as the receiver, and thus translates from a foreign language into their mother tongue:
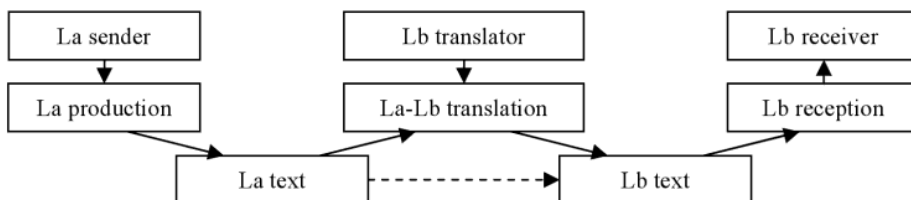
Figure 4.8: Communication model with translation from a foreign language into a mother tongue

In the third translation model the translator's mother tongue is not the same as that of the receiver or the sender, so the translator translates from one foreign language into another:

La sender		Lc translator		Lb receiver

```
La sender          Lc translator          Lb receiver
   │                   │                       ▲
   ▼                   ▼                       │
La production     La-Lb translation       Lb reception
   │                ▲        ▲                  ▲
   ▼                │        │                  │
        La text ───────────►  Lb text
```

Figure 4.9: Communication model with translation between two foreign languages

These models place all the hypothetical players, texts and languages in relation to each other as variables in a series of abstract and yet simple models. By changing and combining all these variables, lexicography derives seven relevant communicative situations in which potential dictionary users may find themselves:
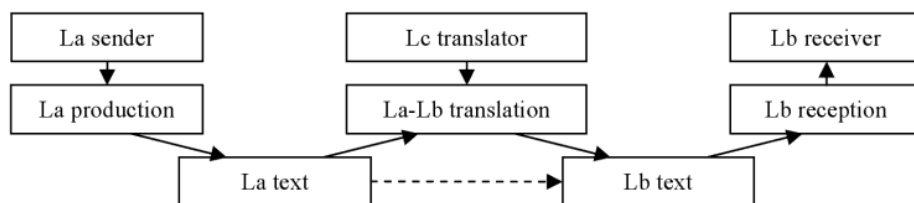
1. production of text in mother tongue
2. reception of text in mother tongue
3. production of text in foreign language
4. reception of text in foreign language
5. translation of text from mother tongue into foreign language
6. translation of text from foreign language into mother tongue
7. translation of text from one foreign language into another

However, there are a number of other communicative situations which are relevant for lexicography, involving proofreading and marking. Owing to the special nature of these areas, they will be dealt with separately in the next section.

4.3.1.3 Proofreading and marking

Both proofreading and marking play a special role in the communication process. Like the communicative situations analysed above, they constitute a phenomenon which is repeated thousands of times every single day in Denmark alone. So it may seem surprising that apart from a few sporadic references this area has been largely ignored in the lexicographical debate – apart from rare points of light such Herbst (1989). When the issue has arisen occasionally at lexicographical workshops, the discussion has focused very much on whether proofreading and marking should be regarded as varieties of text production or text reception, or whether they are entirely independent user situations. This uncertainty is caused on the one hand by the fact that proofreading and marking generally occur when a text has already left its original sender; and on the other by the fact that both phenomena are complex processes containing elements of both production and reception. But if we consider proofreading and marking within the frameworks of the communication models outlined in figures 4.2 and 4.3, it becomes apparent that both processes occur before the finished text or translation is printed – or at least before it is transmitted to the final receiver. Tarp (2004d), which is the only known attempt to formulate a lexicographical theory on these questions, therefore argues that both proofreading and marking should be regarded as subprocesses within overall text production or translation. It is in this light that the communi-

cative process connected with these two situations will be discussed below. To help this discussion in the two abstract models shown in figures 4.2 and 4.3, individuals can be inserted who perform either proofreading or marking of produced and translated texts – resulting in four new sub-models. The first of these shows the proofreader's role in connection with proofreading texts produced directly in a mother tongue or foreign language:
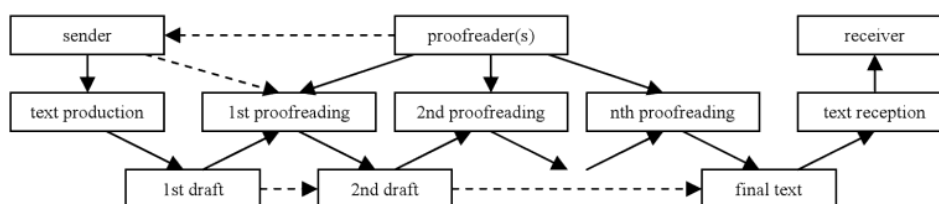

Figure 4.10: Model for communication in connection with proofreading

Proofreading is not an unambiguous process – it takes place in many different ways depending on the wishes and policy of the author, company or publisher involved. Sometimes the author does his/her own proofreading, and sometimes separate proofreaders are used. In the latter case, texts are sometimes returned to the original author for approval after proofreading – and sometimes this does not happen. Sometimes proofreading is carried out only once, and sometimes it is done several times – even using different proofreaders. Proofreading may be limited to purely formal issues such as spelling, punctuation and any missing or superfluous words. Or it may include the choice of prepositions and syntax. In other situations (company publications, for instance) the word choice, style, argumentative structure and even content may be included in the proofreader's tasks. This is often referred to as editing. Spelling, punctuation, style and argumentation sometimes observe the general rules laid down by the language in question – or they may have to observe the specific language policy of the author, company, institution or publisher in question.

Figure 4.10 illustrates this complex process. The sender produces the first text draft, and can either proofread this text himself or send it to a proofreader, who can either change the text or send comments and suggestions back to the sender. In principle, this process can be repeated countless times (n), until the finished text can be transmitted to and received by the final receiver. The dotted arrow between the sender and first proofreading indicates that the sender may wish to proofread the text himself. The dotted arrow at player level indicates that communication from the proofreader back to the sender is not compulsory but only an option depending on the agreements that have been arranged. The dotted arrows at text level indicate the development of the text through various stages prior to final transmission.

The next model shows the proofreader's role in connection with the proofreading of translated texts, whether this translation is into or from a mother tongue or from one foreign language into another. Here too, the translator can proofread the translated text himself or send it to a separate proofreader, who can again either make changes or send comments and suggestions back to the translator. Once again, the dotted arrows at text level indicate the development of the text until a final translated version has been achieved, which can then be printed and sent to the final receiver.

on this point, the analysis of user situations must therefore yield temporarily to an analysis of user characteristics, types of need, and the potential of dictionaries for providing assistance. Not until these functional elements have been identified can the analysis continue to the point at which the path leading back to the whole can be trod (synthesis).

4.3.2 Characteristics of potential users

People vary so much that it is not wrong to claim that every person is unique. Even if we try to typologise people using abstraction, the number of types would be overwhelming because the method of abstraction used depends on all the different criteria on which analysis can be based. This enormous challenge is an ongoing topic of debate in the social sciences. Lexicography cannot act like a blind predator on this branch of science – instead, it must behave like a butterfly collector looking for a specific species. Lexicography does not care whether people are millionaires, whether they own or rent their own homes, whether they have an iron constitution or whether they walk around on crutches. All these factors are irrelevant in a lexicographical connection. The criteria on which a typology of potential dictionary users should be based must have its own lexicographical perspective, and must be viewed in connection with user situations and needs that can be satisfied lexicographically. To be more precise, the relevant criteria are criteria that generate needs in specific situations requiring qualitatively different lexicographical treatment.

1. The first relevant criterion is the mother tongue of potential users. This is based on the obvious fact that the user's mother tongue decides whether a given language should be regarded as a mother tongue or a foreign language, as well as determining the needs that users may have when communicating in this language.

2. The second relevant criterion is how well potential users master their mother tongue – both spoken and written language. For instance, a very young school pupil, an illiterate adult learning to read and write, and a person with an academic or even literary background have very different qualifications and may therefore encounter very different types of problem during production and reception in their mother tongue.

3. The third relevant criterion is the extent to which potential users master a particular foreign language. The user's foreign-language qualifications determine the type of problems that might arise during reception and production in a foreign language and translation into and from this language – as well as the corresponding lexicographical needs.

4. The fourth relevant criterion is the extent to which potential users master a particular form of specialised language in their mother tongue. This criterion is based on the fact that the problems and needs arising in connection with the production and reception of specialised texts in a mother tongue and the translation of such texts into and from a mother tongue depend on the extent to which the users concerned master the specialised language in question.

5. The fifth relevant criterion is the extent to which potential users master a particular form of specialised language in the foreign language in question. The same issue as no. 4 above – but in relation to a foreign language.

6. The sixth relevant criterion is the translation experience of potential users. This is because the problems and needs arising in connection with translation naturally depend on the user's experience of translation in general, and translation from one specific language into another in particular.

7. The seventh relevant criterion is the general cultural knowledge of potential users. Users with different cultural knowledge have different wishes for knowledge and different qualifications when it comes to understanding explanations in both general and general encyclopedic dictionaries.

8. The eighth criterion is the general cultural knowledge of potential users within a specific foreign-language area. This criterion is a more detailed version of the previous criterion, and arises due to the fact that knowledge of the culture in the country or countries in which a foreign language is spoken is a vital precondition when functioning in this language.

9. The ninth relevant criterion is the knowledge possessed by potential users regarding specific specialised areas or sciences. This is based on the obvious fact that laymen, semi-experts and experts have very different qualifications and therefore very different needs for knowledge.

The nine criteria constitute an open list – not a final one. Depending on the specific type of user, user situation, language and special area in question, other criteria or sub-criteria may apply. For instance, this applies to learner's dictionaries, as discussed in a later section. But the nine criteria do constitute the most important lexicographically relevant criteria in drawing up a user typology. They can be summarised in the form of nine questions, which depending on the type of dictionary concerned must be asked when preparing new dictionary concepts and studying and criticising existing dictionaries:

– What is the mother tongue of the users?
– To what extent do they master their mother tongue?
– To what extent do they master a specific foreign language?
– To what extent do they master a specific specialised language in their mother tongue?
– To what extent do they master a specific specialised language in a foreign language?
– How much experience of translation do they have?
– How great is their general cultural knowledge?
– How great is their knowledge of culture in a specific foreign-language area?
– How much do they know about a specific subject or science?

Incidentally, it is worth pointing out that these questions do not refer to *knowledge of a language* but to *mastery of a language*. The reason for this distinction will be presented in section 5.2. Depending on the answers to the questions listed above, they will help to characterise the *linguistic and encyclopedic qualifications* of the various types of user. Other qualifications are relevant as well: *lexicographical qualifications*. However, these are only meaningful when users change from being potential dictionary users to being actual dictionary users when consulting a dictionary, thereby generating a new kind of need aimed at finding and interpreting the lexicographical data that has been gathered and structured in the dictionary. The criteria for defining these qualifications can be summarised in the following three questions:

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– How much do users know about lexicography?
– What general experience of dictionary usage do they have?
– What specific experience do they have of a specific dictionary?

The answers to these three and the above-mentioned nine questions make it possible to define the characteristics of potential users, and thereby to classify the various types of user.

4.3.3 Needs of potential users

A comparison of various types of user with various types of user situation makes it possible to identify the types of need which the various types of user may have in various situations. In principle, all types of user can be combined with all types of situation. But not all types of user will ever find themselves in each situation. For instance, a Dane who knows nothing about biology and speaks no foreign languages is unlikely to produce specialised foreign language texts in this area of science. In addition, not all user characteristics are relevant in relation to each user situation. For instance, an expert in molecular biology, a professional translator and a layman will all have the same types of problem and need in connection with the reception of Shakespeare's works if their knowledge of English is the same. Consequently, needs must be determined based on the user characteristics that are relevant in connection with each type of user situation.

However, it is important to remember that not all types of need arising in each situation are lexicographically relevant. During text production in a foreign language, the needs generated by problems concerning the argumentation structure and punctuation of a text are not normally covered by dictionaries. Needs linked to problems at sentence level can only be covered in the few cases when standard phrases or proverbs are involved. Hausmann had the following to say on this point:

> »Wichtig hingegen ist der Beitrag der Wörterbücher zur Produktion fremdsprachlicher Texte. Wichtig, aber nicht ausreichend. Kein Wörterbuch garantiert die fehlerfreie Produktion von texten«. (Hausmann 1977:150)

> [»On the other hand, the contribution of dictionaries to the production of foreign-language texts is important. Important, but not sufficient. No dictionary guarantees the error-free production of texts.«]

However, this does not alter the fact that it is necessary to define the types of need that users can actually cover by consulting a dictionary in each type of user situation. These needs can be sub-divided into two main groups: *primary user needs*, which are needs leading to a dictionary usage situation; and *secondary user needs*, which arise when users seek assistance in a dictionary. Primary needs are always *needs for information* which can be used to solve problems or gain knowledge – the term *information* referring here to *extra*-lexicographical information that a user can extract from a dictionary's data, and not to the actual *intra*-lexicographical data. On a general level, primary needs can be divided into the following information categories, derived from the nine main questions formulated in the previous section:

Information categories
– information about mother tongue
– information about foreign language
– information about specialised language in mother tongue
– information about specialised language in foreign language
– comparative information about mother tongue and foreign language
– comparative information about specialised language in mother tongue and foreign language
– general cultural information
– information about culture in specific language area
– information about a specific subject or science
– comparative information about a subject in national and foreign culture

Table 4.1: The most important information categories in connection with the primary needs of users

To satisfy the needs of a specific user type in a specific type of situation, it is necessary to analyse and specify which specific information classes within these general categories are relevant in each case, since it is often necessary to combine information classes from different categories. Secondary needs are like both *needs for information* and *needs for instruction and education*. Initially, the following needs are involved:

– general education in lexicography
– general instruction in dictionary usage
– information about the specific dictionary
– instruction in use of the specific dictionary

Naturally, ordinary dictionary users do not need education in lexicography, although potential users who have received such education do have an advantage. And the same applies to users who (in school, for instance) have received ordinary instruction in dictionary usage. Experienced users can normally find their way around any given dictionary quickly, providing that it does not differ too much from other dictionaries. If it does, they will need specific information about it. But inexperienced users will almost always need guidance in the form of instruction or thorough information.

Apart from these secondary needs, which are related to general or specific dictionary usage, there is also another type of secondary need related to specific dictionary consultation. This is the need for information that can help users to find and confirm the data required. For instance, a Danish user wishing to understand the Afrikaans word *skepe* needs to know that *skepe* is the plural form of *skip*, and that additional information about *skepe* can be found under the lemma *skip*. A Danish user who is uncertain whether the English word *people* can be used in the plural needs to know that the term *peoples* only exists in English in a specific meaning, and that otherwise *people* is normally the plural form of *person*. In addition, there are a number of secondary needs that relate to the user's linguistic and subject-specific qualifications. For instance, users who only master a foreign language poorly (or not at all) need dictionaries containing the relevant lexicographical data in their mother tongue. Similarly, users who have very little knowledge about a specific discipline need

simple lexicographical data about this discipline – otherwise they will find it hard to extract information out of complex data.

In other words, the satisfaction of the secondary needs of users is a complex lexicographical problem which can be solved both within and outside the framework of specific dictionaries.

4.3.4 Assistance from dictionaries

On a purely abstract level, the assistance that dictionaries can provide for users consists of lexicographical data, from which users can extract information covering their needs in specific situations. For instance, if a user needs information about the conjugation of the Spanish verb *haber* in the third person future with a view to producing a Spanish text, the dictionary used must contain the data *habrá* in one form or another because otherwise the user will not be able to extract the information he/she needs.

As mentioned above, dictionary data cannot cover the needs of users for assistance in solving all their problems in a given situation. Even in the electronic world of today, dictionaries are based on words and can only offer data on a word level, word combination level (valency, collocations, idioms), and to a very limited extent sentence level (standard phrases and proverbs). On a text level they can only provide data (in a special dictionary grammar, for instance) about general rules which users must make specific with all the risks that this implies. Consequently, it is important to underline that some of the needs users may have in communicative situations cannot be satisfied lexicographically – they have to be covered in another way.

The data mentioned above all aims to satisfy the user's information demands with regard to primary user needs. So it is known as *primary data*. This data may be simple or complex, expressed in the user's mother tongue or in a foreign language; and it is structured and made accessible in dictionaries using access routes and search systems. Apart from such primary data, dictionaries also contain *secondary data*, from which users can extract information about dictionary usage and thereby cover their secondary needs. The first kind of data involved is data that helps users to find the specific data that is relevant in the situation in question, and data that may help users to interpret it – followed by data that users can use to extract general information about the dictionaries in question.

This division into primary and secondary lexicographical data is very important with regard to the analysis of some of the sub-stages into which overall communication can be divided. But before considering these sub-stages, it is important to add that there are other types of secondary data than those mentioned above. For instance, before buying and using a dictionary, users may need to know something about its content, quality and reliability – so they also need to know about the expert qualifications of the authors who have produced it. In this connection Møller (1999) refers to both selectors and users – selectors being users who have not yet bought or used a dictionary. Lexicographical data whose aim is to satisfy these information needs is normally located in a special declaration on the back cover of the dictionary or in a special preface, and will not be mentioned further in this dissertation.

the equivalent side in the bilingual word list from source language into mother tongue, although this can also be done in a word list in the source language providing that the necessary references are made. However, if no problems have arisen at the previous translation stage and they only arise in the production stage, lexicographical assistance can *only* be provided by a word list based on the source language – whether it is monolingual or bilingual back to the source language. In other words, the last case involves a radically different lexicographical solution with a new set of primary and secondary data. All these different sub-stages and variants can be illustrated as follows:
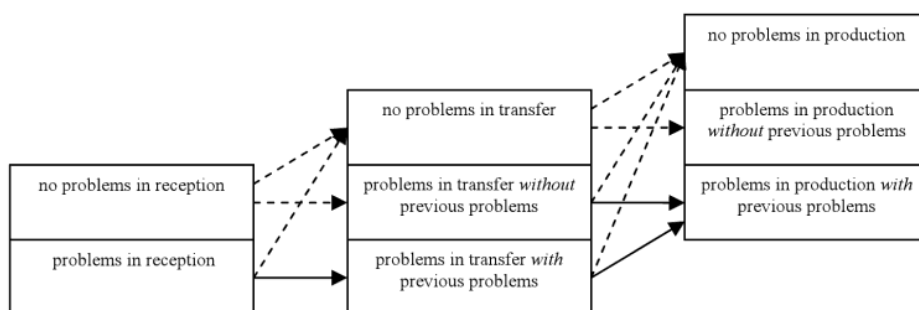
Figure 4.14: Translation model showing when lexicographically relevant problems may arise

In other words, the lexicographically relevant translation process consists of the following sub-stages and variants:

1. translation-related reception of text in source language
2. transfer of text from source language to target language
   a. *with* problems at previous stage
   b. *without* problems at previous stage
3. translation-related production of text in target language
   a. *with* problems at previous stage
   b. *without* problems at previous stage

As mentioned above, the issues that have been discussed so far in connection with the translation process are identical for translation into and from a mother tongue and translation from one foreign language into another. But if we clamber slightly lower down the ladder of abstraction, a number of differences appear which are lexicographically relevant.

In connection with translation from a mother tongue into a foreign language (user situation 5), the above-mentioned sub-stages and variants cover the process fully. So to satisfy the potential user's needs in connection with the various stages, various types of word list are needed. At sub-stage 1 a monolingual or bilingual word list is needed that is based on the mother tongue. At sub-stage 2(a), 2(b) and 3(a) a bilingual word list from the mother tongue into the foreign language is needed. And finally, at sub-stage 3(b) a monolingual or bilingual word list is needed that is based on the foreign language. So in all the following three types of word list are needed based on the language and language direction involved:

1. a monolingual or bilingual word list based on the mother tongue
2. a bilingual word list from the mother tongue into the foreign language
3. a monolingual or bilingual word list based on the foreign language

In translation from a foreign language into a mother tongue (user situation 6), the situation starts to become more complicated in a lexicographical sense, since it becomes necessary to distinguish between reception within the foreign language and reception via the mother tongue. The following stages and variants result:

1. translation-related reception in foreign language
   a. within foreign language
   b. via mother tongue
2. transfer of text from foreign language into mother tongue
   a. *with* problems at previous stage
   b. *without* problems at previous stage
3. translation-related production in mother tongue
   a. *with* problems at previous stage
   b. *without* problems at previous stage

In other words, to cover all types of user need in connection with translation into a mother tongue, it is also necessary to place the corresponding primary data in various word lists. To cover the potential user's needs at 1(a), a monolingual word list based on the foreign language is needed. To cover these needs at 1(b), 2(a), 2(b) and 3(a), a bilingual word list from the foreign language into the mother tongue is also needed. And finally to cover the needs at 3(b), a monolingual or bilingual word list based on the mother tongue is needed. When these needs are combined, the following three types of word list result:

4. a monolingual or bilingual word list based on the foreign language
5. a bilingual word list from the foreign language into the mother tongue
6. a monolingual or bilingual word list based on the foreign language

The situation becomes even more complex in connection with translation from one foreign language into another (user situation 7). The reception of the source text in foreign language 1 takes place in three different ways, and the same applies to translation-related production in foreign language 2 if no problems have been encountered at the previous stages. This results in the following stages and variants:

1. translation-related reception in foreign language 1
   a. within foreign language 1
   b. within foreign language 2
   c. via mother tongue
2. transfer of text from foreign language 1 into foreign language 2
   a. *with* problems at previous stage
   b. *without* problems at previous stage
3. translation-related production in foreign language 2
   a. *with* problems at previous stage
   b. *without* problems at previous stage
      i. directly in foreign language 2

ii. via foreign language 1
iii. via mother tongue

To cover all types of user need in connection with translation from one foreign language into another, no fewer than five different word lists are needed. To cover the potential user's needs at 1(a), a monolingual word list in foreign language 1 is needed. To cover the user needs at 1(b), 2(a), 2(b), 3(a) and 3(b–ii), a bilingual word list from foreign language 1 into foreign language 2 is also needed. To cover the needs at 1(c), a bilingual word list from foreign language 1 into the mother tongue is also needed. In addition, to cover the potential user's needs at 3(b–i) a monolingual or bilingual word list based on foreign language 2 is needed. And finally, to cover the needs at 3(b–iii) a bilingual word list from the mother tongue into foreign language 2 is needed. If these needs are combined, the following five word lists result at least, typologised by language and language direction:

1. a monolingual word list in foreign language 1
2. a monolingual word list in foreign language 2
3. a bilingual word list from foreign language 1 into foreign language 2
4. a bilingual word list from foreign language 1 into the mother tongue
5. a bilingual word list from the mother tongue into foreign language 2

The immediate and provisional conclusion of this is that designing dictionaries to help the translation process is not a simple task – particularly if translation from one foreign language into another is involved. This conclusion invites us to think on general lines and operate with complexes of word lists and dictionaries that mutually support each other and combine to satisfy the needs arising in various situations. Naturally, one could object that some of these types of word list are less important than others, since users may also choose a different translation strategy. But the role of science is to reveal all types of problem and indicate solutions – whether or not publishers of dictionaries choose to use the solutions provided. Otherwise science risks becoming conformist – it will stick to traditions and have no visions of innovation. If we ignore dictionaries that can help to translate from one foreign language into another (these will in any case have a very small target group), and instead compare the types of word list needed to provide assistance in translating into and from a mother tongue, four different types of word list are needed:

1. a monolingual or bilingual word list based on the mother tongue
2. a monolingual or bilingual word list based on the foreign language
3. a bilingual word list from the mother tongue into the foreign language
4. a bilingual word list from the foreign language into the mother tongue

If we also focus on the bilingual aspect in points 1 and 2, and then compare with the word lists in points 3 and 4, we learn that lexicographical assistance for translation into and from a mother tongue can be provided in a single dictionary with two bilingual word lists:

1. a bilingual word list from the mother tongue into the foreign language
2. a bilingual word list from the foreign language into the mother tongue

At first sight, this conclusion may seem obvious and in accordance with traditional ideas regarding translation dictionaries. But beneath the apparently traditional surface there lies the idea that bilingual word lists from the mother tongue into the foreign language are not

only needed to resolve translation problems in the same language direction but also in the reverse language direction; and that bilingual word lists from the foreign language into the mother tongue are also needed to help resolve translation problems in both language directions. This innovative thinking has only been made possible by shifting the focus from actual dictionary usage to the extra-lexicographical situations in which a potential user experiences specific types of need.

4.3.5.3 Proofreading and marking

Once the original author has completed the first draft, it is often sent to a proofreader prior to printing and dispatch to the final receiver. If this is done, the proofreader passes through various sub-stages. The first of these is a reading stage, in which some form of reception takes place, the nature of which depends on the task in hand. This is a proofreading-related reception of a special kind, which is undoubtedly different from reception by the final receiver for whom the text is intended. The final receiver's reception focuses primarily on content – the message is the main thing, and the sole purpose of the linguistic expression of the text is to help promote the smooth passage of the message. The proofreader, on the other hand, is normally asked to focus on the form of the text – although reception in terms of content may also be involved occasionally. The next sub-stage involves an assessment of the received text. If the proofreader deems that the text is in order, no more is done. But if the proofreader finds anything strange or even wrong, they may (depending on the nature of the task) start a new sub-stage involving actual proofreading in which the proofreader either makes changes directly in the text or adds comments and suggestions which are then returned to the author. This comment/change stage can be regarded as a special kind of text production. It is also worth underlining that the three sub-stages are consecutive to the extent that the proofreader first receives and assesses a text segment and makes any comments and changes in it, after which he/she then proceeds to the next text segment and so on. The processing of each text segment can be illustrated as follows:
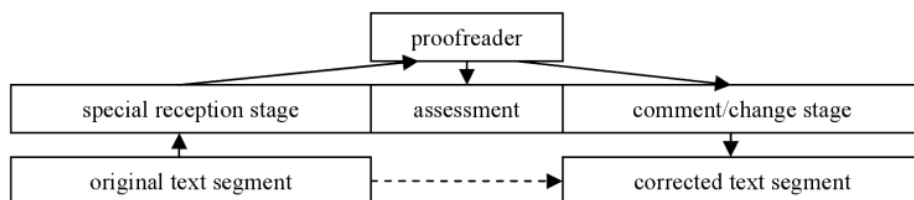
Figure 4.15: The three sub-stages of proofreading

If the proofreader encounters problems during the reception stage, or if during the assessment stage he/she is in doubt about anything or notices anything strange or incorrect but cannot think of a good alternative suggestion, the consultation of a dictionary may be a quick and easy way to solve the problem.

The stages and tasks connected with a teacher's marking in papers submitted by students or pupils are similar in many ways to the corresponding stages and tasks involved in proofreading. Teachers also proceed from one text segment to the next. First there is a special

reception stage, then an assessment stage, and finally (if there are any problems in the text) a marking and suggestions stage which is reminiscent of the proofreader's comment/change stage, and which can also be regarded as a special type of text production:

```
                        ┌──────────────┐
                        │   teacher    │
                        └──────────────┘
┌──────────────────────┬──────────────┬──────────────────────┐
│ special reception    │  assessment  │ marking/suggestion   │
│ stage                │              │ stage                │
└──────────────────────┴──────────────┴──────────────────────┘
┌──────────────────────┐          ┌──────────────────────┐
│ original text segment│- - - - ->│ marked text segment  │
└──────────────────────┘          └──────────────────────┘
```

Figure 4.16: The three sub-stages of marking

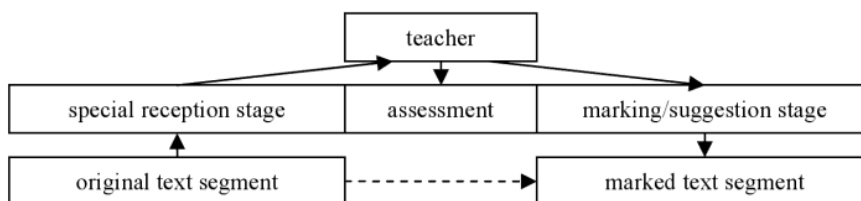To summarise this discussion of the communication process in connection with proofreading and marking, the following three sub-stages common to the two processes can be identified at this level of abstraction:

1. special kind of reception
2. assessment
3. special type of production

If we now climb slightly down the ladder of abstraction again, a number of lexicographically relevant differences also appear between the five different communicative situations connected with proofreading and marking. These are all situations involving more than one language. In the proofreading or marking of texts produced in a foreign language (user situation 9), the reception and assessment of the original text takes place both within the foreign language and via the mother tongue; and final production (in a broad sense) can take place partly in the foreign language and partly via the mother tongue, in which case there are two more sub-stages: transfer from the mother tongue into the foreign language, and production in the foreign language (in a narrow sense). The following sub-stages and variants result from this:

1. special kind of reception of the foreign language
   a. within the foreign language
   b. via the mother tongue
2. assessment of text in the foreign language
   a. within the foreign language
   b. via the mother tongue
3. special kind of production in the foreign language (in a broad sense)
   a. directly in the foreign language
   b. via the mother tongue
      i.   transfer from the mother tongue into the foreign language
      ii. production in the foreign language (in a narrow sense)

Although only a single monolingual word list designed to cover all needs at all the various sub-stages is necessary to cover the potential user's needs when proofreading and correcting a text in the mother tongue (user situation 8), when proofreading and correcting a text

4. assessment of text in foreign language 2
   a. within foreign language 2
   b. via foreign language 1
   c. via the mother tongue
5. special kind of production in foreign language 2 (in a broad sense)
   a. directly in foreign language 2
   b. via foreign language 1
      i. transfer from foreign language 1 into foreign language 2
      ii. production in foreign language 2 (in a narrow sense)
   c. via the mother tongue
      i. transfer from the mother tongue into foreign language 2
      ii. production in foreign language 2 (in a broad sense)

To cover all these types of user need in connection with this special kind of communication from one foreign language into another, no fewer than seven different word lists are needed. First a monolingual word list in foreign language 1 is needed to cover the needs at stage 1(a). Secondly, a monolingual word list in foreign language 2 is needed to cover the needs at stages 2(a), 4(a) and 5(a) and perhaps stages 5(b–ii) and 5(c–ii). Thirdly, a bilingual word list from foreign language 1 into foreign language 2 is needed to cover the needs at stages 1(b), 3 and 5(b–i) and perhaps 5(b–ii). Fourthly, a bilingual word list from foreign language 1 into the mother tongue is needed to satisfy the needs at stage 1(c). Fifthly, a bilingual word list from foreign language 2 into foreign language 1 is needed to cover the needs at stages 2(b) and 4(b). Sixthly, a bilingual word list from foreign language 2 into the mother tongue is needed to cover the needs at stages 2(c) and 4(c). And seventhly, a bilingual word list from the mother tongue into foreign language 2 is needed to cover the needs at stages 5(c–i) and perhaps stages 5(c–ii). If all these needs are combined, the following seven types of word list are needed to fully cover the potential user's needs in connection with proofreading and correcting translations from one foreign language into another:

1. a monolingual word list in foreign language 1
2. a monolingual word list in foreign language 2
3. a bilingual word list from foreign language 1 into foreign language 2
4. a bilingual word list from foreign language 1 into the mother tongue
5. a bilingual word list from foreign language 2 into foreign language 1
6. a bilingual word list from foreign language 2 into the mother tongue
7. a bilingual word list from the mother tongue into foreign language 2

As pointed out in the section on translation dictionaries above, the immediate conclusion of this discussion is that designing dictionaries to help the processes of proofreading and marking is not a simple task – particularly when the process involves two foreign languages. There are three challenges: finding out whether some of the types of word list needed in connection with the issues involved can be combined; finding out what is needed to develop integrated dictionary concepts which allow for lexicographical assistance to potential users *both* in standard communicative situations *and* in the special situations related to proofreading and marking; and thinking innovatively in relation to complexes of word lists and dictionaries that can supplement each other and combine to satisfy the needs arising in various situations.

4.3.5.4 Discussion of communicative sub-stages: provisional conclusions

Analysis of the various sub-stages in the communication process has shown that some of these sub-stages contain common elements, even though they are attached to different communicative situations. Further examination of these common elements will reveal the potential for developing concepts for dictionaries that can provide lexicographical assistance in more than one communicative situation. As a result, it is necessary to look beneath the monolingual or bilingual surface and analyse the respective primary and secondary needs that constitute the smallest relevant units in relation to each communicative process. However, before doing this it seems wise to compare function theory with Wiegand's theory. Wiegand (1998a) deals with some of the communicative situations mentioned (production and reception) without specifying the language in relation to the user's mother tongue; and in this connection he speaks of *Kommunikationsstörung* [communication disturbance] and *konfliktäre Sprachkommunikation* [conflictive language communication] (Wiegand 1998a:531–533). In other publications he also talks of translation and production and reception in the foreign language. But his analysis of these extra-lexicographical situations is reconstructed based on existing dictionaries, so he only mentions then in passing. As a result, he does not spot all the relevant communicative processes – not to mention their different sub-stages, which he does not mention at all even though they are absolutely central in drawing up user-friendly dictionary concepts. To paraphrase Werner (1990)'s comment on Kromann et al., we could say that this shows once again that Wiegand's ideas »cannot be used as an important basis for a theory« on lexicography, either.

4.3.6 Specification of user needs

Table 4.1 showed the most important information categories in connection with the potential user's primary needs. It was also suggested that a number of these categories are also relevant with regard to secondary user needs. But in both cases, the discussion remained on a very general level. To progress from this point, function theory requires that the potential user's needs are specified to a greater extent, making it possible to construct models for specific user needs in connection with each user situation. It is not until these needs are made this specific that a bridge can be built from *extra-lexicographical* information needs to the *intra*-lexicographical data which dictionaries must contain in order to cover user needs. For instance, if users in a particular communicative situation need – or may need – information about a word's inflection, any user-friendly dictionary will contain the inflection data required.

Two methods can be used to identify these specific user needs: an inductive method, and a deductive method. The first may consist of a user survey in which the potential user is observed in an extra-lexicographical situation in order to identify lexicographically relevant problems from which a general conclusion can be drawn. This kind of survey is different from all previously known lexicographical user surveys, where the focus is on the actual user. The second method, which will be used here, is based on the communication models that have already been discussed, and on a series of categories derived from linguistics and communication studies and adapted to suit a lexicographical purpose. This makes it possible to identify potential types of problem – and thus to identify types of lexicographically

relevant information need as well. As mentioned above, there are still no known examples of the use of the first method. But in the long term there is little doubt that induction and deduction must be combined to supplement each other in order to identify user needs as precisely as possible.

However, the second method is sufficient because the main aim is to show how function theory can use an analysis of the potential user's needs to reach a point at which synthesis can begin and thereby recreate a clear picture of the main elements in the lexicographical functions. For the same reason, the following study of user needs is like an exemplary survey. So for one thing it will only focus on user needs in connection with reception, production, proofreading and marking of texts in the mother tongue. In addition, it will only focus on the problems in relation to Danish, Danish users and non-specialised texts. And finally, it will ignore the various types of Danish user, thereby referring (for now) the discussion of whether the needs covered in each situation apply to all user types in connection with all lemmata to concrete dictionary projects.

4.3.6.1 Lexicographical needs for text reception in mother tongue

When people encounter problems in understanding their mother tongue, the reason is normally that they do not understand the meaning of a particular word, idiom or proverb. But sometimes the reason is that they do not know whether the word in question has any stylistic or cultural restrictions. As a result, potential users need information about meanings and pragmatic and cultural restrictions in order to understand a text in their mother tongue. Finally, the reason for any lack of understanding may be that people do not recognise a particular irregular inflection, making it necessary to select such forms with references to the basic form. The primary user needs for the reception of texts in a mother tongue are therefore as follows:

Information about
– meaning of lemmata
– idioms
– meaning of idioms
– proverbs
– meaning of proverbs
– pragmatic and cultural restrictions
– irregular inflection forms as lemmata

Table 4.2: Primary user needs for reception in the mother tongue

When potential users turn into actual users on consulting a dictionary, they sometimes have to pass through several introductory stages before reaching the data required. For instance, it is sometimes difficult to find the relevant dictionary article. If users encounter a substandard orthographical variant in a text (*fosforus* instead of *phosphorus*, for instance), they can only find the required data if these variants are selected as lemmata with a reference to articles in which the other data can be found. The same applies to irregular inflections, which are also a problem in relation to secondary needs. And in theory it also applies to

orthographical mistakes – although this complicated question will not be dealt with here. Once users have found the article they require, they may need confirmation that they have found the right article. The first and easiest way to do this is by using orthography. But it can also be done by stating the relevant word class if the same spelling applies to several different lemmata (*progress* and *project* stated as nouns and verbs respectively, for instance), or by stating the genus of a term when this applies in the language concerned. This all means that users have the following secondary needs for text reception in the mother tongue:

Information about
– lemmata
– orthography
– orthographical variants as lemmata
– (orthographical mistakes as lemmata)
– irregular inflection forms as lemmata
– word combinations as lemmata
– word class
– genus

Table 4.3: Secondary user needs for reception in the mother tongue

4.3.6.2 Lexicographical needs for text production in mother tongue

It is normally possible to assume that people expressing themselves in their mother tongue know in advance what they want to say. Otherwise the issue at stake would not be communicative but cognitive. However, a number of problems may arise when it comes to linguistic expression. There may be problems connected with spelling, gender, conjugation, syntactic properties, the construction of word combinations, collocations, idioms, proverbs and standard phrases. There may also be problems connected with the use of particular words or expressions with regard to style or restrictions determined by culture or language policy – for instance, the terms normally used by companies to refer to their products. And finally, there may be problems connected with the wish to use a more varied style using derivatives, synonyms, antonyms, hyponyms etc. Users may have any of the following primary needs connected with text production in their mother tongue:

Information about:
– word class
– genus
– orthography
– pragmatic and cultural restrictions
– local restrictions (language policy)
– inflection
– word combinations
– syntactic properties
– collocations

– idioms
– proverbs
– standard phrases
– derivatives
– synonyms, antonyms, hyponyms etc.

Table 4.4: Primary user needs for production in the mother tongue

In connection with some of the categories mentioned above, two or more variants may sometimes occur – for instance with regard to orthography, genus or conjugation. But authors only need a single variant (the most frequent one, or the recommended one) to produce a correct mother-tongue text, so it is actually not necessary to add any more variants to satisfy the needs of this type of user (cf. Bergenholtz 2001b, 2003a).

The secondary needs are basically the same as those applying to text reception, apart from one important difference: users sometimes need to confirm the meaning of a word to be certain that they have found the correct article. This is particularly true of rare words or specialised language, where authors may be in doubt as to whether a word or term actually has the intended meaning. And it also applies in connection with idioms and proverbs, when users need to confirm that they have used them correctly. The need of users wishing to use the idiom life isn't all beer and skittles who are uncertain of its precise meaning is secondary not primary, since they simply need to confirm that this idiom has the meaning they imagine it has. Users may have any of the following secondary needs in connection with text production in their mother tongue:

Information about:
– lemmata
– orthography
– orthographical variants as lemmata
– (orthographical mistakes as lemmata)
– word class
– genus
– meaning of lemmata
– meaning of idioms
– meaning of proverbs

Table 4.5: Secondary user needs for production in the mother tongue

4.3.6.3 Lexicographical needs for text proofreading in mother tongue

Naturally, the lexicographically relevant needs of a proofreader depend on the form of proofreading in question. Consequently, and for the sake of simplicity, in this section the point of departure will be that proofreading comprises the entire range of expression in the language concerned. As mentioned above, the first sub-stage through which a proofreader passes is a special kind of reception stage. This does not involve standard reception and acquisition of the text content. Nonetheless, proofreaders must be able to understand texts if they are to carry out satisfactory proofreading. Naturally, the problems that might arise at

access to all the permitted variants. But this has already been allowed for in tables 4.6 and 4.7 above, so it can be concluded that apart from local language-policy restrictions, proof-readers and teachers need the same lexicographical information.

4.3.6.5 Provisional summary

The table below illustrates all the primary needs for information that potential users may have based on the analysis performed above with regard to reception, production, proof-reading and marking of texts in a mother tongue:

Information about	reception	production	proofreading	marking
– word class	-	x	x	x
– genus	-	x	x	x
– genus variants	-	-	x	x
– orthography	-	x	x	x
– orthographical variants	-	-	x	x
– meaning of lemmata	x	-	x	x
– pragmatic and cultural restric-tions	x	x	x	x
– local language-policy restric-tions	-	x	x	-
– inflection	-	x	x	x
– inflection variants	-	-	x	x
– irregular inflection forms as lemmata	x	-	-	-
– word combinations	-	x	x	x
– syntactic properties	-	x	x	x
– collocations	-	x	x	x
– variants of collocations	-	-	x	x
– idioms	x	x	x	x
– meaning of idioms	x	-	x	x
– proverbs	x	-	x	x
– meaning of proverbs	x	-	x	x
– variants of proverbs	-	x	x	x
– standard phrases	-	x	x	x
– (synonyms, antonyms, hypo-nyms etc.)	-	x	x	x

Table 4.8: Primary user needs for reception, production, proofreading and marking of texts in a mother tongue

The following table illustrates the secondary user needs revealed above in connection with reception, production, proofreading and marking of texts in a mother tongue:

Information about	reception	production	proofreading	marking
– Lemmata	x	x	x	x
– word combinations as lemmata	x	-	x	x
– irregular inflection forms as lemmata	x	-	x	x
– orthographical variants as lemmata	x	x	x	x
– (orthographical mistakes as lemmata)	x	x	x	x
– Orthography	x	x	x	x
– word class	x	x	x	x
– genus	x	x	x	x
– meaning of lemmata	-	x	x	x
– meaning of idioms	-	x	-	-
– meaning of proverbs	-	x	-	-

Table 4.9: Secondary user needs for reception, production, proofreading and marking of texts in a mother tongue

It is now possible to combine tables 4.8 and 4.9. However, this can only be done providing that the information classes relating to primary and secondary needs are not in direct contradiction to each other. This means, for instance, either that the same demands must be made with regard to completeness in terms of the meaning of lemmata; or that it is at least possible to find a common denominator. Allowing for this proviso, here is a total picture of primary and secondary user needs in connection with reception, production, proofreading and marking of texts in a mother tongue:

Information about	reception	production	proofreading	marking
– lemmata	x	x	x	x
– word combinations as lemmata	x	-	x	x
– irregular inflection forms as lemmata	x	-	x	x
– orthographical variants as lemmata	x	x	x	x
– (orthographical mistakes as lemmata)	x	x	x	x
– word class	x	x	x	x
– genus	x	x	x	x
– genus variants	-	-	x	x
– orthography	x	x	x	x
– orthographical variants	-	-	x	x
– meaning of lemmata	x	x	x	x
– pragmatic and cultural restrictions	x	x	x	x
– local language-policy restrictions	-	x	x	-
– inflection	-	x	x	x
– inflection variants	-	-	x	x
– word combinations	-	x	x	x
– syntactic properties	-	x	x	x
– collocations	-	x	x	x
– variants of collocations	-	-	x	x
– idioms	x	x	x	x
– meaning of idioms	x	x	x	x
– proverbs	x	x	x	x
– meaning of proverbs	x	x	x	x
– variants of proverbs	-	-	x	x
– standard phrases	-	x	x	x
– (synonyms, antonyms, hyponyms etc.)	-	x	x	x

Table 4.10: Total user needs for reception, production, proofreading and marking of texts in a mother tongue

Based on tables like these, in which the individual information classes (and thereby the demands made on corresponding lexicographical data) are specified, it is possible to start on the path leading back to dictionary concepts which can cover user needs in one or more communicative situation. For instance, table 4.10 shows that a monolingual production dictionary in a mother tongue only needs to select word combinations and irregular inflection forms as lemmata to function as a reception dictionary as well. In addition, table 4.10 shows that if a mother-tongue production dictionary contains not only these two word classes but also a number of variants with regard to genus, orthography, inflection, collocations, idioms and proverbs, it can also be used to help in proofreading and correcting texts.

The direct conclusion of this is that it is completely possible and not particularly complicated to design dictionaries which satisfy user needs in terms of production, proofreading and marking of texts in the mother tongue of the user in question.

The method used to analyse information needs in connection with mother-tongue reception and production (including proofreading and marking) can also be used to analyse the corresponding needs in connection with translation into and from the mother tongue, and reception and production in a foreign language including proofreading and marking. The former has been attempted in Tarp (2004e and 2004d), while the latter will be attempted in the section below in connection with the general theory for learner's dictionaries. But even now the last word on the potential user's information needs has not been uttered, among other things because these needs also include the complex needs relating to cognitive situations. This question is directly relevant to the theory on learner's lexicography, so it will be dealt with below.

4.3.6.6 Lexicographical needs in cognitive situations

The discussion above implicitly reveals that the potential user's situation is more important than the potential user's characteristics when identifying their communication needs. However, the issue is slightly different with regard to the acquisition of knowledge. The actual division into communicative and cognitive needs is based on the distinction between two different types of situation: communicative and cognitive situations. But when identifying the potential user's needs in cognitive situations, potential user characteristics are far more important. This applies in particular in connection with a given subject, area of knowledge or foreign language, where the potential user's specialised and foreign-language qualifications have a major influence on the kind of needs they might have. At this point specialised qualifications only will be discussed, since the question of foreign-language qualifications will be dealt with in detail in a subsequent section on learner's lexicography.

Lexicography has a long tradition of dividing potential users of specialised dictionaries into laymen and experts (cf. Kalverkämper 1900a, 1990b, for instance). Some authors also add the terms "semi-experts" and even "interested laymen" between these two extremes (cf. Bergenholtz/Kaufmann 1997, for instance). Rasmussen (1998) divides potential users into laymen, semi-experts and experts, and then discusses the various types of need these types of user may have in knowledge-related situations. In this connection she distinguishes between information needs and specification needs – needs for general knowledge and detailed knowledge respectively. According to Rasmussen, the former declines as the amount of specialised knowledge increases, while the latter increases as the amount of specialised knowledge increases. She illustrates this as follows:
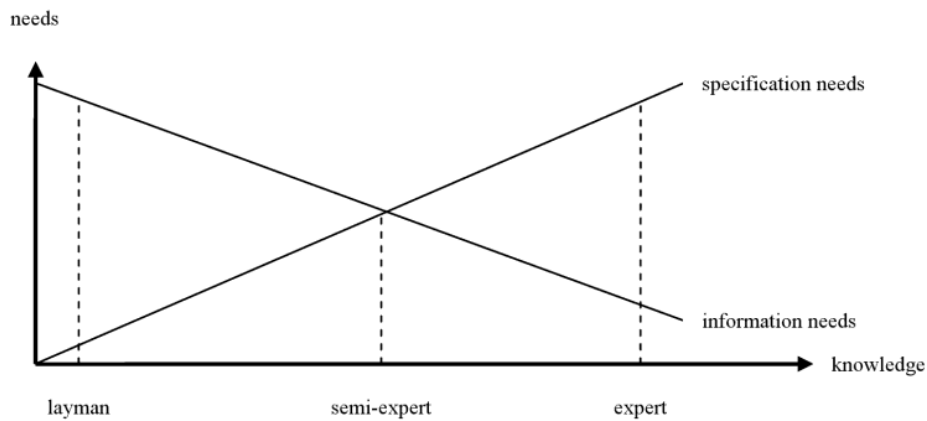
needs

Figure 4.17: Relationship between specialised knowledge and types of need according to Rasmussen (1998:142)

The terms "information needs" and "specification needs" are ill-judged, since what is always involved is the need to extract information from dictionary data. But the idea that laymen need more general information while experts need more specific and detailed information is interesting. It corresponds closely to similar thoughts in Bergenholtz/Kaufmann (1997), where the focus is placed in particular on information needs among laymen, interested laymen and semi-experts, resulting in a proposal for the following lexicographical solutions for the needs of various types of user:

gene
the basic unit of inheritance which is transmitted from parents to offspring
–> § 3, 21

gene
the basic unit of inheritance transmitted from parent to offspring
An organism contains many genes – in humans approximately more than 100,000. Each gene has a specific characteristic, e.g. one out of the potential blood groups. In chemical terms genes are small sections of big complex molecules, the nucleic acids. In bacteria these are coiled aggregates and in higher organisms they are constituents of chromosomes.
–> bacterium, chromosome, molecule, nucleic acid
–> § 3, 21

gene (Johannsen 1909)
A gene is a DNA sequence encoding a protein, tRNA or rRNA. For eukaryotes a

have to be divided into types, because not everyone has the same types of need in the same types of situation. In addition, the definition underlines that lexicographically relevant needs are not abstract but associated with certain types of potential user.

4. *in a specific type of extra-lexicographical situation*: This refers to *when* a dictionary can be used – in a specific situation. The definition explains that this situation is extra-lexicographical and therefore not necessarily related to an actual dictionary consultation. It also explains that lexicographically relevant needs are not only associated with a specific type of user, but that these users are also characterised by the fact that they are in specific situations, which is why their needs must be seen in relation to these situations.

Definitions of the functions of objects of use sometimes include statements about *how* these functions are realised. As shown above, definition 1 does not contain any such statement. If it did, the following alternative definition would be needed:

> *Alternative definition 1a*: A lexicographical function is the satisfaction – using specific types of lexicographical data – of the specific types of lexicographically relevant need that may arise in a specific type of potential user in a specific type of extra-lexicographical situation.

However, there is a fundamental problem involved in this alternative definition. In lexicographical function theory it is always the type of user needs that determines the assistance which any given dictionary should provide. These needs are always needs for specific types of information, so the corresponding types of lexicographical data are an answer to these needs because it is from these types of data that users can extract the information required to satisfy their needs. Implicitly, dictionaries must contain these types of data – neither more nor less – if they are to have a specific function. This causal relationship between user- and situation-related needs, data, information and satisfaction of needs can be illustrated as follows:
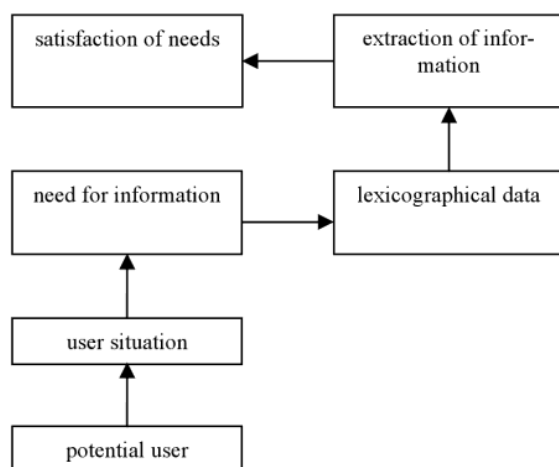

Figure 4.18: The causal relationship between user- and situation-related needs, data, information and satisfaction of needs according to function theory

Alternative definition 1a can be read and interpreted in two ways. It can be read in accordance with the figure above: user needs determine the data contained in a dictionary, which then leads to the satisfaction of these needs. But it can also be read the other way round: the data contained in a dictionary determines which needs it can satisfy. The latter statement is not essentially wrong, since lexicographical data obviously decides which needs a dictionary can satisfy. But if the statement is made absolute and we ignore the fact that needs generally arise before the object of use capable of satisfying them, it may lead to a contemplative theory that reconstructs the user's needs based on data in existing dictionaries. This can be illustrated as follows:
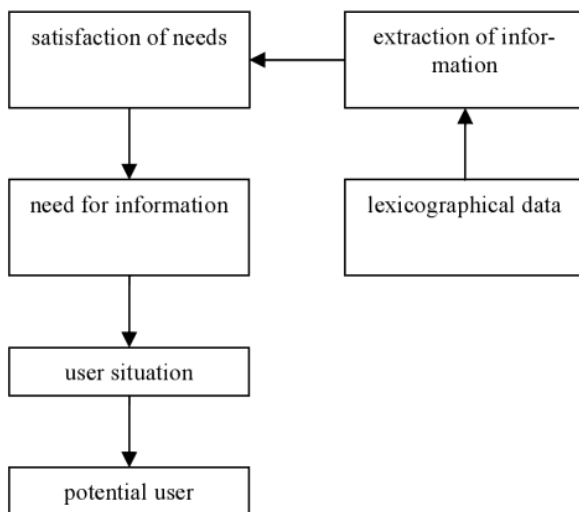

Figure 4.19: The causal relationship between needs, data, information and satisfaction of needs according to a reconstructed, contemplative theory

For these reasons, alternative definition 1a must be rejected and definition 1 retained. However, there is one more formulation in the latter definition that is debatable: a function is defined here as lexicographical assistance to cover *the* specific types – in other words, *all* the types of lexicographically relevant need that a specific type of user may have in a specific type of situation. Consequently, in order to have a specific function a dictionary must contain the exact types of data – neither more nor less – that a potential user needs to extract the information required to cover their needs. However, we all know that not all dictionaries contain the necessary data. For instance, in general the Danish RETSKRIVNINGS-ORDBOGEN [Dictionary of orthography] only contains data on word class, orthography and inflection – although there are a few lemmata dealing with meaning, word formation and collocations (cf. Tarp 2002c). Under Danish law RETSKRIVNINGSORDBOGEN is intended to be a tool used by the Danish Language Council to inform the public of its decisions regarding correct Danish orthography. So by law this dictionary is supposed to have a knowledge-related, cognitive function. But who needs this kind of knowledge? In truth, only linguists who study and write about the Danish language, lexicographers producing Danish dictionaries and others working with Danish as their *language of focus*. However, the problem is