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Chemistry in Sepedi: Translation strategies for success

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CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter provides an overview of the major debates about the teaching and learning of scientific concepts in an African language. The debates for and against the use of mother tongue education will be conceptualized in terms of the language policies in South Africa. The focus is on the following: apartheid and post-apartheid language policies, Curriculum 2005 and Sepedi as a language of learning and teaching (LOLT), translation theory and the translators' choice of translation strategies. The literature is used to generate ideas for the description, analysis and interpretation of data and relate these to the research question. It also focuses on the controversy around Sepedi as a language.

2. 2. The geography of the language

Northern Sotho is a standardised language with six dialect clusters. The dialect clusters are as follows: "South Central (Kopa, Ndebele, Sotho), Central (Pedi, Tau, Kone), North Western (Tlokwa, Hananwa, Matlala, Moletši, Mamabolo), North Eastern (Lobedu, Phalaborwa, Kgaga, Dzwabo), Eastern (Pai) and East Central (Pulana, Kutswe)" (www.cyberserv.co.za/). Northern Sotho is a member of the Sotho language group, which includes Sesotho (formerly known as South Sotho) and Setswana (formerly known as West Sotho).

The following terms are used interchangeably: Sesotho sa Leboa (the translated version of Northern Sotho) and Northern Sotho. The problem that has emerged recently is that of naming the language Sepedi instead of Northern Sotho. Northern Sotho accommodated all the dialects of this language. Sepedi stands in the English text of the Constitution (http://www.dacst.gov.za/), while in its translated version Sesotho sa Leboa is used. In this project, for the sake of

briefness, I will refer to it as Sepedi while acknowledging that this is controversial in that some people regard Sepedi as one of the many dialects of Northern Sotho.

This language is spoken mainly in parts of the Limpopo Province (previously known as the Northern Province). Limpopo Province is the fifth largest of the nine provinces of Republic of South Africa. The geographical boundary of the language area may be indicated by an imaginary line drawn "from Pretoria, through Springs, Middleburg, Groblersdal and Lydenburg and from there north from Sabie river to Bosbokrant up to Klaserie and the Olifants River. From there it extends northwards up to Tsonga area, westwards to Louis Trichardt, northwards again up to Messina. It then stretches westward to the border of Botswana and then back towards south, through the Potgietersrus district, to Warmbaths and finally to Pretoria" (Lombard, van Wyk and Mokgokong, 1985: 6). Just to add to the description of name changes, recently the following place names have been changed for political reasons: Messina is now known as Musina, Louis Trichardt as Makhado, Phalaborwa as Ba-Phalaborwa, Potgietersrus as Mokopane and Warmbaths as Belabela (http://www.routes.co.za/#Namechanges).

According to the 1999/2000 census, Sepedi as a language is spoken in the Limpopo province (52,7%) and the other languages spoken are Afrikaans (2,2%), English (0,4%), isiNdebele (1,5%), isiXhosa (0,2%), Sesotho (1,1%), Setswana (1,4%), Seswati (1,2%), Tshivenda (15,5%), Tsonga (22,6%), and the other (0,3%) (www.stats.gov.za). Sepedi, Tshivenda and Xitsonga are the major languages spoken in Limpopo province. According to Webb and Sure (2000: 45), Sepedi is found in the central areas of the province whereas Xitsonga and Tshivenda are concentrated in the Province bordering Mozambique and Zimbabwe respectively (refer to map, Appendix C, Figures 1 & 2). The other areas where Sepedi is spoken include: Mpumalanga (10,4%), Gauteng (9,4%), North West (4%) and Free State (0,2%).

The recorded history of Bapedi and their language Sepedi can be traced back to the 14th century (http://gauteng.hotelguide.co.za). This study will not focus on the origin of the language and its speakers but the role of language in creating attitudes, either positive or negative. According to St. Clair (1982: 164), history plays an important role in uncovering the attitudes of people towards a particular language. He explains:

> To understand fully how attitudes develop, it may be necessary to reach back into the past and investigate the social and political forces operating within the history of a nation.

The following section looks at the various language policies that came into play at different periods in the education system of South Africa.

2.3 MISSIONARY EDUCATION

The missionaries played an important role in the education system in South Africa. They were the first agencies to start the founding of schools. With the missionaries who were the pioneers in the field of Bantu Education, their main purpose was the evangelisation of the Bantu (Duminy, 1967:4). Mawasha (1977: 74-75) argues that,

- Most of the missionary teachers who worked in Black Education in its initial stages were English-speaking and therefore could not help giving prominence to their language in their teaching.
- The aim of the missionary teacher was not only to evangelise but also to westernise the African convert, this endeavour could hardly be attained without involving and giving prominence to the language of the tutor, which … was in the main English.

Besides their aim of evangelizing and educating the black South Africans, the status of English vis-à-vis African languages was reinforced by its status as the

language in education in all mission schools. According to Ntshangase (1999: 46), the converts also associated the use of English with superiority. This is illustrated by these words: “there were other Africans … who went on to represent the aspirations of the missionaries and also saw themselves as global citizens”.

On the other hand, the Berlin Missionary Society was encouraged to promote active learning in both Sepedi and English, for example, where there was no limit to the level of English the students were allowed to attain (Brock-Utne, 2002: 85). Some mission schools were taken over by the departments of education. For example, the Transvaal Department of Education took control of five registered schools belonging to some mainstream churches – Lutheran, Anglican, Baptist and Roman Catholic (Mpe and Seeber, 2000:18).

The relationship between missionaries and politicians grew bitter when the National Party came into power in 1948.

2.4 APARTHEID LANGUAGE POLICY

In 1948, when the National Party came into power under D.F Malan, languages in South Africa were politicised and used to entrench apartheid. The nationalists wanted to undo everything that the missionaries had established, educationally and politically. This was done by the introduction of policies of separation between whites and the ‘non white’ majority. Two systems of education, Christian National Education and Bantu Education, were introduced for white and black South Africans respectively. Bantu Education introduced vernacularisation of the medium of instruction in African primary schools. The government officials’ argument was that the media of instruction would gradually be extended to secondary schools and training institutions.

During 1949-1951 there was a most extensive and comprehensive survey that was undertaken to look into the issue of Bantu Education in South Africa (Ross cited in Duminy, 1967: 7). A Commission that was referred to as the Eiselen Commission under the chairmanship of Dr. W.W.M. Eiselen undertook this survey. The findings were contained in its report (U.G.53/1951). Reporting on its findings, the Commission noted, "the vernacular should be the medium of instruction for at least the duration of the primary school". As a result of the recommendations of the Eiselen Commission being accepted in principle by the Government, the Bantu Education Act (Act No. 47 of 1953) was passed by the Parliament. The real purpose of the Bantu education Act, Act no 47of 1953 was to "achieve a definite lowering of educational standards by confining the black child to the limits of his tribal outlook" (Gerard, 1981: 207).

As Gerard (1981) points out, the introduction of mother-tongue education was to ensure that black children learnt no more English or Afrikaans than they needed to carry out discussions relating to their work, and in particular to understand and carry out orders. In the South African context, the education system perpetuated racial discrimination and served the interests of the White higher class. It reproduced the race and class inequalities embedded within society and culture. It was a very limited form of education, fit only for the docile members of a menial underclass who are taught to accept a lowly station in life without questioning it.

Commenting on Bantu Education in the recent past, Morris and Hyslop (1991: 259) noted that the education system for African people was in a state of collapse and that the material infrastructure was in a shamble with inadequate supplies of books and other basic equipments. This situation persists in some of the ex-DET[1] schools. The limitation of access of the majority poor population to quality education resulted in institutions that are constructed as 'historically disadvantaged'.

[1] DET stands for Department of Education and Training

In many countries, including South Africa, English has been the language of the government, seen as the passport for good jobs. In 1948, the South African government chose English and Afrikaans as the official languages and both were accorded equal rights by the Constitution. Reagan (1984: 157) maintains that the language policy simply promoted the government's policy of apartheid and that the mother tongue policy was therefore compatible with the political and social objectives of the National Party. "Afrikaans became the language most closely associated with the formalisation and execution of apartheid. To a great proportion of South Africans it probably calls up first and foremost associations of discrimination, oppression and systematic humiliation of others" (http://www.gov.za/reports).

English and Afrikaans were able to develop their systems of specialized terms for various disciplines and developed into terminologically modern languages, which can be used from Primary to University level. The indigenous languages had no official status. Recognition of these languages was limited and, unfortunately, this approach led to the suffocation of indigenous languages. Nxumalo (2000: 102) notes that any efforts that appeared to be geared towards the development of African languages were clearly planned to fit in with the policy of separate development. The history of South Africa has been such that indigenous languages have been used minimally in technical or scientific fields.

Recommendations that were made by the Welsh Commission (1935-1936), the Eiselen Commission (1949-1951) and UNESCO (1953), emphasized the use of mother tongue during the early stages of learners' school life. According to Heugh (1995: 43), prior to the Bantu Education Act, mother tongue was used for the first four years and it was then extended to eight years after the introduction of the Act. From the LANGTAG report (1996: 70), for a language to be used in secondary and tertiary education its vocabulary must be expanded. The thinking behind this model is that the importance of developing "alanguage in the domain

of education is that the education system is the main mechanism used to spread the developed form of language" (1996: 70).

In an address to the Senate on the 7th June 1954, Dr. H.F Verwoerd who was then the Minister of Native Affairs referred to the shortcomings of the former systems as summarised by the Eiselen Commission and outlined a programme of educational reform. He said:

> "A Bantu pupil must obtain knowledge, skills, attitudes in the school which will be useful and advantageous to him and at the same time to his community" (Verwoerd cited in Duminy, 1967: 9).

2.5 POST-APARTHEID LANGUAGE POLICY

Because of the effects of the apartheid language policy, the new government that came into power in 1994 committed itself to the constitutional provisions on language and to consolidating national unity and democracy in South Africa. The language policy is based on Section 6 of the Constitution (Act No. 108 of 1996), and the following provisions pertaining to: "equality and language [Section 9 (3)], language in education [Section 29 (2)], language and culture (Section 30); cultural, religious and linguistic communities [Section 31 (1)] and language with regard to arrested, detained and accused persons [Section 35 (3) and (4)]" (www.dacst.gov.za/).

The post-apartheid language policy sets out to "develop and promote the official African languages and Sign language (s) of South Africa, i.e. Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, isiNdebele, isiXhosa and isiZulu" (www.dacst.gov.za/), in addition to English and Afrikaans. Our Constitution (1996) gives equal status and treatment to all eleven official languages. It provides for learning of South African languages by all South African citizens in order to promote national unity, multilingualism and multiculturalism. South

Africa's language policy is considered by scholars as one of the most progressive language policies in the world.

With the advent of the National Qualifications Framework (NQF), and the adoption of the principle of Outcomes-based education (OBE), the curriculum has become a central arena for the transformation of teaching and learning in South Africa. This new policy, Curriculum 2005, was introduced in the 1990s and calls for "putting the emphasis on what the learners should know and would be able to do at the end of a course of learning and teaching, instead of on the means to be used to achieve the results" (http://www.sn.apc.org/). According to Moraes (quoted in http://www.uct.ac.za/), it is more important "how" you know than "what" or "how much" you know.

2.6 CURRICULUM 2005 AND LANGUAGE OF LEARNING AND TEACHING (LOLT)

In view of the changing situation in South Africa by adopting the democratic Constitution of the Republic of South Africa (Act No.108 of 1996), a need for curriculum transformation and its development was to be provided. In taking the aims of the Constitution as stipulated in the preamble, education in particular needed to address the legacy of apartheid education. This was to be done by introducing a new system of education, Outcomes-Based Education, which forms the foundation of the curriculum in South Africa (Department of Education, 2002: 1).

The new proposal, Curriculum 2005, is based on multilingualism. It allows for indigenous languages to be used as media of instruction in schools. The language in education policy stipulates that:

> A wide spectrum of opinions exists as to the locally viable approaches towards multilingual education, ranging from arguments in favour of the cognitive

> benefits and cost-effectiveness of teaching through one medium (home language) and learning additional language(s) as subjects, to those drawing on comparative international experience demonstrating that, under appropriate conditions, most learners benefit cognitively and emotionally from the type of structured bilingual education found in dual-medium (also known as two-way immersion) programmes. Whichever route is followed, the underlying principle is to maintain home language(s) while providing access to and the effective acquisition of additional language(s). (http://education.pwv.gov.za/)

Language in Education policy promotes additive multilingualism; this means that learners are taught in their home language, and over time master additional languages. The thinking behind this model is that children learn best in their mother tongue. Section 6 (2) of the South African Schools Act (Act 84 of 1996) provides that the governing body of a public school may determine the language policy of the school and this right is subject to the Constitution.

Janks (cited in Panfil, K. and Wilson, K. (1997: http://www.canberra.edu.au/) argues that "students should have the right to choose any of the eleven official South African languages as LOLT". She adds that there can be no doubt that it is easier to learn in the language in which the students are most comfortable. Similarly, Halliday and Martin (1993) contend that learners should be strongly encouraged to use their primary languages as their main LOLT at all levels of schooling and all learners must have the opportunity to learn additional languages to high levels of proficiency.

Unlike the apartheid Bantu Education that was aimed at impeding the intellectual development of black pupils, learners in the new dispensation are able to use their indigenous languages as media of instruction and also learn other languages of wider communication such as English. In South Africa, it is now widely accepted that learners' main languages need to be treated as a resource,

rather than a problem. Ways need to be found to enable learners to use their main languages as a thinking tool in school.

2.7 SEPEDI AS A MEDIUM OF INSTRUCTION

In South Africa the issue of local indigenous languages to be used as media of instruction has been debated for many years by various bodies and committees. During the period 1935-1936 the first Commission of Enquiry, the Welsh Commission, was appointed to investigate problems with regard to Bantu Education. The Commission was under the leadership of Welsh. The Commission was to investigate the feasibility of using the mother tongue as medium of tuition. Reporting on this issue:

> the Committee desires at the outset to express its agreement with the general principles that a child's mother tongue is the best medium for his school - instruction and its conviction that during the first few years of a child's schooling the use of a foreign and poorly understood medium must operate as a very serious handicap to his progress (Welsh Commission, 1996: 83).

Because of the use of multiple languages in South Africa, the Welsh Commission realized that it was almost impossible to have vernacular languages as media of instruction throughout the child's schooling life. They argued that the mother tongue should be used as medium of instruction in the early ages of the learner, i.e. "during the first four years of the child's school life" (Commission Report, 1936: 83).

Opponents believe that mother tongue teaching and learning is impossible. For instance, Felber (cited in Matšela, 1987: 80) argues that one of the major problems of introducing into African Languages the teaching of such subjects as Agriculture, Biology, Chemistry, Physics, Mathematics, Engineering, Linguistics, Philosophy, Psychology and the like, is the lack of relevant specialized technical terminologies in those languages.

Ngugi wa Thiong'o is the most vocal advocate for the use of vernacular languages in Africa. Educated in Kenya, Ngugi achieved international acclaim for a series of English language novels published in the 1960s and 1970s (Clayton 1999: 150). He eventually abandoned English as the medium of creative writing in favour of his own language, Gikuyu. For Ngugi, indigenous languages are, first and foremost, the most appropriate medium for communication with other Africans on African markets.

For Ngugi, writing in indigenous languages has broader implications than appropriate communication with fellow Africans. It also challenges structures of alienation inherited from the colonial period. He continues by saying that "under British rule, Kenyan languages were associated with negative qualities of backwardness, underdevelopment, humiliation and punishment" (Clayton, 1999:151) Replacing colonial languages with indigenous languages in education, communication and other domains is thus central for Ngugi in order to achieve psychological independence from alienating structures of the past, or, to "decolonise the minds" of contemporary Africans.

Mangena (2003) says that when compared with their peers of other population groups, African learners are currently doing worse in mathematics, science and other content subjects. Furthermore, "when we force students to learn mathematics, history, and other subjects in a language they are not proficient in, we are in fact, taking away their right to all the other rights because we are making language a barrier to their access to knowledge" (http://www.gov.za/search97). Respecting people's rights means respecting everything that belongs to them. Over and above its communicative function, language signifies a person's identity and cultural values.

According to Matšela (1987: 80), one of the best ways to achieve a people's real understanding and use of specialised concepts and terminologies of skills and knowledge is a thorough understanding of the language in which they are

applied. He believes that the transfer of knowledge and terminology is possible only if terminologies have been developed for those fields in which the country concerned intends to follow scientific and technical developments. He sees African languages as having the capacity to develop their own terminologies.

According to Lestrade (cited in Duminy, 1967:149), “African languages are capable of a great deal of expressiveness, flexibility and real beauty, besides being capable, to an extent not shared by many other languages, of expansion both by adaptation of elements from other languages, and what is more, by increase of resources from within themselves”.

As Matšela (1987: 84) argues, “an awareness created by, and through one’s own free mother tongue and language of wider community, could have a very far-reaching influence on the community’s overall development”. According to Ntake and Pare (2001), the translators of the book *Questions and Answers: Matric Physical Science* papers, the present policy of introducing English earlier as medium of assessment is a problem. They suggest that the transition should take place between the Further Education and Training Band (FET) and the Higher Education and Training Band (HET). This means that at the end of grade 12 the learners should have achieved CALP (Cognitively Advanced Language Processing) in both Sepedi and English. The learner should have achieved CALP in the primary language before using the second language as sole medium of assessment.

According to Ntshangase (2001:59-60), “one crucial aspect of any language development programme is a strong interest in translated works … translation provides the host language and its culture a window into the cultures of others”. It enriches the host language and its art. I believe that this objective can be achieved through terminology development. Terminology works from a source language to a target language in providing and creating equivalents for scientific

concepts. The following section looks at the origin of and the various theories around translation.

2.8 THE HISTORY OF TRANSLATION

Many people assume that because the local indigenous languages do not yet have developed terminologies, translation into these languages is practically impossible. Before comparing the source and the target texts in order to discover the translation strategies that are used by Ntake and Pare (2001), it is important to provide an outline of the theoretical orientation underlying this comparative investigation.

It begins with the discussion on the history of translation studies since such historical evidence plays an important role in contextualising the translation processes and is also a prelude to an overview of translation norms (see Toury, 1980; Toury 1995).

2.8.1 Translation studies prior to 1970

For many years, translation studies was dominated by the concept of equivalence or the idea that a 'correct' translation should be faithful to its original or source text, in the sense of a translation being a mirror-image of its original. Translators were expected to follow such contradictory rules as:

- A translation must give the words of the original
- A translation must give the ideas of the original
- A translation should read like an original work
- A translation should read like a translation
- A translation should reflect the style of the original
- A translation should possess the style of the original
- A translation should possess the style of the translator
- A translation should read as a contemporary of the original
- A translation should read as a contemporary of the translator
- A translation may add to or omit from the original
- A translation may never add to or omit from the original
- A translation of a verse should be in prose
- A translation of a verse should be in verse (Savory, 1968: 49)

The comparison of texts in different languages inevitably involved a theory of equivalence. According to Wallmach and Kruger (1999: 276), translation theorists such as Catford in England, Nida in the United States, Reiss and Wilss in West Germany and Neubert in East Germany, under the influence of Chomsky's transformational generative grammar, thought that by adopting the notion of equivalence and accuracy "good" translations could be ensured. In the context of transformational generative grammar, equivalence was seen as the replacement of a word in one language by a word in another language.

Newmark (1988) distinguishes between semantic translation and communicative translation. In the case of producing a translation that is ruled by the principle of communicative translation, the aim would be:

> "to render the exact contextual meaning of the original in such a way that both content and language are readily acceptable and comprehensible to the readership". (Newmark, 1988a: 39)

The semantic translation, according to Newmark (1988a: 39) attempts to "render, as closely as possible the semantic and syntactic structures of the second language allow, the exact contextual meaning of the original".

In all the above theories, being faithful to the original was the yardstick by which translations were assessed. Other theorists, however, could not subscribe to this. According to Bassnett-McGuire (1980: 29), what we have to understand is that equivalence in translation should not be approached as a search for sameness since sameness cannot even exist between two TL versions of the same text, let alone between the SL text and the TL version. Bassnett-McGuire (1980: 56) points out that "the use of the term equivalence is 'perverse', since to ask for sameness is to ask too much."

According to Kruger and Wallmach (1997: 120-121), it is impossible to view a translated text as the mirror-image of its original as is required by equivalence-based prescriptive theories, since translation always involves a degree of subjectivity and reformulation. They continue to argue that the conditions required to produce equivalence differ from language culture to language culture; a text which functions as a translation today may not be called a translation tomorrow and may be named a version instead of a translation. Furthermore, what was regarded as 'good' translation at one moment was rejected as 'bad' at another and considered either unfaithful or unacceptable by later generations. The recognition of the fact that translations are not produced in a vacuum, have led theorists such as Toury (1980) to adopt descriptive study to translation.

Descriptive translation studies is based on the contribution of essentially two Israeli scholars and their 'polysystem' approach. The systems approaches to translation are Even-Zohar's *Polysystem approach*, and Toury's *Descriptive Translation Studies approach*. The discussion will begin with polysystem approach because it forms the basis for Toury's theory.

2.8.2 Itamar Even-Zohar (Polysystem Approach)

The polysystem approach is an approach associated with the works of Itamar Even-Zohar in the 1970s and later expanded by Gideon Toury at the Porter Institute for Poetics and Semiotics at Tel Aviv University. Even-Zohar's ideas were based upon work done by the Russian Formalists (such as Victor Shklovsky, Boris Eikhenbaum, Roman Jakobson and Yury Tynjanov) and he also borrowed some ideas from the members of the Prague school of Structuralism (such as Jan Mukařovsky, Felix Vodička and others). Some inspiration also came from the works of cultural semioticians such as Lotman (1975) and Bakhtin (1981).

Even-Zohar (1978) observed the position of translation within varying cultural systems, and explained the relationships between the translated texts and the literary polysystem along two lines: “(1) how texts to be translated are selected by the receiving culture, and (2) how translated texts adopt certain norms and functions as a result of their relation to other target language system” (Even-Zohar cited in Gentzler, 1993: 118). For him, whether a translated literature becomes central or peripheral, and whether this position is connected to innovatory (“primary”) or conservatory (“secondary”) repertoires, depends on the specific constellation of the polysystem under study (Even-Zohar in Venuti, 2000: 193).

The Even-Zoharian polysystem approach states that the position occupied by translated literature in the polysystem conditions the translation strategy adopted. He suggests that “when the translated literature assumes a primary position, the borders between translated texts and original texts “diffuse” and the definitions of translation become liberalized, expanding to include versions, imitations and adaptations as well …translated texts necessarily tend to more closely reproduce the original text’s forms and textual relations (adequate to the source language)” (Gentzler, 1993: 119). Under such conditions there are greater chances that the translation will be a reproduction of the dominant textual relations of the original.

Alternatively, translated texts may perform a secondary function and according to Even-Zohar, “when translated literature occupies a secondary activity within a given polysystem, the situation is reversed: the translator’s attempts to find ready-made models for translation result in translations that conform to preestablished aesthetic norms in the target culture at the expense of the text’s “original” form” (Gentzler, 1993: 119). In this case, the result often turns out to be a non-adequate translation. This model suggests that translations that emphasise “faithfulness” to the original form and textual relations function as primary and those that prefer finding existing forms which function as equivalents in the target literature would be secondary systems. Even-Zohar’s (1990: 50-51)

views on how texts to be translated are selected by the receiving culture, and how translated texts adopt certain norms and functions as a result of their relation to other target language systems are given attention in order to discover the attitudes of educators and their learners towards the translated examination papers and the intention of the translators in producing the translation for the target audience.

2.8.3 Gideon Toury (Descriptive Translation Studies)

The 1970s saw a change with the work of Gideon Toury whose work developed from the polysystem approach introduced by Itamar Even-Zohar. According to Toury (1995: 24), in the seventies, translation studies was indeed marked by extreme source-orientedness. He contends that 'most of its paradigms were application-ridden too: Whether concerned with teaching or quality assessment, their preoccupation was mainly with the source-text and with the proclaimed protection of its 'legitimate right'. Toury's early work, was to push the discipline onto a proper scientific basis, a basis formed of empirical facts about what translations are actually like, not what they should be like (Toury, 1995: 7-19).

The bulk of Toury's book focuses on the aim and methodology of describing what translations are like, but it also encompasses the explanatory aim: why are they like that? Toury (1995: 29) sees literary and non-literary texts as "facts of the target cultures: on occasion facts of a special status, sometimes even constituting identifiable (sub) systems of their own, but of the target culture in any event". He (cited in Holmes, 1972: 176-177) suggests that there are three different approaches in translation studies: product-, function-, and process-oriented approaches. A product-oriented approach looks at the description of individual translations, either in a single language or in various languages. A function-oriented approach is interested in the description of translation function in the recipient socio-cultural situation. The process-oriented approach concerns

itself with what exactly takes place in the 'little black box' of the translator's mind as he creates a new, more or less matching text …

In contrast to prescriptive theorists who theorise on translation and then attempt to prove these theories in practice according to the notion of equivalence, descriptive translation theorists start with a practical examination of a corpus of texts and then attempt to determine which norms and constraints operate on these texts in a specific culture and at a specific historical moment (Hermans, 1985: 13). In other words, the aim of descriptive translation theorists is not to prescribe how translation ought to be done, but to observe how translations have been done in practice. This branch of translation studies takes into account the relationships that actually obtain between a body of translated items and its source, and define that concept of equivalence, which is pertinent to the corpus, and the entire concept of translation underlying it.

The introduction of descriptive translation studies has meant that the normative, prescriptive, quality assessment comparisons between the source text (s) and its translation (s) are no more; parallel corpora are encouraged because they facilitate comparison of texts and various translations and texts with different translations into different languages (Kruger and Wallmach, 1997: 121). The descriptive translation studies theorists describe the specific characteristics of a translated text in terms of shifts or manipulations that have taken place in an attempt to determine and explain the various factors that may account for its particular nature. This happens in terms of constraints or norms reigning in the target culture at a particular time that may have influenced the method of translating and the ensuing product (Hermans, 1985: 13; Toury, 1980: 43). In this way, the concept of norms replaces that of equivalence as the focus of attention. What do translation norms entail?

Toury (1995: 54-55) describes norms as "the translation of general values or ideas shared by a community – as to what is right and wrong, adequate and

inadequate – into performance instructions appropriate for and applicable to particular situations, specifying what is prescribed and forbidden as well as what is tolerated and permitted in a certain behavioural dimension".

According to: 47-48) a norm is both a sort of performance instruction and a criterion for evaluating the performance afterwards – it acts as a constraint on the members of a community whenever they want to carry out the kind of behavioural activities that the norm bears on. Translation is such a behavioural activity where different lines of action are possible, so that translation norms can be considered as constraints guiding translators in their selection of 'suitable' and 'appropriate' translation methods for texts. From the translator's point of view, every instance of decision-making in the translation process is governed by certain norms.

Delabastita (1993) contends, as a result of the introduction of the concept of norm, translation studies will henceforth have to account for *three* levels on which translational relationships between STs and TTs may be established: (i) on the level of theoretical *competence* a whole range of *possible* relationships between a ST and many potential TTs can be envisaged; (ii) on the level of translational *norms* certain of these potential ST-TT relationships are postulated to constitute veritable translation equivalence, whereas others will *a priori* be dismissed as invalid translational solutions; (iii) on the empirical level of translation *performance*, the translation researcher may perceive which types of translational relationships are *actually* established by translators.

According to Lambert and the Belgian/Dutch group cited in Gentzler (1993: 136), norms determine the way 'foreign material is 'imported' and 'domesticated' into the target culture. They can be identified by referring to a corpus of source and target texts, a close examination of which would lead to the recording of translation strategies opted for by the translator (s) in preference to other available strategies. This type of analysis is performed not to evaluate the quality

of a given translation but to understand the decision making process underlying the product of translation.

Toury (1995: 58) defines norms as being central to the act and event of translation and as a category for the descriptive analysis of translation phenomena. He distinguishes between three kinds of norms: *initial norms, operational norms and preliminary norms*. He describes the initial norm as referring to the general choice made by the translator, whether in particular the translator subjects himself to the original text with its textual relations and norms (what Venuti termed foreignization) or to the target culture's linguistic and literary norms (domestication). The former is realized as adequacy and the latter as acceptability, adequacy and acceptability being situated at the poles of a continuum. In adequate translation, certain shifts from the original may occur, but these shifts may be considered objective.

Positing hypothetical poles of total acceptability in the target culture at the one extreme and total adequacy to the source text at the other, Toury (1980) locates translation always in the middle: "no translation is ever entirely "acceptable" to the target culture because it will always introduce new information and forms defamiliarizing to that system, nor is any translation entirely "adequate" to the original version, because the cultural norms cause shifts from the source text structures" (Gentzler, 1993: 128). In practice, translation is a compromise or a negotiation between the two extremes.

Preliminary norms are the second kind of norms acknowledged by Toury (1995). They have to do with *translation policy* and *directness of translation* (cf. Toury 1995: 58). *Translation policy* determines the choice of the text-type to be translated. *Directness of translation*, in turn, involves the threshold of tolerance for translating from languages other than the ultimate source language ...(Toury, 1995: 58). Toury (1980: 53) lists the following considerations regarding translation policy: "the factors affecting or determining the choice of works (or at

least of authors, genres, schools, source literatures, [sic], and the like) to be translated. Let us say that such a policy (that is, norm-regulated choice) exists when the determining factors are found to be systematic and patterned, and not merely accidental". Different policies do exist for different groups of people engaged in a translation activity. Preliminary norms frame the translation process, and help in selecting which kinds of texts are to be translated into other languages and the policies that will be applicable.

Finally, *operational norms* control the process of translation and the decisions made while translating (Toury 1995: 58). There are two types of operational norms: *matricial norms* and *textual-linguistic norms*. *Matricial norms* have something to do with the way textual material is distributed, how much of the text is translated, and any changes in segmentation. *Textual-linguistic norms*, on the other hand, govern the selection of specific textual material to formulate the target text or replace the original textual and linguistic material. Textual-linguistic norms may either be *general* (hence apply to translation qua translation), or *particular*, in which case they would pertain to a particular text-type and/or mode of translation only. In other words, matricial norm looks at the location of linguistic material, additions and omissions occurring in translations. Operational norms focus on the actual decisions that are taken during the act of translation, which affect the matrix of the text.

By focusing on the description of shifts and the identification of norms operating in the translation process rather than on the evaluative comparison of the translation with the original, descriptive scholars have made it possible to subvert the authority of the original as a prescriptive standard and to look at translations as both original and secondary. This is why prescriptive approaches to translation have been replaced by models that are descriptive, historical and functional and why one of these models was adopted for the examination of translation policies that govern translation decisions in the examination papers translated into Sepedi. Once the comparison has been completed, taking into

account translation decisions and textual constraints imposed upon the translators, and the text, it will be clear what the translators' initial norm was (Toury, 1995), and whether the translators have subjected themselves to the original text or to the norms of the target culture.

2.9 Registers and Dialects

The following section will look at dialects to gain a better understanding of how translation strategies may be affected by this. According to Catford (1965: 84), there are two types of language varieties that need to be taken into consideration when translating. For example, those which are more or less *permanent* for a given performer or group of performers, and those which are more or less *transient* in that they change with changes in the immediate situation of utterance (*italics as in the book*). Examples of varieties related to the permanent characteristics of the performer (s), according to Catford (1965), are dialects.

Catford (1965: 84) and Hatim and Mason (1990: 39) distinguish between varieties and these are: dialects that vary according to the geographical provenance of the performer; idiolectal dialect (a variety related to the personal identity of the performer); temporal dialect (reflects language change through time) and social dialect (variety related to the social status or class of the performer). According to Hatim and Mason (1990: 41) temporal dialects may constitute a translation problem particularly if dictionaries (monolingual and bilingual) are not keeping pace with current usage. The geographic parameter marks the author's origin and the use of regional dialect would cause the target text to deviate from a conventional use of language. In the case of the text under discussion, the language is non-marked, standard high Sepedi and this is to be expected of any scientific text which would naturally employ a neutral form of language. But there are a few cases where the translators deviated from the conventional use of language. An example of a geographical dialect problem

extracted from the translation will be: “define” which is translated as “hlaloša” while other people use “hlalosa” or “hlatholla”.

As regards the social class, the author (s) and the translator (s) of a scientific text will always be part of a social class which is usually above average, particularly as far as the educational level is concerned. Consequently, the language used by them will be part of the educated middle class. In the case of the translation under discussion, the translators were Science educators in high schools and one of them is now a Physics lecturer at a tertiary level.

According to Sanchez (1999: 304) and Catford (1965; 87), dialects may present translation problems or difficulties. Sanchez (1999: 304) points out that any form of language that deviates from the norm presents a problem for the linguist, writer and the translator. It was noted that often authors do not utilize complete forms of dialects to suit their needs and the task will be very difficult for the translator – so difficult that it may prove impossible to carry it out in a really satisfactory way. Having Sepedi with six dialects, this can only add to the difficulty of transferring source texts into the target language.

Sanchez (1999: 305), basing her ideas on the work of Hervey, Higgins and Haywood, explains that the use of dialect is an important style marker. It conveys a lot of information about the character or speaker who uses the dialect, something that cannot be easily ignored by the translator. She identifies four problems associated with the translation of texts where dialect is used. The first major problem is that the translators may not know the SL dialects and their peculiarities, resulting in serious mistranslations, regardless of whether an attempt has been made to render the SL dialect with the TL dialect or neutralize it in the translation.

The second problem as stated by Hervey, Higgins and Haywood is that of deciding how important the dialectal features and the information they convey are

to the overall effect of a ST. The translator always has the option of rendering the ST into a bland, standard version of the TL, with no notable traces…(Sanchez, 1999: 305). Among the options available to the translator are: using a dialect which is available in the target language; replacing a dialect with standard language or using standard language with explanatory phrases such as “said in dialect”, “added in his language”. Translation into Sepedi presents a rather different problem because the translator is translating out of a standardised language of English.

In addition to dialectal variations, registers are also important in understanding translations. A distinction has been made between dialects and registers, the former being called user-related and the latter, use-related. Using Catford’s (1965) terminology, registers are regarded as the type of variety that relates to ‘transient’ characteristics of the performer and the addressee. Register, according to Halliday (1993), is “the configuration of semantic resources that the member of a culture associates with a situation type”.

Hatim and Mason (1990: 55) believe that register membership of a text is an essential part of discourse processing. It involves the reader in a reconstruction of context through an analysis of what has taken place (field), who has participated (tenor), and what medium has been selected for relaying the message (mode). In scientific translation, the selection of an appropriate register is important. As Ilyas (1989: 109) points out,

> In scientific works, subject matter takes priority over the style of the linguistic medium, which aims at expressing facts, experiments, hypothesis, etc. The reader of such scientific works does not read it for any sensuous pleasure, which a reader of literary work usually seeks, but he is after the information it contains. All that is required in fact is that of verbal accuracy and lucidity of expression. This is applicable to the translator’s language as well. Scientific words differ from ordinary and literary words since they do

> not accumulate emotional associations and implications. This explains why the translation of a scientific work is supposed to be more direct, freer from alternatives, and much less artistic than the other kinds of prose. The language of scientific and technical language is characterized by impersonal style, simpler syntax, use of acronyms, and clarity.

One of the problems of translating scientific texts into native languages is that of finding, or creating an equivalent scientific register. Registers and lexis are important in this area as they define to what extent a text may be classified as modern or slightly archaic. If the TL has no equivalent register, the problem of untranslatability may result. Scientific and technical translation involves the transferring of scientific and technical concepts, not merely words from the SL to a TL. This means reverbalising referents rather than semiotic structures from source language to target language.

2.10 Translation strategies

When the problem of non-equivalence arises, there are certain translation strategies used by professional translators. Domesticating and foreignising translation are the terms coined by Venuti (1995: 85) to describe the different translation strategies, and the roots of the terms can be traced back to the German philosopher Schleiermacher's argument.

The term "foreignizing" translation has been current in theoretical discussions since Antoine Berman employed it to describe the type of translation advocated by Friedrich Schleiermacher in his essay "Ueber die verschiedenen Methoden des Uebersetzens" (On the different methods of translation) (1813). "Whatever the terms, Schleiermacher's clear preference was for the first method, that of moving the reader by applying relative literalism. His relative ideal translation should retain something of the source text's foreignness" (http://www.fut.es/). Schleiermacher argues that that there are two different ways of translating, "either the translator leaves the author in peace as much as possible, and moves

the reader towards him; or he leaves the reader in peace, as much as possible, and moves the author towards him". (Cited in Venuti, 1995: 19-20).

'Domestication' means the domestic assimilation of a foreign text. A full explanation of its meaning is to be extracted from the following paragraph:

> 'Translation is often regarded with suspicion because it inevitably domesticates foreign texts, inscribing them with linguistic and cultural values that are intelligible to specific domestic constituencies. This process of inscription operates at every stage in the production, circulation, and reception of the translation. It is initiated by the very choice of a foreign text to translate, always an exclusion of other foreign texts and literatures, which answers to particular domestic interests. It continues most forcefully in the development of a translation strategy that rewrites the foreign text in domestic dialects and discourses, always a choice of certain domestic values to the exclusion of others. And it is further complicated by the diverse forms in which the translation is published, reviewed, read, and taught, producing cultural and political effects that vary with different institutional contexts and social positions' (Venuti, 1998:67).

Foreignizing translation accepts a great deal of what Walter Benjamin called "agrammaticality" in order to prevent the translation from supplanting the original. For Benjamin (2000: 54), though no translation can be as accurate as the original, by virtue of its translatability the original is closely and vitally linked to the translation and since translation issues from the original, the translation at this point marks a "stage of continued life" or "afterlife" of the original. To him, translation that serves not only the purpose of transmitting meaning comes into existence "when in the course of its survival, a work has reached the age of its fame and these translations do not so much serve the work as owe their existence to it, but the life of the original achieves in them its ever-renewed, most

recent and most abundant flowering or rejuvenation” (Benjamin cited in Venuti, 2000: 17).

In the introduction for an essay entitled "The Task of the Translator", Benjamin (cited in Venuti, 2000) outlines his theory on the translatability of texts. For Benjamin (1923), "the law governing the translation: its translatability" has to be found in the original. In Benjamin's view, the translatability of a text is independent of whether or not such text can be translated. For him, "translatability is an essential quality of certain works, which is not to say that it is essential that they be translated; it means rather that a specific significance inherent in the original manifests itself in its translatability." (Benjamin, cited in Venuti, 2000).

Domesticating translation refers to the “translation strategy in which the transparent, fluent style is adapted in order to minimize the strangeness of the foreign text for target language readers, foreignising translation designates the type of translation in which a target text deliberately breaks target conventions by retaining something of the foreigness of the original” (Shuttleworth and Cowie, 1997: 59). In addition, Heylen (1993: 21) contends that translators can take an original text and either import it with little attempt to acculturate its unfamiliarities or adapt it to a certain dominant poetics or ideology in the receiving culture. Furthermore, they can devise some sort of compromise between the two different sets of poetics or ideologies of the source and target cultures.

According to Venuti (1998:87), an ethical translation project should deviate "from domestic norms to signal the foreignness of the foreign text". His demands for the employment of foreignizing translation strategies have met with criticism from many translation scholars. For example, Robinson (1997: 111) raises one important point, by claiming that for “[some] readers the quaintness of foreignized texts [...] makes their authors, and the source culture in general, seem childish, backward, primitive, precisely the reaction foreignism is supposed to counteract.”

Translation strategies have been defined by Lörscher as *procedures which the subjects employ in order to solve translation problems* (Lörscher 1993, http://www2.arnes.si/). According to Baker (1992), translation strategies are "not preconceived, nor are they suggested as ideal solutions, they are identified by analysing authentic examples of translated texts in a variety of languages and presented as 'actual' strategies used rather than the 'correct' strategies to use" (Baker, 1992: 7). The following strategies were identified and categorised for dealing with non-equivalence:

i. Translation by a more general word (superordinate)
ii. Translation by a more neutral/less expressive word
iii. Translation by a cultural substitution
iv. Translation using a loan word or loan word plus explanation
v. Translation by paraphrase using a related word, i.e. paraphrasing by using a direct/ready equivalent of the SL item in the paraphrase
vi. Translation by paraphrase using unrelated words, i.e. paraphrasing by not using a direct/ready equivalent of the SL item in the paraphrase
vii. Translation by omission
viii. Translation by illustration

In addition to the translation strategies listed above, Gauton, Taljard and De Schryver (http://www.up.ac.za/), mention other strategies whereby new scientific and technical terms can be formed via a process of transliteration, by adapting the phonological structure of the loanword to the sound system of the borrowing language, and the use of ready translation equivalent. "The translator can also translate by using loan words in which the English spelling has been retained. Such words have not been transliterated, i.e. nativised in the sense that their phonology has not been adapted to reflect the phonological system of the borrowing language (Gauton, Taljard and De Schryver, http://www.up.ac.za/).

For Delabastita (1993: 33-34), *substitution* is the only strategy which occurs in strict recoding processes, i.e. translation in its strict sense falls into this category, whereas the other four types of relations appear to be characteristic of recoding in the wider sense of the word. With this method, the relevant target text item replaces the relevant source text item. However, in translation, exact equivalence occurs only in a very limited number of cases. There seems to be some similarity between Delabastita's (1993) *substitution* strategy with what Gauton, Taljard and De Schryver (www.up.ac.za) termed the use of *ready translation equivalents*.

With *repetition*, the source text item is not substituted, but repeated or transferred directly from the source text into the target text. Some or all of its features are reproduced. This is what Gauton, Taljard and De Schryver (www.up.ac.za) calls the *use of loan words* in which the item is not adapted or modified.

According to Sager (1990), most new terms are formed as and when new concepts are created in such instances as new discoveries, the restructuring of existing knowledge, incidental developments or new industrial developments. This type of term formation, termed primary term formation, accompanies concept formation and is monolingual (Sager 1990: 80). Secondary term formation occurs when a new term is created for a known concept. It may happen as a result of a revision of terminology or as a result of the transfer of knowledge (especially scientific and technical knowledge) to another linguistic community. Examples of new word formation processes include neologisms and blending.

Neologism is the creation of a new lexical item as a response to changed circumstances in the external world, which achieves some currency within a speech community also called coinage (Crystal, 1992: 264). For Hartmann and Stork (1972: 150), these newly coined words or phrases have not yet been received generally.

Another word formation process known as blending can be used in translating words from the source language to the target language. According to Hartmann and Stork (1972: 28), blending is a type of word formation in which two or more free morphemes are combined to form a new word, which incorporates all the meanings of its constituents. A free morpheme is “a morpheme which can be used on its own as a word with a distinct meaning (Hartmann and Stork (1972: 88).

Practically, blending takes place when two free morphemes that do not co-occur are combined into a single linguistic unit. An example of blending from the text extracted will be the word *redox*, which is a blend from the words *reduction* and *oxidation.*

By examining the translation and comparing it with its ST, and classifying terms according to the strategy used, I will be able to establish exactly which translation procedures or strategies have been used for transferring scientific terms and concepts from original to translation. The categorization of terms according to the translation strategies used will help in establishing the initial norms of the translators, whether they have domesticated or foreignized the target text.