FROM CONCEPT TO UNDERSTANDING : A NEW APPROACH TO TERMINOGRAPHY IN THE SADF.

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1.   INTRODUCTION

1.1   On the African continent approximations of the number of languages used vary between 800 and several thousand.   Many of these languages are largely not even written and as far as lexicography is concerned, latest approximations indicate that there is less than one dictionary per African language while a European language such as English has more than 6000 dictionaries.   The interaction of languages was largely unidirectional in colonial times and the few dictionaries that are available are Euro-centric, i.e. compiled by European missionaries and teachers with the European language as source language and the African language concerned as target language, for instance the English-Tswana Dictionary.   The problem then arising is that the format and approach adopted is chiefly that of the European and not enough cognisance is taken of the culture and environment of the African languages concerned.   Consequently, socio-linguistic aspects are given very little consideration and this makes language contact rather sterile and unproductive.

1.2   I think a basic underlying facet of the problem is that very few Southern African mother-tongue speaking lexicographers (apart from a few well-known academics) have been involved in compiling monolingual dictionaries in their own languages, an absolute requirement for any language.   In South Africa the situation is perhaps a little better than almost everywhere in the rest of Africa but we still experience a lack of lexicographic planning, lack of insight into African language requirements and also a lack of monolingual African language dictionaries of the more practical type which could be used by most levels of mother

tongue speaking Africans.   The situation is compounded by the variety of languages prevailing in most African countries : South Africa, for instance, has nine main African languages in addition to the two official languages Afrikaans and English and at least nine other important European and Asian languages.

2.   SELECTING A LANGUAGE

2.1   One of the most important criteria for using a language as an official language in a country is the need to employ the language for information and instruction.   In an ever-changing world where technology, science and professional information and concepts are changing overnight, the viability of a language is measured by its ability to incorporate all these new concepts and things into its vocabulary.

2.2   It can be said that most of the latest scientific, technological and discipline-professional concepts as embodied in jargon and terminology are initiated in a countable number of internationally employed languages: English, Spanish, French, German, Dutch, Italian, Portuguese, Russian, Scandinavian, Slavic and some oriental languages such as Chinese, Hindi etc. To this number of technologically communicable languages were in recent times added Hebrew and Afrikaans.

2.3   The development of the latter two languages into languages capable of conveying scientific and technological information was not an easy process. In the case of Hebrew a classical language had to be adapted to incorporate terminologies of the most modern technologies of avionics, the latest irrigation techniques, desalinisation of seawater, etc.

2.4 In South Africa, the languages spoken by the majority of the population groups are as follows:(Fig 1)

AFRIKAANS		19,8%
ENGLISH		11,3%
EUROPEAN	IMMIGRANT	0,6%
ORIENTAL		0,4%
NORTHERN	NDEBELE	0,7%
SOUTHERN	NDEBELE	1,2%
SISWATI		2,6%
XHOSA		11,6%
ZULU		24,4%
NORTHERN	SOTHO	9,8%
SOUTHERN	SOTHO	7,6%
TSWANA		5,5%
TSONGA		3,6%
VENDA		0,7%
OTHER		0,2%

Fig 1

We can see that the top four mother tongues spoken in South Africa are Zulu, Afrikaans, Xhosa and English, in that order. This information was obtained from the *South African Language Atlas* (1990).

2.5 In fact, most communication with other countries takes place by means of English (4 th in the list) while Afrikaans remains predominantly the language of the public service. But a very small volume of official communication take place by way of Zulu or Xhosa. Although the present and previous governments in the RSA have taken great pains in developing the nine main African languages, also as regards terminologies by way of local language committees or boards, their efforts have not succeeded in providing adequate terminologies in science and technology. What those language boards have succeeded in doing is firmly to establish these languages by way of grammar, spelling, orthography, basic handbooks and literature. To this end the Bible translators and schools have also made considerable contributions. But the transition from cultural language to

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* Literacy is measured as the completion of 5 or more years of formal schooling

technological and scientific vehicle in this era of cybernetics and informatics has not yet been made.

2.6 Another major problem in South Africa is the literacy* figure. While the adult white population is more than 97-99% literate and the Asian and coloured populations 80-92% and 69-85% literate respectively, the adult black population is 33-55% literate (Ellis, 1987).

2.7 In addition, many of the black population groups, especially in Natal and the Eastern Cape, can understand some English while most of the Indian people use English as a home language; both coloured and white Afrikaans-speaking population sections can also understand English.

This could make out a strong case for English as a *lingua franca* in South Africa although there are more Afrikaans mother-tongue speakers in the RSA than English mother-tongue speakers. Our task will also be to ensure that the speakers of nine main African languages will eventually be equipped to deal with the flow of technological and scientific information in the long term.

2.8 After the first obstacle, that of negotiating and accepting an official language or languages, has been cleared, the main obstacle must be dealt with: implementing a language policy. In the RSA this entails enabling people to acquire a useful proficiency in, what will to most of them be, a second or third language. The term "useful" covers a wide range of skills. In the SA Defence Force, it is essential that posts should be filled by skilled people, and the training necessary to attain the skills required in the higher posts is so advanced that even mother-tonque speakers of the languages used for training find that it requires complete concentration and dedication and this includes quite a bit of dictionary work. It means not only finding technical terms, which is fairly easy if you have a good technical translating dictionary, but also interpreting abstractions which is sometimes

very difficult, even if you have a good explanatory dictionary and a western-orientated education.

3. CHANGE IN APPROACH

3.1 Western educated people are taught to move from abstract concepts such as 'logistics', 'documentation', 'distribution', 'productivity', 'classification', 'planning', to their more specific components. Their education has enabled them to understand an abstract idea such as 'strategy' (when we read the term or hear it) as "the science or art of military command as applied to the overall planning and conduct of large-scale combat operations", *(UNIVERSAL Dictionary)*. They can do this because they can also understand the elements or components of this definition of strategy : <u>science</u> or <u>art</u>, <u>military command</u>, <u>overall</u>, <u>planning</u>, <u>conduct</u>, <u>large-scale operations</u>. And since their educational period in many cases encompasses at least ten to twelve years, they have had the training requisite for grasping abstract concepts, and utilising principles and generalisations and for becoming skilled in handling symbolic thought. However, prospective military trainees of non-western cultures do not have the advantage of being versed in western-orientated thinking. Their cultures and languages are, moreover, quite different.

3.2 Take the case of Rifleman Moshapo who is aspiring for eventual promotion and will have to attend and pass promotion courses at a South African military college. He may possess a matriculation certificate, but his background is, in western terms, not that of his white peers. In addition, his home language is neither English nor Afrikaans but Sepedi and he is also not sufficiently acquainted with the social, technological and military cultures of the language in which he will have to study in order to pass his course. Remember, he is now going to learn and think in a language which is perhaps his third or fourth language. He may have taken great pains to learn English. But when he opens his course material he reads his first assignment : "Describe the logistic system of the Defence Force". Now he is seriously puzzled. What is a "logistic system"? He has never learned this.

3.3 Which dictionaries are available to Rfn Moshapo? Will they really solve his problem, that is, to grasp all the complete meanings of all the terms and words he needs? Let's take a look at them, and put ourselves in Rfn Moshapo's place.

First, he takes the SADF Military dictionary. This contains terminology, carefully defined and clearly written - but written mainly for everyday use by trained military personnel. The use is mainly for translation, and the typical user knows the terms and is able to read between the lines. Terms used in the explanations are very much part of "military" language, which is well understood by soldiers, but may often seem unintelligible to the layman who is not well versed in military literature. He looks up "logistics" and reads:

"Military science in its planning and handling and implementation of personnel (as in classification, movement, evacuation) and material (as in production, distribution, maintenance) and facilities (as in construction, operation, distribution) and other related factors"

We have now identified one of his most serious handicaps. Not only does he not understand 'logistics' but he has no clue whatsoever concerning the elements comprising the definition which is supposed to tell him what logistics is: 'military science', 'planning', 'handling', 'implementation', 'personnel', 'classification', 'movement', 'evacuation', 'material', 'production', 'distribution', 'maintenance', 'facilities', 'operation', and 'construction'.

That it is important for him to learn these meanings is obvious. If some day Colonel Moshapo does not have a sound grasp of 'planning' within a logistics set-up, he would ignore me-

dium and long term aspects in his planning, thus only providing for short term immediate needs, with disastrous consequences as regards provisioning for lengthy operations. Or, imagine Colonel Moshapo as an Air Force staff officer confusing 'altitude' with 'height' in planning for low level sorties on enemy positions.

The problems the military student has to overcome point out the challenging educational process the Defence Force and other large organisations face when embarking upon their essential training task.

It is very clear that the highest priority in our country today is education. But education can only be as good as the planning for large-scale education, the objectives set, the skills and abilities of the educators and the quality and effectiveness of the educational aids used. A dictionary is such an aid; an indispensable aid.

As has been shown by the case of Rfn Moshapo, the dictionary must be useful: the entries or words used for the concepts or things described must be defined in terms of the student's cultural background, experience or framework of reference. It must be so arranged that the student will understand the concepts, will be able to use them in his thinking and communicating, and that he will in this way be able to effectively plan, organise, lead and manage his task.

Rfn Moshapo, who knows Zulu, Xhosa and Tswana well, now tries his luck with a few other dictionaries. They are:

a.   The *Greater Dictionary of Xhosa*, edited by H.W. Pahl.
b.   *Dikisinare ya Setswana* English/ Afrikaans, edited by J.W. Snyman.
c.   *English-Xhosa Dictionary*, by Fisher and others.
d.   *English-Zulu Dictionary*, compiled by C.M. Doke.
e.   *Pukûntwu Noord-Sotho/Afrikaans/ Noord Sotho*, by T.J. Kriel.
f.   *A Basic English-Shona Dictionary* by Desmond Dales.

These are all good dictionaries, but not one of them is of much help to the student who uses a dictionary to solve a communication problem.

The Greater Dictionary of Xhosa, with Xhosa first, gives good explanations of Xhosa words in Xhosa, English and Afrikaans, with examples of usage. It does not, however, explain English words in Xhosa.

The *Setswana/English/Afrikaans Dictionary* provides good translations in Setswana of many English and Afrikaans words and expressions, but does not explain the meanings.

Likewise, the *English-Xhosa Dictionary* translates words and usage examples, and one has to be something of a grammarian to understand the entries. The entry for Command reads:

"command, vt vi (verbal) - yalela; -lawula, -phata; (be in the position to use, have at one's service) -ba na-.

The *English-Zulu Dictionary* does the same, but also supplies the English pronunciation in phonetic script: command [ke'man:nd].

The two-way *North-Sotho-Afrikaans Pukuntwu* gives good translations, but no explanations.

The last dictionary Rifleman Moshapo consults - the *English-Shona Dictionary*, is of more help - it does not only give the Shona word, but a simple explanation in English, and it is well illustrated. If simple explanations could have been given in Rfn Moshapo's language Sepedi as well, it would have been a great help.

At present the non-English or Afrikaans speaker is quickly frustrated in his attempts to learn a new and complicated subject, and he wastes invaluable time trying to trace his way through the maze of dictionaries, each with its peculiar method of presentation.

INTEGRATING THE APPROACH

Having said this, we must take a long hard look at the problems faced by the prospective SADF member in preparing himself for his future task. He is faced by the prospect of orientating himself towards a different social, technological, scientific and military culture, he must learn the language

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that is the medium of instruction in such a way that he can understand and use abstract concepts and relate them specifically to well-known components. He must develop his skills and abilities in order to cope with the tremendous diversity of modern knowledge and problems. And, in this educational 'learning' process, the SA Defence Force terminographer must take an active part.

How do we rearrange our glossaries and dictionaries so as to make them useful instruments in the learning process?

In the military learning situation problems of developing curricula and instruction may, in terms of Tyler (1949 : 391-407), be considered in relation to four major types of questions:

a. What educational purposes or objectives should the military course seek to attain?

b. What learning experiences can be provided that are likely to bring about the attainment of these purposes?

c. How can these learning experiences be adequately organized to help provide continuity and sequence for the learner and help him in integrating what might otherwise appear as isolated learning experiences?

d. How can the effectiveness of learning experiences be evaluated by the use of tests and other systematic evidence-gathering procedures?

A test of the achievement of students is a test of the extent to which students have attained the educational objectives.

According to Bloom (1972 : 36) four decisions to be made with respect to the nature of the knowledge objectives included in the curriculum are as follows:

a. How much knowledge must be gained?

b. How precisely need the student learn the required material?

c. How is knowledge best organized for learning?

d. How meaningful need required knowledge-learning be to the student?

When asking 'how much' one must strike a balance between including all the knowledge the student might conceivably acquire in a particular subject and only that knowledge which is basic to the subject. Lexicographers and terminographers face this choice in formulating their definitions : do we give all the items (catalogue method) or do we give the basic elements necessary at each stage of learning? The latter also implies issuing glossaries at various levels. When asking 'how precise' the student may be introduced to an item of knowledge at a general but accurate level, gradually making finer distinctions until the expert level is reached.

When faced with 'organizing the knowledge' one has to ask whether the arrangement of the knowledge should be imposed by the organization or measured to the state of the learner at his stage of development. Here the terminographer could opt for basic glossaries with the entry word in English and basic elements described in terms of the student's mother tongue and cultural knowledge.

When considering "meaningfulness" vis à vis the immediate and future needs of the student, he can initially be orientated towards internalizing those types of knowledge of which he will have an immediate need, assisted by basic word lists, together with explanations in simple language. For the longer term, however, the emphasis should gradually and increasingly fall on developing the intellectual abilities and skills of students so as to enable them to appy these to problems of daily life and their work situation.

Some problems and materials encountered by the student may be of such a nature that little or no specialized or technical knowledge is required. Such information as is required can be assumed to be part of the students's general fund of knowledge. Other problems may require specialised and technical information at a rather high

level, so that specific knowledge and skill in dealing with the problem and the materials are required.

Any words, terms and their explanations, examples in use or definitions must be formulated, written and arranged in such a way that not only is the learning process aided, but also that the abilities and skills of the students are developed. And, remember, these must be written in (not translated into) the mother tongue of the student and tested for effectiveness among the mother tongue speakers. This is the challenge of the modern lexicographer and terminographer in a changing South Africa.

The terminographer must know what the specific skills are that are to be developed:

a. Comprehension: this is evidenced by the care and accuracy with wich a communication is paraphrased or rendered (translated) from one language or from communication to another, retaining significance although the form of the communication may have been altered.

b. Interpretation: this involves an objective rearrangement or new view of the material.

c. Extrapolation: the ability to deal with the conclusions of a communication in terms of the immediate inference made from the explicit statements.

d. Application: the use of abstract ideas in particular and concrete situations.

e. Analysis: the breakdown of a communication into its constituent elements such that the hierarchy of ideas is made clear and/or the relation between the ideas expressed is made explicit.

f. Synthesis: the putting together of elements so as to form a whole, thus producing a unique communication or plan or the derivation of a set of abstract relations in well-formulated correct and convincing writing.

g. Evaluation: quantitative and qualitative judgments about the extent to which material and methods satisfy criteria.

The terminographer must be well aware of these skills in the cognitive domain and also in the effective domain where the students will have to be sensitised to an awareness of certain criteria, towards responding to these with willingness to apply them. And, lastly, he must have the ability to evaluate them and organise them into a new value system

APPLICATION

How will the military terminographer apply what he has learned about the challenges facing him? To begin with: how could we convert an entry such as 'logistics' to be able to convey its significance and uses to students?

Let's look at the significant element of the term 'logistics' and convert them to simple language.*(Fig 2)*

After having analysed the significant elements, the terminographer now rewrites the entry 'logistics' as follows:

"The study and knowledge of soldiers to help them decide how to give the people of the army weapons, ammunition, food, housing and medical care as they need these and to transport them by aircraft, car, train or ship to safety or to places where they must be."

I am not going to suggest that this is a fully adequate definition. But it does illustrate the way the terminographer has to think. We can reduce most complex concepts or terms to their basic elements, converting them to simple language, something also done in the Collin's Cobuild *Essential English Dictionary*. And in this case the terminographer must go further. These simple descriptions must be directly relatable to the culture and language of the student at his level of development.

The terminographer should adapt his glossaries to the various levels of development. This would entail incor-

Term	ELEMENTS	CONVERSION TO SIMPLE OFFICIAL DEFINITION
Logistics	military	soldiers - fighting men
	science	study and knowledge of things and what they do
	planning	deciding exactly what you must do before you do it
	handling	do, use, show or manage something
	implementation	doing something, carrying it out
	personnel	people who work for you
	classification	activity, business of sorting something into different parts or groups
	movement	transport: going by bus, train, car, aircraft
	evacuation	moving people from a dangerous into a safe place
	material	things: rifles, bullets, tanks, guns
	production	making things
	distribution	dividing things among people
	maintenance	keeping things such as cars in good condition (by repairing them, etc)
	facilities	buildings or machines to be used for certain purposes
	operation	working, running

Fig 2

porating glossaries into the teaching and testing process at every meaningful level. Very basic glossaries could be issued at the functional literacy and primary levels. A slightly more developed glossary could be provided at secondary level, whilst the glossaries at tertiary level could be much more detailed and comprehensive.

Since the prospective students will have to work with the terms (such as logistics, strategy, tactics, locality) in their daily military tasks, the actual terms could be kept in English. But the definitions, as simplified and adapted to the student's cultural level, should be written in Tswana, Xhosa, Zulu etc.

At secondary level they could gradually be converted into English or Afrikaans so that the change-over to these terms in their western-orientation at tertiary level would be facilitated.

The terminographer would in this way also reap rich dividends professionally:

a. By directing terminologies at the correct level he would be forced to make a closer analysis of concepts,

COMMAND: LAELA/TAELO/TAOLO

Ge molaodi wa masole a laela (commands) behlabani ba gagwe gore ba dire selo, ba swanetse gore ba se dire ka mokgwa wo a ba botsang gore ba se dire ka gona. Mohlala: a. Koporale o file sekwata taelo (command) ye e rego "Attention !"

   b.   Taelo (command) ye e rego "Halt!" e fiwa moleotong la nngele.

   c.   Komponi ya A e ka fase ga taolo (command) ya kapoteine Maleka.

   d.   Diyuniti tsa Tshwana ka moka di wela ka fase ga taolo (command) ya Northern Transvaal Command.

(Command=Laela>Taelo>Taolo)

If a commander commands (laela) his soldiers to do something, they must do it exactly the way he tells them to do it,

   a.   The corporal gave the command (taelo) "Attention" to the section.

   b.   The command (taelo) "Halt!" is given on the left foot.

   c.   A Company is under the command (taolo) of captain Maleka.

   d.   All units in Pretoria fall under the NorthernTransvaal Command (taolo). Pretoria and Brits are in the Northern Transvaal Command (taolo).

Fig 3

their elements and their significance so that he would be able to draw up more meaningful definitions.

b.   By simplifying these definitions he would be assisting directly in the educational task, thus making the use of dictionaries and glossaries in the learning process essential.

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c.   From the need to compile glossaries and dictionaries for the different functional and scholastic levels will also arise the necessity of designing different new formats and ways of presenting the lexicographic material. Thus, new blood and new ideas would be infused into a very old profession.

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