Language Reforms of the Past and in the Developing Countries

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1. Introduction
Decolonization and independence of the African and Asian countries have made practical language planning and the solution of linguistic problems necessary. In linguistic science the practical possibility and use of language planning have been under discussion for some decades, the results of which are published in the works of Fishman (1968, 1973, 1974), Kjolseth and Sack (1971), Ray (1963), Rubin and Jernudd (1971), Spencer (1963), Tauli (1968), Whiteley (1971) and others.

Language planning has indeed become a practical activity requiring a theoretical background. It can be carried out with the cooperation of sociologists, economists, demographers, political scientists and last, but not least, linguists, who have long been standing aloof from practical problems.

I will deal here with an important aspect of language engineering, that of language reform, which has as yet been little discussed in comparison with other problems, e.g., the choice of the official language in new states. I pointed out the importance of language modernization in an earlier article (Fodor 1966) and in my comments on Dr. Fishman's paper at the International Congress of Anthropological and Ethnological Sciences in Chicago in 1973.

The main principles of language reform are connected with some theoretical questions of linguistic science which have not as yet been investigated.

2. Free choice of official language.
First of all, it must be pointed out that the choice of an idiom for an official language of a new state depends only on external factors, i.e., on social, political and other conditions of the given state; it is thus a problem of linguistique externe (in the Saussurean sense).

To explain the theoretically free choice of any language for official use, unrestricted by internal factors, I am starting from the postulate that every idiom is potentially appropriate for being the literary, scientific and hence official language of a modern state whatever its phonemic and grammatical structure may be. I wish to clear up this question because statements claiming the opposite often occur in linguistic literature (cf., e.g., Henri Maspero's view on Chinese in Meillet and Cohen (1952:596)).
The fact that of the approximately 3,000 languages in the world nearly two hundred fulfill this role (practically some dozens only) cannot be motivated by deficiencies in the phonemic and grammatical structure of the other, unwritten languages, but only by the nature of their lexicon, by their lexical "backwardness": the society of the given peoples has not yet reached the industrial level, or if so, industrialization occurred not long ago and the official or literary language is not the indigenous idiom but a superimposed one (English as opposed to the many vernacular languages in India, the European languages as opposed to the African languages). If a nonliterate community lives by fishing, hunting and gathering, it knows only the notions of that given social life. Consequently, its lexicon embraces only those items, whereas thousands of words of industrial and scientific notions are lacking. Experience indicates that social evolution always has a faster rate than linguistic change. Moreover, if a society has reached a higher level of industrial development by a quick transformation, its language will not have kept pace with this progress, hence difficulties in linguistic communication will have arisen. In order to recover such a lag, only one solution can help: language reform, modernization of the lexicon so that, during a shorter time (several decades or at least several years) thousands of new words—the entire technical and scientific terminology—can be created. In our days, thanks to the mass communication media, the newly made everyday words and technical terms can quickly spread to the masses of the people.

The preceding postulate is provisorily evidenced by the widely diversified phonemical and grammatical structures of the world's literary languages; however, in spite of these contrasts they perform their role equally well. Let me cite as illustrations the Indo-European languages (analytic and synthetic inflectional types), Hungarian, Finnish, Estonian, Japanese, Turkish (agglutinative affixing types), Arabic and Hebrew (root-inflectional grammar with rich prefixation), Chinese (isolating tone language). True enough, among the non-literary languages several other types not represented in the extant literary idioms occur, e.g. the polysynthetic Eskimo, the Khoisanid click dialects; all the same we cannot surmise the cause of the backwardness of these communities to be due to any kind of grammatical or phonetic features of their languages but rather to historical circumstances.

Three counterarguments can be raised against our postulate:
(1) the lack of a developed numeral system in some unwritten languages, (2) the insufficiency of derivational suffixes, and (3) the lack of compound sentences necessary for logical operations (e.g., implication) in several non-literary languages.

The literary languages lacking a modern lexicon may display lack of affixation or perhaps other means of word formation, the two other deficiencies do not occur within them.

Over and above the practical point of view (it is a rather slight possibility that Khoisan idioms will become official languages), the third argument is a grammatical problem. It is true that the numerals in the Khoisan and Australian languages
did not originally exceed three to five, but under European influence higher numerals, up to ten or even greater, have been developed in some of these languages. General experience shows that full numeral systems can easily be formed if needed, like in the Uralian languages in prehistoric contact with Indo-European (cf. "hundred", an Indo-European loan word in the Uralic languages). As far as the affixes are concerned, they are lexical rather than grammatical elements.

With regard to affixation, it is not an indispensable means of word formation. In Chinese compounding has been the main type of the lexical innovations. Affixes, chiefly suffixes, if they deserve this designation at all, do not present productive means for word coining in this language. Moreover, in the course of a reforming movement new affixes may originate, mostly by infrequent ones becoming productive or by the abstraction from foreign, dialectal or extinct words as in Hungarian up to the middle of the 19th century and in Hindi in our own days (cf. Das Gupta and Gumperz 1968:162).

The lack of logically connected compound sentences seems to be a true grammatical problem but it needs further research. To my mind, some complicated syntactical relations have not yet been satisfactorily described in many unwritten languages and the statements concerning these sentence structures are rather of global character. The situation may be, however, that all the logical operations can be expressed by verbal means—unless we doubt the actual logical thinking (similar to Lévy-Brühl)—although they appear in various, non-formalized sentence types because no necessity arose to develop such forms in the absence of scientific activity. In most cases, standing conjunctions (e.g., if...so) are indeed lacking, i.e., a lexical deficiency again.

This question is connected with the theoretical problem of linguistic relativity raised by W. Humboldt and F. Mauthner in the 19th century and by E. Sapir and B. L. Whorf very sharply in our own epoch. Concerning Hopi, Zuni and other Amerindian languages as opposed to the European ones, also Chinese in the relation to the European idioms see Hoijer (1954). Regarding the African, mainly Bantu, languages as compared with the European ones, P. Tempels and J. Jahn framed a hypothesis which J. Mbiti developed. These theories cannot be considered, however, as definitely acceptable. Until the final elucidation of these problems, our postulate must be assumed to hold true.

3. Modernization of vocabulary

As opposed to the question of the choice of a language for official use, the modernization of the vocabulary is connected not only with social, political and other external factors but also with problems issuing from the phonemic and grammatical structure of the given language, hence both linguistique externe and linguistique interne are involved. Now I shall touch upon some of these problems.

The old European literary languages like English, French and to some extent German, slowly developed their technical and
scientific lexicon simultaneously with the social evolution of these nations, while other languages like Czech, Hungarian, Finnish, Serbian and Croatian, Bulgarian, etc., needed a radical modernizing reform. The lexicons of the former languages were developed through the centuries—apart from spontaneous growth and change—mainly through the activity of their writers and scientists following in the footsteps of their predecessors. In the course of this gradual enrichment of the vocabulary, Latin had a decisive role in Europe.

Nevertheless, in the life of English, French, and Italian, conscious reforming efforts did reveal themselves, although they were embedded mainly in orthological activity. For instance, in the history of French certain reform movements aiming at the formation of the technical and scientific lexicon also took place although the French Academy, founded in 1635, in order to promote linguistic culture, always kept aloof from these efforts.

In any case, the formation of the terminology of each technical and scientific discipline is a planned activity similar to a language reform. Hence, the creation of the modern technical vocabulary of English, French, Japanese, Chinese must be included in an all-embracing research study.

Although the conscious modernization of vocabulary involves its accelerated growth, abruptness is not a distinctive feature differentiating between conscious and spontaneous enrichment of the lexicon. I pointed out earlier that a relative retardation of the lexicon arises with very rapid social progress, but if this process lasts many decades, the vocabulary still may recover by itself within a short time. This was the case with English, French and to some extent German with the impact of the industrial revolution when the technical vocabularies of these languages developed at a fast rate. Conscious language modernization may last, on the other hand, a relatively long time, e.g., the Hungarian reform from the last quarter of the 18th to the middle of the 19th century.

Disregarding the planned increase of the lexicon, minor reforms or periods of speedier growth of a special part of the vocabulary may succeed more stagnant ones like the reform of Hungarian sporting terms in the 1930's. In any case, terminological problems have always been a concern in every branch of science. An uneven rate of development of the lexicon and of the scientific terminology is peculiar to language.

Furthermore, it is not easy to draw the limits between conscious, individual word-coining (including poetical neologisms) and fresh words originating every day. This problem surpasses the narrower bounds of the development of the lexicon. It is connected with that of the origin of language, and moreover, the question of the origin of folklore and that of artistic literature as a more distant analogy can also be associated with it. In the last analysis, this is a psychological problem of individual and collective creativity.

As long as these problems have not been solved we can infer that there are mainly quantitative differences between a planned
reforming activity and the spontaneous development of the technical and scientific terminology, although an artificial, directed and hastened modernization entails many more problems. In any case, in a theoretical and practical inquiry into language reforms, the following processes and activities must be taken into consideration: (1) the spontaneous enrichment of the lexicon (2) the reforming efforts in everyday speech and for literary purposes, (3) the spontaneous development of scientific and special vocabulary, and (4) the conscious, planned formation of terminology for a branch of science or profession.

4. The means of lexical enrichment

The lexicon of languages can be increased by two means: borrowing and inherent word formation. The first method—in which a new concept is taken over along with its name—is a general and ancient one; it is a means of international exchange of experience. Vernacular naming is a secondary method concerning the cultural words. New, vernacular names are given if the notion has become familiar within a community and is not only an ephemeral fashion like the Mah Jong game in the twenties on the European continent. In general, the foreign name appears first like Amerindian (Caribbean) mahys which often is transformed by the phonetic shape of the given languages (English maize, Spanish maíz, French maïs, German Mais) and the vernacular name arises later, like English turkey corn, Indian corn, French blé de Turquie, blé de l'Inde, Spanish trigo de India, trigo de Turquía, Hungarian tengeri ('maritime, coming from sea'), török búza (both are dialectal words for kukorica of Slavonic origin) although only Italian grano turco, granturco has become the definite standard expression. Let me mention an African example: in Swahili there appeared first eropleni for "plane", then the vernacular ndege Ulaya 'European bird'.

If the new notions gradually intrude into a language, their original names are usually preserved, although often phonetically reshaped. In this way loanwords have originated from foreign words, in German Fremdwort-Lehnwort. The differentiation in the English or Anglo-Saxon literature is not as sharp owing to the "liberal" character of the English phonetic structuring of borrowings.

When a people are emerging from the cultural isolation or backwardness, attaining the industrial, technical and scientific knowledge of their neighbors, the adoption of foreign words in bulk cannot be avoided. Then tension can arise because the mastering of foreign words with uncommon phonetic shape involves difficulties for the lower, less educated, monolingual layers of the population. This trouble can be induced or accompanied by an aversion, a hatred against the foreign country (being often an oppressive, colonizing power). Language reforms of the epoch of national awakening were guided, in general, by such antipathy and a purism developed for coining vernacular word forms to replace the foreign ones. This trend revealed itself in the course of Italian, Czech, Croatian, Finnish, Turkish, Hebrew, and Hungarian language reforms. Outside Europe, examples of both the more tolerant attitude towards foreign words and the effort for internal
word creation or purism can be observed. Japanese belongs to the
former group as Ferguson (1968:32-33) hinted at. The same applies
to Ganda in Africa (Cf. Mosha 1971), while Somali prefers word
creation by its own means.3

Among the languages of the minorities of the Soviet Union,
both tendencies have (alternatively) prevailed. In the old
literary languages like Armenian and GeorgIan internal word
creation has been the predominant method, whereas the more recent
literary languages like Bashkir have rather borrowed foreign
words, mostly Russian and international words.4

In the course of a language reform the balance between the
two principal means of word formation can be altered. It is
peculiar to the Serbian and Croatian reform movements that Serbian
was rather inclined to use foreign words while in Croatian innovations by inherent means prevailed, e.g. Serbian snicla 'steak'
< German Schnitzel as opposed to Croatian odrezak < od + rezak
'cutting off'. The reforming trends in the Soviet Union were
subordinated to political decisions and the proportion of the use
of these methods also changed accordingly.

To be sure, it is not easy to set the inherent and foreign
means of word formation strictly apart. Calque and semantic
borrowing are border cases, because the formal shapes of the new
lexemes are of vernacular character while the patterns, and the
original meaning are of foreign origin. Though the foreign models
can only be recognized by experts or educated people, most calques
have been considered by the Hungarian language purifiers as wrong
neologisms to be banned, not as sharply, however, as the true
foreign words.

Word abbreviation as a means of lexical enrichment can also
be traced back to foreign examples (e.g. German, Russian, English)
in most languages where such a method did not exist earlier, the
abbreviations themselves are understandable only to the vernacular
speakers familiar with them. Some decades ago Hungarian purists
still disapproved of their use in bulk.

I have discussed here the two main types of word formation
relevant from the social and political points of view of moderni-
zation. The word formation types may also be classified linguisti-
cally: suffixation, prefixation, composition, calque, semantic
change, etc. Their use and frequency depends on the phonetic and
grammatical shape of each language leaving a margin for change.
German, Russian, Hungarian, and Finnish, for example, render
possible the use of composition, suffixation, and adjectival
structures in general, but compounding is also usual among the
technical terms of these languages: oil line = German Ölleitung,
Russian masloprovod, Hungarian olajvezeték, Finnish öljyjohto.
In English all these types are virtually possible but the
preference is to use semantic change (blister in military and in
medical sense). In French compounding by mere juxtaposition of
the components is rare (machine-outil 'machine-tool'), but the
type with the prepositions de and à is very frequent (chemin de
fer 'railway', machine à composer 'computer').5
Language reform has often involved some new types of word formation or types (Tauli 1968:23) which, although extant, were not productive; the mass penetration of foreign lexical elements may cause some changes in the phonemic, morphemic and syntactic structure, as can the new means of word formation. At any rate, they shift the distribution of the phonemes, their load and occurrence, the frequency of the grammatical morphemes, etc. These changes may involve orthographic problems as well.

The frequency of the word coining types can change in the course of time. In Hungarian, composition was the dominating means of word formation in the 19th century, while in modern times suffixation has become the overwhelming type for the new technical terms.

The above sketched cases are not only characteristic of the European languages. To refer to an African example, in Swahili noun formation is mostly deverbative, though there are nominative formation too (zuri 'beautiful' - uzuri 'beauty'). Composition also occurs frequently, both simple juxtaposition (mwanahewa 'aviator' < mwana 'child' + hewa 'air') and the possessive construction resembling French compositions (kinu cha taa 'power plant' < kinu 'mortar, press, mill' + taa 'lamp'). No denominative verbs exists, however, verbs are formed from nouns with a compound containing a verb and a noun as direct object: kupiga sindano 'to vaccinate, to give a shot' < kupiga 'to strike, hit/beat' and sindano 'injection, vaccination'.

5. The role of the opaque and transparent words

Conscious word coining makes use of the same means, in principle, which occur in the natural growth of the vocabulary. In addition to these, free word coinage (gas < Greek chaos; rococo < French rocaille; Kodak, etc.)--mostly originating from extant patterns--is sometimes applied. On the other hand, abbreviation or back formation--very rare cases of natural word formation --are now fashionable methods for enrichment of the lexicon. All in all, language planners have to take the entire grammatical structure--although chiefly the morphology of word formation--into consideration in the choice of the most practicable types of word building. Coming back to the case of Swahili, it is absolutely unlikely that the guiders of the modernizing movement would coin denominative verbs since they are not needed. The experience of language reforms shows, however, that some artificial word building types could have spread: back-formation and root-mutilation in Hungarian like sav 'acid' the noun from savanyú 'acid, sour' the adjective (cf. Tauli 1968:114).

Both main types of word formation, the foreign and the inherent ones, have been used during all reforming efforts. If purism can be kept apart from the language modernization plans of the present and future as a mere subjective factor in the choice of the means of lexical innovations--but this is not always possible owing to social and political circumstances--still another, an objective factor remains: the question of the international character of the technical terms or of their easy intelligibility for the general
public. These two are mostly opposed to each other.

Foreign words, chiefly the international technical terms (of Latin and Greek origin) are advantageous for the experts, since they make orientation in the international technical literature easier, furthering the development of a profession or science within the given country. The acquisition of foreign expressions is, on the other hand, a significant burden for the lower, less educated technical cadres (skilled workers, nurses, laboratory assistants, etc.) and this circumstance increases the gap between the higher, learned layers of industry and economics and the lower ones, between the leaders, directors, and the workers. The modernized lexicon originated in native means is more advantageous in this respect, but it has the drawback of loosening the connections with the international scientific and technical literature, i.e., with the world languages. The essentials of this problem have been expounded by Ullmann (1967), differentiating the transparent and the opaque words. He mentions the case of handbook, as opposed to the less intelligible manual (being transparent, however, in Latin), which was renewed for clearer understanding. In Swahili mta.mbo 'machine' is more understandable, e.g., since the root ku-tamba 'to walk in a swaggering way, to leap, to dance' (i.e. 'a swaggering, a leaping, a moving thing') can easily be analyzed, than the English loan word machine. One has to keep in mind, however, that the choice is limited by the grammatical structure of the given language, e.g., English and French are more opaque in their lexical stock than German, Russian, Hungarian, etc.

In Africa, the Bantu languages, mainly Swahili, can be more transparent than the largely isolating and tone-marking Kwa languages like Ewe, Yoruba, Igbo, and Twi, but this problem needs more thorough investigation.

The intelligibility of the international terms can be reduced, however, in those languages where the phonetic structures radically alter the phonetic form of the foreign words, e.g. Finnish upseeri 'officer', tyyli 'style', Ganda sa kuk:ir u< school (cf. Mosha 1971:305). Swahili also tends to strongly reshape the loanwords, e.g. hedikvota < headquarters. In certain cases they have become more remote from the original Latin form through English (which also remodels the international words), e.g., Swahili gavana < governor < Latin gubernator < Greek kybernetes.

To sum up, when making a decision concerning the choice of the main word-coining patterns or the terminology of a special field, the political, social, and educational circumstances must be taken into consideration.

The analysis of the grammatical types of word building and their comparison in the world languages may furnish new models for increasing the deficient lexical stock. Let us suppose that in Swahili one is trying to replace foreign (English) lexemes by calques. Owing to the resemblance of the Swahili unmarked compounds to those of German (also Russian) or of the possessive syntagmas to the French (Russian) ones, new artificial words could more easily be found considering such spontaneous examples (without claiming, of course, their acceptance): relve < railway to be
changed to *njiachuma (njia 'road, way' + chuma 'iron') by analogy of German Eisenbahn or *njia ya chuma by analogy of French chemin de fer (and Russian зелёная дорога); континент континент to be changed to *sehemudunia (sehemu 'part' + dunia 'world') by analogy of German Erdteil or possibly *sehemu ya dunia 'part of the world'.

It is rather a practical question whether Swahili language reformers would use such more remote patterns, but theoretically the available models of other languages having no direct contact with Swahili could also stimulate the word-coinage.

In any case, the new words must go through a process of slow crystallization as regards their use and meaning. Whiteley (1969: 120-215) shows the case of a Swahili innovation, uchumi 'economics' (and also 'earnings, gain, occupation' etc.) as a derivation from ku-chuma 'to gather, pick, earn, make profit', etc., where this process has not yet been finished.

6. The role of ideology

In the past century and still earlier, language reforms were not centrally directed and no official organs were engaged in these movements. Their leaders were mostly men of letters, amateur linguists, who set above all the development of a vernacular literature as their aim. To be sure, scientists also participated in some earlier reforming movements like Pál Bugát, a professor of medicine who contributed greatly to the modernization of the Hungarian vocabulary of science.

In Turkey, on the other hand, Kemal Ataturk himself headed the language reform considering it his personal concern as a statesman. The language reforms of our days are peculiar for their very practical character, striving after the formation and standardization of the scientific and technical terminology. These activities are often centrally directed and supported by the state or by public institutions, as in the case of the minorities of the Soviet Union, of Hindi, of Tagalog (Filipino), etc.

The mass lexical innovations can give rise to heated discussions and controversies bringing the business of language reform into the focus of public concern. Such sharp polemics took place in the early 19th century in the course of the Hungarian language reform, and in the twentieth century in Turkey, where an otherwise unscientific ideology, the so-called Sun-theory (the hypothetical word аг 'sun' as subject of an original sun-worship was surmised to be the ancestral form of all the words of the human languages) facilitated the borrowing or preservation of foreign words (old Arab and Persian loan words) in the face of radical purification efforts (cf. Hazai 1970:746-758).

What has been said above is only a brief theoretical survey of several language planning activities that took place or are taking place independently of each other. Though many of them are well-known through detailed monographs like the Hungarian, the Turkish, the Slavic language reforms, the data for synthesis of language modernization are scattered in hundreds of books, papers, and manuals, and a systematizing work has not been published up to the present.
7. A suggestion to edit a special volume

I propose to edit a volume embracing the history of the most important language reforms including those in progress (Swahili, Ganda in Africa, Hindi, Tagalog in Asia, etc.) systematically worked up according to some definite points of view. By the publication of this volume, we would achieve a double purpose. It would result partly in a more systematic documentation of the reforming efforts—a useful manual for the development of the theory of language planning—and partly it could afford practical assistance to the language reformers of our own epoch. The Turkish modernizers did indeed gain some experience from the history and results of the Hungarian language reform.6

I do not suggest editing the volume by the compilation of published articles or by extracts from the manuals because these have been written at different times according to different views and for different purposes. Instead, I propose to have the articles written especially for this purpose by the corresponding specialists. Otherwise, one would be faced with the Sisyphean task of gathering the data and arranging it systematically according to a unified set of principles and points of view. In the older works there are few quantitative or statistical data, for instance. The proposed scheme strives after a unity of documentation and at the same time it would stimulate the writers of each article to elaborate and find out the required data which have not yet been registered.

With regard to the languages of the smaller nations of the Soviet Union, I propose to have the history of their language modernization recapitulated in a single article but in a more voluminous one than the other chapters of the volume. They number over fifty, hence a survey of each taken together would surpass the length of one volume. Moreover, this modernization was elaborated on the basis of the same main principles for each and carried out—although at different times and varying according to the local circumstances—through central direction. Surely this chapter ought to be lengthier than those of the other languages.

Owing to the limits of a publication the scheme of the topics suggested is concentrated upon the main problems of the spontaneous development and the directed increase of the general vocabulary of the investigated languages, whereas the growth and planning of the scientific and special terminology will only be briefly touched upon. The main point of the plan is focused on the language reform of the general word-stock.

The scheme of the articles and the tentative list of the languages to be included in this volume appear in the appendix to this article.
Footnotes

1 Cf. Haugen's (1971) criticism of Ray and Taulli.
2 Cf., however, Taulli's (1968:14-15) more sceptical remarks.
3 Cf. also the papers on the increase of vocabulary and language modernization in Africa: McCall (1969), Whiteley (1967), Bender (1972), Scotton and Okeju (1972).
5 Concerning the different use of derivation cf. Taulli's remark (1968:110-111).

References


Das Gupta, J., and J. J. Gumperz. 1968. Language, communication and control in North India. In Fishman, Ferguson, and Das Gupta (eds.), 151-166.


Appendix A: Scheme of the articles for each language reform

1. Brief history of the movement
   1.1. Beginning, peak and end of the reform
   1.2. Leading personalities and institutions
       1.21. How did writers, scientists and politicians participate in it?
       1.22. Did linguists or linguistic institutions (Academy of Sciences) participate in it?
   1.3. Inclusion of the mass communication media (press, broadcasting, television)
   1.4. Participation of state organs and legislation supporting the reforming efforts
   1.5. Ideological, political basis or linkage of the movement (nationalism, linguistic theories, etc.)
   1.6. By-products resulting from the reform: dictionaries, manuals, etc.
   1.7. To what extent the experience of other language reforms served as stimulation, analogy for the movement?

2. External factors
   2.1. To what extent the role and function of the foreign literary and vehicular language(s) used so far changed by the reform?
   2.2. What kinds of linguistic styles are involved in the reform: only literary and scientific style or everyday speech and dialects, too?
   2.3. The extension of the reform to the society. To what extent each social layer was attracted by the reforming movement?

3. Internal factors
   3.1. Has the reform included or influenced the orthography or how was it connected with spelling problems or writing at all?
   3.2. Has the reform had an effect on the phonetic or phonological structure of the language or has the then extant phonetic or phonological system influenced the formation of the new lexical elements?
   3.3. Has the reform had an effect on the morphological system or has the then existing system influenced the prevalence of an innovation type?
   3.4. Have the reforming efforts had an impact on the syntactic structure or has the then existing syntactic system influenced the word formation?
   3.5. The means of innovations:
       3.51. Borrowing and standardization of the foreign elements: (a) the lending languages, (b) prosodical factors, sound replacements, etc., (c) morphological factors: affixation, composition, etc.
       3.52. Borrowing from the dialects (by semantic change) and from closely related languages (Czech loan-words in Slovak, Swahili borrowings in Ganda, e.g.)
3.53. Renovation of obsolete words (by semantic change)
3.54. Word derivation
3.55. Composition
3.56. More artificial means of word formation: back-formation, stem mutilation, artificial coining (gas), abbreviation (laser), etc.
3.57. Loan translation; calque and semantic borrowing
3.58. Semantic change (metaphor: Swahili ndege Ulaya) and paraphrase (faulty product)
3.59. Sound symbolism

3.6. Which kinds of the above means were extant before the reform and which have become dominant?
3.7. Which kinds of word formation were first used by the reform, entirely lacking earlier (new affixes, abbreviation, etc.)? Has the reform included innovations only or also replacement of undesirable elements (foreign words)?
3.8. Which kinds of word-layers have been renewed: (a) technical-scientific terms, (b) poetic, literary expressions, (c) everyday expressions?

4. Evaluation of the reform
4.1. Statistical data: the number of new roots specified according to the word formation types (in code vs. in message)
4.2. Which means of word formation can be considered as appropriate for the modern uses of the language: (1) due to its internal and external factors, (2) that emerged during or since the reform?
4.3. General results and faults of the reform considering the development of the society and that of the language.
4.4. Did the reform serve as stimulation for the modernization of other languages and if so to what extent?
# Appendix B: The languages involved

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