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AN ATTEMPT AT A QUANTITATIVE ANALYSIS OF SOCIAL DIALECTS

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The findings of modern linguistics have contributed considerably to the solution of some problems of social dialects. But as far as we know no attention has been given so far to the quantitative aspects of social dialects.[1]

Our study does not concern all branches of Czech social dialects. It deals only with the particular form of substandard Czech used by students, footballers, miners, postmen and railwaymen. In Czech linguistic research, this form of substandard language is usually called slang. This use of the term differs from the meaning in which it is used in English and American linguistics. Of course, both in Czech and in American linguistics deep terminological differences may be found with regard to suitable terms for various branches of substandard Czech and English. In our study we have chosen the terminology of the "Slovník spisovného jazyka českého"[2] (The Dictionary of Standard Czech), published by the Czechoslovak Academy and edited by a number of distinguished Czech linguists. A similar reason has led the author of this study to use the terminology of The Concise Oxford Dictionary,[3] the lexicographic authority of which is beyond any doubt and whose tradition is long and fruitful.

In our opinion, the following aspects of slang should be examined from the quantitative point of view:

1. The number of different lexical units which occur in the vocabulary of a certain slang (e. g. in the railwaymen's slang) at a certain period, for instance in April 1966, etc.
2. The synonymy of lexical units.
3. The occurrence of lexical units.
4. The quantitative development of the concerned vocabulary, i. e. how

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[1] L. V. Berrey - Melvin van den Bark, *The American Thesaurus of Slang*, New York 1943.

[2] *Slovník spisovného jazyka českého, III* (Dictionary of Standard Czech), Praha 1966.

[3] H. W. Fowler - F. G. Fowler, *The Concise Oxford Dictionary of Current English*, Oxford 1956.

the number of its lexical units increases or decreases during the period in which the slang has been examined, for instance during the latest 20 years, etc.

1. The Number of Lexical Units

If we study the vocabulary of the kinds of slang mentioned above, we must assume the existence of a considerable difference in the number of the lexical units occurring in such kinds. The differences are evident from Table I. It is obvious that in the footballers' and students' slang the lexical units are significantly more numerous than those found in the kinds of slang used by miners, postmen and railwaymen. In our samples the slang of those persons who are joined together by common work is considerably poorer than that of the groups joined together by a common interest.

It is not necessary to point out how important it is for the validity of our conclusions to list the various slang lexical units (the "slang vocabulary") as completely as possible. The reliability of the data (see Table I, column 3) depends on the methods which had been applied in obtaining them. Therefore, we tried to use all available methods to get results as complete as possible.

1.1. A very fruitful method is provided by the questionnaires. A list of slang lexical units which had been established during preliminary examination in railway-stations, in mines, etc. was sent to a sample of respondents in order to be completed or corrected, if necessary. The number of slang lexical units was regarded sufficiently complete if the following conditions were met:

a) The questionnaires were returned back in sufficient number.

b) No changes were made in the questionnaire (in the list of slang lexical units) by respondents, or several changes were suggested only by an insignificant number of respondents.

The advantage of this method is that in using it the respondents have time enough to think over their answers; on the other hand, a great disadvantage is that the obtained answers are isolated, not connected immediately with the work of the respondents.

1.2. The said disadvantage disappears if we use a tape-recorder for the examination of the slang. The best results are usually reached if the subjects do not know that their conversation is being recorded. The record is afterwards analysed in order to establish the slang vocabulary and to find out the number of its lexical units. This method is very much appropriated, but its application is rather limited:

a) In some situations it is not possible to use the tape-recorder (in the mines, where the sparkling of the apparatus might, under some conditions, cause an explosion, in noisy or very dusty work-shop, etc.).

b) The records and their transcription claim much time and are rather expensive.

c) However long the records may be, they do not contain all rare slang lexical units, such as occur only on some occasions.

1.3. The results obtained by means of the questionnaires and the tape-recorder are completed and sometimes also better explained in conversation with suitable subjects. These persons cannot be selected at random; they must have appropriate personal qualities and be interested in positive cooperation with the explorer.

Despite our combination of these methods, we do not dare to regard the numbers of the lexical units (Table I) as absolutely complete, as rarely occurring lexical units or individual features might have been omitted. Of course, their number is most probably very small.

The differences between the kinds of slang are based not only on the number of lexical units, but also on the relation between such units and the number of ideas which are closely connected with the work or interests of the concerned group of persons and which it is necessary to denote (Table I, column 4). The number of lexical units is at least as numerous as the ideas which must be denoted; as a rule, it is somewhat larger because of the synonyms occurring in the given slang. The relation *lexical units* : *ideas* expresses whether the examined slang has for each idea one lexical unit only, or whether there are any synonyms.

The relation between the number of the ideas and the lexical units may also be expressed by means of a figure (Figure 1). Each lexical unit is represented by one prism. Each square found in the front series represents

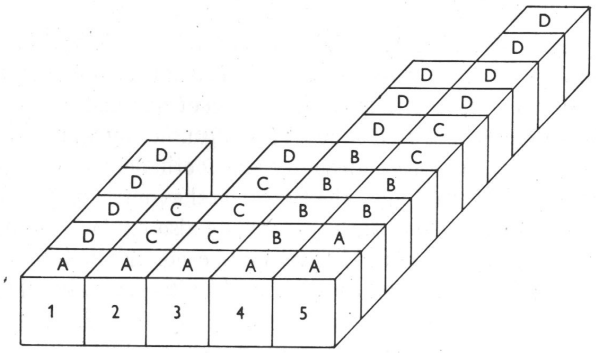

Fig. 1

one idea. If the prisms are arranged towards the background, the idea has two, three etc. synonyms. If necessary, the occurrence of lexical units may be expressed by means of the capital letters A-D (see below, p. 83). Our figure represents only a small sector of the students'slang, namely the lexical

Table I

Profession	Place and year of investigation	Number of lexical units occurring in the slang	Number of ideas
Miners	Tlučná u Plzně 1968	175	162
Postmen	Plzeň 1968	102	81
Railwaymen	Plzeň and surroundings 1965	288	231
Footballers	Plzeň 1968	602	111
Students 10th—12th class	Plzeň 1963	458	79
Σ	—	1625	664

units denoting the marks from the first degree to the fifth. In this way, three important parameters, namely the number of lexical units, their synonymy and occurrence, might be expressed at a time by means of one single figure.

2. Synonymy of Lexical Units

An analysis of the lexical material shows that it consists of two groups: of lexical units without any synonyms and of such lexical units which have one synonym or more. A detailed examination of our material has proved a profound difference between kinds of slang used by the miners, postmen and railwaymen and those used by the footballers and the students. The former is poor in synonyms, the latter, on the contrary, extremely rich, as it may be seen from Table II. These results also explain the differences between the total number of the lexical units occurring in various kinds of slang (Table I): the total number of lexical units is widely influenced by the ability of a certain kind of slang to produce synonyms. It is necessary to stress that the kinds of slang used by the miners, postmen and railwaymen have a prevailing communicative function in contrast to those used by

Table II

Profession	Lexical units without synonyms	
	Absolute numbers	Relative numbers
Miners	152	86.85 %
Postmen	66	64.70 %
Railwaymen	188	65.28 %
Footballers	21	3.49 %
Students 10th—12th class	22	4.80 %
Σ	449	27.64 %

the footballers and students where a clear tendency to use more expressive words may be perceived.[4]

A detailed analysis of lexical units occurring in the kinds of slang mentioned above shows that the synonyms form various groups which differ from each other first of all in the number of the lexical units denoting the same idea (see Table III). It is very interesting that despite profound differences between the kinds of slang the average number of the synonyms is nearly the same in the slang used by miners, postmen and railwaymen (2.3 or 2.4 synonyms in one group of synonyms). Thus, e. g., in miners'slang there are 7 groups containing 2 synonyms each (= 14 lexical units) and 3 groups containing 3 synonyms each (= 9 lexical units). $\frac{14 + 9}{10} = 2.3$.

According to the same formula has been calculated the average number of synonyms in the kinds of slang used by the footballers and students. The results are interesting: 5.23 or, respectively, 5.52 (see also Table IV). It is obvious that a profound difference exists between kinds of slang used by miners, postmen and railwaymen on the one hand and by the footballers and students on the other, as regards the number of synonyms.

A question might be asked whether there exist sorts, classes of ideas which are usually denoted in a certain kind of slang by the most numerous groups of synonyms. A detailed examination of our lexical material has proved that such a question cannot be answered positively. Thus, for example, the most numerous groups in railwaymen's slang (5 synonyms each) denote a senior railway-officer (*dlouhé dříví* — long beams, *holubář* — pigeonkeeper, *škodná* — vermin, *viržinko* — cigar, *za bukem* — behind the beech), or the rail sleeper (*práh* — threshold, *sirka* — match, *švel*, *švelík*,

[4] L. Klimeš, *Slang plzeňských studentů* (Slang of the Plzeň students), Sborník Pedagogického institutu v Plzni, Jazyk a literatura 5, 1964, Praha 1964, 71—118.

Table III

Number of synonyms in in one group (= N)	Occurrence of the groups containing N synonyms in the slang of the				
	miners	postmen	railwaymen	footballers	students
2	7	10	35	22	14
3	3	4	5	22	10
4	—	1	—	18	10
5	—	—	3	10	10
6	—	—	—	13	10
7	—	—	—	7	7
8	—	—	—	5	6
9	—	—	—	3	4
10	—	—	—	4	2
11	—	—	—	2	2
12	—	—	—	—	1
13	—	—	—	—	2
14	—	—	—	2	—
15	—	—	—	—	1
16	—	—	—	—	—
17	—	—	—	—	—
18	—	—	—	—	—
19	—	—	—	1	—
20	—	—	—	—	—
21	—	—	—	1	—
22	—	—	—	—	—
23	—	—	—	—	—
24	—	—	—	—	—
25	—	—	—	1	—
Σ	10	15	43	111	79

Table IV

Profession	Average number of synonyms occurring in one group
Miners	2.30
Postmen	2.40
Railwaymen	2.33
Footballers	5.23
Students	5.52
Total average	4.56

trám — beam), while in postmen's slang (4 synonyms) it is the post-bag containing also money (*samec* — male, *úhrnnej* — total, *tvrdej* — hard, *vostrej* — sharp) etc. In students' slang, again, the most numerous group denotes the teacher (13 synonyms, e. g. *kantor*, *prófa*, *profák*, *úča* etc.). The same number of synonyms is found to denote the W. C., e. g. *hajzl*, *havaj* — Hawaii Isles, *klub* — club, *kuřárna* — smoking room, *kutloch*, *ministerstvo úlevy* — ministry of relief etc.

3. Occurrence of Lexical Units

Different kinds of slang differ from each other also in the occurrence of their lexical units. In our opinion, the best way how to investigate the occurrence is to use the questionnaires. Of course, the reliability of the results depends widely on the sample of the respondents, on their conscientiousness and on the number of the questionnaires which were returned. But it is not our task to discuss these external circumstances of the investigation.

Let us turn our attention to the questionnaires. Every respondent received a list of slang lexical units occurring in the particular slang. His task was to write to each lexical unit one of the six capital letters (A—F) denoting his opinion about the occurrence of the single lexical unit. The meaning of the letters was: A — very frequent, B — frequent, C — moderately frequent (considerably lower than B, but higher than D), D — rare, E—I do not use this word and I do not understand it, F—I use this word, but I do not understand it as yet. It is not necessary to stress that the last eventuality (F) could have been taken into consideration in the apprentices' slang only. Some apprentices may temporarily use several words the meaning of which they do not know clearly at the time of our experiment.

The author of this study applied this method for the first time in the year 1964,[5] later on in 1967.[6] S. Rosenberg[7] examined the frequency of lexical units by means of a similar questionnaire and tried to find out the average frequency as an average value of individual estimates. The task of the respondents was to write to every word one of the five capital letters (A—E) and so express the subjective estimate of the occurrence of the given lexical unit. If A is substituted by 5, B by 4... and E by 1, the average occurrence may be expressed as an average value by means of one figure. —

[5] *Op. cit.* in note 4, 104—106.

[6] L. Klimeš, *Západočeský železniční slang* (The West-Bohemian railway slang), Sborník Pedagogické fakulty v Plzni, Jazyk a literatura 7, 1967, Praha 1967, 15—36.

[7] S. Rosenberg, *The Influence of Grammatical and Associative Habits on Verbal Learning*, Directions in Psycholinguistics, New York-London 1965, 121—125.

Independently of Rosenberg, we also tried to use this method.[8] The substitution of letters to figures is advantageous, but there is a danger hidden in it: the estimates can be scarcely regarded as members of arithmetical progression, but, calculating the arithmetical average, they are treated as if they were.

Our questionnaires were usually filled in twice or even three times at several weeks interval in order to avoid mistakes and to prove the stability of the individual estimates.

Let us suppose that one questionnaire had 100 lexical units and that the sample of respondents was 50. If all questionnaires were filled in correctly, we should obtain $100 \cdot 50 = 5\,000$ estimates of the occurrence expressed by means of letters A—F, for instance:

1st respondent	60 A	20 B	5 C	15 D	0 E	0 F
2nd respondent	52 A	7 B	13 C	19 D	8 E	1 F
.						
.						
.						
50th respondent	71 A	10 B	9 C	5 D	4 E	1 F
	a A	b B	c C	d D	e E	f F

$n = 50$

$a = \sum_{i=1}^{n}$, viz $60 + 52 + \ldots + 71$

$a + b + c + d + e + f = 5\,000$

This method enables us to come to several important conclusions:

The differences between two kinds of slang consist not only in the number of lexical units in the slang vocabulary, but also in the degree of their occurrence. If in a kind of slang the lexical units belonging to the groups A, B prevail significantly, then it is beyond any doubt that such kind of slang is very vital, its lexical units are used very often etc. And on the contrary, if the differences between the groups A + B and C + D are slight, or even if the group C + D prevails, such kind of slang is not vital enough, in spite of the large number of its lexical units. In other words, there may exist profound differences between two kinds of slang caused by a various degree of the occurrence of lexical units, although the number of lexical units in both kinds of slang might be equal.

These differences can be exactly expressed. Let us examine the occurrence of the slang lexical units in the slang used by miners and postmen. The results are summed up in Table V. It is obvious that the differences between the groups A + B (85.5 %; 89.1 %) are insignificant and the differences between the groups E (1.5 %; 12.3 %) significant.

[8] *Op. cit.* in note 6, 29—31.

Table V

Profession	Occurrence of lexical units of the types A—E									
	A		B		C		D		E	
	Absol. number	%	Absol. number	%	Absol. number	%	Absol. number	%	Absol. number	%
Miners	129	74.2	20	11.3	7	3.8	16	9.2	3	1.5
Postmen	69	66.9	12	12.2	5	4.5	4	4.1	12	12.3
Σ	198	71.5	32	11.5	12	4.3	20	7.2	15	5.4

4. Quantitative Development of Slang Vocabulary

The quantitative development of slang vocabulary may be treated from two aspects: we either study the quantitative changes which took place during a longer period (4.1), or the relations between the number of slang lexical units and the age of the persons (4.2). The first method has proved advantageous in studying miner's and students' slangs, the second method has been very fruitful in the examination of apprentices' slang.

4.1. Development of Miners' and Students' Slangs

We have had the opportunity of following miners' slang since 1948,[9] students' slang since 1963.[10]

During the last 20 years, miners' slang has undergone negligible changes only. Since 1948 the total number of the lexical units increased by 3.4 % and at the same time decreased by 4.6 % (old-fashioned words etc.). Of course, 20 years is a relatively short period in the development of a language, but viewed technologically, this period has brought far-reaching changes. Still, their influence on miers' slang has been relatively small.

On the contrary, the changes in students' slang during a short period (1963—1967) were to become more remarkable: in the year 1963, the students did not know 45.4 % of the total number of students' slang vocabulary in the year 1967. (For examples, see Table VI.) It should be noted that the lexical units occurring both in 1963 and in 1967 are, in their majority, at least 40 years old and have a high occurrence (A, B). The translation of

[9] L. Klimeš, *Hornický slang na dole Krimich v Tlučné u Plzně* (The coal-miner slang in mine Krimich of Tlučná near Plzeň), Sborník Vyšší pedagogické školy v Plzni, Jazyk a literatura 1, 1958, Praha 1958, 135—146.

[10] *Op. cit.* in note 4.

Table VI

Standard word	Equivalent slang lexical units occurring		
	both in the year 1963 and 1967	in the year 1963 only	in the year 1967 only
ředitel the headmaster	*řída* the headmaster *šerif* sheriff	*koník* the small horse *pan řídící*, *řídák*, *řídouš* } the headmaster *starej* the boss	*direktor* the director
ředitelna the headmaster's office	*šerifárna*, *šerifovna* } sheriff's office *šéfárna* the chief's office	*direkce* the police headquarters *maštal* the stable *místo nahoře* the room on the top *síň na nejvyšší úrovni* the summit *šéfárna* the chief's office *šerifna* the sheriff's office	*stan* the headquarters
vrátnice the porter's lodge	—	*bachárna* prison guard's room *pašerárna* the smugglers'room *portýrna* the porter's lodge *recepce* the reception *strážnice* the guards'room	*bouda bdělého oka* the booth of a sharp eye *celnice* the custom-house *kukaň* the brooding-cage
učit se to study	*šprkat*, *šprtat*, *vrčet* } to swot	*biflovat*, *dřít*, *šrotit* } to swot	*bičovat se* to scourge *bušit* to rap *dřít se*, *šrotit se* } to swot

Czech slang lexical units into English is not always equivalent, because we do not know all corresponding English slang expressions.

The differences between miners' slang and students' slang, as regards the stability and changes of their vocabularies, seem to be quite clear.

4.2. Development of the Kinds of Slang Used by Apprentices and Students as a Result of the Differences in Age

4.2.1. Apprentices' Slang

Statistical methods have proved especially fruitful in the research of the development of the apprentices' slang.

The first and most important question is: how many months or years are needed for an apprentice to get acquainted with all lexical units used by skilled workers? The answer may be found in Table VII.

The apprentices filled in the questionnaires in March—May 1967 and 1968.

The trend of the development is very different, especially in the last years of the apprenticeship. Why did the young miners master more than 3/4 of the slang vocabulary of the adult, skilled miners, while the young railwaymen acquired less than one half of the total slang vocabulary? The cause cannot be found in the differences of organization of the apprenticeship in the mines and in the railways: both the young miners and the young railwaymen work during the third year of their apprenticeship together with the adult workers in the mines and in the railway-stations. In our opinion, the results are deeply influenced by the differences of frequency in the slang vocabulary of the adult miners and railwaymen. In the slang vocabulary used by the miners, 74.2 % of lexical units were regarded by adult miners as very frequent (A), whereas in the railwaymen's vocabulary only 52.5 % of all lexical units were given such classification (A). The influence of language environment can be scarcely denied. The absence of some lexical units occurring in the railwaymen's slang very frequently (A) is probably the consequence of a certain abundance of synonyms in this slang (see Table III). If two or even several slang lexical units co-exist for one and the same idea, their occurrence is, as a rule, not quite common (A). Of course, this is only a partial explanation, because the occurrence of a lexical unit depends also on other circumstances closely connected with the speaker's work; their influence is far-reaching and important.

The zero-development in postmen's slang may be regarded as a consequence of the apprenticeship-planning. The postmen apprentices who took up their work in the P. O.-school at the beginning of September achieved 39.4 % of the total slang vocabulary during 2 months. This quick development is caused by the fact that the postmen apprentices work at the very beginning in various post offices together with skilled postmen and so get acquainted, within several weeks, with the most important features and words of postmen's work. They are not isolated, during the first year, in the school, as it is the case of miners and railwaymen. The future development is afterwards comparatively slow, because the main and most urgent need of communication with adult postmen had been saturated in the first two months. But, on the other hand, we cannot disregard the fact that the total number of lexical units amounts to 102 only, whereas the railwaymen's slang has no less than 288 lexical units (see Table I). It is certainly easier for the postmen apprentices to acquire just one half of the quantity of the slang vocabulary to be acquired by young railwaymen.

Let us now examine the development of the slang vocabulary of a sample containing 19 railway apprentices. The first examination took place in

May 1967, when the apprentices had left the school workshop and started their work with adult railwaymen. The second examination of the same apprentices took place in February 1968. The task of the apprentices was to fill in the above-mentioned questionnaire. A certain progress in their knowledge of slang vocabulary should be expected. The statistical results are obvious from Table VIII.

A question might be asked whether the two sets are seen to differ. The first set (m; May 1967) has 20 members, the second set (n; February 1968) has 19 members. We test the hypothesis that these sets do not differ significantly. For this reason, the median test[11] has been used. Because the test statistics S = max (11,7) is lower than the critical value 13,0 (m = 20, n = 19), H_0 can be rejected at the level $\alpha = 0{,}05$.

On the basis of these results we may assume that in our sample the knowledge of slang vocabulary did not increase significantly during 9 months, despite the presence of the apprentices among the adult railwaymen during that period.

These results do not agree to the trend of development of postmen's vocabulary: the postmen apprentices mastered 39.4 % of the total slang vocabulary still during the first two months (see p. 87). In attempting to explain these differences we should take into consideration that the postmen apprentices had to learn the most important slang lexical units which were essential and indispensable for their work. The railway apprentices, on the other hand, were in the second year of their apprenticeship at the time of our experiment; they got acquainted with the most important slang lexical units in the first year, and therefore in the second year of the apprenticeship the development of their vocabulary was relatively slow

Table VII

Profession	Year of apprenticeship	Average knowledge of lexical units (in %) occurring in the slang
Miners	1	43.7
	2	58.9
	3	76,9
Postmen	1	53.4
	2	53.4
Railwaymen	1	36.1
	2	38.7
	3	45.5

[11] S. Sigel, *Nonparametric Statistics*, New York 1956.

(see Tables VII and VIII). As railway-apprentices did not work together with the adult railwaymen during the first year (in contrast to the postmen apprentices), they mastered only a relatively small section of the slang vocabulary.

Table VIII

Date of examination	$\bar{x}$	x_{min}	x_{max}	V	Me
2. 5. 1967	64.9	46	134	88	61
12. 2. 1968	81.5	41	151	110	63

$\bar{x}$ = average number of lexical units
x_{min}, x_{max} = extreme values
V = extent of the series (x_{max}-x_{min})
M = median value

4.2.2. Students' Slang

It is beyond any doubt that the pupils of the higher classes know the students'slang better than the younger pupils. Of course, it is not necessary to prove this fact by statistical analysis. What matters here is the empirical curve of this development and the mutual quantitative relations among the classes.

As the basic material for the statistical investigation of this development we used a questionnaire which contained a complete list of literary, non-colloquial words concerning school life; their total number was 95. Each word denoted only one idea. Of course, the list did not contain synonyms. The task of the pupils was to write to each literary word its slang equivalent, one or more. With regard to the age of the pupils (10—13 years) we did not demand their estimates of the occurrence of the slang lexical units. The experiment took place on June 27, 1969, in the basic nine-year school in Bolevec (Plzeň). The results are summed up in Table IX.

The differences between the average number of slang words are large (e. g. 6.a — 6.b, 6.b — 7.b etc.). On the other hand, the average number of slang words is in the classes 6. b and 8. b nearly the same. The deepest differences exist between the 5th and the 6th forms. This is in conformity with our experience: the method of teaching in the 6th form differs considerably from that used in the 5th form, the number of teachers and subjects has increased, etc.

In the preceding paragraph we tried to discover how many slang words occurred in one questionnaire. In other words, our results reveal how many slang words on an average were used by one pupil in one questionnaire, e. g. in the 5.b class 291 : 32 = 9.10 (see Table IX).

But the pupils' slang should also be examined from another point of view,

Table IX

Class	n	$\bar{x}$	x_{min}	x_{max}	V	Me	Mo
5. b	32	9.10	1	17	16	10	10
6. a	16	27.12	20	43	23	26,5	24 25 26 27 28
6. b	19	19.58	13	26	13	21	21
7. a	30	23.70	12	36	24	22	22
7. b	30	34.00	18	57	39	33	29
8. a	27	28.85	15	42	27	31	27 28 30 32 37
8. b	28	19.45	5	37	32	19	19 25 28
Σ	182	22.81	1	57	56	22	22

n = number of pupils in the class
$\bar{x}$ = average number of slang words in one questionnaire
x_{min}, x_{max} = extreme values
V = extent of the series (x_{max}-x_{min})
Me = median value
Mo = modus

viz, it should be found out how many lexical units (i. e. various words) occur in the particular form. For instance, in the 5.b class, there were 32 pupils and, needless to say, the same number of questionnaires have been filled in by the pupils. They contained 291 words. But many of them occurred in all questionnaires or in the majority of them, so that the total number of various slang words (lexical units) occurring in one class was rather low, in the case mentioned above, only 46. — 32 pupils of the 5.b class knew as a collective 46 lexical units, one pupil 46 : 32 = 1,55 on an average. Of course, the real number of lexical units varies in single questionnaire considerably, as may also be seen from 5th and 6th columns (x_{min}, x_{max}) of Table X.

The quantitative differences existing between Tables IX and X are interesting: the pupils of the 8th classes knew more lexical units than the pupils of the 7th classes (Table X), but they did not use them so frequently (Table IX). This is also proved by the index of repetition (Table X, column Ir): in the 8th classes, one slang lexical unit was repeated 3.73 or 4.75 times (in the questionnaires), but in the 7th classes 6.52 or 7.29 times. The small differences between the number of the pupils seem to have influenced the results insignificantly.

In every class such lexical units exist which occur once only. On the contrary, lexical units occurring in each questionnaire in the particular class without any exception ($x_{max} = n$) may be found in the classes 6.a and 8.a (Table X). With regard to $\bar{x}$, Me and Mo we assume that in each class of our sample such lexical units prevail as have only slight occurrence. This is obvious also from Table XI.

Table X

Class	n	l	$\bar{x}$	x_{min}	x_{max}	Me	Mo	Ir
5. b	32	46	1.44	1	29	3,5	1	6.33
6. a	16	75	4.69	1	16	5	1	5.79
6. b	19	81	4.27	1	18	3	1	4.59
7. a	30	109	3.63	1	28	2	1	6.52
7. b	30	140	4.66	1	27	3	1	7.29
8. a	27	164	6.07	1	27	2	1	4.75
8. b	28	146	5.22	1	26	1	1	3.73
Σ	182	761	4.18	1	29	2	1	5.46

l = total number of the slang lexical units in the class
x = average occurrence of one lexical unit
Ir = index of repetition (number of slang words: number of slang lexical units)
For other abbreviations, see above, Table IX.

Table XI

Class	l	h	
		absolute number	%
5. b	46	5	10.87
6. a	75	21	28.00
6. b	81	13	16.05

Class	l	h	
		absolute number	%
7. a	109	18	16.52
7. b	140	24	17.15
8. a	164	20	12.19
8. b	146	16	10.96
Σ	761	117	15.38

l = total number of slang lexical units in the class, h = number of lexical units occurring in more than one half of all questionnaires in the class

Let us presume that in a particular class l lexical unit occurred (e. g. in the 5.b $l = 46$). Theoretically speaking, each pupil could put down 46 lexical units in his questionnaire and in each class we could expect n. l words, e. g. in the class 5.b 32.46 = 1472. Needless to say, these results have not been reached in any class. If we regard n. l as 100 %, then the really achieved number of slang words in one class, the degree of realization, may be expressed in %; e. g. in the 5th class, there are 291 slang words (9 . 10 . 32; see Table IX), i. e. 19.77 % from the expected number 1472. The results in single classes are as follows (in %): 5.b 19.77, 6.a 36.17, 6.b 24.17, 7.a .21.74, 7.b 24.28, 8.a 17.59, 8.b 13.31.

Therefore, slang lexical units may be regarded more as individual than as common elements of the slang vocabulary of a class. The connection with the low average occurrence of the lexical units (Table X) seems to be quite clear.

The synonymity of students' slang is rather high. So, for instance, in the class 8.b there are 146 lexical units and 51 of them are synonyms. For example: the standard word *propadnout* (to fail) has the following synonyms: *buchnout* (to bang), *prolítnout* (to be ploughed), *rupnout* (to crack), *sedět* (to sit), *zůstat sedět* (to remain sitting); *vysvědčení* (the report): *glejt* (passport), *poukázka na výprask* (the docket for thrashing), *vystrčení*, *vystrčko*, *vystrko*.

These synonyms are used in most cases individually only, not by the whole class. If they were used by all pupils or at least by the majority of the class, the results found in Table XI would be considerably higher.

Because in student's slang such lexical units prevail which have only a low occurrence and which are used more individually, this slang undergoes-in spite of a large number of the lexical units — far-reaching and quick changes. It does not form a solid and homogenous language environment for the young, first-year students, as, e. g., the miners' slang does; as a matter of fact, the latter has an important communicative function, and thus there must be a connection between the young and old miners by means of the same slang words. On the other hand, only a relatively small "nucleus" of students' slang is rather firm and is "inherited" by new students.[12] This enables nearly every student to find out a certain number of his own slang words, mostly just because of "fun". Students' life and work is varied and gay, and these circumstances also influence the number of the lexical words. But, as a rule, these words have a low frequency. The differences between two classes in the same school may be therefore sometimes rather deep. Similar differences were perceived in soldiers' slang by E. Rippl.[13]

5. Conclusion

The present study has tried to discover the quantitative relations in the structure of the kinds of slang used by miners, postmen, railwaymen, footballers and students. It paid attention to the number of the lexical units in the slang vocabulary, to its synonymy, to the occurrence of slang lexical units and the quantitative development of the slang, especially of apprentices' slang. The quantitative results are based on the analysis of various questionnaires, of tape-records and on the dialogue with the subjects. They may contribute to a better knowledge of the slang structure. For instance,

[12] *Op. cit.* in note 4, 104—107.

[13] E. Rippl, *Die Soldatensprache der Deutschen im ehemaligen tschecho-slovakischen Heer*. Liberec-Lipsko 1943.

it is necessary to know not only the number of the lexical units occurring in the slang, but also their occurrence. This enables us to state the vitality of the given kind of slang rather exactly. Without quantitative and statistical methods it would be impossible to estimate the increase of apprentices' slang and to answer the question how many months or even years the apprentices need to master the slang used by skilled workers. Our method helps to explain better the numerous and nearly continuous changes in students' slang: one of the reasons is the low frequency of the majority of lexical units. The slang of the young pupils develops most intensely in the 6th class (in comparison with the lower class). Elder pupils (in the 8th class of the nine- year school) know more slang lexical units, but apparently they do not use them so often. The differences between the kind of slang used by the workers (e. g. the miners) and that of the persons joined more by common interests than by their work (e. g. the footballers) are also rather deep, viewed quantitatively.

In spite of various difficulties, the quantitative and statistical method is able to yield new information about the structure and development of the kinds of slang. As far as we know, it has been applied here, on a larger scale, for the first time.