

Methodology of text adjustment for readers with visual impairments

(according to Teiresias – κατὰ Τειρέσιαν)

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I. Theoretical Part

Introduction

The aim of this presented material is not to give or directly determine a comprehensive summary of measures that can or should be used for text modification for the use of readers with visual impairments because each new text contains particularities. These particularities require an individual approach or new solutions. This text only summarizes principles that are followed by employees of Teiresias Centre while processing electronic documents. Thus it offers experience gained in this field during the recent years, which have been based on the feedback of the readers.

None of the outlined methods and procedures guarantees or will guarantee its absolute universal applicability and general validity. However, they do represent a characteristic sample for those types of documents that we come across the most often in the university environment: specialized texts – in its black-print form generously structuralized and often formatted in a sophisticated manner, provided with schemes, tables, graphs, pictures, using various national sign sets, special symbols from natural, humanistic and artistic sciences etc.

As this text deals only with processing an already existing electronic document we will not deal with the possibilities of acquiring an electronic resource. We consider this point marginal for the purpose of this document. However we do not minimize the value of a well made scan or sensibly managed original typesetting. In a significant number of cases the volume of operations that have to be completed with both types of resources is almost the same.

The text is divided into three parts: a theoretical exposition, a practical part and chapters with short examples with comments.

A General View of Electronic Documents

An electronic document (ED) (for the use of the blind – but not only for them) is considered to be an autonomous source of information that has a common content – information with its black-print template (if it has one) but it does not have a similar form. For this reason all adjustments of the original document are determined to maintain the information and not the formal way it had been presented. Similar to a visual image of a paper document that comes out of the possibilities of the media given (format of the paper, type size, page distribution ...) the image of an electronic document reflects the possibilities of tools given – text editors, reading devices and other accessories. There is no reason to adapt it to the paper model in an attempt to reach the same effect in its formal aspect. In the last resort these efforts could lead to the uselessness of the electronic text.

Apart from practical consequences regarding the whole image of the document (*see below*) this comprehension has further appreciable impacts on working with ED. Either this means introduction of the electronic document as a stand-alone library item with its own publishing data (place and year of publishing, publisher), although connected to the original paper model or the quotation policy and related quotation habits: on principle the user quotes only the type of text that the user has actually worked with – in the case of a blind reader it is then positively only the electronic document, not its paper model, as often happens.¹

The form of an ED

From the above, it follows that the main emphasis on the preparation of an ED is put on user friendliness in relation to the target group of readers, however the es-
thetical aspect of the document (not being omitted) is only a secondary reason and is never applied to the exclusion of the easy technical ‘legibility’ of the text. Equally important is the united manner of the same types of adjustments in various documents. This means the effort is made to create standard and unified solutions for one type of specific effect so that a reader is not put to the role of a discoverer to learn to work with each new document. The reader should be in the position that he/she can fully concentrate on the content because the technical solutions offered are the same all the time, or are developed according to the characteristics of the text.

(In any case it is valid that at the beginning of each file readers find what are called document dispatched notes, where all types of adjustments that have proceeded it or are important for the work with the document, are summed up (example: see below).

Documents appointed for transmission in electronic form

If we proceed from the possibilities of an electronic document, from perceptual and technical possibilities of the users and from all the reading devices, it becomes apparent that it is unreasonable to digitalize all texts or at least not to their full original extent.

The decision for what kind of output the adapted text will be used in is equally important as the dilemma whether to digitalize the text or not. If we do not take into account the electronic texts that are used only for the source for haptic print, there are two basic variants of their use: reading using the voice synthesis and haptic reading using the Braille display reading.

¹ The users should realize that they state the bibliographic quotations primarily so that the reader can look up information exactly in the form and extent that they used themselves. This way they can substantiate and justify their statements. If readers with visual impairment refer to a document that they never had in hand they will not only decrease their professional status but can be inaccuracies (*see the chapter about adjustments of graphical parts*).

The Target Group of Users

It is necessary to take into consideration who the EDs are being prepared for – whether for totally blind users or partially blind users. It is necessary to adapt the final document to the group that the document is primarily meant for. It is not rare for the same document to be at the disposal in several variants because each visual impairment requires different reader's needs, which means a different modification of the original document. Items that are considered marginal in normal reading (e.g. the fonts used, type design, colour of the background and text, page layout) can be crucial for visually impaired readers because they help them with orientation in the file and vice versa.

It is useless and inappropriate that a file aimed at a totally blind reader should be equipped with pictures, other graphics or other purely visual items (font type, size and type design). A detailed description has the same effect as pictures and schemes. On the other hand it is equally inappropriate and useless that a person who uses magnifying devices should be totally deprived of the graphic items. In this case. In addition to omitting graphical items not legitimized by the particular visual impairment, it could also make the orientation in the document more difficult (and according to our experience it does).

Part from the possibility to create documents in several variants according to the needs of different readers we can offer a reasonable universal compromise: keep graphic elements that do not disturb the readers with visual impairments (e.g. fonts), interpret other graphic attachments in texts but link the same document also to the original pictures by hypertext links – as this will serve a partially blind reader [e.g. III.2]

It is suitable to respect a basic general division of the text for totally blind and for other readers with visual impairment. Apart from this we can use a more detailed scale in case of text for readers who are partially blind. Its paper form is indefinitely called 'enlarged black print'. As the basis of the adjustments for the enlarged black print stays the same and documents usually vary only by the font used (serif – sans serif), by its size and type design (bold - non-bold), we will not deal with black print anymore.

In this text we will focus only on document preparation for the use of totally blind readers or on a compromise solution (see above). If it is necessary to indicate the difference in interpretation we will explicitly mention adjustments for partially blind readers.

The Form of EDs from Teiresias Centre Production

Teiresias Centre production nowadays includes exclusively documents for the text editor Microsoft Word² (version 7.0 and higher), Unicode coding. Its format is continuous text (without fixed page breaks or line breaks – with an exception of paragraph breaks) with several automatic formatting elements: automatic content, headlines marked using headline styles, footnotes and hypertext links to other sources of information. The original text is adapted mainly (formally and in content) in sections that were originally graphics: tables, pictures, schematics and in case of symbols that common reading devices are not able to securely work with: mathematical, chemical and language symbols, scores or national type sets that are not included in *common Czech installations* of the reading devices (Cyrillic alphabet, Greek alphabet, alphabet IPA ...)

The original formal division of document to pages is not usually kept³. Equally the original page numbers are not (with a few exceptions) kept.⁴

Basic Types of Adjustments

1. The Choice of Format

1.1 Page layout

We do not consider this parameter for our use too important except for the unified image of documents we prefer always the same parameters (if the user's impairment does not require different values – see below): paper format A4 Portrait Mode, 2.5 cm margins on all sides.

1.2. Font type, font size and type design

Fundamentally the same principles are valid as for 1.1 with one exception – documents that are primarily adjusted for users with partial visual impairment. As most of the documents that are adjusted for readers visual impairment can serve also partially blind readers we try to keep the elements that do not hinder the to-

² This choice is given by the contemporary technical circumstances and users' habits – naturally if a new format appears that will fulfill the necessary functions in the same way or better and at the same time it will be independent on the commercial Windows system it will become a welcomed alternative and an impulse for the change of working methods.

³ The reasons for this is obvious – fixed page breaks are one of the aspects of paper documents – there they are of great importance but this is lost in electronic texts. These texts do not have any set shape or extent and where any unintended change of one parameter (e.g. a choice of different printer or the change of type size) can result in uncontrolled changes in the original page breaks and thus show the unreliability and futility of such a system.

⁴ The argument that without page numbers the passage cannot be properly quoted will not hold out because the rules for quotation the electronic documents (ISO 690-2) do not include this obligation (which cannot be different as for the nature of electronic documents). If the page numbers are kept in our documents it is only for the students – they can possibly find the passage easily (which is cross-referred to only by page numbers) not to use the page numbers the way they are used in common books.

tally blind user and are appreciated by a partially blind reader. These elements should include the original type designs (size and font are more an individual question and it is not reasonable to cater to them without a relation to a particular user⁵).

In a case where the type design has other than an aesthetic or navigational role and its occurrence is connected to understanding the whole text or to further manipulation with the text, it is necessary to point this out in a note (or at the place of its occurrence) because most of the blind usually set their reading device on *plain text reading, not on announcing the metatext information*. Adaptation of the passages in question can be more advantageous when occurrence of this phenomenon is only individual.

1.3. Coding

...

2. Navigation

We use a system of navigation symbols and other tools for easier orientation in the document. These give the visually impaired reader the possibility to quickly find a fixed grab point in the text. In most cases these points are the headlines of individual chapters or the beginning of other autonomous units (sections, exercises etc.)

2.1. Headlines

a) Navigation symbols.

Standard symbol # is used for marking headlines which are inserted directly in front of the headline. Its aim is only to emphasise the headline not to set its level in the context of the whole document. (e.g. III.1]

A marking system of exercises (*, or earlier &) is used in language textbooks so that students can find the exercise needed in the shortest possible time and more exactly after submitting the query in a search field and in this way to distinguish this number from other numbers (numbered sentences ...)

(e.g. *1. *Read and translate:...*]

A significant number of language textbooks that are adjusted in our Centre are divided into files according to the units for an easier use. In other cases when the whole book is in one file it is practical (but naturally quite laborious) to add in front of each exercise also the number of the unit so that the marking is unambiguous.

⁵ The possible adjustments of font size are very often accompanied by other adjustments – reducing the margins so that the lines do not break after a few words or so called breaking into windows (however enlarged the text is it will always adjust to the editor's window – than it is not necessary to shift the text in the window and lose its continuity).

(e.g. ****1.2 Read and translate:...**
so: unit one, exercise two...]

b) Automatic formatting – using the styles

Formatting the headline is not motivated by the effort to visually differentiate the marked passage from the surrounding text as it is with black print books (even though this is important for the partially-blind users) but it is motivated by the need to link an important interface (in our case the headlines) a sign that allows following automatic processing. This in our case means the generation of the automatic table of contents. This table then not only has the character of a basic information table but the function of a finger-post. A reader with visual impairment is then able to get to the beginning of the required chapter using the hypertext links. It is natural that in our case we use a different style for each level of headlines although it is not so much visually striking as it is in the paper original (the colour of the text, spaced text, indentation from the left margin of the page, blanks in front/after...).

(e.g. III.1]

A reader with visual impairment has thus the possibility to use the automatic table of contents (always come back to it and from there go to following chapters) or use the sign navigation for quick moving within headlines. Of course both possibilities complement one another.

2.2. Marking the adjusted passages

The second function of ‘navigation’ symbols (the terminology is not fitting) is to unambiguously differentiate the original text and the passages added during the adjustment, whether these include short technical notes regarding the adjustment or elements of originally graphic character. We believe that any more significant⁶ intervention in the original should be noticeable in the adjusted document and different from the original. There are several reasons for this:

- The blind should have an opportunity to determine whether the notes and commentaries have been made by the author or by a technical editor (a text that was not included in the black-print version and its presence is limited to the adjusted document). [e.g. III.2]
- it should be obvious, which passages were adjusted and how, so that if a person without visual impairment (a teacher, a colleague..) works together with a person

⁶ The changes that are caused by the character of EDs do not include only the above mentioned – line breaks, page breaks, font size, used fonts etc. *The more important interventions* in texts include formal changes different from the paper original that EDs undergo while presenting facts without being affected. Another type of changes as little as possible affected is core information – the formal difference between texts is visible when comparing the documents and this difference can confuse the readers. You can see this types of changes e.g. at adjusting graphics, pictures (see below).

with visual impairment both participants can understand how a piece of information can be reported in different ways. Apart from the easier additional control of the quoted data authors and teachers can understand the informative value of some enhanced graphic passages (that recent publications are often full of) is in fact minimal. [e.g. III.10]

- At the same time it should be clear that some passages had been left out totally – mostly pictures (for details see chapter II. Practical Part> 3. Graphic Part a C. Navigation – Summary).

After some time the use of the following characters was settled for our production: #, @, &, \$, *, §. This list is not complete. We use other characters in cases where it is necessary to treat more phenomenon or if these characters are significantly present in the original text and their interpretation could then be ambiguous. For details see Chapter II. Practical Part – Summary.

3. The Elements of Graphic Character – tables, schemas, pictures

Adaptations of graphic components of the original documents are the kinds of operations, which differs from case to case and they do not depend only on the character of the original and the character of the output (for a blind person compared to a person with partial visual impairment), but to a large degree on the qualities of technical editors: on their ability to imagine the item in other then a graphical form (to put themselves into the position of a person with visual impairment and this person's possibilities and abilities to interpret independently the specialized text with everything that belongs to it) and to choose and keep only the productive information of the graphics.⁷ Thus it often happens that for adjustments of more complicated pictures and schematics we ask colleagues, who are familiar with the issue, to help us to prevent uninformed or poor descriptions.

Regarding the formal aspect we differentiate several subgroups of original black-print graphical solutions: tables, pictures, schematics and graphs. We have to add that this distinction is not as important for the adjustment as the following distinction of the content.

According to the content we distinguish:

a) accompanying graphics (aesthetic) – its informative value is negligible and thus it is not important for understanding the text,

⁷ When interpreting schematics it is not important (with only a few exceptions) that something is on the right or on the left side. Only the information on what the relationships are between the elements is important. Adjustment of this kind of schematic consists not of its mechanical description but of its interpretation.

b) graphics that are only visualise information – a simple text form is sufficient for its interpretation without any loss (exact graphs⁸, some types of tables, simple schematics) [e.g. III.3-III.10]

c) graphics with a component that carries information and the adjustment into a text is accompanied by a bigger or smaller loss of information (pictures, graphs without exact values, most of the more difficult schematics...) - in this case we need to consider to what extent (if at all) the original solution can be substituted by another). Although the range of possibilities is quite wide – from variously detailed descriptions to haptic interpretation – it is always only as effective as the original. And sometimes we have to admit that there are and there will be items that cannot be satisfactorily and equally substituted and it is necessary to omit them without substitution (but not without a note). [Eg. III.10-III.13]

Generally we can note that it is not of importance for electronic texts to keep the graphics of type (a). If the texts are not aimed at readers with partial visual impairment (who will appreciate the graphic parts) then it is useful to aim for adaptation of items (b) and a reasonable adaptation-interpretation (c).

However we adapt the original graphics, the methods used should be obvious from the editorial notes (see the chapter Navigation).

ad b) Exact graphs, tables, simple schemas

Adjustment of graphs with exact values or tables has similar rules⁹. In this case it is even more important who the document is aimed at. In case of readers with partial visual impairment it is usually considered more useful to keep the graphic items in the original version because of the possibility of better orientation than in a plain text. [e.g. III.8]

We recommend the following principles for adjusting the documents for readers with partial visual impairment:

- do not derange the table mode in case it is a so called symmetric table, which includes real table data (organised into a table with lines and columns) We prefer this type of adjustments, if no technical obstacles are present (these obstacles can occur while working with the tables – either due to human or technical factor – e.g. reading devices...) [e.g. III. 6a, b]

⁸ Under this term we understand the graphs where the numeral values are exactly and unambiguously given – either set on an axis (in other types of graphs – columns or circle graphs – explicitly stated). Contrary to the graphs that include only orientation values and can be used only for concluding to the tendency and not to get the exact numeral values.

⁹ Before we begin with any adjustment it is necessary to find out whether there is in the publication any text version of the graph. Graphs can be used as illustrations and the description in the text might be satisfactory. In that case any further adjustments are needless.

- in improper tables (where the author framed some pieces of information or for transparency put in tables) cancel the table mode (or the framing) and keep the text clearly and logically set in a text mode [e.g. III.9]
- in non-symmetrical tables (unequal number of columns in one line or lines in one column) first add the missing columns or lines, put the values common for the whole table into the heading or divide the existing table into several partial tables [e.g. III.3]
- always cancel the picture mode and substitute it with a text mode in case of exact graphs
- define unambiguously the values that the graph includes: describe the axis of graphs, columns etc.
- define univocal delimiters of values
- itemize the values as they are logically linked
- divide the itemized text from the remaining text – see Chapter Navigation

Where it is not possible or desirable (for any reason) to keep the original graphs solution of the original we use for the following procedures¹⁰ for the table adjustment:

- cancel the original graphic solution and substitute it with text
- define unambiguously the values that the table includes: in case of a table describe the heading etc.
- define unambiguous delimiters of the values (substituting the original division into columns, lines ...)
- itemise the values according to how they are logically linked (decide whether to choose to itemize according to lines or columns)
- divide the itemized text from the remaining text – see Chapter Navigation

4. Other types of adjustments

Apart from the adjustments, which we consider basic and which cannot be omitted in most titles, some types of publications may require further adjustments. Their extent and nature are defined by the type of original and the possibilities of reading devices. We mainly have in mind those kinds of texts where:

4.1. Specific types of formatting with which we can achieve not only the aesthetic effect but for all segmenting the text according to its importance or function. Usually it is not possible or useful to keep the original format but ignoring it would have a negative impact in losing the text continuity and thus the right sense or at least the transparency. This is mainly valid for formatting items which serve to

¹⁰ Until recently all table data in documents processed by editors of Teiresias centre were adjusted this way.

insert in continuous text accompanying texts, quotations or detailed commentary and marginal notes. Leaving out these parts might not often result in the loss of information but in some cases this method is used for sub-headlines that divide the text and its absence would be a shame. Regardless to say, they usually have the function of other additive notes. [Eg. III.14-III.16]

4.2. Special symbols which reading would be problematic or impossible with the common reading devices in the Czech Republic: symbols of other than Latin alphabets (Cyrillic alphabet, Greek alphabet, IPA – a phonetic alphabet) or other specialized symbols.

...

II. Practical Part - Summary

A. Basic Adjustments

1. Basic formats of documents and pages

- a document in the editor Microsoft Word, Unicode coding
- unified setting of a page for all documents
 - A4 in Portrait mode
 - always the same margins (if there are no obstructions then 2.5 cm everywhere),
 - the same font and font size, if it is not necessary to change it for the reader (then enlarged text, sans serif etc. might be necessary)
- without headings and footnotes
- without fixed page breaks (do not imitate page breaks of black-print publications)
- without page numbers; if it is necessary to keep them then use curly brackets {} at the beginning of the page (thus above it) it belongs to (do not insert the brackets in the middle of split words but put them at the end of the sentence)
- without fixed line breaks (either using the manual breaks or breaks for the end of paragraphs); use the end of the paragraph to mark the actual end of the paragraph, not ends of lines.
- without unnecessary spaces, empty lines and multiple tabulators (all of them to be used maximally once) – do not try to keep the original page distribution at any price
- do not use any automatic formatting apart from headlines, automatic content (see below) and footnotes, firstly replace automatic listings (1., 2 ... and bullets of any type)

2. Headlines

- setting using the styles (Headline 1...)
- keep structuring according to the original (use one style only for one level of headlines)
- match automatic format to headlines according to the text extent and individual chapters to 3rd or maximally 4th level
- insert the navigation symbol # in front of every chapter headline (again according to the publication extent to the 3rd or 4th level)

3. Graphic elements

3.1 Tables

3.1.1 Symmetric or non-symmetric table data

- do not disturb the table mode used or only make the table more tabular (e.g. a unified type of trim)

- add missing items in non-symmetric tables or put the original information valid for the whole table in captions or divide the table into several independent units
- insert the text with a potential caption between symbols – this way they are positively separated from the surrounding text (@...&)

3.1.2 Non-table data originally handled as tables

- cancel the table mode, replace it with plain text
- itemize the tables logically
- use unambiguous dividing symbols for each item/column (semicolons)
- use unambiguous dividing symbols for the line ends (full stop)
- write simple and brief notes to tables /eg. a table with four columns and five lines, columns divided by semicolons, lines divided by full stops). If the adjustment of tables is unified in the whole text it is not necessary to add the notes. Thus the notes can be inserted directly in document notes (see below)
- insert the text with a potential caption between symbols – this way they are positively separated from the surrounding text (@...&)

3.2 Pictures

- adapt only the pictures that have a different than strictly illustrative (and decorative) function in the text
- the adaptation lies in either a brief and clear description or in adaptation to a haptic form (2D or 3D graphic)
- insert the original description together with a possible word description by the editor between the symbols @...&
- keep also the original description of pictures, that have been omitted in the electronic version, e.g. @Picture No. 2 Physical map of the world&
- other pictures (illustrations, decorations) omit without substitution and description
- keep the possibility to insert the original pictures into separate files and to connect them with hypertext links to the original text when the texts are also meant for the partially blind

3.3 Schematics and graphs

- itemize the simple schematics as pictures (interpret the relations and function of schematic symbols, do not mechanically describe the page layout – on the left, on the right, on the top, on the bottom..., or graphic version – the arrow is to the right etc.))
- graphs with exact figures itemize as tables
- omit more difficult schematics (keep the original description only)
- in non-exact graphs only describe the tendency of function progress

- insert the original description together with a word description by the editor between the symbols @...&

4. Type design

- keep it as in the original text and without any commentary if their function is strictly visually differentiated
- in case of this the formatted part is remarked in text (e.g. 'Replace the text written in italics by ...') use special symbols in front and after the formatted word and mention this directly in the text, then 'Replace the text written in italics (\$...\$) by ...'. (e.g. III.19]
- the same is valid for other designs and types (boldness, crossed out letters, underlined letters)
- if there are more marked words in one sentence, it is useful to use other symbol at the beginning and at the end, e.g. \$...&

B. Other adjustments

- for spaces for filling in (e.g. in language textbooks) use three full stops ... – three symbols, not one symbol for ellipsis
- substitute special symbols that might be problematically or not at all interpreted by reading devices by clear combinations of several 'understandable' symbols; for everything this is valid for graphic symbols of natural sciences, symbols of foreign alphabets not included in middle European fonts (either non-Roman type faces – Cyrillic alphabet, alphabet or Roman type faces – IPA – phonetic alphabet)
- insert all commentaries that an editor puts in a text and that are not part of any already marked passages (picture description etc.) between special symbols (\$...&), so that they are distinguished from the text; lexical introduction can be used as well: 'Comments to the amendment:...'
- insert notes as footnotes
- in language textbooks:
 - each unit should be in a independent file (all with a common amendment)
 - mark the exercise numbers with *, e.g. *1.
 - each sentence in an exercise should be written bellow each other, not next to each other in a paragraph
 - put at the beginning of each partial file: a (shortened) name of the publication, unit number and below them automatic content of the unit

C. Navigation - summary

- insert the symbol # directly in front of each headline (according to the text extent for the first three or maximally 4 levels)

- put the symbol * directly in front of the exercise number in language textbooks
- use the symbols @...& for tables, pictures and schematics
- use symbols \$...\$, or. \$...& for marking the formatted text (boldness, italics, underlining, crossing out) – the original format is kept
- use the symbols §...& for additionally added editor commentaries
- three full stops – for marking the omitted space meant to be filled in

D. The Final Formal Image of the Document

- then the items follow in the order that they appear in the file

1. Note for the Documents

- insert the commentaries to adjustments that have been made in the document at the beginning of each electronic publication
 - number of levels of headlines (names of the styles)
 - navigation, content
 - the method of table adjustment if they are made
 - the method of picture adaptations if they occur
 - other adaptations made (special characters and symbols, footnotes ...)

(e.g. Note for the document Integrative Special Pedagogy:

- headlines in three levels (styles used Headline 1-Headline 3), symbol # in front of them
- automatic content at the beginning of the document (#Content)
- the original pictures are either described in words (their description is inserted between the symbols @...&) or when the picture is more complicated and without description they are omitted in the text (in this case they are inserted in independent files as pictures linked with a hypertext link – text and graphic file have to be in the same directory)]
- a note is in an independent file in case of publications that are divided into more files

2. Basic bibliographic data

- in bold – name of the author, title of the book, the original place of publication, the original publisher and year of publication¹¹, ISBN
- it is possible to place the complete imprint either at the end of the document or after the content

¹¹ The catalogue will then state as well the place, publisher and year of publishing/adjustment of electronic version.

3. Content

- insert the automatic content at the beginning of the document, this content is generated using the automatic headline styles (Insert > Index and Tables > Table of Contents (do not insert the page numbers))
- maximum 4 levels then the table of contents becomes inapplicable because of its length
- mark using navigation: #Content

4. The main text

- adapted by the principles above

III. Examples¹²

III.1 Styles and basic navigation in headlines

1. Nadpis 1

1.1 N a d p i s 2

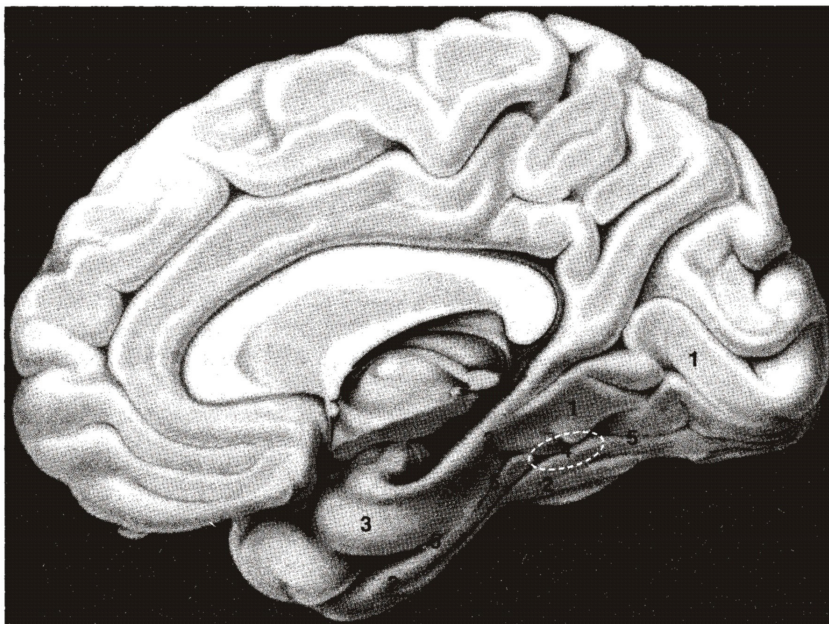
1.1.1 *Nadpis 3*

#1. Nadpis 1
#1.1. Nadpis 2
#1.1.1. *Nadpis 3*
...

¹² In the chapter Examples there is always a view of the original (black print) version of the original text. Then in dash-and-dot frame there is the adjusted version of ED. The symbols that could get lost in the surrounding text (e.g. navigation symbols) are in color.

III.2 Indicating the adapted passages

Obr. 2.5 Poloha V4 („centra rozlišování barev“) v gyrus fusiformis



- 1 – gyrus lingualis
- 2 – gyrus fusiformis
- 3 – gyrus parahippocampalis

- 4 – přibližná poloha V4 u člověka
- 5 – sulcus collateralis

@[Picture 2.5](#) Location V4 („centres for distinguishing colours“) in gyrus fusiformis

V4 surround: dorsálně gyrus lingualis, kaudálně sulcus collateralis, ventrálně gyrus fusiformis, rostroventrálně pokračováním sulcus collateralis a rostro-dorsálně gyrus parahippocampalis. V4 lies in the centre of these formations.&

Note: The original picture has been saved in an external file for the use of students with partial visual impairment. This picture is linked to the text by a hypertext link. This method can be used in all the following examples too.

III.3 A table itemized in columns I

Typ capiō "beru" /zčásti podle 3., zčásti podle 4. konjugace/.			
<u>Aktivum</u>			
	<u>3. konj.</u>	<u>typ capiō</u>	<u>4. konj.</u>
Ind. prez.	1. pet-ō		aud-i-ō
	2. pet-i-s	cap-i-s	aud-ī-s
	3. pet-i-t	cap-i-t	aud-i-t
	1. pet-i-mus	cap-i-mus	aud-ī-mus
	2. pet-i-tis	cap-i-tis	aud-ī-tis
	3. pet-u-nt	cap-i-u-nt	aud-i-u-nt

3. konj. – ind. prez. akt.
1. pet-ó
2. pet-i-s
3. pet-i-t
...
4. konj. – ind. prez. akt.
1. aud-i-ó
2. aud-í-s
3. aud-i-t
...
typ capiō – ind. prez. akt.
1. cap-i-ó
2. cap-i-s
3. cap-i-t
...

Note: the second variant is to leave the data in the table, unite the middle two columns in one and put the 'Ind. prez.' in the table heading.

Apart from the adaptation of the graphic elements (layout of the page) the original symbols representing vocalic length (ī, ō) have been amended as well.

III.4 A table itemized in columns II

<u>Zájmena ukazovací II: hic, haec, hoc</u>		
M	F	N
Sg. 1. hic	haec	hoc
2.	huius	
3.	huic	
4. hunc	hanc	hoc
6. hōc	hāc	hōc

M – sg.
1. hic
2. huius
3. huic
4. hunc
6. hōc
F – sg.
1. haec
2. huius
3. huic
4. hanc
6. hāc
...

Note: The original ‘incomplete’ table, whose authors relied on their visual effect as a sufficient impulse for completing the according blank fields, are necessary to be fully completed. The same effect cannot be achieved with the use of reading devices.

The second possibility is to leave the data in the table and only complete the free places and put Sg. in the heading of the table: Demonstrative pronouns II – Sg.: hic, haec, hoc

III.5 Text in columns

8.2 Utvořte pět vět:

Vzor: Susan isn't speaking about Jack.

Susan	isn't	speaking	with	Jack
Jack	aren't	thinking	about	Susan
They		learning	for	tea
		waiting		English
		making		
		asking		

*8.2 Create five sentences § Vocabulary is in five columns marked a-e.&

Example: Susan isn't speaking about Jack

a)

Susan

Jack

They

b)

isn't

aren't

c)

speaking

thinking

...

d)

with

about

for

e)

Jack

Susan

...

III.6a A table itemized in lines I

Table No. 1. Selected districts with the highest support of KSCM (data in percents)

Districts	ČNR 1990	ČNR 1992	PSPČR 1996	PSPČR 1998	PSPČR 2002
Litoměřice	18,04	18,69	14,83	15,38	24,7
Louny	18,73	19,18	16,02	17,1	29,07
Most	17,92	19,19	14,97	15,77	27,41
Tachov	19,08	20,68	18,12	18,37	31,02
Czech re- public	13,24	14,05	10,33	11,03	18,51

Note: This table is an exemplary example of symmetrical table data. There is almost no adjustment needed providing that the technical background and user's experience allow work with this type of information. In the opposite case the possibility showed below is possible: transcription into text.

Table No. 1. Selected districts with the highest support of KSCM (data in percents)

§six columns, data divided by columns are here divided by a semi-colon&
District; ČNR 1990; ČNR 1992; PSPČR 1996; PSPČR 1998; PSPČR 2002
Litoměřice; 18,04; 18,69; 14,83; 15,38; 24,7
Louny; 18,73; 19,18; 16,02; 17,1; 29,07
Most; 17,92; 19,19; 14,97; 15,77; 27,41
Tachov; 19,08; 20,68; 18,12; 18,37; 31,02
Czech Republic; 13,24; 14,05; 10,33; 11,03; 18,51&

III.6b A table itemized in lines II

Table. The results of voting for regions, Southern Moravia region, Břeclav district (www.volby.cz):

Political Party		Valid votes			Political Party		Valid votes	
		total	in %				total	in %
03	Čs. strana socialistická	1 628	1.88		13	Čs.demokratické fórum	96	0.11
06	Svobodný blok	431	0.50		18	Strana zelených	1 777	2.05
07	Občanské fórum	32 870	37.92		20	Hnutí za sam.dem.-Sp.Mor.a Sl.	23 399	26.99
08	Vše-lid.dem.str.,Sdruž.pr o rep.	357	0.41		21	Sociální demokracie	1 200	1.38
09	Volební se-skup.záj.m.svazů v ČR	262	0.30		22	Strana přátel piva	330	0.38
11	Spojenectví ze-měděl.a venkova	3 036	3.50					

Note: The table above if it is to be kept as a table has to be either divided and the original right column will be put under the left one as its logical continuation. Or it can be rewritten in a text mode.

@Table. The results of voting for regions, Southern Moravia region, Břeclav district (www.volby.cz):

§four columns, data divided by columns are here divided by a semi-colon&

Political Party; Valid Votes – total; in %

03; Čs. strana socialistická; 1 628; 1.88

06; Svobodný blok; 431; 0.50

07; Občanské fórum; 32 870; 37.92

...

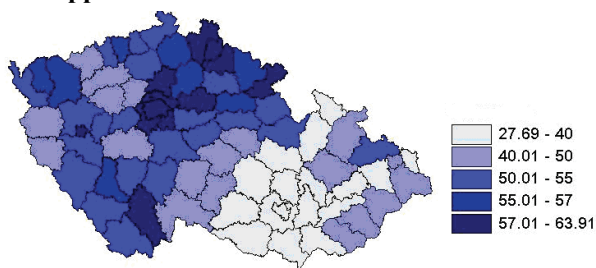
20; Hnutí za sam. dem.-Sp. Mor. a Sl.; 23 399; 26.99

21; Sociální demokracie; 1 200; 1.38

22; Strana přátel piva; 330; 0.38&

III.7 Exact charts

OF support 1990



OF support 1990

§ Originally a map of the Czech Republic divided to election districts. These are distinguished five categories according to the election result.&

1. 27.69-40 %

Karviná, Přerov, Brno-město, Brno-venkov, Břeclav,...

2. 40.01-50 %

Kladno, Příbram, Rakovník, Jindřichův Hradec, Pelhřimov, Bruntál, Frýdek-Místek, Vsetín...

3. 50.01-55 %

Benešov, Beroun, Kolín, Kutná Hora, Český Krumlov, Písek, Prachatice, Tábor,...

4. 55.01-57 %

Mladá Boleslav, Strakonice,...

5. 57.01-63.91 %

Praha, Praha východ, Praha západ, Liberec, Jablonec n. Nisou, Semily, Mělník, Nymburk, České Budějovice,...

III.8 Scheme – accounting balance

Rozvaha	
Aktiva	Pasiva
1. Investiční majetek - hmotný investiční majetek - ... 2. Oběžný majetek - zásoby - .. 3. Ostatní aktiva Aktiva celkem	1. Vlastní jmění - základní jmění - ... 2. Cizí zdroje - rezervy - ... 3. Ostatní pasiva Pasiva celkem

@Balance:

On the left: Assets:

1. Investment properties
 - material investment possessions
 - ...
 2. Floating possessions
 - stocks
 - ...
 3. Other assets
- Assets total

On the right: Liabilities:

1. Equity
 - the equity capital
 - ...
 2. Other sources
 - reserves
 - ...
 3. Other liabilities
- Liabilities total&

III.9 Scheme/picture

	TEORIE	PRAXE	POIÉSIS
úkon:	poznávání	jednání	tvoření
cíl:	jednání	činy	dílo
zběhlost:	věda	ctnost	umění <div> <div>krásné u.</div> <div>technika</div> </div>

@Picture No.30. Table with four columns: Activity: operation; aim; skilfulness

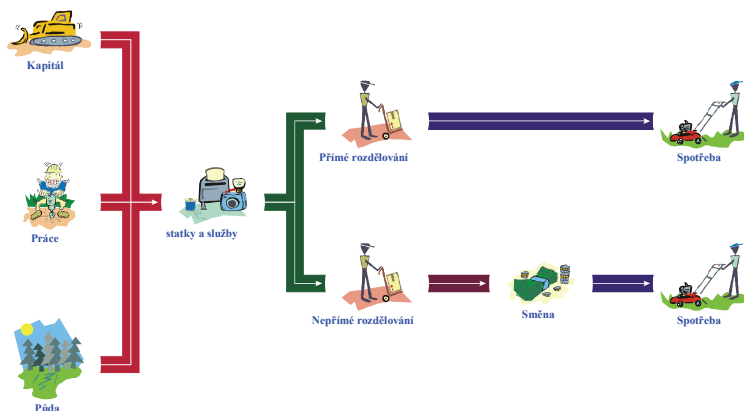
Theory: cognition; action; science

Practice: action; acts; virtue

Poiésis: creation; work; fine arts & technologies&

III.10 Scheme/picture

Picture No. 1 - From sources to consumption

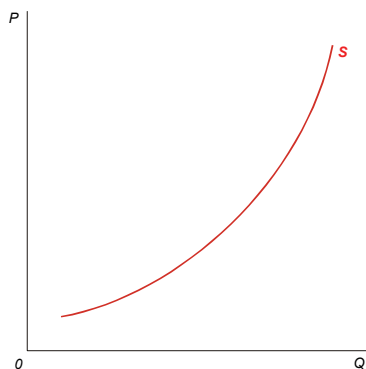


@Picture No. 1 - From sources to consumption&

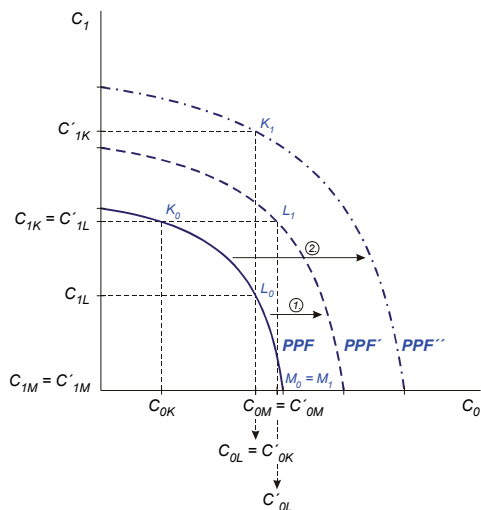
Note: The description of the picture No. III.10 is not in the adapted document at all. It would be superfluous. The picture was interpreted directly in the text (equally to III.9).

III.11a-b Inaccurate graphs

Picture No. 1 - An offer curve

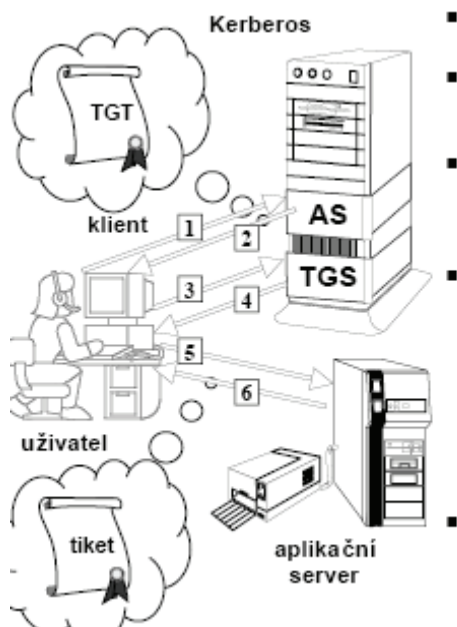


Picture No. 2 - Shift of the border of production possibilities



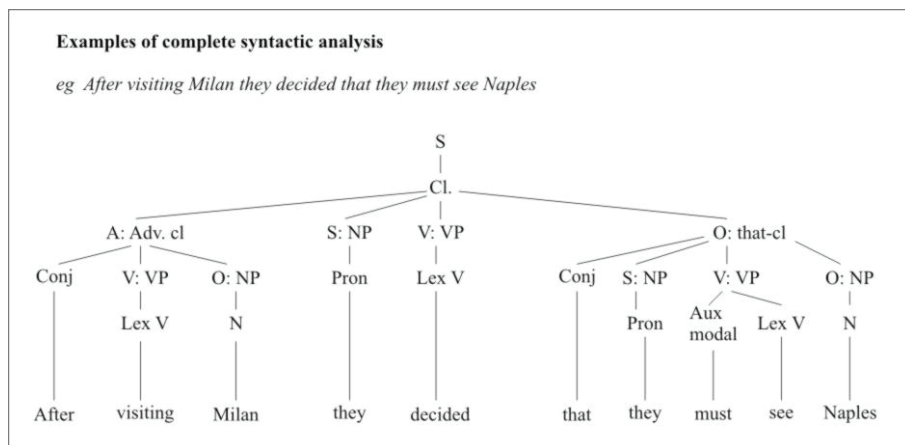
Note: Only the original description between the symbols @...& was maintained in the graphs, its description was in the text directly.

III.12 Diagrams



Note: It is unnecessary to describe this kind of diagrams. They usually have their text equivalent in the source text.

III.13 Syntax diagrams



@Figure 30 Examples of complete syntactic analysis
(Comments to the amendment: individual levels of the syntax tree are marked using bullets, Arabic numerals indicate the order of occurrence of each phenomenon - VP, NP, Conj....)

e.g. After visiting Milan they decided that they must see Naples.

S = Cl

- Cl = A: Adv. cl + S: NP1 + V: VP1 + O: that-cl

-- A: Adv. cl = Conj1 + V: VP2 + O: NP2

-- S: NP1 = Pron1

-- V: VP1 = Lex V1

-- O: that-cl = Conj2 + S: NP3 + V: VP3 + O: NP4

--- V: VP2 = Lex V2

--- O: NP2 = N1

--- S: NP3 = Pron2

--- V: VP3 = Aux modal + Lex V3

--- O: NP4 = N2

Conj1 = after; Lex V1 = visiting; N1 = Milan; Pron1 = they; Lex V1 = decided; conj2 = that; Pron2 = they; Aux modal = must; Lex V3 = see; N2 = Naples&

III.14 Marginal supplementary notes

Právní vědomí a zákonnost

To, zda občané dodržují, nebo naopak porušují právo, ovlivňuje tzv. právní vědomí, jež má dvě strany:

- znalost práva ..
- názory na spravedlnost ...

Při stanovování odpovědnosti za porušení práva se obvykle vychází ze zásady, že každý měl a mohl znát platné právo (ignorantia iuris non excusat = neznalost práva neomlouvá).

Ve vědomí lidí se platné právní normy často prolínají s jinými společenskými (morálními, mravními, náboženskými apod.) idejemi a postuláty ...

Aby znalost práva byla všem dostupná, vydává stát veřejně přístupné sbírky zákonů, ...

Morálními hodnotami jsou představy o dobru a zlu, cti, spravedlnosti atd. ...

Mravní normy se v různých vrstvách společnosti mohou lišit, existují v pluralitě. ...

Sankce (viz str. 118)

#Legal and moral awareness, justice, lawfulness

Whether the citizens obey or break the law is influenced by the so called legal awareness which consists of two parts:

- The knowledge of law - ...
- opinions on justice - ...

When determining the responsibility for breaking the law we usually follow the principle that each person should and could know the valid law (ignorantia iuris non excusat = ignorance of the law does not excuse).

\$So that the knowledge of law is accessible to everyone, the state publishes public statute books, law reports etc. ...\$

The people's awareness is created not only by the valid law regulations but they mingle with other social (moral, ethical, religious etc.) ideas and postulates ...

\$The moral values consist of the ideas about the good and the bad, about honour, justice etc. (see p. 206)\$

\$Moral norms may vary in different social classes, they exist in plurality ...\$

\$Sanctions (see. p. 118, or chapter xy)\$

III.15 Marginal commentaries included in one paragraph

Mögliche Entwicklungen der Buchillustration

*Bilderbücher
für Erwachsene*

Es werden auch die Bilderbücher aufgelegt, die sich vom Inhalt und/oder der Bildgestaltung her eher an Erwachsene wenden. ...

...

*Buchillustration
in der Zukunft*

... und beliebte Sammelobjekte. In Zukunft wird die Bildgestaltung vermutlich einen noch höheren Stellenwert erhalten. Neuere Medien ...

...

*Comics,
Cartoons*

...ist schon seit langen festzustellen. Der Comic, dem in diesem Band ein eigenes Kapitel gewidmet ist, ...

#Mögliche Entwicklungen der Buchillustration

[Bilderbücher für Erwachsene] Es werden auch Bilderbücher aufgelegt, die sich vom Inhalt und/oder der Bildgestaltung her eher an Erwachsene wenden. Sie sind oft Anlass zu Meinungsverschiedenheiten bezüglich ihrer Eignung für Kinder. Meist sind sie von hohem künstlerischem Wert und beliebte Sammelobjekte.

[Buchillustration in der Zukunft] In Zukunft wird die Bildgestaltung vermutlich einen noch höheren Stellenwert erhalten. Neuere Medien, wie Comics, Film und computergenerierte Bildervideos, beeinflussen unser Bildverständnis immer mehr. Die große Verwandtschaft zum Medium Film (Kameraeinstellungen, Perspektiven, Zoomeffekte) ist schon seit langem festzustellen. [Comics, Cartoons]

Der Comic, dem in diesem Band ein eigenes Kapitel gewidmet ist, ist zu einem ernstzunehmenden Medium geworden, das in allen Bereichen eingesetzt wird. Comics und Cartoons können unterhaltend sein, sind aber auch besonders geeignet, Sozialkritisches zu transportieren. Als Informationsträger für verschiedenste Sachgebiete gehören sie zu unserem Alltag.

Note: Common marginal commentaries usually mark the beginning of a new topic with the beginning of a paragraph – its amendment can be thus solved as partial headlines. Within one paragraph this is not possible.

III.16a-b Complementary commentary, or a quotation included in the main text

Dobytí říše Inků. Podobným způsobem jako Mexiko bylo dobyto i Peru, kde se prostírala říše Inků.

Říše Inků byla nejvyspělejším politickým a kulturním výtvozem původního obyvatelstva jižní Ameriky. I zde šlo o stát, který vznikl z kmenového svazu Inků ...
... Státním náboženstvím byl kult Slunce.

Dobytí a vyvrácení říše Inků (1531-1535) je dílem dvou dobrodruhů, Francisca Pizarra a Diega Almagra. I při jejich výpravě sehrály významnou úlohu ...

Conquest of the Inca Empire Peru , where the Inca Empire was stretching, was conquered similarly to Mexico.

Parenthesis. The Inca Empire was the most developed cultural and political creation of the original inhabitants of South America. This was a state as well that arose from tribal association of Incas... The state religion was the cult of Sun.

The end of parenthesis

The conquest and destruction of the Inca Empire (1531-1535) was the work of two adventurers, Francisco Pizarro and Diego Almagro. An important role during their expedition was played by the inner weakness of the gigantic empire with a number of dissatisfied tribes, fights for the throne in the ruling family, and the superstitious respect of the inhabitants of the white foreigners, ...

Note: The word commentary “Parenthesis – End of Parenthesis“ can be substituted by the symbols \$...\$, or \$...& (see following examples).

ARISTOTELÉS tento problém popisuje takto: Všichni lidé touží po blahu....Veškerá činnost je *snaha o blaho*.

Ale v tom, co je podstatou blaženosti, se názory různí a odpověď obyčejných lidí zní jinak než odpověď moudrých mužů. ... (Etika Nikomachova I, 2, 1095a)

Otázka po hodnotě, která dává činnosti smysl, tedy závisí na člověku....

...All activity is the effort for bliss.

\$But the opinions about the core of bliss vary and the answer of common people is different from the answer of wise men... (Nicomathean Ethic I, 2 1095a)&

Question about a value that gives life sense.

III.16c Additional definition embedded in the main text

Requirements are not solely economical categories and we will not deal with the whole case of requirements in our presentation. The source division that we will use for economic theory will be the division between economical and non-economical requirements. We will be interested in economical requirements.

***Economical requirements** are met by the consumption of estates and services that are the product of agriculture activities.*

*The estates, that are a product of agriculture activities, are called **economic goods**.*

Non-economical requirements are met in a different way (e.g. the need to climb a mountain, need to sing) and we will not deal with them.

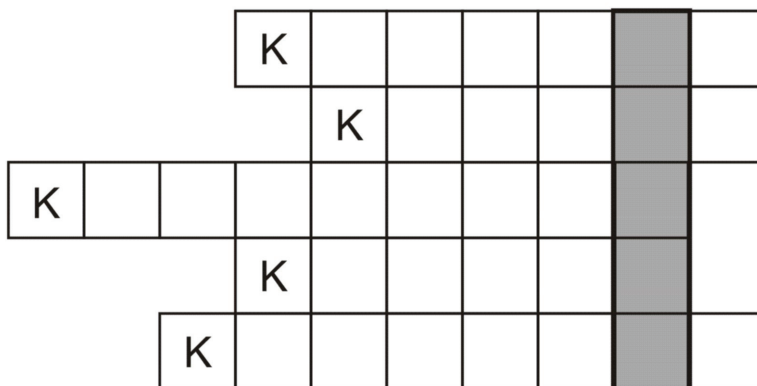
Requirements are not solely economical and we will not deal with the whole scale of requirements in our presentation. The source division that we will use for economic theory will be the division between economical and non-economical requirements. We will be interested in economical requirements.

\$Economical requirements are met by the consumption of estates and services that are the product of agriculture activities. The estates, that are a product of agriculture activities, are called **economic goods**&

Non-economical requirements are met in a different way (eg. the need to climb a mountain, need to sing) and we will not deal with them.

III.17 Crossword

Kreuzworträtsel: Ergänzen Sie die passenden Ausdrücke



Kreuzworträtsel: Ergänzen Sie die passenden Ausdrücke

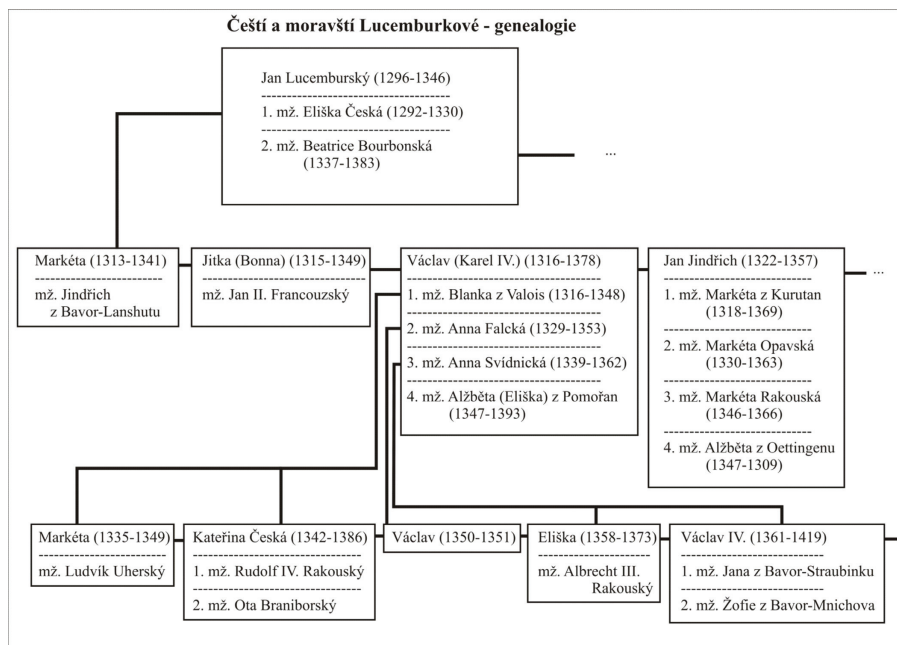
(Comments to the amendment: all words in the crossword begin with the letter K. You will find the following information in the brackets at the end of the sentence – 1st position – the number of letters of the searched word, 2nd position the order of the number which belongs to the answer).

Ö = OE

1. In den Clubs hat man... zum Publikum. (7, 6)
2. Auf dem Gebiet der... hat sich viel geändert. (6, 5)
3. Die... von Shakespeare sind immer beliebt. (9, 9)
4. Von den Filmen gefallen mir... am besten. (6, 6)
5. Teenager gehen oft in... . (8, 7)

"Schau mal, der kann aber gut tanzen." "Das ist doch wirklich keine... ."

III.18 Genealogical tree



The result of the adaptation is to be found below.

Czech and Moravian Luxemburghs - genealogy

(Comments to the amendment: the Roman numeral marks the generation; Arabic numerals mark particular people, a small letter marks the wife)

Ist generation

- 1) Jan Lucemburský (1296-1346) and his two wives
 - a) Eliška Česká (1292-1330)
 - b) Beatrice Bourbonská (1337-1383)

IInd generation

1. Markéta, (daughter of I.1.a), (died in 1341) married Jindřich of Bavor-Lanshut
2. Jitka (Bonna), (daughter of I.1.a), (died in 1349) married Jan II. Francouzský
3. Venceslav (Charles IV.), (son of I.1.a), (1316-1378) and his four wives:
 - a) Blanka z Valois (1316-1348)
 - b) Anna Falcká (1329-1353)
 - c) Anna Svidnická (1339-1362)
 - d) Alžběta (Eliška) z Pomořan-Wolgastu (1347-1393)
4. Jan Jindřich, (son of I.1.a), (1322-1375) and his four wives:
 - a) Markéta z Korutan-Tyrol (1318-1369)
 - b) Markéta Opavská (1330-1363)
 - c) Markéta Rakouská (1346-1366)
 - d) Alžběta z Oettingenu (1347-1409)

...

IIIrd generation

1. Markéta, (daughter of II.3.a), (died in 1349) married Ludvík Uherský
2. Kateřina Česká, (daughter of II.3.a), (died in 1395) married Rudolf IV. Rakouský and Ota of Bavor-Braniborsko
3. Václav, (son of II.3.b), (1350-1351)
4. Eliška, (daughter of II.3.c), (died in 1373) married Albrecht III. Rakouský
5. Václav IV., (son of II.3.c), (1361-1419) married Jana of Bavor-Straubink and Žofie of Bavor-Mnichov

...

III.19 Marking the type design

...

Replace the words in italics (*\$...\$*) in these sentences with one of the phrasal verbs from the list. There is an extra verb that you do not need and you must use two of the verbs twice.

break up, get through, go on, put up, settle down, turn into

1 It's certain that the government will *\$raise\$* taxes next year.

2 Somehow we managed to *\$spend\$* all our money on the first day of our holiday.

3 I know it's cold and rainy now but I'm sure it's going to *\$become\$* a really nice day.

...

List of examples

III.1 Styles and basic navigation in headlines

III.2 Indicating the adapted passages

III.3 A table itemized in columns I

III.4 A table itemized in columns II

III.5 Text in columns

III.6a A table itemized in lines I

III.6b A table itemized in lines II

III.7 Exact charts

III.8 Scheme – accounting balance

III.9 Diagrams

III.10 Diagrams

III.11a-b Inaccurate graphs

III.12 Diagrams

III.13 Syntactic schemes

III.14 Marginal supplementary notes

III.15 Marginal commentaries included in one paragraph

III.16a-b Complementary commentary, or a quotation included in the main text

III.16c Additional definition embedded in the main text

III.17 Crossword

III.18 Genealogical tree

III.19 Marking the type design

Methodology of text adjustment for readers with visual impairments

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