In two previous papers (Hladký 1985a, 1985b) the history of word-division principles was followed up to the end of the 19th century. The contemporary usage in American English does not differ substantially from that of the end of the 19th century and is easily recognized from any American dictionary. An important element in modern printing is computerization. A survey of 17 American dailies with 400 cases of division in each of them revealed a systematic application of the ssVC rule (according to which a short stressed vowel attracts the following consonant, as in balanced, resurrection, psychology). There are differences between the dailies, just as there are differences between the dictionaries, in the way some of the boundaries are treated, e.g. diverted — diverted, Carter — Carter, performance — performance, measure — measure. Exceptionally we may come across a case of unusual division caused by the overlapping of several division criteria and not covered by the division program of that time, e.g. rec-alls, ho-wever, keep-a-way, 6 o’clock.

The contemporary British usage may be less uniform than the American usage, the reason being the varying degree of acceptance of the ssVC rule. This rule is more likely to be observed in the daily or weekly press (see Hladký 1984) and less likely to be met with in books. Even when observed, there are differences in the degree of observance, resulting from the hierarchical relations between the ssVC rule and the morphological/etymological rule. In American English the ssVC rule is higher than the other rule and thus divisions like psychology are standard. In British usage the morphological/etymological rule usually decides, especially in books, and the ssVC rule is limited to stems of words, like valency. In a small selection of recent British books the ssVC rule was given preference over the morphological/etymological rule in one word in one book only: psychologist. (The book was printed in the USA and contained psychol-ogist as well.) The ten books revealed a recent tendency in word division: to minimalize the number of divided words. One book, Trudgill 1978, was printed without a single case of division.

Pronunciation is an important criterion in word division rules. The ssVC rule is based on pronunciation and the division of consonant pairs and clusters also takes pronunciation into account. This does not mean, however, that word division rules are a mere reflection of pronunciation, especially of syllabification, in
every respect. Word division may be looked upon as a border area between the written and the spoken norm. The following discussion of word-division and syllabification boundaries will show some cases of overlapping between the two norms.

The nature of the syllable and the definition of syllable boundaries are issues discussed by phoneticians. The following comparison of word-division boundaries and of syllabification is not intended as a contribution to the phonetic problems of the syllable. The most suitable theoretical background for such a comparison seems to be the notions that (i) the syllable is specific for every language: a consonant cluster regarded as tautosyllabic in one language may not be viewed in the same way in another language, cf. Kuryłowicz 1948 and von Essen's example of mb, nd in Bantu languages, 1957.19; (ii) the syllable need not reflect the etymological or morphological boundaries, cf. von Essen 1957.90, Hálá 1975.231; (iii) stress is a factor not to be overlooked, especially in languages with strong stress contrasts, cf. Sievers 1901, Cygan 1971, Arnold and Hansen 1978.

For the present purpose, the sources of information on syllabification will be the phonetic transcriptions of entry words in dictionaries. The American dictionaries are very helpful in this respect as all of them indicate every syllable boundary. In the British dictionaries only the stress marks for the primary and the secondary stress show where the stressed syllable begins. This is only a partial disadvantage as the boundary between an unstressed and a stressed syllable is one of the main places where word division and syllabification are compared further on.

Word-division rules and phonetic syllabification will be compared in the boundary between a prefix and the stem of a word, and then in the boundary before a suffix and between the words in a compound. A few observations will be put forward about boundaries inside primary words.

Prefixes ending in an unstressed vowel or in a vowel carrying secondary stress before a syllable with primary stress are preserved intact both in writing and in pronunciation, e.g. be-friend, bi-lingual, de-militarize. Therefore the following selection contains mainly prefixes ending in a consonant.

COUNTER-

Counteraction is divided by Jones14 either [ˌkaun'trækʃn] or [ˈkauntrækʃn], the meaning being 'counteracting' in the first case and 'action by way of reply' in the second case. The two transcriptions show that primary stress is strong enough to attract the preceding consonant, while secondary stress is not strong enough to achieve the same effect. Longman Contemporary, Collins Learner's, Penguin, and Merriam Webster also divide before the r: [ˌkaun'trækʃn] but do not distinguish the two meanings. Merriam Webster goes even further in that it cancels the boundary before an unstressed syllable as well: [ˈkaunt-o-ræk, ˌkaunt-o-rib-ə-tʃən(t)s].

DIS-

Discover and discolour are quoted in the "Introduction" to Jones14 (1977.XIX) as examples of a morpheme boundary decided more or less by intuition. With discolour the speaker may feel that the word consists of two sense units and the pronunciations is [diˈskʌlə], while with discover the sense units may not be obvious and the pronunciation is [diˈskʌvə]. Other entries in Jones14 with the morphemic boundary observed in pronunciation include displace, displease, distrust [diˈsplez etc.], while the second type may be further illustrated by display, discard, disparity [diˈsp lei etc.]. With some words the feeling about the sense units is not clear and so we find both pronunciations: disarm [dɪˈzɑːm, ˈdɪzəm], disorganize [dɪˈsɔːɡənaɪz, ˈdɪzoʊɡənaɪz]. There is no variation and the prefix is kept intact in pronunciation if the final s of the prefix is followed by a consonant with which it cannot form a pronounceable pair, e.g. disfigure, dishearten, disrupt. If the stem begins in an s, the feeling about the sense units decides whether the two s's merge and belong to the
second syllable or whether the prefix is preserved: *dissent* [di'sent], *dissociation* [di'sausi.eiöš] against *dissatisfaction* [di'saatsi�eikš], *disservice* [dis-.i'seivš].

The entries in Longman Contemporary can be divided into three groups. In the first group the morphological boundary after *dis-* is not observed in pronunciation: *dis-posal* [di'spauzal], *dis-trIBUTE* [di'tribju:t]. In the second group the prefix is kept intact both in writing and in pronunciation: *dis-able* [di'eibl], *dis-arm* [dis'a:m]. Words like *di-scuss* [di'skas], *di-spense* [di'spens], *di-spUE* [di'spju:t] belong into the third group, where *dis-* is not preserved. (When the stress is shifted to the first syllable, *dis-* is kept separate, in accordance with the ssVC rule: *dis-pensation*, *dis-putation*.)

Merriam Webster treats *dis-* in a simple and easy to follow way: in writing, the boundary comes after *dis-* (with the exception of *di-sas-ter*, although pronounced [diz-'as-tar]). The same observance of the morphological boundary is found in pronunciation, e.g. *dis-ease* [diz-'i:z], *di-sent* [dis-'ent]. Other American dictionaries transcribe [diz-'astor, di'zi:s] and Random House syllabifies [dis'kar-idz, dis'krepsnsi]. For division in writing, however, *dis-* is kept intact in all American dictionaries. The dictionary nearest to the Jones approach in syllabification is Random House, where a number of pronunciations do not observe *dis-*., e.g. [di'zastsr, di'zks].

**EN-**

This prefix is treated in very much the same way as the preceding *dis-*: When followed by a vowel, the *n* joins this vowel, e.g. *enable* [i'neibl], *enact* (i'naekt) (Jones¹⁴, Longman Contemporary, Collins Learner's, Penguin). Of the American dictionaries, Macmillan suggests the same syllabification in pronunciation, while preserving the prefix intact in word division. Other American dictionaries preserve the prefix even in pronunciation [i'n'eibl, en'ækt].

**EX-**

The letter *x* has figured in the word-division rules for many centuries. The division boundary was placed after this letter in the oldest printed books and even in manuscripts. The reason has been the non-existence of *x* at the beginning of current words. Another feature of *x* is that it is a conventional sign for two sounds and two phonemes (though not in all alphabets). As the second phoneme of the two is [s], a frequent cluster- and word-starter, we may find differences between word division, where the boundary always comes after *ex-*, and syllabification in pronunciation. The stressed syllable following the prefix attracts the [s] of the prefix: [ek'stenjueit, ik'sku:d, ik'skre:ïeit, ik'spres, ik'stri:m]. The minority of words with the prefix intact even in pronunciation consists mainly of words where *ex-* is an obvious addition, e.g. [eks'sa:vis, eks'slaibris], or where a cluster difficult to pronounce would result, e.g. [eks'sfaulieit, eks'heil] (but [eg'zeil] when [h] is dropped).

<table>
<thead>
<tr>
<th>British dictionaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jones Longman COD Hornby Penguin Chambers Learners Collins</td>
</tr>
<tr>
<td>Gimson Contemp.</td>
</tr>
<tr>
<td>'pankreak' matik</td>
</tr>
<tr>
<td>'pankreak' matik</td>
</tr>
<tr>
<td>'pankries</td>
</tr>
<tr>
<td>'pækries</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>American dictionaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxford Merriam World Funk &amp; Random Mac-</td>
</tr>
<tr>
<td>American Webster Webster &amp; Wagnalls Heritage House millan</td>
</tr>
<tr>
<td>'pankreak' matik</td>
</tr>
<tr>
<td>'pankreak' matik</td>
</tr>
<tr>
<td>'pankries</td>
</tr>
<tr>
<td>'pækries</td>
</tr>
</tbody>
</table>
The stress on *pan*- does not allow any shifts in syllable boundaries. Moreover, *pan-* is not always recognizable as prefix. It may be recognizable in *panchromatic* but not in *pancreas*. This may be the reason why there is a clear majority of pronunciations with [paen] in *panchromatic* and hesitation between [paen] and [pan] in *pancreas*, as shown in the table. (A smaller tick indicates the second possible pronunciation. This type of variation exists in other words where the morphological boundary is not recognizable, e.g. *melancholy*.)

**PER-**
*Per-* is a frequent prefix limited to words of Latin origin or used in modern formation in the international scientific vocabulary. It is preserved intact in word division but not in pronunciation: [pa-'remptari, pa-'roksaid, pa-'ræmbjulelt] (although some American dictionaries transcribe [per-'ræmbjulelt]).

**POST-**
This is not a very frequent prefix and is limited to specialized terms. It is always separated in printing and usually separated in pronunciation. The Merriam Webster system, however, divides the prefix after the diphthong when the stem begins with a vowel: *post-embryonic, post-emergence, post-impressionism* [pa-'stem-bri-'on-ik, pa-'sti-ma'r-džans, pa-'stim-'preʃ-ə-'niz-əm].

**PRE-**
In a number of current words *pre-* is not recognized as a prefix, e.g. *present, president*. The stress is on the first syllable, i.e. on the prefix, and the ssVC rule governs both pronunciation and word division. Other words treated in the same way include *precendent, predicate, preudge*. If the stress is on the second syllable, i.e. on the stem, and the prefix is not recognizable, the division in printing is *pres-tige* ([pre-'stuz]) and usually [pra-'stuz] in pronunciation (some dictionaries syllabify [pres-'ti:z]). The boundary in printing is either a case of division between two consonant letters in the absence of any other rule of higher hierarchical value or a case of consideration for the pronunciation of what is at the end of the line: *pre-stige* would indicate long pronunciation and a different word (see also p. 000).

**SUB-**
*Sub-* is always recognized in word division and if it carries its own stress, also in pronunciation: *sub-edit, sub-limize* [sab-'edit, 'sab-li-imeit]. If *sub-* is not stressed, the morphological boundary is not respected in pronunciation: *sub-lime, sub-ordinate* [sa-'blaim, sa-'bo:dineit].

**TRANS-**
In word division this prefix is kept intact with the exception of words like *transpire* where the stem is kept intact. Several possibilities exist in syllabification. *Trans-act* is pronounced [traen-'zaekt] according to British dictionaries, [træn-'sækst] according to four American dictionaries and [trans-'sækt] according to three American dictionaries. With words like *trans-parent, trans-port, trans-pose*, the American dictionaries and Collins Learner's and Penguin prefer [traens-p . . .], so that the boundaries in word division and in syllabification are the same.

The above sample contains only a small fraction of prefixes but can be regarded as sufficient for the present purpose because other prefixes are known to be treated in similar ways, e.g. *bin-, in-, and non-* are treated like *en-, and inter-, over-, super-, and under-like counter-*. We may conclude that the boundary between a prefix and the stem of a word is recognized to varying degrees. It is usually recognized in word division but much less in pronunciation, the main factor being whether the word is formed by one or two sense units according to the authors or pronunciation editors of the various British and American dictionaries. To find agreement between word division and syllabification in pronunciation the prefix must either end in an unstressed vowel (bi-lingual) or carry the main stress and not be recognizable as a prefix (*pres-ident*). Word division and syllabification may not use the same boundary if the prefix ends in a consonant: *trans-act [træn-'sækst], ex-clude [ik-'sklud], per-oxide [pa-'roksaid]*.

The discussion of prefixes is based on more or less uniform usage in word division. With suffixes the usage is very varied. Very few suffixes are treated the same by all the dictionaries. There is unity in the treatment of *-ly and -sion and*
there is near unity in the treatment of -tion and -ing. There is less unity with other suffixes, the differences stemming from the criteria employed. Some dictionaries prefer morphological criteria and divide perform-ance; others prefer the rule about two consonants and divide perfor-mance (for further examples, see p. 000). Most suffixes are not stressed and the absence of stress means that British dictionaries will not be used in the discussion.

As with the prefixes, only a selection of suffixes will be discussed. Not included are suffixes like -er, -ous, where the description of all the possible combinations of boundaries would require too much space. The first suffix, -able, will be dealt with at some length, in order to serve as an illustration of the above remarks.

-ABLE

If this suffix follows a recognizable word, i.e. a word without any formal change or with the silent -e left out, the word-division boundary, according to Merriam Webster, is between this word and the suffix: drink-able, change-able, unmention-able, deplor-able, cur-able (but no-ta-ble to prevent misunderstanding if not-able were used). In other cases the suffix may be split in word division: ap-pli-ca-ble, mem-o-ra-ble, ir-rev-o-ca-ble (some of these words were actually taken over from Latin as derivations). In pronunciation, however, the suffix is disyllabic in both types: ['drin-kə-bal, 'mem-a-ra-bal]. If possible, the Merriam Webster system preserves the recognizable words and the suffix. All the other American dictionaries preserve the word to which the suffix is added but divide -able into two syllables even in word division, e.g. drink-a-ble. A third system is that used by Longman Contemporary, where neither the original word nor the suffix is kept intact in word division, e.g. drin-ka-ble, un-men-tio-na-ble.

-AGE

The suffix is preserved in word division if there are no changes in the spelling or in the pronunciation of the base: bond-age, leak-age, mile-age but mar-riage, hos-tage. The syllable boundary in pronunciation is decided without any consideration of the independence of the suffix: the ssVC rule decides, as in ['blok-idz, 'hɪ:kidz], or two consonants are kept separate if they do not occur as frequent word-starting clusters as in ['bon-didz, 'lɪn-kidz, 'pau-stidz]. World Webster, Funk & Wagnalls, and Macmillan divide even between [s] and [t]: ['pɑʊ-stidz].

-AL

This suffix is often kept separate in word division but in pronunciation it is reduced and attached to the preceding sounds, e.g. na-tion-al [neɪʃən-al]. The syllabification as indicated by the dictionaries is very varied: for coast-al we find ['kɔʊst-al, 'kɔust-al], for post-al (or post-tal) we find ['pɔʊst-al, 'pɔus-tal, 'pɔust-al], for ton-al (or to-nal) we find ['tɔʊn-əl, 'təu-nəl].

-DOM

This suffix is preserved both in word division and in phonetic syllabification. It begins with a consonant and forms a syllable by itself, e.g. free-dom, wis-dom ['fri:-dam, 'wiz-dam]. The same can be said about other syllabic suffixes beginning with consonants: -less, -ly, -ment, -ness, -ship.

-ESS

This is one of the few stressed suffixes, not very frequent but interesting for the purpose of the present investigation. It is kept separate in word division, while in pronunciation it either is or is not preserved intact: jour-nal-ess is syllabified [dʒɔːr-nəl-əz] according to four dictionaries and [dʒɔː:r-na-lɪz] according to three dictionaries. Two pronunciations are also possible with Pe-king-ess, sometimes with difference in meaning: ['piː-kiŋ-əz, 'piː-ki-ˈniːz]. It the morpheme boundary is not respected in pronunciation, the velar nasal is replaced by an alveolar nasal.

-ESS

In heir-ess, host-ess, prior-ess, and steward-ess the division boundary is between a recognizable English word and the suffix. In pronunciation, the suffix is not preserved, e.g. host-ess is syllabified ['hɔst-ɪs], less frequently ['hɔst-stɪs].

-ETTE

Where felt as a suffix added to a known word, -ette is separated in word division (kitchen-ette, novel-ette). Where the relation between the original word and the suffix is obscure the division
does not respect the suffix (*cig-a-rette, stock-i-nette*). In pronunciation, the suffix takes on the preceding consonant in both cases: [kić-ı-neť; sığa-ret].

-ING

Although preserved in word division, except for cases like *net-ting, -ing* is not preserved in pronunciation. The vowel is added to the preceding consonant: *cast-ing* ['ka:st-in]. In *flavor-ing, however, some American dictionaries syllabify ['fl̩v̩r-in].

-SION, -TION

These are frequent suffixes and are kept separate in word division, although -ation may be given preference in British usage. In pronunciation, both are subject to the ssVC rule: *explosion, vi­sion* [ik-'splau-zan, viʒ-an], *cogni­tion* [ko-'gnei-šan, ka-'gniš-an].

Further examples of suffixes could be quoted but the patterns would not differ from those already mentioned: a suffix may be recognized as such and then kept separate in word division but it is not preserved in pronunciation if it begins with a vowel. Usually there is agreement between word division and syllabification if the suffix begins with a consonant.

One of the rules of word division is to keep intact words forming an English compound. As for pronunciation, there are phonetic signals of the boundary (Gimson 1962.266, Arnold and Hansen 1978.46-7, 166). The Merriam Webster system, as used in the seventh edition of the Collegiate, shifts this boundary in compounds where the second word begins in a vowel or in compounds where [s] or [f] precede voiceless plosives or liquids. A few examples will illustrate.

-CV-: *all-out* ['o:-laut], *bird's-eye* ['bord-zaï], *hold-all* ['həul-do:l], *open-ended* ['o-pa-ten-dəd]

-fl-: *off-line* ['o-fline]

-fr-: *proof-read* ['pru:-fri:d]

-sk-: *box-car* ['bok-skaɪ], *fools-cap* ['fu:ls-kaɪp]

-skr-: *ice-cream* ['ai-ˈskrɛm]

-sl-: *box-like* ['bok-slaɪk]

-sm-: *spokes-man* ['spouks-ˈsmæn]

-sp-: *caɪ's-paw* ['kæts-ˈspo:], *saɪce-pan* ['so:-sæn]

-st-: *cross-town* ['kroʊ-ˈtaʊn], *fox-tail* ['fɔks-ˈteɪl]

-str-: *cross-trade* ['kroʊ-ˈtreɪd], *fox-trot* ['fɔks-ˈtrot]

-sw-: *box-wood* ['bok-ˈswud], *cross-way* ['kroʊ-ˈweɪ]

In cases like ['o:-laut] the shift of the consonant can be understood as providing the second syllable with a consonantal beginning while in the other cases consonantal pairs or clusters are formed. This formation of pairs or clusters is then hierarchically higher than one of the basic rules of English pronunciation, the ssVC rule, not only in compounds with level stress but even when the second part of the compound carries secondary stress (cf. *sauce-pan* and *cross-way* above), thus differing from shifts of consonants from unstressed prefixes to stressed stems or from shifts in phrases like *at last, at rest, at once* ['ətlaist, ə'trest, ə'twans], cf. Gimson 1962.267.

Similar formations of consonantal strings can be found inside non-derived, primary words or word stems. Thus *gastr-, gastri-, and gastro-* are always divided *gas-tr...* at the end of lines while in syllabification the stressed syllable attracts the fricative: *gas-tric* ['gæs-trɪk], *gas-tritis* [gæs-trɪtɪs]. *Met-ric*, pronounced ['me-trɪk] by many speakers (cf. Funk & Wagnalls XIX), is an example of the ssVC rule being weaker than the formation of the [tr] pair.

Other cases where word division differs from phonetic syllabification in primary words are connected with the traditional grapheme *x*, e.g. *max-im* ['mæks-ˈsɪm], or with the traditional division after *r* in words like *op-er-ať* ['op-(ə)-rejt].
Up to now we have reviewed word division in written or printed texts in conventional spelling and syllabification in phonetic transcription. A final remark concerns word division in phonetic transcription and the pronunciation of divided words at the end of lines. It is only natural that the boundaries for the division of printed phonetic texts follow the phonetic syllabification, and cases like [ik's-pluckiv, ik's-postuleit] are an exception in Jones. As for the way a divided word is pronounced, one of the rules of word division is not to use confusing boundaries like leg-ends but to divide le-gends (Hart 1967.14) if a work of literature is meant. Not all dictionaries, however, follow this rule and context should help the reader in interpreting Arthurian leg-ends as being unconnected with furniture.

SUMMARY

Pronunciation is an important criterion is word division in a written/printed text but is not the only criterion. A survey of the differences between the two types of boundaries has shown that word division, as a phenomenon of the written norm, is not a mere reflection of pronunciation, a phenomenon of the spoken norm. The survey has also shown that the same sequence of sounds in English does not result in the same syllabification if the distribution of the stress is different. Stress attracts consonants from the following and the preceding syllables, even if a morphological boundary is thus cancelled. An important aspect is the pronunciation of consonantal pairs or clusters which may even operate against stress.

REFERENCES

Hladký, J. (1985b). Notes on the history of word division in English, Brno studies in English 16.73-83 (Brno).
American dailies:
Chicago Tribune, October 31, 1980.
Courier Express (Buffalo, N.Y.), September 4, 1980.
Evening Outlook (Santa Monica, Cal.), December 17, 1980.
Los Angeles Herald Examiner, November 8, December 1, 1980.
Los Angeles Times, November 22, 1980.
New York Post, October 8, 1980.
Sun-Times, November 1, December 16, 1980.
British books 1972 to 1983:
DĚLENÍ SLOV A HRANICE SLABIKY V ANGLIČTINĚ

Výslovnostní hledisko je jedním z důležitých hledisek při dělení slov v psaném nebo tištěném textu, není však hlediskem jediným. Přechod rozdílů v hranicích při dělení a při výslovnosti ukazuje, že dělení slov, jako jev psané normy, není pouhým odrazem výslovnosti, jevu normy mluvené. Ukazuje se rovněž, že stejný sled hlásek v angličtině nevede pokudě ke stejnému dělení na slabiky, pokud jsou rozdíly v přízvučku. Přízvuček přitahuje souhlásky z následující i předcházející slabiky, i když se tím poruší morfologická hranice. Dalším činitelem při vzniku slabičné hranice je tvoření souhláskových dvojic nebo skupin, které může působit i proti přízvučku.