

for which derivative pairs existed before 1400. Homological stress has not, however, developed (with the exception of *spirit/spiritual*), probably on account of the small number of derivatives (see 4. 6. 18), possibly also under the influence of *-ial* words. Other sfs have become productive on a native basis of coining too late for a homological stress pattern to be able to uproot the much older rhythmic stress pattern that had developed with loan words (*zical*, *zity*, *zic*; see also above 4. 1. 28). The sf *-ician* also has preserved the ME stress pattern with the original French secondary stress on the first changed into the principal stress. The trisyllabic form, common till the 16th c. (see Jesp. I. 9. 87), is probably one of the reasons. Otherwise the derivative alternation *magic/magician* existed as early as the 14th c. (see 4. 44. 1).

4. 1. 26. With the stressing of words in *-ation*, *-arian*, *-arious*, *-orial*, *-orious* the Latin has probably played a part. The speaker was certainly conscious of the Latin words in *-átio*, *-áriu*s, *-óriu*s for which the English words stood. It is otherwise difficult to understand why no homological stress pattern should have developed between *purify/purification*, *canonize/canonization* though the derivative alternations are as old as the 14th c.

Phonological changes of vowel or consonant in derivation

4. 1. 27. Derivation by means of foreign sfs, esp. those which derive on a NL basis, often involve phonological changes of vowel or consonant. Vowel and consonant changes most often go with stress shift. In several cases, however, we have vocalic and consonantal alternations but no shifted stress. Exs of the latter are: *sincére/sincerity* [ir/erɪtɪ], *austere/austerity*, *severe/severity*, *extreme/extremity*; *bronchítis/bronchític* [aɪtɪs/ɪtɪk], *otítis/otític*, *perítónítis/perítónític*; *tenácíous/tenácíty* [eʃəs/æstɪ], *capacíous/capacítty*, *predacíous/predacítty*; *ferócíous/ferócítty* [oʃəs/ɒsɪ], *atrocíous/atrocítty*.

Vowel and consonant changes are accompanied by stress shift in the following cases:

Type *ártífice/artificial*, *ávaríce/avarícíous* [ɪs/ɪʃəl] resp. [ɪs/ɪʃəs].

If a word in *-ice*, pron. [ɪs] (or occ. [aɪs]) derives by means of a sf beginning with [ɪ] (chiefly *-ial*, *-iary*, *-ious*), we have the alternation [ɪs (aɪs) /ɪʃəl, ɪʃəri, ɪʃəs]. Exs are *benefíce/benefícíal*, *benefícíary*, *auspíce/auspícíal*, *auspícíous*, *prejudíce/prejudícíal*, *offíce/offícíal*, *offícíous*, with [aɪ] in the radical *sacrífíce/sacrífícíal*, *vice/vícíous*.

Type *mecháníc/mechánícían*. This correlative type implies the phonological alternation [ɪk/ɪʃən]. For exs see 4. 44.

Type *hístóric/hístóricísm/hístóricítty*. If a word in *-ic* forms derivatives in *-ism* *-ist*, *ize-* (without stress shift), *-ity* (with shifted stress), the alternations [ɪk/ɪsɪzɪm, ɪsɪst, ɪsɪtɪ-] are involved. Exs are *attíc/attícísm*, *attícíst*, *attícíze*, *hístóric/hístóricísm*, *hístóricíst*, *hístóricítty*, *aesthétic/aesthéticísm*. The change occurs also with derivatives from *-ac*: *Syriacíze* (Toynbee) f. *Syriac*. *Cathólic*, *cathólicísm*, *cathólicítty* shows an isolated stress pattern. The preceding phonological alternations have derivative value.

4. 1. 28. As for the other vowel changes involved, the following tendencies are observed. The full stressed vowel of the initial syllable in the radical is

retained when it receives a middle stress in the derivative. Exs are: *pátriarch/patriarchal*, *pólitics/politician*, *éditor/éditorial*, *sécretary/sècretarial*, *mánager/mánagerial*, *ínstrument/ínstrumental*, *álderman/áldermanic*, *áuuthorize/áuuthorization*.

The stressed vowel of the radical stands in the syllable immediately preceding the full stress in the derivative i.e. has weak stress. A distinction has to be made between vowels in closed and in open syllables.

Short full vowels in open syllables change the vowel to [ə]: *hábit/habítual*, *válid/validity*, *ácid/acídity*, *plácid/placídity*, sb *áffix/vb affix*, sb *próduce/vb produce*;

[ɪ] is retained: *lívid/lívidity*; [ɛ] is changed to [ɪ]: sb *rébel/vb rebel*, sb *récord/vb record*, sb *présent/vb present*, *édit/édition*, *tépid/tepídity*, *trépid/trepídity*.

Short vowels in closed syllables tend to be retained, with the exception of [ɔ]: adj *ábsent/vb absént*, *táctics/tactician*, sb *áccent/vb accént* || sb *éxcerpt/vb excerpt*, sb *éxport/vb expórt*, sb *éscort/vb escórt* || *públic/publícity*, *rústic/rusticity* (but sb *subject* [ʌ] against vb *subject* [ə]; perh. because only prf *subject* has the full vowel?) || [ɒ] is changed to [ə]: *cómplex/compléxity*, sb *cónfine/vb confine*, sb *cónvict/vb convict*.

Some long vowels are retained in quality and quantity; others are shortened, though no fixed rule seems possible: [ɔ] tends to be retained: sb *áugment/vb augmént*, sb *tórment/vb tormént*, *caúsál/causálicity* || [i] tends to be shortened: *équal/equdlity*, *légal/legálicity*, adj *fréquent/vb frequént*, sb *régress/vb regréss* || [a] tends to be retained: *ártist/artístic*, *bárbarous/barbáarity*, *sárcasm/sarcástic* || [ɜ] is regularly shortened: sb *pérmit/vb permít*, sb *pérfume/vb perfúme*, sb *férment/vb fermént* || [u] tends to be retained: *brútal/brutálicity*, *neútral/neutrálity*, *rheúmatism/rheumátic*.

Diphthongs vary: [ɔɪ] is retained with a glide by some speakers, reduced by others in *tónal/tonálicity*, *tótal/totálicity*, *vócal/vocálicity*, but the alternation [o/ə] has morphological value in sb *prógress/vb progréss*, sb *protést/vb protést*. [aɪ] is always retained in *fínal/fínálicity*, but in other cases it may also alternate with [ɪ], as in *mínor/mínóarity*, *cíte/citáition* || [e] tends to be reduced to [ə]: *ágent/agéntial*, *fátal/fatálicity*, *sáline/salínity*, *máyor/majóarity*.

4. 1. 29. The full stressed, non-initial vowel of the radical comes to stand in weak stressed syllable before the main stress of the derivative. Short vowels in an open syllable are reduced to [ə]: *Japán/Japanése*, *mechánic/mechanician*, *mathemátics/mathematician* || *históric/historicity*, *atómic/atomicity*.

Short vowels are retained when standing in closed syllable: *eléctric/electricity*, *eccéntric/eccentricity*, *augmént/augmentation*, *dialéctics/dialectician* || *elástic/elasticity*, *retráct/retractáition*.

Long vowels tend to be shortened: *transfér/transfereé*, *refér/refereé* || *restóre/restoráition*, *adóre/adoráition* || *retárd/retardáition* || *extérnal/externálicity*. But cp. *advantage* with [æ] and *advantageous* with [ə].

Diphthongs are reduced: [aɪ] alternates with [ɪ], as in *respíre/respiráition*, *admíre/admiráition*.

If a full stressed vowel of the radical receives middle stress in the derivative, it is not changed: *restórabl/restórablity* || *supéríor/supérióarity* || *extérminate/extérminatíon* || *compátíbl/compatíblity*, *ínflámabl/inflámablity*, *spec-táculár/spectáculáarity*.

4. 1. 30. If the middle or weak stressed vowel of one of the syllables after the main stress takes the main stress in the derivative, it is raised in volume. In most of all cases this concerns [ə] which may be raised to various vowels, the choice of which is often (esp. with proper names) merely dictated by the spelling: *superior/superi^ori^oty* [ə/ɒ], *similar/simil^ori^oty*, *mental/ment^oality* [ə/æ], *ceremony/cerem^oni^oal*, *ceremony/cerem^oni^oous*, *Milton/Milt^oni^oan* [ə/ɔ], *ensor/cens^ori^ous*, *senator/sen^oat^ori^oal* [ə/ɔ], *Milton/Milt^oni^oc* [ə/ɒ], *agent/ag^oenti^oal*, *element/element^oal*, *element^oary* [ə/ɛ], *secretary/secret^oari^oal* [ə/ɛ], [ɛ/ɛ] [ɛ/ɛ], *minister/mini^ost^ori^oal*, *manager/manag^oeri^oal*, *Spenser/Spens^oeri^oan* [ə/ɪr], *Galsworthy/Galsw^orthi^oan* [ə/ɛ], *ammoniac/ammoniac^oal* [ɪ/aɪ], *Shaw/Shavi^oan* [ɔ/e], *Marlowe/Marl^oovi^oan* [ɔ/ov]. The pair *anthracite/anthracit^oc* ait/itik represents the regular derivative alternation while no diphthong is changed in pairs of the type *alkaloid/alkaloid^oal*.

4. 1. 31. Vowels which are weakly stressed in the radical as well as in the derivative are retained: *mathem^oatics/mathem^oatici^oan*, *man^oager/manag^oeri^oal*, *superior/superi^ori^oty*, *loc^oate/loc^oati^on* BĚ.

If, however, the vowel [ə] in an initial syllable (where it is always weakly stressed) receives middle stress in the derivative, it is raised to a fuller vowel: *atomic/^oatomicity*, *advantage/^oadvantageous*, *statistics/st^oatist^oici^oan*, *Japan/J^oapan^oese* have the alternation [ə/æ]. Short [ɪ] is sometimes lowered to [ɛ], as in *respire/r^oesp^oirati^on*, *restore/r^oest^oorati^on*, *mechanics/m^oech^oanici^oan*, *refer/r^oef^oeree*, sometimes raised to [i], as in *retard/r^oet^oardati^on*, *retentive/r^oet^oentiv^oity*, *retract/r^oetractati^on*.

On the other hand, a diphthong which has middle stress in the radical may be reduced in the derivative if the syllable in which it stands is only weakly stressed. Alternation of [aɪ/ɪ] occurs beside that of [aɪ/aɪ] in pairs of the type *civilize/civilization*. Cf. also the type *edify/edificati^on*.

Word-formation on a native basis of coining

4. 1. 32. All native suffixes and many suffixes of foreign origin are tacked on to the English word without any phonologic changes modifying the derivative as against the basis. In present-day English, the final sounds of the basis are not changed, regardless whether the suffix begins with a vowel or a consonant. Hiatus is not avoided, as is illustrated by such derivatives as *suable*, *drayage*, *withdrawal*, *Garboesque*, *boyish*, *truism*, *cityite*, *showy*.

With speakers who do not pronounce final [r, ɹ] after a long stressed vowel (*beer*, *bear*, *bar*, *boar*, *burr*, *boor*) or after an unstressed [ə] ([ə] cannot occur in a stressed position), as in *author*, *water*, [r] nevertheless appears in the derivative when the suffix begins with a vowel: *beery*, *bearish*, *boarish*, *burry*, *boorish*, *authoress*, *watery*.

Derivation from disyllabic words ending in [l] shows two patterns when the suffix begins with a vowel. 1) final syllabic [l] loses its syllabic character in the derivative, as in *angle/angler*, *haggle/haggler*, *nibble/nibbling*, *sample/sampler*, *shuffle/shuffler*, *peddle/peddler*, *tattle/tattler*, *tickle/ticklish*, *sizzle/sizzling*, *bustle/bustling*. 2) syllabic [l] remains syllabic in the derivative. The type applies when [l] is preceded by [r], [n], [v], [tʃ], [dʒ], or a vowel, as in *quarrel/quarreling*, *travel/traveler*, *funnel/funneling*, *hatchel/hatcheling*, *cudgel/cudgeling*, *jewel/jeweler*.

Latin-coined words in *-al* fall into this latter group, not dropping the vowel in the derivative. To put it more correctly, such words do not end in a syllabic [l] but in biphonemic [əl]. Cp. *nibble/nibbler* and *herbal/herbalist*, *haggle/haggler* and *legal/legalist*. In suffixal derivation involving stress this vowel alternates with [æ]. In part it is probably the spelling that is responsible for the alternations. Spelling appears to account for other alternations, too. Cp. *peddle/peddler*, *pedlar* and *pedal/pedaler*, *pedaling*; *gamble/gambling* and *gambol/gamboling*. Unless we invoke the same principle of explanation, it will be difficult to tell why different types of alternation hold for *drizzle/drizzling* and *chisel/chiseling*. It might not even be wrong to assume that the whole group deviating from pattern 1) owes its type of alternation to spelling.

4. 1. 33. We have another instance of change at the end of the root in Latin-coined *damnation*, *damnable*, *condemnation*, *condemnable* as against *damn*, *condemn* where the final *n* of the cluster *mn* has been dropped in accordance with the rules of phonetic development. But the native sfs *-er*, *-ing* derive on the homologic pattern just described: *condemner* [kændemə(r)], *condemning* [dɛmɪŋ].

With the sfs *-ure* and *-ier* we have consonantal alternation between [s] and [ʃ], [z] and [ʒ] (see 4.30.18 and 4.77.5). Other changes in the radical are found with sfs which have for centuries ceased to be productive, as *-ier* (*coal/collier*), *-ern* (*south/southern*). They are derivationally not relevant to the structure of PE.

In OE the sfs *-en* (*gold/gylden*, see 4. 27. 2), *-ish* (*Welsh*, OE *Welisc* f. *Walk*, see 4. 50. 1) involved vowel mutation. By the ME period the vowels of the derivatives had all become homologically refashioned after the radicals. Ablaut as a derivative principle with the so-called gradation nouns (*rād/ridan*, *borā/beran*) was already dead in OE.

4. 1. 34. Derivation does not involve phonological changes of voice in PE as it did in former stages of the language. Up to EMoE phonological opposition of voiceless and voiced fricative was a derivative element, relevant to the distinction between nouns and verbs. This was originally a merely mechanical development: OE and ME final fricatives were voiceless versus voiced fricatives in medial position¹. The first case occurred with uninflected noun forms (*hūs*, *lūs*, *wīf*, *cnīf* etc.), the second with inflected noun forms (this case is relevant to accident, not to word-formation) and denominal derivatives, i.e. verbs or nominal derivatives containing a suffix.

The older stage of relevant phonological opposition is illustrated by *advice* 1297 (= OF *avis*) / *advise* 1297 (= OF *aviser*), *close* 1325 / *close* 1205, *device* 1290 (OF *devis*) / *devise* 1300 (OF *deviser*), *diffuse* 1526, obviously the unvoiced vb / *diffuse* 1400, *excuse* 1374, voiced in French, unvoiced in contrast to the vb / *excuse* 1225, *grease* 1290 / *grease* 1380, voiced in contrast to the sb from which it is derived, *house* OE / *house* OE, *louse* OE / *louse* 1440, voiced in contrast to the sb from which it is derived, *mouse* OE / *mouse* 1250, voiced in contrast, *use* 1225 (OF *us*) / *use* 1240 (OF *user*).

belief, OE *bilēafe* becomes *beleeve*, unvoiced in 16th c. in contrast to the vb / *believe* 1200, f. OE *liefan*, *calf* OE / *calve* OE, *grief* 1225 (OF *grief*) / *grieve* 1225

¹ For the historical aspect of the question see O. Jespersen, *Linguistica*, Copenhagen 1933, 346ff. (Voiced and voiceless fricatives in English).

(OF *grever*), *half* OE / *halve* 1300, *proof* 1225 (prob. the unvoiced derivative from the vb) / *prove* 1175 (OF *prover*), *safe* 1297 (OF *sauſ*) / *save* 1250 (OF *sauver*), *sheaf* OE / *sheave* 1579, *shelf* 'bookshelf' 1386 / *shelve* 1598, *strife* 1225 (OF *estriſ*) / *strive* 1225 (OF *estriuer*), *thief* OE / *thieve* OE, *wife* OE / *wive* OE, *wolf* OE / *wolve* 1702, is prob. older as *wolver* is rec. 1593.

mouth OE / *mouth* 1300, *teeth* OE (pl. *tēþ*) / *teethe* 1410, *sheath* OE / *sheathe* 1400.

The following is a list of nominal derivatives having a suffix: *leavy* 1420, obs. *wolvish* 1430—1817, *thievish* 1450 (or f. vb *thieve*), obs. *wivish* 1535—1664, *elvish* 1340, *wively*, *wiveless*, *liveless*, all occas. in EMoE, *hooved* 1513, *leaved* 1250, obs. *leaveless* 1581—1638, *wivehood*, occas. in EMoE, *thieftom*, occas. in EMoE / *mouthed* 13.., *mouthy* 1589 (or f. the vb), *northern* OE, *worthy* 1250 // *lousy* 1377 (or f. the vb), *greasy* 1514 (two pronunciations), *greaser* 1641 (two pron.).

The oppositional type seems to be productive till about 1600, as the foregoing exs show. There is a modern *knife* 1850, but the usual word is *knife*.

4. 1. 35. The P'E types are knife vb f. knife sb, wolfish f. wolf. Derivation of this kind must have set in about 1400 if we consider that *tooth* 1410 has a voiceless fricative (though chiefly occurring in form *toothing* where the fricative is medial) while *teethe*, rec. also 1410, has the voiced fricative. Exs of denominal vbs are *grass* 1460, *price* 1490 (the deverbial sb *rise* 1410 has a voiced fricative, which also seems to point out the existence of the new derivational type about 1400) and the deverbial sb *close* is rec. even somewhat earlier (1399) / *deaf* 1460, *sheaf* 1506, *scurf* 1599, *hoof* (*ūt*) 1641, *knife*, *life*, *shelf*, *staff*, *beef*, *brief*, *wolf* (all 19th c.) / *tooth* 1460, *unearth* 1450, *sleuth* vb 1905.

Suffixal derivatives are *mousy* dim. 1693, adj 1812, *mousery* 1888 / *scurfy* 1483, *leafy* 1552, *shelſy* 1576 'full of sandbanks' / *frothy* 1533, *breathy* 1528, *earthy* 1555, *lengthy* 1759 // *leafed* 1552, *hoofed* 1607 / *toothed* 13.., *sheathed* 1664 // *wifeless*, *lifeless* (OE), *leafless* 1590 // *wifely* (OE) // *wolfish* 1570, *elfish* 1542, *dwarfish* 1573, *deafish* 1611, *selfish* 1640, *wifish* 1773 // *lifer* 1830 // *mouther* 'blow on the mouth' 1814 // *wife* 1841 / *selfism* 1823 / *mouthing* 'entrance to a mine' 1883 / *deafen* 1597, *strengthen* 14th c., *lengthen* 1520¹.

4. 1. 36. The invasion of French, Latin, and Greek words did not oust the native suffixes as it did the prefixes. It has exercised a restricting, modifying influence only. The suffixes *-ly*, *-some*, *-dom*, *-hood*, *-ship*, for instance, do not have the derivative range the corresponding German suffixes have. On the other hand, such a suffix as OE *-bære*, the counterpart of G *-bar*, had died out by the Middle English period, for reasons not connected with the Norman Conquest.

4. 1. 37. Suffixes may be 'synonymous' in the same way as full words are, viz. they partially overlap semantically. As far as *New Yorker*, *Chicagoan*, *Manhattanite*, *Viennese* are concerned, the four suffixes represent the same

¹ The sfs *-hood* and *-ship* are not dead, as is wrongly asserted in F. Mossé, *Esquisse d'une histoire de la langue anglaise*, p. 95.

concept 'inhabitant of . . .' (for a parallel case of inflectional endings compare L *amic-i, reg-is, exercit-us*). They are what American linguists call alternants while Bally speaks of suppletion. However, each one suffix has a different totality of semantic features. No two combine alike formally or with the same intellectual or emotional connotation, though in particular cases two types are very nearly interchangeable (cf. the suffixal extensions *-ableness* and *-ability*, 4. 55. 4). But the fact remains that interchangeability applies only to certain pairs, i.e. it is never more than partial. Any one sign is determined by the totality of combinations in which it may occur and which cannot be the same as that of another sign.

4. 1. 38. The difference between a prefix and a suffix is that a prefix is an extinct first-word while a suffix is an extinct second-word, historically speaking. As the first element of a combination is not the grammatically dominant part, the prefix can only modify the word to which it is affixed without having any hold on its grammatical position. A prefixal derivative joins the category the unprefixal word belongs to. In a suffixal derivative, however, the suffix is the grammatically dominant part. In most cases, it is also the semantically dominant element and the determinatum of the syntagma. In combinations such as *father-hood, father-ly*, the word *father* merely determines what is essentially a '*-hood*' or '*-ly*' respectively. There is, however, a certain category of suffixal syntagmas where the relationship is reversed. Combinations based on the underlying theme of appreciation stand out as exceptions. Types of this kind are substantives with a diminutive (endearing) or pejorative suffix (*daddy, boykin, booklet, squirreling*), adjectives with an approximative suffix (*yellowish, bluey*), verbs with a diminutive or frequentative suffix (*patter, crackle*). Semantically speaking, a *daddy* is still basically a *dad*, a *booklet* still a *book*, a *squirreling* a *squire*. The quality of *yellow* is only restricted in *yellowish*, and *crackle* merely refers to a series of *crack* noises. These are therefore cases of syntagmas in which the determinatum precedes the determinant. With compounds we have a similar case in appositional combinations such as *fisherman, messenger boy* where the first element dominates semantically.

The preceding cases of a suffix determining the radical help to explain how sometimes prefixes (which are determinants by nature) and suffixes express similar ideas. There is apparently no great difference between the types *yellowish* and *unhappy* as both affixes have determinant character. Cf. also L *permagnus* 'very great' and E *greatish* 'somewhat great', L *florescere* and G *erblühen* (both denoting incipient action or incipient change of state). These observations do not, however, invalidate the general principle that a prefix is the determinant of a syntagma whereas a suffix is the determinatum. Cf. 3. 1. 15.

4. 2. 1. -able /əbəl/

English owes this suffix to Old French from which it borrowed words such as *agreeable, comfortable, blamable, comparable, desirable, measurable, damnable, deceivable, profitable, changeable, favorable, passable, serviceable, reasonable, acceptable, commendable, determinable*, all M.E.