§ 402. English consonants were on the whole far more stable than vowels. A large number of consonants have probably remained unchanged through all historical periods. Thus we can assume that the sonorants [m, n, l], the plosives [p, b, t, d] and also [k, g] in most positions have not been subjected to any noticeable changes. They are found in many words descending from OE though their correlations in the system of phonemes have altered to a varying degree.

The most important developments in the history of English consonants were the growth of new sets of sounds, — affricates and sibilants, — and the new phonological treatment of fricatives. Both changes added a number of consonant phonemes to the system. On the other hand, some consonants were lost or vocalised, which affected both the consonant and the vowel system. Like vowel changes, consonant changes can be shown as occurring in the transition period from Written OE to Late ME that is in Early ME, and in the transition from ME to the language of the 18th c., that is in the Early NE period.

Growth of Sibilants and Affricates

§ 403. In OE there were no affricates and no sibilants, except [s, z].

The earliest distinct sets of these sounds appeared towards the end of OE or during the Early ME period. The new type of consonants developed from OE palatal plosives [k', g'] (which had split from the corresponding velar plosives [k] and [g] in Early OE (see § 141), and also from the consonant cluster [sk']. The three new phonemes which arose from these sources were [tʃ], [dʒ] and [ʃ]. In Early ME they began to be indicated by special letters and digraphs, which came into use mainly under the influence of the French scribal tradition — *ch, tch, g, dg, sh, ssh, sch* (see § 357, 358).

The sound changes and examples are shown in Table 9.

Table 9

Development of Sibilants and Affricates in Early Middle English

Change illustrated		Examples		
OE	ME	OE	ME	NE
k'	tʃ	cild	child [tʃiːld]	*child*
		tæcan	techen ['tɛtʃən]	*teach*
g'	dʒ	ecʒe	edge ['edʒə]	*edge*
		brycʒe	bridge ['bridʒə]	*bridge*
sk'	ʃ	fisc	fish [fiʃ]	*fish*
		scēap	sheep [ʃɛːp]	*sheep*

It must be added that the affricates [tʃ] and [dʒ] could also come from a different source: they entered the English language in loan-words from French, e.g. ME *charme* ['tʃarmə], *gentil* [dʒen'til] from O Fr *charme, gentil* ([tʃ] and [dʒ] in the Anglo-Norman pronunciation).

As a result of these changes — and also as a result of the vocalisation of [γ] (§ 380) — the consonant system in Late ME was in some respects different from the OE system. The opposition of velar consonants to palatal — [k, k'; γ, j] — had disappeared; instead, plosive consonants were contrasted to the new affricates and in the set of affricates [tʃ] was opposed to [dʒ] through sonority.

§ 404. Another development accounting for the appearance of sibilants and affricates in the English language is dated in Early NE and is connected with the phonetic assimilation of lexical borrowings.

In the numerous loan-words of Romance origin adopted in ME and Early NE the stress fell on the ultimate or penultimate syllable, e.g. ME *na'cioun, plea'saunce* (NE *nation, pleasance*). In accordance with the phonetic tendencies the stress was moved closer to the beginning of the word (see § 363). The final syllables which thus became unstressed, or weakly stressed, underwent phonetic alterations: the vowels were reduced and sometimes dropped; the sounds making up the syllable became less distinct. As a result some sequences of consonants fused into single consonants.

In Early NE the clusters [sj, zj, tj, dj] — through reciprocal assimilation in unstressed position — regularly changed into [ʃ, ʒ, tʃ, dʒ]. Three of these sounds, [ʃ, tʃ, dʒ], merged with the phonemes already existing in the language, while the fourth, [ʒ], made a new phoneme. Now the four sounds formed a well-balanced system of two correlated pairs: [ʃ, ʒ], [tʃ, dʒ]; see Table 10 for examples.

Table 10

Development of Sibilants and Affricates in Early New English

Change illustrated		Examples	
Late ME	NE	Late ME	NE
sj	ʃ	*condicioun* [kondi'sjuːn]	*condition*
		commissioun [komi'sjuːn]	*commission*
zj	ʒ	*plesure* [ple'zjuːr(ə)]	*pleasure*
		visioun [vi'zjuːn]	*vision*
tj	tʃ	*nature* [na'tjuːr(ə)]	*nature*
		culture [kul'tjuːr(ə)]	*culture*
dj	dʒ	*souldier* [soul'djer]	*soldier*
		procedure [prose'djuːrə]	*procedure*

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Compare these words to NE *suit, mature, duty*, where the same consonant clusters were preserved in stressed syllables. (In some Mod E words, however, we still find the sequences with [j] in unstressed position as well, usually they are secondary variants in Br E, or American variants of pronunciation, e.g. Br E *issue* ['iʃju:] despite the change of [s] to [ʃ] has preserved [j]; in the American variant ['isju:] no assimilative changes have taken place. Among variants of British pronunciation there are such pairs as NE *associate* [ə'ʃouʃɪeɪt] and [ə'sousɪeɪt], NE *verdure* ['və:dʒə] and ['və:djə]; they may be due to Early NE dialectal differences or else to the fact that the assimilation has not been completed and is still going on in Mod E.)[1]

Treatment of Fricative Consonants in Middle English and Early New English

§ 405. In order to understand the nature of the changes which affected the fricative consonants in ME and in Early NE we must recall some facts from their earlier history. In OE the pairs of fricative consonants — [f] and [v], [θ] and [ð], [s] and [z] — were treated as positional variants or allophones; sonority depended on phonetic conditions: in intervocal position they appeared as voiced, otherwise — as voiceless. In ME and in Early NE these allophones became independent phonemes.

Phonologisation of voiced and voiceless fricatives was a slow process which lasted several hundred years. The first pair of consonants to become phonemes were [f] and [v]. In Late ME texts they occurred in identical phonetic environment and could be used for differentiation between words, which means that they had turned into phonemes. Cf., e.g. ME *veyne* and *feine* ['veinə, 'feinə] (NE *vein, feign*). The two other pairs, [θ, ð] and [s, z], so far functioned as allophones.

§ 406. A new, decisive alteration took place in the 16th c. The fricatives were once again subjected to voicing under certain phonetic conditions. Henceforth they were pronounced as voiced if they were preceded by an unstressed vowel and followed by a stressed one, e.g. Early NE *possess* [po'zes] — the first voiceless [s], which stood between an unstressed and a stressed vowel, had become voiced, while the second [s], which was preceded b n accented vowel, remained voiceless (ME *possessen* [po'sesən]>NÉ *possess*). In the same way ME *fishes, doores, takes* ['fiʃəs, 'do:rəs, 'ta:kəs] acquired a voiced [z] in the ending. The last three examples show that one phonetic condition — an unaccented preceding vowel — was sufficient to transform a voiceless sibilant into a voiced one; the second condition — a succeeding stressed vowel — was less important: [s] is the last sound of the word. Probably the effect of stress extended beyond the boundaries of the word: the endings took no accent but could be followed by other words beginning with an accented syllable. This supposition is confirmed by the voicing of consonants in many form-words: articles, pronouns, auxiliaries,

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[1] See *V. A. Vassilyev*, ENGLISH PHONETICS, L., 1962, p. 98.

prepositions; they receive no stress in speech but may be surrounded by notional words which are logically accented. For instance, in the following quotation from a Late ME text (Capgrave's CHRONICLE OF ENGLAND, c. 1463), there are several unstressed form-words with voiceless fricatives and sibilants *"In this yere, in the XXI day of Aprile, was that frere bore whech mad these Annotaciones"* ('in this year, on the twenty-first day of April, was born the friar who made these notes') — [θis, θe:, of, was, θat, θe:zə] and the ending [əs] in *annotaciones.* In Early NE the consonants in all these unstressed words became voiced, even initially [θis]>[ðis], [θe:]>[ði:], etc. (the initial fricative in notional, stressed, words remained voiceless, cf. ME *thin, thorn* [θin, θorn], NE *thin, thorn*).[1]

Sometimes a similar voicing occurred in consonant clusters containing sibilants, fricatives and affricates (see Table 11).

Table 11

Voicing of Consonants in Early New English

Change illustrated		Examples	
ME	**NE**	**ME**	**NE**
s	z	*resemblen* [rə'semblən] *foxes* ['foksəs] *was* [was] *is* [is] *his* [his]	*resemble* *foxes* *was* *is* *his*
f	v	*pensif* [pen'sif] *of* [ɔf]	*pensive* *of*[1]
θ	ð	*there* ['θɛ:rə] *they* [θei] *with* [wiθ]	*there* *they* *with*
ks	gz	*anxietie* [aŋksie'tiə] *luxurious* [luksju:r'iu:s]	*anxiety* *luxurious*[2]
tʃ	dʒ	*knowleche* ['knoulətʃ] *Greenwich* ['gre:nwitʃ]	*knowledge* *Greenwich* ['gri:nɪdʒ]

[1] Cf. the adverb *off* with [f], which is normally stressed.
[2] Cf. *anxious* and *luxury* with [kʃ] which have a different distribution of stresses.

[1] The phonetic conditions of the Early NE voicing of fricatives and sibilants resemble those of Verner's Law in PG; that is why O. Jespersen called this voicing "Verner's Law in Early New English" (see § 57 for Verner's Law).

§ 407. On the whole the Early NE voicing of fricatives was rather inconsistent and irregular. Though it was a positional change occurring in certain phonetic conditions, these conditions were often contradictory. The voicing had many exceptions; for instance, in *assemble, assess* we find a medial voiceless [s] in precisely the same environment as the voiced [z] of *resemble* and *possess*. Therefore after these changes voiced and voiceless fricatives could appear in similar phonetic conditions and could be used for phonological purposes to distinguish between morphemes; in other words, they had turned into phonemes, cf., e.g. NE *thy* [ðaɪ] and *thigh* [θaɪ], *ice* [aɪs] and *eyes* [aɪz].

Loss of Consonants

§ 408. As shown in the preceding paragraphs, the system of consonants underwent important changes in ME and Early NE. It acquired new phonemes and new phonemic distinctions, namely a distinction between plosives, sibilants and affricates, a phonemic distinction through sonority in the sets of fricatives, sibilants and affricates. On the other hand, some changes led to the reduction of the consonant system and also to certain restrictions in the use of consonants.

As was mentioned in the description of vowel changes, particularly the growth of new diphthongs and long monophthongs, a number of consonants disappeared: they were vocalised and gave rise to diphthongal glides or made the preceding short vowels long. The vocalisation of [ɣ] in Early ME and of [x] in Late ME eliminated the back lingual fricative consonants.

With the disappearance of [x'] the system lost one more opposition — through palatalisation, as "hard" to "soft". (The soft [k'] and [g'] turned into affricates some time earlier, see § 403).

§ 409. Another important event was the loss of quantitative distinctions in the consonant system.

It should be recalled that in OE long consonants were opposed to short at the phonological level. This is confirmed by their occurrence in identical conditions, their phonological application and the consistent writing of double letters, especially in intervocal position (see § 147). In Late ME long consonants were shortened and the phonemic opposition through quantity was lost.

The loss of long consonant phonemes has been attributed to a variety of reasons. Long consonants disappeared firstly because their functional load was very low (the opposition was neutralised everywhere except intervocally), and secondly, because length was becoming a prosodic feature, that is a property of the syllable rather than of the sound. In ME the length of the syllable was regulated by the lengthening and shortening of vowels; therefore the quantitative differences of the consonants became irrelevant.

§ 410. In addition to all these changes, which directly affected the system of phonemes, some consonants underwent positional changes which restricted their use in the language. The consonants [j] and [r] were vocalised under certain phonetic conditions — finally and before

consonants — during the ME and Early NE periods, though they continued to be used in other environments, e. g. initially: ME *rechen*, NE *reach*; ME *yeer*, NE *year*. Some consonants were lost in consonant clusters, which became simpler and easier to pronounce, e.g. the initial [x] survived in ME as an aspirate [h], when followed by a vowel, but was lost when followed by a sonorant; cf. OE *hē, hund*> ME *he* [he:], *hound* [hu:nd] (NE *he, hound*) and OE *hlǣne* which became ME *leene* ['le:nǝ] (NE *lean*); OE *hlystan* and ME *listen* ['listǝn] (with further simplification of the medial cluster in NE *listen*, as [t] was dropped between [s] and [n]).

In Early NE the aspirate [h] was lost initially before vowels — though not in all the words, e.g. ME *honour* [ho'nu:r]> NE *honour*, ME *hit* or *it*>NE *it*, but ME *hope* ['hɔ:pǝ]>NE *hope*.

In Early NE the initial consonant sequences [kn] and [gn] were simplified to [n], as in ME *knowen* ['knowǝn], *gnat* [gnat], NE *know*, *gnat*. Simplification of final clusters produced words like NE *dumb*, *climb*, in which [mb] lost the final [b].