

With all these disruptions it would not be surprising, perhaps, if a language gradually collapsed under the increasing strain. In fact, this does not happen. Language seems to have a remarkable tendency to restore its patterns and maintain its equilibrium. This is the topic of the next chapter.

## 12 Repairing the patterns Therapeutic changes

I consider that a man's brain originally is like a little empty attic and you have to stock it with such functions as you choose . . . It is a mistake to think that that little room has elastic walls and can distend to any extent.

A. Conan Doyle, *A study in scarlet*

Many people believe, like Sherlock Holmes, that the human brain has a finite capacity. Recent work on memory, however, suggests that such a view is mistaken. A healthy person's memory is indefinitely extendable provided that the information it contains is well organized, and not just a jumbled heap of random items.

Every language contains a finite number of patterns, as we have already pointed out. It is these patterns which enable humans to remember any language so apparently effortlessly. If the patterns were to break down, a person's brain would become overloaded with fragmented pieces of information. Efficient communication would become difficult, if not impossible.

As this chapter will show, language has a remarkable instinct for self-preservation. It contains inbuilt self-regulating devices which restore broken patterns and prevent disintegration. More accurately, of course, it is the speakers of the language who perform these adjustments in response to some innate need to structure the information they have to remember.

In a sense, language can be regarded as a garden, and its speakers as gardeners who keep the garden in a good state. How do they do this? There are at least three possible versions of this garden metaphor – a strong version, a medium version, and a weak version.

In the strong version, the gardeners tackle problems before they arise. They are so knowledgeable about potential problems, that they are able to forestall them. They might, for example, put weed-killer on the grass before any dandelions spring up and spoil the beauty of the lawn. In other words, they practise prophylaxis.

As everybody is aware, sounds differ from language to language. Each language picks a different set of sounds from the sum total which it is possible to produce with the human vocal organs. However, the sounds picked will not be a random selection. They tend to be organized in predictable ways. For example, there is a strong tendency towards symmetry: both vowels and consonants are generally arranged in pairs (or occasionally triples).

One common type of pairing found among consonants is the matching of a so-called voiceless sound (one in which the vocal cords are vibrated late) with a voiced sound (one in which the vocal cords are vibrated early). So in many languages, [p] has a partner [b], [t] has a partner [d], [k] has a partner [g], and so on. Each of these pairs is pronounced in exactly the same way, apart from the voicing.

voiceless	p	t	k
voiced	b	d	g

Now consider English fricatives, consonants in which the air flowing from the lungs is partially impeded at some point, resulting in audible friction. In the eighteenth century, there were eight fricatives:

voiceless	[f]	[θ]	[s]	[ʃ]	[h]
	fish	thin	song	ship	hen
voiced	[v]	[ð]	[z]		
	van	then	zebra		

At this time [f], [θ] and [s] all had voiced partners, whereas [ʃ] and [h] did not. This is a situation in which we might predict alteration, and one in which alteration did indeed occur – and is still occurring.

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In the medium version, the gardeners nip problems in the bud, as it were. They wait until they occur, but then deal with them before they get out of hand like the Little Prince in Saint-Exupéry's fairy story,<sup>1</sup> who goes round his small planet every morning rooting out baobab trees when they are still seedlings, before they can do any real damage.

In the weak version of the garden metaphor, the gardener acts only when disaster has struck, when the garden is in danger of becoming a jungle, like the lazy man, mentioned by the Little Prince, who failed to root out three baobabs when they were still a manageable size, and faced a disaster on his planet.

Which of these versions is relevant for language? The strong, the medium, the weak, or all three? First of all, we can dismiss the strong version, in which the gardener avoids problems by planning for them in advance. As far as language goes, we have not found any evidence for prophylactic change. Language does not show any tendency to avoid potential problems. In fact, quite the opposite is true: it tends to invite them, as the last chapter showed. There is considerable evidence, however, for both the medium and the weak versions of therapeutic change. In some cases, relatively minor deviations are smoothed away before any real disruptions occur. At other times, language is obliged to make massive therapeutic changes in order to restore some semblance of order, either because small imbalances have been allowed to creep in and expand, or because previous problems have been dealt with in a short-sighted way, causing in the long run more trouble than might have been expected. In this chapter we will look at some examples of pattern neatening, cases in which the gardeners keep problems at bay by dealing with them at an early stage. In the next chapter, we will look at more dramatic therapy, cases in which early actions have been unsuccessful or have in turn caused further problems.

### Neatening the sound patterns

A well-organized gardener tends to grow carrots and peas in neat rows. Language also seems to have a remarkable preference for neat, formal patterns, particularly in the realm of sounds.

Pattern neatening began in the nineteenth century, when a partner was created for [ʃ]. This is the sound [ʒ] found in words such as *pleasure*, *genre*, *beige*. The new sound came from two different sources. First, a *y*-sound [j] crept into the pronunciation of words such as *pleasure* and *treasure*. These had originally been pronounced as if they ended in *-zer* as in *geezzer*. When this *-zer* changed to *-zyer*, *zy* soon became [ʒ] in fast speech, then was adopted as the standard pronunciation. You can test the tendency of *zy* to become [ʒ] by saying rapidly several times: *Are these your books?* The second way in which [ʒ] crept into the language was via words borrowed from French, such as *beige*, *rouge*, *genre* and, later, *aubergine*, *garage* and others. If there had not been a 'gap' for the sound [ʒ], we would have expected the French words to be altered to fit in with existing English sounds, as usually happens with loan words.

Now that [ʃ] has a partner, what about [h], the only unpaired English sound? [h] shows no signs of acquiring a mate. Instead, it may be in the process of disappearing. It has already been lost in a number of British dialects, such as London Cockney, which has been *h*-less for a long time. Consider Uriah Heep's claim to humility in Charles Dickens' novel *David Copperfield*: 'I am well aware that I am the 'umblest person going. My mother is likewise a very 'umble person. We live in a numble abode.' Or look at items in the traditional Cockney Rhyming Alphabet: *A for 'orses* 'hay for horses', *I for lootin* 'high-falutin', *N for eggs* 'hen for eggs'. [h] would probably have been lost more widely were it not for the strong and somewhat illogical social pressure to retain it. Numerous nineteenth-century etiquette books condemned *h*-dropping as a mark of inferiority: 'Nothing so surely stamps a man as below the mark in intelligence, self-respect, and energy, as this unfortunate habit' huffed Henry Alford, Dean of Canterbury in 1864.<sup>2</sup> However, the fight to retain [h] may be a losing battle, since it is not only partnerless, but is also relatively weakly articulated and difficult to hear.

The English treatment of [ʒ] and [h], then, is an example of how language tends to neatening up patterns by aligning the consonants in pairs. The symmetry of vowel systems is perhaps even more dramatic. Broadly speaking, vowels are formed by moving the tongue around the mouth in such a way as never quite to touch anything else, such as the teeth or roof of the mouth, so

that the air flowing from the lungs is relatively unimpeded. A major distinction is that between **front** vowels, in which the highest part of the tongue is relatively far forward, and **back** vowels in which it is relatively far back. In addition, **high** vowels are those in which the tongue is relatively high, and **low** vowels are those in which it is relatively low. If we take X-ray photographs of the tongue producing the vowels [a] roughly as in *pot* and [u] as in *put*, we can then make a note of the highest point of the tongue as each vowel is made (see Figure 12.1). As can be seen, these points form a rough triangle.

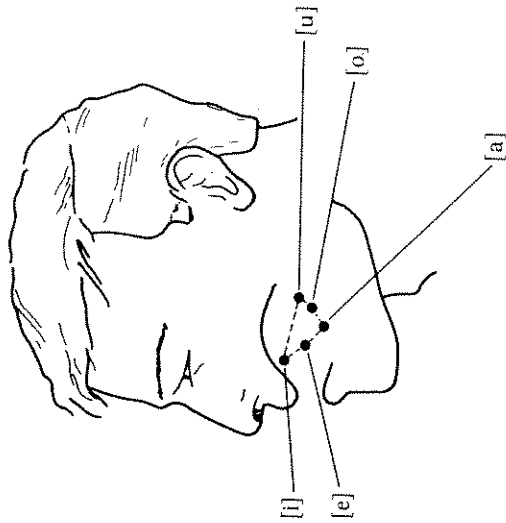


Figure 12.1 Sketch of tongue position in the vowels [i], [e], [a], [o], [u]

Now an interesting thing about vowel systems is that front vowels tend to be paired with back vowels. In a system with five vowels like the one shown in Figure 12.2, [i] will be paired with [u], and [e] with [o]. If one of a pair moves, the other is likely to follow a few years or decades later. For example, if [e] moves closer to [i], [o] will follow suit by moving closer to [u] (see Figure 12.3). The situation is reminiscent of two young lovers who cannot quite let one another out of each other's sight, or perhaps a better

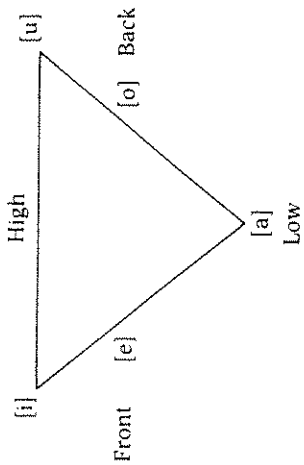


Figure 12.2 Vowel triangle

image would be that of a detective shadowing a suspect. The suspect moves up the street, and so does the detective, though keeping to the other side of the road, so the two never actually collide. An example of this type of shadowing is seen in the Martha's Vineyard change (Chapter 4) – it is not chance that [ai] and [au] are moving around together. Once one of these diphthongs starts to move, then it is almost inevitable that the other will follow suit.

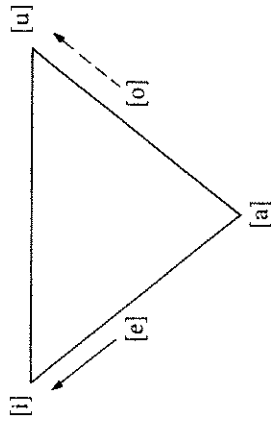
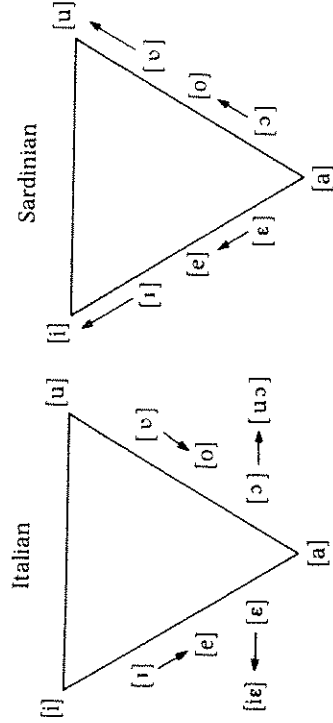
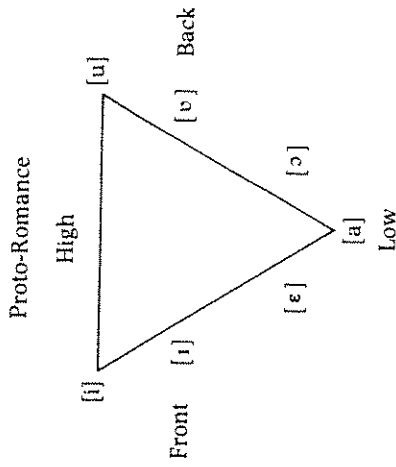


Figure 12.3 Vowel pairing

A more dramatic example of this phenomenon is seen in the early history of the Romance languages.<sup>3</sup> The various Romance languages each made different alterations in the vowels of Proto-Romance, the provincial Latin from which they were descended, yet each of them maintained parallelism between the front and back vowels. Compare, for example, Italian, in which both front and back vowels were lowered, with Sardinian, in which they were raised (see Figure 12.4).



Proto-Romance	became	Italian	Sardinian
[pira]	↑	[pera]	[pira]
[gula]	↑	[gola]	[gula]
[mele]	↑	[miele]	[mele]
[dolo]	↑	[duolo]	[dolo]

Figure 12.4 Vowel pairing in the Romance languages

The shutting around of sounds in company with one another is something to which speakers are usually totally oblivious. They are, however, generally more aware of pattern neatening when it involves words and word endings, though they are perhaps likely to treat the phenomenon as disruption rather than therapy.

### Tidying up dangling wires

The human mind often behaves like 'an electrician who is summoned to sort out a dangling wire and connects it up to the first other dangling wire that he or she finds', notes one linguist, commenting on the tendency of human beings to tidy up their language.<sup>4</sup>

This predilection for clearing away loose ends is evident in the treatment of English plurals. Earlier (Chapter 1), we mentioned a journalist who experienced a 'queasy distaste' whenever she heard the word *media* used as a singular noun. This plural tends to be treated as singular because it does not end in -s like most others. The reverse also happens, with singular nouns ending in -s treated as plural. The word *pea* was originally *pease*, as in the rhyme:

Pease pudding hot, pease pudding cold  
Pease pudding in the pot nine days old.

It was gradually assumed that the form *pease* was plural, and a new singular *pea* came into being.

Although upsetting to individuals who do not want their language to change, these examples are part of a long-term tidying-up process which has been affecting English plurals for centuries.<sup>5</sup> In Old English, there were a variety of different endings to express the concept of 'more than one': for example, *cwene* 'queens', *scipu* 'ships', *hundas* 'dogs', *suna* 'sons', *eagan* 'eyes', *word* 'words'. Over the centuries these were gradually whittled down. First, they were narrowed down to a choice mainly between -s and -n. In Shakespeare's time we still find forms such as *eyen* 'eyes', *shooen* 'shoes', *housen* 'houses'. Now -s is the normal plural, apart from a few minor exceptions such as *men*, *sheep*, *oxen*. (It is slightly misleading to say that the normal plural is -s, since it is in fact [s] after voiceless sounds, [z] after voiced ones, and [ɪz] after affricates and

sibilants, as in *cats*, *dogs*, *horses*, respectively. For sibilants and affricates, see p. 262.)

A similar tidying-up process is apparent in English verbs over the past millennium. Figure 12.5 shows the confusing alternations in the parts of the Old English verbs *slāpan* 'sleep' and *crēapan* 'creep', beside their current replacements.

Infinitive	Past (sg)	Past (pl)	Past participle
<i>slāpan</i> ↓ <i>sleep</i>	<i>slēp</i>	<i>slēpon</i> ↓ <i>slept</i>	<i>slāpen</i>
<i>crēapan</i> ↓ <i>creep</i>	<i>crēap</i>	<i>crūpon</i> ↓ <i>crept</i>	<i>crōpen</i>

Figure 12.5 Changes in the verbs *sleep* and *creep*

This type of neatening is often referred to under the general heading of **analogy** – the tendency of items that are similar in meaning to become similar in form. The term analogy is somewhat vague, and has been used as a general catch-term for a number of different phenomena: sound change may even be a type of analogy, as discussed in Chapter 6. It may be more useful to note two general principles behind the pattern neatening:

- 1 There should be one form per unit of meaning. For example, the notion 'plural' or 'past' should each be expressed by a single ending, not a great number of them. This is sometimes known as the 'principle of isomorphism'.<sup>6</sup>
- 2 Alternation in the form of words should be systematic and easily detectable. For example, the rules which govern the formation of plurals and past tenses should be easy to work out by someone learning the language. A common way of expressing this is to say that language minimizes **opacity** in that it lessens confusing 'opaque'

But soon after the year 1000, two changes became widespread, which in the long run affected impersonal verbs. First, endings were gradually lost off the end of nouns. Second, there was an increasing tendency to use subject-verb-object word order, which is standard today, even though it was not fixed until well after the first millennium. This meant that sentences such as:

Achilles chaunced to slay Phyllis

The kyng dremed a merveillous dreme.

were misinterpreted as simple subject-verb-object sentences. In fact, as was obvious when such sentences began with a pronoun – *Him chaunced to slay Phyllis*, *Him dremed a merveillous dreme* – *chaunced* and *dremed* and many others were really impersonal verbs. But, since these verbs were no longer in line with others in the language, speakers subconsciously misinterpreted them, and so neatened the syntactic patterns of language. (The way in which this reanalysis possibly first crept into the language was discussed in Chapter 7.)

The development of French negatives illustrates the ideal of 'one form per unit of meaning', where a two-part negative is being reduced to one.<sup>8</sup> French *ne* (from Latin *non* 'not') was originally the only negative, and was placed in front of the verb. But quite early on, it became reinforced mainly by the word *pas* ('step') after the verb, which was added for emphasis: 'not a step' (somewhat like English *not at all*). Over the centuries, the emphatic negative became the normal one:

Je ne sais pas

'I don't know.'

Eventually, the reinforcement *pas* came to be thought of as the main negative, and the preceding *ne* was regarded as less essential. This has led to the omission of *ne* in casual speech, particularly with some common lexical items (Chapter 7):

Je sais pas

'I do not know.'

French negatives are now therefore on their way back to the ideal of 'one form, one meaning', but with a new form taking up the negative function.

situations, and maximizes transparency, in that it moves towards constructions which are clear or 'transparent'.

In other words, language tends to eliminate pointless variety, and prefers constructions which are clear and straightforward. These principles work not only in the case of word endings, as in the examples of plurals and past tenses above, but also in more involved constructions. Let us examine some examples of these.

### Smoothing out the syntax

People do not usually realize they are tidying up chunks of syntax. This is because the tidying up often happens by a process of misinterpretation. Let us explain this by an analogy. During Alice's adventures in Wonderland, the duchess throws Alice her baby to look after. As soon as Alice examined it properly, she discovered the baby was in fact a pig – and might well have been a pig all along. She had assumed it to be a baby because she had expected to see a baby in the duchess's arms. A similar phenomenon occurs in language. Speakers tend to misanalyse a construction which has become confusing or unclear in terms of a more familiar one with superficial similarities.

This happened with so-called impersonal verbs in English,<sup>7</sup> verbs which have an impersonal pronoun as their subject, of which we now find only sporadic examples, such as:

It is raining

It seems Matthew is ill.

Many more verbs once behaved in this way, as:

It chaunced him that as he passed through Oxfoorde . . . (1568).

When these verbs were in frequent use, it was possible to put the object in front of the verb, in the place of the pronoun *it*, as:

By fortune hym happynd to com to a fayre courtelage (c. 1470)

'By chance it happened that he came to a fair courtyard.'

Him chaunst to meet upon the way a faithlesse Sarazin (c. 1590)

'It chanced that he met upon the way a faithless Sarazin.'

Changes which neaten up the syntax, therefore, seem to be further examples of the principles already discussed: the tendency to eliminate pointless variety, and a preference for constructions which are clear and straightforward. Exceptions, however, are not inevitably smoothed away. Sometimes, humans cope with dangling wires by inventing a new use for them, as will be discussed below.

### Making use of old junk

Many people must at some point have discovered some item of old junk in an attic, a leftover from the past that has no apparent use. Sometimes, it gets given away again. But at other times, it is left around until one day, a good idea comes: 'Ah! I'll use it for my spare door-keys', or similar. Language behaves in much the same way. It always contains some useless thingummyjigs from the past. Sometimes, these relics just fade away. At other times, the human mind thinks up a use for them. Consider the following sentences:

There don't be nothing in church now but sinners  
The cabbage bees the kind they have now.

The use of *be* in place of standard *am*, *is*, *are* is often associated with Black English in America. Most people assume it is a remnant of the English spoken on plantations by black speakers a century or so ago. Its exact origins are disputed. But two facts are clear: it is still around, and its use is variable.

There is a widespread belief that this is an old relic, used primarily in casual speech, which is fading away. However, a study of black speakers in Texas showed that far from dying out, it is on the increase among young Texan town-dwellers. A change is taking place in which the gradual decrease of *be* has been reversed, and its use is now accelerating.<sup>9</sup> How has this happened?

The young Texans (age 12-13), it turns out, had acquired the variable *be*, but not understood why it was variable. They had therefore given it a role. In their speech, it was used to describe habitual actions:

He big, and he always *be* fighting  
You know Mary, I *be* messing with her ('she's my girlfriend').

A later study found that these schoolchildren may not have been the first to use *be* for habitual actions.<sup>10</sup> Some older inhabitants did, but the difference between generations was pronounced. None of the urban informants born before 1944 had *be* + *ing*, but all of those born after this date did so, as in the following sentences said by a grandmother born in 1945:

I *be* doing those doctors (cleaning their offices)  
We *be* watching a cute little guy come in.

These Texans, therefore, show how a useless relic can be rationalized, and given a new role.

Useless junk is also re-utilized in Afrikaans.<sup>11</sup> There were two genders in seventeenth-century Dutch, the ancestor of Afrikaans. A common gender, covering the old Indo-European masculine and feminine, and neuter. Adjectives attached to singular nouns of common gender mostly added *-e*, but those attached to neuter nouns mostly did not:

in een *lange* ry (common: 'in a long row')  
een *zwart* mantelken (neuter: 'a black small-cloak').

In Afrikaans, the Dutch gender system collapsed. *-e* was therefore just so much junk, variably and randomly added to adjectives. So speakers invented a role for it: it came to be added to complex adjectives, such as *geheim* (*ge*-heim) 'secret', *stadig* (*stad*-ig) 'slow', *openbaar* (*open*-baar) 'public', but not to simple ones such as *diep* 'deep', *geel* 'yellow', *vry* 'free'.

This re-utilizing of old junk has been given a name, 'exaptation', which is already a standard term in evolution, but has only recently been incorporated into linguistics.<sup>12</sup>

### Unattainable equilibrium

The examples discussed in this chapter show the extraordinarily strong tendency of language to maintain and neaten its patterns. So striking is this tendency that, a few years ago, a number of linguists believed that simplification was the most important

motivating force behind language change – and a few people seriously wondered why languages never ended up maximally simple. It has become clear, however, that there are natural disruptive forces at work, as we discussed in the last chapter. In addition, attempts by the language to restore the equilibrium can in the long run sometimes lead to quite massive, unforeseen disruptive changes, which trigger one another off in a long sequence. This type of chain reaction is the topic of the next chapter.

## 13 The Mad Hatter's tea-party

### Chain reaction changes

'I want a clean cup,' interrupted the Hatter: 'Let's all move one place on.'

He moved on as he spoke, and the Dormouse followed him; the March Hare moved into the Dormouse's place, and Alice rather unwillingly took the place of the March Hare. The Hatter was the only one who got any advantage from the change: and Alice was a good deal worse off, as the March Hare had just upset the milk-jug into his plate.

Lewis Carroll, *Alice in Wonderland*

Sometimes changes affect languages in a relatively minor way. Natural tendencies, exaggerated by social factors, cause disruptions, then the language restores the equilibrium again. The situation is reminiscent of day-to-day house cleaning or simple weeding in a garden, when minor problems are quickly eradicated.

At other times, however, the problem is not so easily remedied. An apparent therapeutic change can trigger off a set of wholesale shifts in which the various linguistic elements appear to play a game of musical chairs, shifting into each other's places like the participants at the Mad Hatter's tea-party. Sound shifts are better studied than syntactic shifts. In this chapter, therefore, we shall begin by looking at sound shifts. Afterwards, we shall discuss a possible syntactic shift.

### Shifting sounds

For the sake of illustration, this section outlines two well-known examples of chain shifts involving sounds, one of consonants, the other of vowels.

The first example concerns the set of sound changes known as Grimm's Law.<sup>1</sup> These were described (but not discovered) by Jacob Grimm of folk-tale fame in his *Deutsche Grammatik*, published in the early nineteenth century. These far-reaching consonant



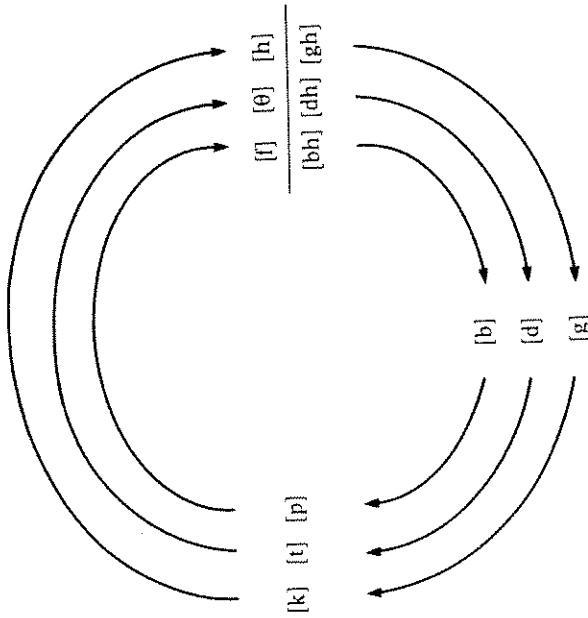


Figure 13.1 Grimm's Law

Indo-European	became	English
[bhero:] 'I carry'	→	[b] bear
[dedhe:mi] 'I place'	→	[d] do
[ghans] 'goose'	→	[g] goose
No sure examples	→	[pʔ]
[dekm] 'ten'	→	[t] ten
[genos] 'tribe'	→	[k] kin
[pater] 'father'	→	[f] father
[treys] 'three'	→	[θ] three
[kornu] 'horn'	→	[h] horn

Figure 13.2 Grimm's Law: examples

changes occurred at some unknown date in the Germanic branch of the Indo-European languages, which includes English. They split the Germanic branch off from the other languages, and were certainly complete before our first written records of this branch of Indo-European.

In Grimm's Law, an original Proto-Indo-European [bh] [dh] [gh] became [b] [d] [g]; [b] [d] [g] became [p] [t] [k]; and [p] [t] [k] became [f] [θ] [h] (see Figures 13.1 and 13.2).

The proposed Proto-Indo-European sounds are the standard reconstructions of the language we assume to have existed around 4000 BC, the ancestor of a number of European and Indian languages, as discussed in Chapter 2. Note that even if the new, controversial 'glottalic' reconstruction of Proto-Indo-European turns out to be correct (Chapter 2) there was still a chain shift.

A second well-known musical-chair movement is one which occurred in the English long vowels. It started around the fifteenth century, and is generally known as the Great Vowel Shift (see Figures 13.3 and 13.4).<sup>2</sup>

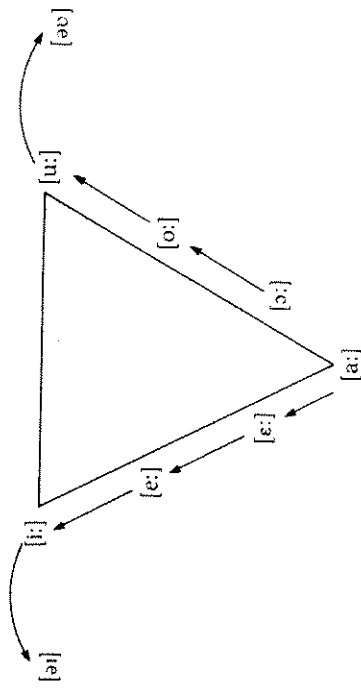


Figure 13.3 The Great Vowel Shift

In this, all the long vowels changed places – though there is still considerable controversy as to which vowel was the 'Mad Hatter' which started this general shift.

These dramatic shifts totally altered the appearance of the languages concerned within the course of perhaps a couple of centuries. How and why did they occur?

Great Vowel Shift				
Middle English	became	Early Modern English	became	Modern English
[a:] 'name'	→	[e:]	→	[eɪ]
[ɛ:] 'meat'	→	[e:]	→	[i:]
[e:] 'meet'	→	[i:]	→	[i:]
[i:] 'ride'	→	[a:]	→	[aɪ]
[ɔ:] 'boat'	→	[o:]	→	oo/oo
[o:] 'boot'	→	[u:]	→	[u:]

Figure 13.4 The Great Vowel Shift: examples

### Push chains or drag chains?

The biggest problem, with any chain shift, is finding out where it starts. Suppose we noticed that the guests at the Mad Hatter's tea-party had all moved on one place. After the event, how could we tell who started the shift? The Mad Hatter, Alice or the March Hare? Essentially, we need to know the answer to one simple question. Were most of the sounds dragged, or were they pushed? Or could they have been both dragged and pushed? The terms **drag chain** and **push chain** (*chaîne de traction*, and *chaîne de propulsion*) are the picturesque terms coined by André Martinet, a famous French linguist, who in 1955 wrote a book, *Economie des changements phonétiques*,<sup>3</sup> which attempted to account for these types of shift. According to him, in a drag chain one sound moves from its original place, and leaves a gap which an existing sound rushes to fill, whose place is in turn filled by another, and so on. In a push chain, the reverse happens. One sound invades the territory of another, and the original owner moves away before the two sounds merge into one. The evicted sound in turn evicts another, and so on (see Figure 13.5).

The question as to whether we are dealing with a drag chain or a push chain, or even both together, may seem trivial at first sight. But since these chains have a more dramatic effect on the language structure than any other kind of change, it is of considerable importance to discover how they work. In recent years, there has been some doubt as to whether both types of chain

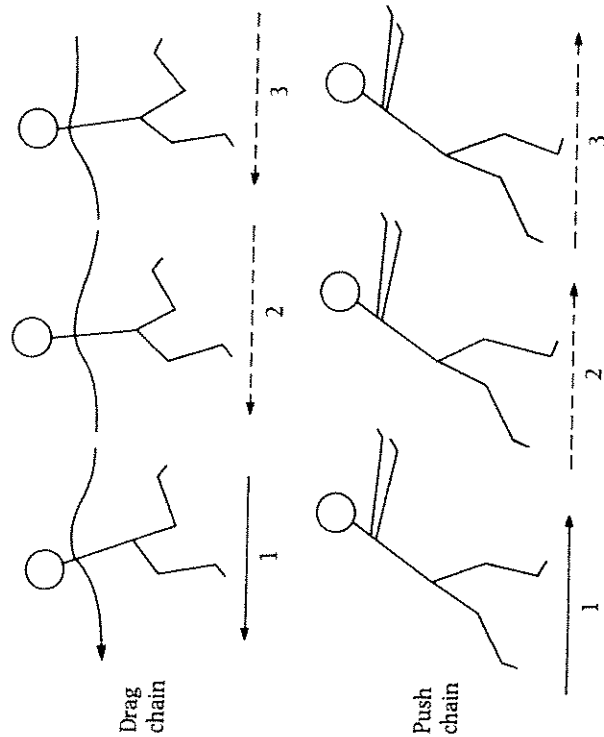


Figure 13.5 Drag and push chains

really exist. Most linguists are happy with the notion that one sound can fill a gap left by another, but they are less happy with the notion that one can actually push another out of its rightful place. Unfortunately, we cannot solve this problem by looking at the shifts mentioned above – Grimm's Law and the Great English Vowel Shift. As we noted, Grimm's Law was already complete long before our first written records of the Germanic branch of Indo-European, and, as far as the Great Vowel Shift is concerned, there seems to have been so much fluctuation and variation in the vowel system from around 1,500 onwards, that the exact chronological order of the changes is disputed. Let us therefore examine some better-documented musical-chair shifts in order to see if both types of chain are in fact possible. This may shed light on Grimm's Law and the Great English Vowel Shift.

Sure examples of drag chains are relatively easy to find. A notable example occurs in German around AD 500, in the so-called High

German or Second Consonant Shift, illustrated in Figure 13.6.<sup>4</sup> This is called the second shift because Grimm's Law, outlined in the previous section, is generally known as the first shift. It was not nearly as sweeping as the earlier shift, however, and appears to have petered out before completing itself. Essentially, [θ] became [d], [d] became [t], and [p] [t] [k] became [pf] [ts] [kx] (see Figure 13.6).

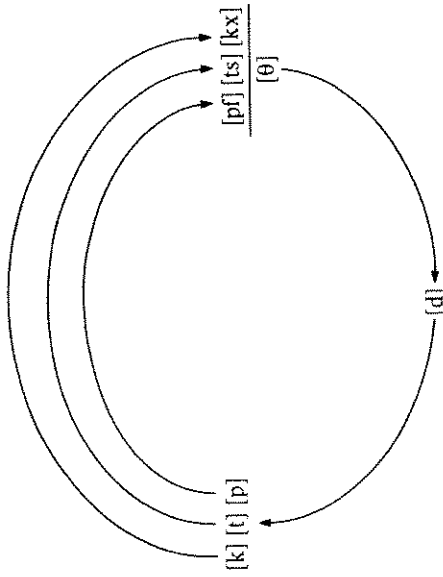


Figure 13.6 High German or Second Consonant Shift

The chronology of this change has been relatively well established: [p] [t] [k] were the first to change, around AD 500. [d] changed in the seventh century, filling the empty space left by [t]. Some time after, [θ] moved into the space left by [d]. So we have a clear example of a drag chain, with sounds apparently being dragged into filling gaps in the system. English, incidentally, did not undergo this second shift, so the English translation of the examples in Figure 13.7 shows the unshifted sounds.

The shift described above is a particularly clear example of a consonantal drag chain, though numerous others exist, from a wide variety of languages, including one in Chinese which performed a complete circle, in the sense that each of three varieties of *s* changed into another, while the overall inventory of sounds remained the same.<sup>5</sup>

Second Consonant Shift		Modern German		English
[p]	→ [pf]	[pf]/[f]		'pepper'
[t]	→ [ts]	[ts]/[s]		'tongue'
[k]	→ [kx]	[kx]/[x]		'break'
[d]	→ [t]	[t]	[tu:n]	'do'
[θ]	→ [d]	[d]	[drai]	'three'

Figure 13.7 High German or Second Consonant Shift: examples

Drag chains involving vowels are also fairly easy to find. A change which has been relatively firmly dated is one in the Yiddish dialects of northern Poland (see Figure 13.8).<sup>6</sup> Here, [u:] changed to [i:], followed by [o:] to [u:].

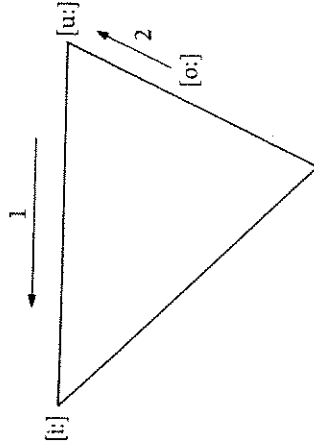


Figure 13.8 Drag chain in Yiddish dialect of northern Poland

Let us now go on to consider push chains. Examples of these are harder to find, and some people have denied their existence altogether on the grounds that if [e] became [i], it could not then push [i] out of the way, because it would already be [i].<sup>7</sup> In other words, sounds could merge together, it was claimed, but not push one another out of the way. But this objection only holds if sounds change in sudden leaps. Since there is now plenty of evidence that vowels move gradually, it is possible for [e] to move partially towards [i], and for [i] to move away a little in response. It is less easy to see how consonants could behave in this way, and there is not (to my

knowledge) a convincing example of a push chain involving consonants. However, a good case has been put forward for a push chain involving vowels in the so-called Great Vowel Shift of Late Middle Chinese, which began in the eighth century AD.<sup>8</sup> The basic movement is shown in Figures 13.9 and 13.10. There is fairly firm evidence that the changes occurred in the sequence shown in Figure 13.9 and over the time scale indicated in Figure 13.11.

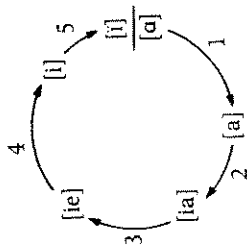


Figure 13.9 The Great Vowel Shift of Late Middle Chinese

Late Middle Chinese	became	Standard Mandarin
[ɑ]	→	[a]
[a]	→	[ia]
[ia]	→	[ie]
[ie]	→	[i]
[i]	→	[ɿ]
		[ɤu]
		[ɕiɑu]
		[tɕie]
		[tɕi]
		[tɕɿ]

Figure 13.10 The Great Vowel Shift of Late Middle Chinese: examples

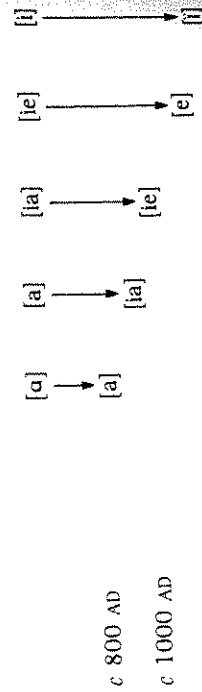


Figure 13.11 Chronology of the Great Vowel Shift of Late Middle Chinese

We may conclude, then, that drag chains and push chains both exist, though drag chains appear to be commoner than push chains. This raises the possibility of whether both types can be combined into one chain shift. Could a chain shift perhaps start in the middle, so that it dragged some sounds and pushed others, as in Figure 13.12? Could [e] in Figure 13.12 be the villain of the piece and both push [i] and drag [a]? The answer is unclear, though it is possible that the answer is 'yes', since if Chaucer's rhymes are genuine rhymes, and not near misses, there is some evidence that he sometimes made [e:] rhyme with [i:]. If this spelling reflects the genuine pronunciation, then his work contains the earliest hints of the English Great Vowel Shift, indicating that it perhaps began in the middle of the chain – and some work on the topic supports this suggestion.<sup>9</sup>

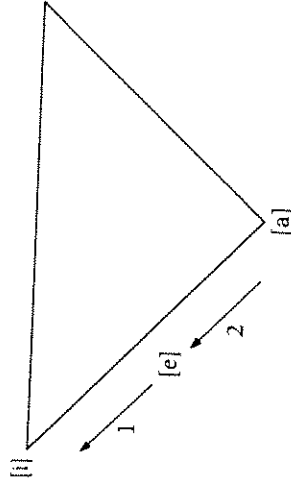


Figure 13.12 Combined push and drag chain

The situation may soon be clearer. Two new English vowel shifts are taking place at the current time, one in Great Britain, the other in the USA. These will be outlined below. They indicate that drag chains and push chains can indeed be mixed. They also show that language retains its ability to maintain its equilibrium even in the modern world, where speakers come into contact with a confusing mix of different pronunciations.

### Estuary English vowels

The current British shift is a feature of so-called 'Estuary English', the area around the Thames Estuary.<sup>10</sup> The Estuary English

accent is somewhere between the pronunciation thought of as the educated standard, and a London Cockney one.<sup>11</sup> Traditionally, a Cockney is someone born within earshot of the bells of Bow, an area in East London. Recently, Estuary English has begun to spread far beyond its original homeland.

Superficially, the most noticeable feature of Estuary English is possibly the extensive use of a glottal stop in place of [t] (explained on p. 40), as in 'Be'y 'ad a bi' of bi'er bu'er' for 'Betty had a bit of bitter butter.' Yet the vowel changes may cause more problems for outsiders, since each vowel appears to be moving into the slot originally occupied by a neighbour. These changes are taking place in British diphthongs, or 'gliding vowels', sounds in which one vowel slides seamlessly into another, as in 'How now brown cow' which contains the diphthong [au] in most older pronunciations.

Now consider the following words:

<i>mean</i> [mi:n]	<i>moon</i> [mu:n] <sup>12</sup>
<i>main</i> [me:n]	<i>moan</i> [mu:n]
<i>mine</i> [mi:n]	<i>mound</i> [maund]

On a vowel triangle, the first part of each diphthong would be placed as in Figure 13.13 in a conventional (older) pronunciation (slightly simplified).

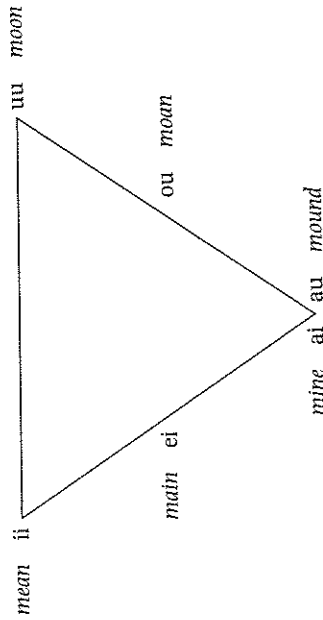


Figure 13.13 English diphthongs conventional (older) pronunciation

But listen to a schoolboy or schoolgirl pronouncing these words today. The phrases in the first column (below) would probably sound somewhat like those in the second:

- Don't be *mean* → Don't be *main* [me:n]
- The *main* road → The *mine* [mi:n] road
- It's *mine* → It's *moyne* [mo:n]
- See the *moon* → See the *moan* [mu:n]
- Don't *moan* → Don't *moun* [mu:n]
- A little *mound* → A little *meund* [meund]

The slip-sliding vowels can be represented in a (simplified) diagram as in Figure 13.14.<sup>13</sup>

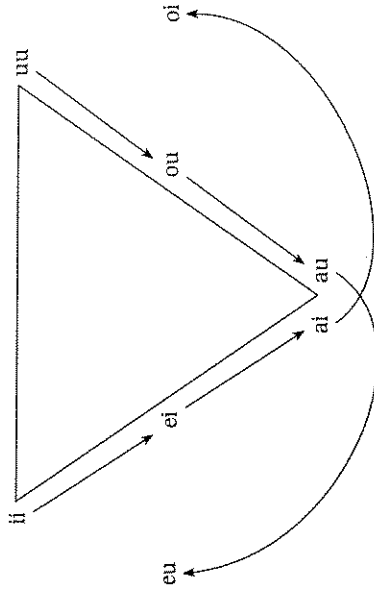


Figure 13.14 Estuary English vowels

No wonder, perhaps, that the older generation has trouble comprehending the younger, even though this shift has now spread far beyond teenagers. 'The prime minister descended into estuary English in an attempt to reach out to the masses', complained a newspaper article, 'Should our leaders be "plumbing down" in this estuarine way?'<sup>14</sup>

### American Northern Cities Shift

Y'hadda wear *sacks*, not *sandals*.

The speaker, Jackie, meant 'socks', not 'sacks'.<sup>15</sup> She was a young woman who agreed to take part in experiments which explored the so-called 'Northern Cities Shift', a series of changes taking place in the USA in all major northern cities from the White Mountains

in Vermont westward: Rochester, Syracuse, Buffalo, Cleveland, Detroit and Chicago (Figure 13.15).

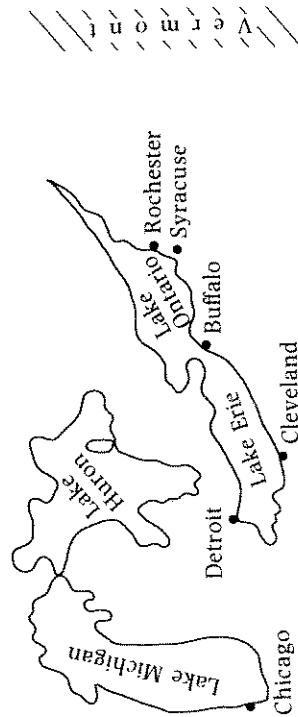


Figure 13.15 Cities in the American Northern Cities Shift

The American Northern Cities Shift is arguably 'the most complex chain shift yet recorded within one subsystem',<sup>16</sup> according to William Labov who has studied it in depth. It is also unusual in that it involves short, rather than long, vowels, since 'in the past millennium most of the rotations have affected the long vowels; the short vowels have remained relatively stable'.<sup>17</sup>

The Northern Cities Shift is essentially an urban phenomenon: the larger the city, the more advanced the change.<sup>18</sup> *Socks* pronounced as *sacks* may be the alteration of which non-Americans are most aware, but it may not have been the earliest. The first may have been a move of the vowel in *sacks*, upwards towards the vowel in *six*. A number of 'slips of the ear', speech mishearings, have been noted, such as *Ian* heard as 'Ann', *cinnamon cake* as 'salmon cake', *singles* as 'sandals'. These mistakes were all made by people who knew about the change, and were trying to make sense of the words they heard around them: they were all assuming that the alteration had already taken place in the speech of those they were talking to.

These two linked changes – [a] > [i], then [o] > [a], may have been the earliest changes in a drag chain:

a → i    Ann → inn (Ian)  
o → a    socks → sacks

Some other links in the shift may be a push chain, with *Bess* sounding like 'bus', and the vowel in *bus* moving backward to sound like *boss*:

e → ʌ    Bess → bus  
ʌ → o    bus → boss

According to William Labov, the Northern Cities Shift has already described a complete circle, comprised partly of drag, partly of push, chains. But it has not yet fully affected all speakers. It will be interesting to see if the circle becomes more general in the course of the twenty-first century.

### Typological harmony

So far, we have confined our discussion of Mad Hatter's tea-party movements to sounds. What about syntax?

Larger constructions seem to be more stable and less promiscuous in that they do not leap into each other's chairs with such apparent alacrity as sounds. However, our knowledge of syntactic change is still sketchy, and there may be more covert leavings, pushings and draggings than we are aware of. Certainly there is some evidence for the existence of a certain type of drag chain in syntax. This involves the notion of **typological harmony**.<sup>19</sup>

As we noted in Chapter 2, it is possible – with some reservations – to divide the languages of the world into a number of different types. Each language type has certain constructions which are typically associated with it. Just as an animal with wings is likely to have claws also, so certain constructions are frequently found associated together in languages. An OV language (one in which the object normally precedes the verb, such as Japanese, Turkish or Hindi) tends to differ in certain predictable ways from a VO language (a language in which the object usually follows the verb, such as English). For example, English has prepositions while OV languages often have post-positions. So *with care* might be *care with* in an OV language. English places its auxiliaries in front of its main verbs, OV languages mostly do the reverse: so *Archibald must wash* would be *Archibald wash must* in an OV language. And so on. Over the centuries languages tend to alter their basic type. English, together with French, Greek and a variety of

other languages, has changed from an OV to a VO language. Mandarin Chinese may be moving in the reverse direction, from a VO language to an OV one. When a typological shift takes place, it is not just a shift of verbs and objects, but also of all the other constructions associated with that type. Languages seem to have a need to maintain typological harmony within themselves.

However, in spite of considerable work on the subject, there is no overall agreement as to why this harmony is necessary. One view is that it is related to certain comprehension problems which are likely to arise if the constructions are not in harmony<sup>20</sup> – though difficulties for this theory are posed by languages such as German which involve a strange mixture of different typological characteristics. In German, objects are placed after verbs in main clauses, but before them in subordinate clauses. It is possible – though not definite – that German is in a state of transition, and will eventually end up, like most other European languages, with objects consistently placed after the verb.

There is even less agreement as to the order in which the harmonizing occurs. At one time, it was suggested that the first event was a switch over of the order of verb and object, which in turn dragged round all the related constructions. This has turned out to be wrong. In ancient Greek, at least, the reordering of verb and object occurred relatively late in the chain of events involved in the switch over.<sup>21</sup> In several languages, among them Greek, Latin, perhaps English, Mandarin Chinese and certain Niger-Congo languages, the earliest changes seem to have involved a switching round of complex sentences – sentences with more than one clause – then later affected simple sentences and the order of verbs and objects.<sup>22</sup>

All we can perhaps conclude at this time is that we appear to have a series of linked changes which are reminiscent of a drag chain, though the exact nature of these links remains a question for the future.

## Overview

Let us now summarize our conclusions on the causes of language change.

Change is likely to be triggered by social factors, such as fashion, foreign influence and social need. However, these factors cannot take effect unless the language is 'ready' for a particular change. They simply make use of inherent tendencies which reside in the physical and mental make-up of human beings. Causality needs therefore to be explored on a number of different levels. The immediate trigger must be looked at alongside the underlying propensities of the language concerned, and of human languages in general.

A language never allows disruptive changes to destroy the system. In response to disruptions, therapeutic changes are likely to intervene and restore the broken patterns – though in certain circumstances therapeutic changes can themselves cause further disruptions by setting off a chain of changes which may last for centuries.

Above all, anyone who attempts to study the causes of language change must be aware of the multiplicity of factors involved. It is essential to realize that language is both a social and a mental phenomenon in which sociolinguistic and psycholinguistic factors are likely to be inextricably entwined. 'Nothing is simple' might be a useful motto for historical linguists to hang in their studies, as one researcher aptly remarked.<sup>23</sup>