> I conceive that, if [the process is legal] and [the process is in a right court], yet if [the Judges of the Court are not assisting His Majesty], [His Majesty cannot give judgment]. *16.23*

The sentence (16.23) can be got by filling the gaps in the sentence-functor

> I conceive that, if ϕ_1 and ϕ_2, yet if ϕ_3, ϕ_4. *16.24*

Many sentences can be paraphrased in a simple way to elicit short constituent sentences. (In quite a few cases, linguists would regard such a paraphrase as bringing to the surface an underlying constituent.)

Exercise 16C. Paraphrase the following so as to find constituent sentences:

1. I am aware of your intention to sue.
2. He regrets not having married Suzy.
3. He completed his task before the end of the week.
4. An accident to the train resulted from the failure of its brakes.
5. Your Majesty may be pleased to take notice of the great mischiefs which may fall upon this kingdom if the intentions which have been credibly reported, of bringing in Irish and foreign forces, shall take effect.

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17. Some Basic Truth-functors

In this section we shall introduce the five truth-functors most commonly used in logic; each of them has a special symbol to represent it. At the same time we shall mention some English expressions which can be paraphrased by means of these truth-functors.

(i) The *negation* truth-functor 'It is not true that ϕ.'

In symbols, this truth-functor is written '$\neg\phi$'. It yields true sentences precisely when false sentences are put for 'ϕ', so that its truth-table is

ϕ	$\neg\phi$	*17.1*
T	F	
F	T	

'$\neg\phi$' is called the *negation* of the sentence ϕ.† '$\neg$' is pronounced 'not'.

Here are some other ways in which English expresses the sense of '$\neg$':

> I am **not** a Dutchman. *17.2*
> ¬I am a Dutchman.

> She **didn't** say anything. *17.3*
> ¬she said something.

> George Washington **never** told a lie. *17.4*
> ¬George Washington sometimes told a lie.

> I **hardly** think he will reach Athens in that old bus. *17.5*
> ¬I think he will reach Athens in that old bus.

> It **isn't as if** he needs the money. *17.6*
> ¬he needs the money.

None of these paraphrases is perfect. For example, the first sentence of (17.3) implies that there is some woman under discussion – for otherwise we have referential failure. But 'She said something' is false if there is no woman to be referred to by 'she', so that in such a situation the second sentence of (17.3) is true.

Similarly if there is no old bus in the situation, then the first sentence of (17.5) is false while the second is true.

In fact, when one adds words such as **not** or **never** to an English sentence, this cancels some of the implications of the sentence, but it usually leaves other implications intact. A famous example is

> I have not stopped beating my wife. *17.7*

By contrast the symbol '$\neg$' cancels all the implications of the original sentence.

Since they are not completely accurate, paraphrases like (17.2)–(17.6) may lead to mistakes in logic. In practice this happens very rarely, and the

† In this sentence, the symbol 'ϕ' is being used to talk about sentences, not to mark a hole where a sentence can be put. Thus the two occurrences of 'ϕ' here are not free.