ϕ	It's true that ϕ.
T	T
F	F

16.14

Similarly the sentence-functor

Either it's true that ϕ or it's not true that ϕ. 16.15

has a truth-table. The sentence variable 'ϕ' must be replaced by the same declarative sentence at both places, so as to yield sentences like

Either it's true that high taxes are inflationary or it's not true that high taxes are inflationary. 16.16

High taxes may be inflationary, or they may not be; (16.16) is equally true in either case. The truth-table is accordingly:

ϕ	Either it's true that ϕ or it's not true that ϕ.
T	T
F	T

16.17

However, not every sentence-functor has a truth-table. Sometimes the truth-values of the constituent sentences are not enough by themselves to determine the truth-value of the whole. For example, the sentence-functor

I know that ϕ. 16.18

has only the partial truth-table:

ϕ	I know that ϕ.
T	–
F	F

16.19

Nobody can know something that is false; hence the second row of (16.19) shows Falsehood. But there are truths which I know and truths which I don't know, and this compels us to leave the first row blank. For the sentence-functor

It is often asserted that ϕ. 16.20

the partial truth-table is even more sparse:

ϕ	It is often asserted that ϕ.
T	–
F	–

16.21

A sentence-functor which has a truth-table is called a *truth-functor*; thus (16.3), (16.13) and (16.15) are truth-functors, while (16.18) and (16.20) are not. The next few sections will be entirely concerned with truth-functors. Sentence-functors that are not truth-functors are much harder to handle; we shall consider some examples in section 42.

Exercise 16B. Write out a truth-table or a partial truth-table (as appropriate) for each of the following sentence-functors:

1. It's a lie that ϕ.
2. ϕ because ψ.
3. ϕ whenever ψ.
4. If ϕ, then ϕ.
5. Whether or not ϕ, what will be will be.
6. Whether or not ϕ, smoking causes cancer.

To make a logician happy, find him some constituent sentences. Very often a sentence will yield us more constituent sentences if we allow ourselves to *paraphrase* it, i.e., to replace it by another sentence which means the same thing. If two declarative sentences mean the same thing, then they have the same truth-value in all situations; so there is no harm in replacing one by the other in an argument which is being tested for validity, or in a set of sentences which is being tested for consistency.

To illustrate the powers of paraphrase, consider the following morsel of seventeenth-century legal prose:

If the process be legal, and in a right Court, yet I conceive that His Majesty alone, without assistance of the Judges of the Court, cannot give judgment. 16.22

The following paraphrase of (16.22) contains four constituent short sentences, which we mark with brackets: