CHAPTER I

FACT AND LAW

§ 1. ASSERTIONS about the universe of reality fall into
two distinct classes which may be designated (1) asser-
tions of fact and (2) assertions of law :—where the terms
fact and law are restricted to the sense in which, taken
together, they include experientially certifiable propo-
sitions and exclude formal propositions. Other terms
approximately synonymous to 'fact' and 'law' are 'con-
crete' and 'abstract,' or again 'categorical' and 'hypo-
thetical'; but these terms are used too loosely to bring
out the antithesis which rests really upon the funda-
mental distinction and relation between substantive and
adjective. Although according to our analysis every
proposition is to be interpreted in terms of both sub-
stantive and adjective, we may assert provisionally that
in the abstract proposition or assertion of law, the ad-
jective is the more explicit or solely explicit factor,
whereas, in the concrete proposition or assertion of
fact, the substantive is the more explicit factor. Asser-
tions of fact may be statements either of a single fact,
i.e. about a single substantive, or of several single facts
summarised in a proposition which shall have the same
factual nature as the several propositions of which it is
a summary. Or again, a concrete proposition may ex-
press not a conjunction but an alternation of single
facts, and in this case it will be of the same nature as
the assertions that constitute the several alternants,

though less determinate than any one of them. In dis-
cussing the nature of a factual proposition then, we need
only consider the proposition which expresses a single
fact, without conjunction or alternation. The subject term
of such a proposition, which denotes a pure substantive
without adjectival characterisation, is best symbolised as
S, and 'S is p' will stand for a single assertion of fact
where p is the adjective characterising the substantive S.

§ 2. The first difficulty about the proposition 'S is p'
relates to what we may call the referential problem:
in other words, to what subject is the predicate p to be
referred when we assert 'S is p'? For, if the symbol
S is non-significant—and, in default of any adjectival
characterisation, it is difficult to see what significance
it can have—then the proposition 'S is p' cannot be
intelligently distinguished from, say, the proposition
'T is p' where T is equally non-significant with S. If
we agree that 'S is p' and 'T is p' are *different* propo-
sitions, we may yet look beyond them for a common
class to which both terms S and T belong. This com-
mon class is denoted by the wide term substantive used
in its very general sense; hence, as a further interpre-
tation of our formulae, the two propositions to be
distinguished may be rendered in the forms '*This* sub-
stantive is p' and '*That* substantive is p.' The intro-
duction of the terms 'this' and 'that' serves to show
that substantives can be distinguished apart from, and
independently of, any adjectival characterisation; so
that, starting with 'this substantive' and 'that sub-
stantive' we may complete our predication by asserting
of 'this' or of 'that' either the same or a different
adjective. As I have stated elsewhere, I regard the

principle of distinction which is independent of cha-
racterisation as ultimately based on the psychological
fact of separateness of presentment of the manifesta-
tions of reality. The predesignation 'a certain' best
indicates this separateness of presentment; and thus
the more adequate formulation of the factual proposi-
tion runs: 'A certain given manifestation is p.' The
introductory indefinite being preparatory to the refer-
ential definite, we pass from the predesignation 'a cer-
tain' to the definite 'this' or 'that.' This transition is
possible psychologically so far as we can identify and
discriminate the *positions*, temporal or spatial, at which
manifestations are presented in separateness; and such
identification or discrimination of position is, I maintain,
psychologically prior to any subsequent relating in space
or time, no less than to all forms of qualitative charac-
terisation. The significance of the word 'given' in our
formula is two-fold; in the first place, it indicates all
that is meant by the word 'real'; and in the second
place, it anticipates the *general* nature of the charac-
terisation which completes the predication. For what
is given, otherwise called the determinandum, is pre-
sented under a certain determinable, symbolisable by
the capital letter P corresponding to the little letter p.
The process of thought being the further determination
of the relatively indeterminate, a further amendment of
the formula will be: 'A certain given P is p.' Those
logicians who wish to introduce identity into their an-
alysis of the proposition may be partially gratified by
this recurrence of the same letter in both subject and
predicate[1]; but the fact that, ultimately, the subject term

[1] See Part II, Chapter I, § 9.

represents *indeterminately* what is represented *determinately* in the predicate term, does not preclude the referential problem of the singular categorical proposition; a problem which has been met by the unique employment of the phrase 'a certain' which is preparatory to the definite 'this' or 'that.' So much for the factual proposition.

§ 3. Passing to the consideration of the abstract proposition or assertion of law, this may be expressed purely in terms of characterising adjectives, in the form '*p* determines *q*.' Here the word '*determine*' demands special consideration. In our account of the simple categorical statement of fact, we spoke of determination by thought, and to apply determination in this sense to our abstract proposition, we should have to combine the abstract assertion '*p* determines *q*' with the concrete assertion 'a certain *P* is *p*,' these two propositions together *determining* us to assert 'this *P* is *q*.' According to this interpretation of the word 'determine,' the abstract proposition may be said to express an *anticipatory* determination for thought; for it must be conjoined with the concrete proposition in order to determine any further assertion.

Many logicians have been satisfied with this merely epistemic account of the relation of determination—a position which is tantamount to identifying the thought relation implication, with the causal relation in its widest sense, as indicated by Hume's phrase 'objective nexus.' Here we may note that Kant, deliberately opposing Hume, took the relation of implication to apply only to thought in general, and to be the typical form of judgment corresponding to the category of causality, the

causal relation having validity in an objective sense. In
this contention Kant undoubtedly aimed at distinguish-
ing the subjective or epistemic from the objective or
constitutive relation; but on this matter of the very
first importance his view has been very variously in-
terpreted. Of all the interpretations I shall adopt that
in which the two conceptions of determination are
most widely opposed. Before entering into the detailed
analysis of this position, we must refer back to the
epistemic distinction between experiential and formal
certification. For example, an arithmetical formula,
expressing relations between numerical adjectives, is
one that can be formally certified apart from particular
experiences. In contrast to this, any proposition which
formulates a law of nature can only be certified ulti-
mately by means of particular experiences. Now in
Mill's use of the phrase 'empirical uniformity' there
seems to me to be involved a fundamental confusion
between the epistemic and the constitutive points of
view which it is immediately necessary to remove.
Epistemically understood Mill's phrase points to the
ultimate data, namely observed instances, upon which
the generalisation under consideration is based; and
since he holds that all generalisations about natural
phenomena are established on this same basis, there
should be no distinction for him between empirical uni-
formities and causal laws. Mill nevertheless hints at an
ontological distinction between these two kinds of uni-
formity where, for instance, he asserts that the method
of agreement cannot prove causal laws; for if, as seems
probable, in using this phrase he meant the emphasis to
fall on the words 'causal law,' he must have had an

ontological distinction in mind; it is only if the empha-
sis were upon the word 'prove' that a purely epistemic
point arises. The same confusion is apparent in his
view that the causal relation involves not only invaria-
bility but unconditionality. In my own view this quali-
fication of Mill's represents the ontological distinction
between a universal of fact and a universal of law.
Thus taking the two determinate adjectives p and q
under the respective determinables P and Q, the factual
universal may be expressed in the form 'Every sub-
stantive PQ in the universe of reality is q if p'; while
the assertion of law assumes the form 'Any substantive
PQ in the universe of reality would be q if it were p.'
These formulae represent fairly, I think, the distinction
which Mill had in mind; for my first formula may be
said to express a mere invariability in the association
of q with p, while the second expresses the uncondi-
tional connection between q and p. Or, as I have said
in p. 252, Chapter XIV, Part I, the universal of fact
covers only the actual, whereas the universal of law ex-
tends beyond the actual into the range of the possible.

§ 4. Now the introduction of the word 'possible'
here requires us to summarise briefly the main senses
in which the word is used in common thought and in
philosophy:

(*a*) The possible may be understood as equivalent
to what is capable of being construed in thought; in
this sense it is equivalent to the conceivable. Now the
effort to construe in thought an entity which has been
expressed in verbally intelligible form can be analysed
into a step by step process such that the combination
of characters and relations constructed up to a certain

point may present to us some further character which
our thought is *compelled* to assign to the construction.
What then constitutes the impossibility of the proposed
construction is the attempt to replace this further cha-
racter, which we were compelled to predicate, by another
character which is positively opponent to the former. It
is this positive opponency between characters, there-
fore, which constitutes the genuine inconceivability upon
which non-existence is to be maintained. In other words,
the *impossibility* of some one mental construction is
derivative from the *necessity* of a contrary or opponent
mental construction. Let us take the most familiar
example: the non-existence of a collection defined at
the same time as *two plus three* and as *seven*, does not
depend directly upon the impossibility of mentally con-
joining these two numerical predications, but indirectly
upon the necessity of conjoining the predication *two
plus three* with the predication *five*, of which *seven* is a
positive opponent or contrary. It is not a question
of difficulty—amounting to an apparent impossibility—
of making a thought construction in accordance with a
verbal formula that constitutes inconceivability and
gives the true test of non-reality; but rather the posi-
tive necessity of making some determinate construction
opponent to the proposed construction.

(*b*) A second meaning of the word possible is quite
easy to define; it relates merely to the limitations of
knowledge: so that we say it is possible that such or
such may be the case, meaning to express the quite
simple fact that we are not, at the time, able to make
a positive assertion concerning the truth or falsity of
the proposed proposition. In this sense of the word

possible, there is nothing in the nature of the proposition itself, apart from person and circumstance, which can determine its being possibly true or not, and for it I prefer to substitute the word problematic. A special case of this type of possibility arises when an individual has in his possession knowledge of various truths which he has not combined in thought, so as to elicit by mere thought process some further truth. In default of this thought process, the proposition expressing this further truth is not known, and is therefore possibly true and possibly false for him. All the complicated formulae of mathematics and logic come within this class for the ordinary man who has not taken occasion, or who is intellectually incapable, of developing such knowledge. This consideration leads to a third meaning of possibility.

(*c*) Propositions may be said to be possibly true or possibly false, in an explicitly referential sense; that is to say, possibility here is a feature not intrinsic to the proposition itself, but only when considered in reference to some other body of propositions taken to be true. Any proposition, then, whose falsity or truth cannot be formally deduced from a given body of propositions, may be said to be possibly true and possibly false referentially to this body.

(*d*) The further meanings of the word possible are connected with the notion of natural law and its antithesis to what we have called fact. The general form of a law, exhibiting the constitution of nature, has been expressed 'If any substantive were characterised as p it would be characterised as q.' This proposition expresses a relation between the characters p and q indi-

cative of the nature of the world of reality. If any two
characters x and y are *not* so related, then the conjunction
of x with any opponent of y would be said to be a
possible conjunction. When speaking of any fact or
event as distinguished merely by spatio-temporal position
from other facts or events, such terms as necessary or
contingent cannot be applied. On the other hand, when
we describe the event by an enumeration of certain ad-
jectives or characteristics finite in number, and there-
fore non-exhaustive, the nomic distinction between the
necessary and the contingent has significance relatively
to such *description* of the fact, though not relatively to
the fact. Thus the fact may be described as a pqr which
is x. And so described it will be nomically necessary
provided that any substantive characterised by pqr
would be characterised by x; but it would be nomically
contingent if anything characterised by pqr were not
necessarily x. Now the nomic necessity—anything
characterised by pqr would be characterised by x—
implies the factual universal that 'everything that is
pqr is actually x'; whereas the nomic contingency
'anything that is pqr is not necessarily x,' does not
imply the factual particular that 'some things that are
pqr are not x'; i.e. the affirmation of law, or nomic
necessity, implies the factual universal; but the negation
of law—i.e. the affirmation of nomic contingency—does
not imply the factual particular. The logicians who
reject the contrast that I maintain between law and
fact, identify in effect nomic necessity with the universal
of fact, and nomic contingency with the particular of fact.
The conflict between these two views is apparent in the
special case in which a factual universal expresses only

a contingency; that is to say, when 'Every pqr is x' goes along with 'Any pqr might be not-x': e.g. the merely factual universal that 'Every day is followed by night' is compatible with the statement of contingency that 'Any day might be not followed by night.' Now the possibility of joining these two statements depends upon *day* being defined by a definitely limited conjunction of characters; for, if our definition exhausted all the characters, it would render the sequence of night inevitable, and we should be confronted with a universal of law. Expressing this symbolically:—An event described merely as a pqr that is x may represent a contingency; though such an event could theoretically always be more fully described as a $pqruvw$ which is necessarily x. It may appear, since by an adequate description a contingency thus becomes a necessity, that the notion of nomic contingency has therefore no application. But, if we consider precisely why the conditions uvw, say, have to be added to the conditions pqr, in order that x may necessarily follow, it is because pqr does not nomically necessitate uvw, and therefore that the relation of pqr to uvw is nomically contingent. Thus the abstract question whether the character x of the given event is necessary or not is unanswerable, since it is seen to be contingent relatively to the incomplete description pqr; and necessary relatively to the complete description $pqruvw$. The philosophical justification of the principle under consideration requires the postulate that any character such as x manifested in a particular event is ontologically dependent upon an assignable—and therefore finitely enumerable—set of characters $pqruvw$.