The problem of philosophy must be divided if Kant
solve it, as a whole it is too big for me.

Let us take first the meaning of general propositions
(p. 146 defined)
in the ordinary world.

This includes the common-sense material world.

As everyone except us has always said these
propositions are of two kinds. First conjunctions: e.g.
"everyone in Cambridge voted." The variable here is of

Of course, not people in Cambridge but a limited
region of space varying according to the definition of
the speaker's idea of "Cambridge", which is "the town"
the town in England called "Cambridge" or whatever it may
be.

Old-fashioned logicians were right in saying these
were conjunctions wrong in their analysis of what
conjunctions were but right again in radically distinguishing
them from the other kind which we may call

variable hypotheticals e.g. "If arsenic is poisonous,
all men are mortal.

For if there were conjunctions, they would have infinite

Apologies from this there are other reasons for thinking
there not to be conjunctions.
Why are these not conjunctions?

It is obvious that we must first consider what they have in common with conjunctions, and what they do not have in common. Roughly, we can say that when we look at them subjectively they differ altogether, but when we look at them objectively, i.e., at the conditions of their truth and falsity, they appear to be the same.

(2) **ex** differs from a conjunction

(a) because it cannot be written out as one

(b) its constitution as a conjunction is never used; we never say well then make use it in class-thinking except in its application to a human class or rule.

(c) what is the same as (b) in another way, it always goes beyond what we know or want of Mill on all manner of things as an instance of a 'man', and the Duke of Wellington as an instance of a 'giant'.

We are at any time permitted to receive, not a belief of the primary sort:

A belief of the primary sort is as much of

neighbouring shade by which we see. It remains such a matter however much we complicate it or fill in details. But if we professedly extend it to infinity, it is no longer a matter we cannot take it in orsteen by it. Our journey is over before we reach its remotest parts.

(d) The relevant degree of certainty is the certainty of the particular case, or a finite set of particular cases, not of an infinite number which we never use, and of which we couldn't be certain at all.
(x) \( q(x) \) resembles a conjunction
(a) in that contains all lesser i.e. here all finite
conjunctions and affirms as a sort of infinite product
(b) when we say what would make it true? we
inevitably answer it is true if and only if
every \( x \) has \( q \), i.e. when we regard it as a proposition
 capable of these two cases truth and falsity, we
are forced to make it a conjunction, and to have a
theory of conjunctions we cannot express for lack of
two symbolic forms.

(But what we can't say we can't say, and we can't
whistle either.)

If then it is not a conjunction it is not a proposition.
Now right in the case of a proposition right and wrong
are true or false, occur clearly. They occur to the man who
makes the proposition whenever he makes a truth-function of it
i.e. argues disunivocally about the cases of its truth and falsity.
Now this we never do with these variable hypotheticals.
We may seem to whenever we discuss different
hypotheses, we may seem to by combining different
theories obtainable but the reason is that the
alternatives are not of the same kind.
But here we do not if \( P \) is such a law
consider the alternative
\( P \) and not having \( P \) where not having it as a law in no way
\( P \) and not having \( P \).

implies its falsity (if \( \theta \neq \pi \)) or else having \( R = (x) \theta \) or having \( G = (x) \theta \).

The other way in which right and wrong occur in connection with propositions is to an onlooker who says that the man's belief in the proposition is right or wrong. This, of course, turns simply on what the onlooker thinks himself and results from identity or difference between his view and what he takes to be that of the man he is criticizing. If A thinks \( \theta \) and thinks also that B thinks \( \theta \), he says B thinks truly; if he thinks \( \theta \) and that B thinks \( \neg \theta \), he says B thinks falsely. But criticism may not always be of this simple type; it is also possible when B thinks \( \theta \) and A thinks \( \neg \theta \) or vice versa, but regards the question as unsettled. He may deem B a fool for thinking \( \theta \) without thinking \( \neg \theta \) himself. This happens almost always with hypotheticals. If B says "If 1 eat this mince pie I shall have a stomach ache" and A says "No you won't", he is not really contradicting B's proposition at least if this is taken as a natural implication. Now is he contradicting a supposed assertion of B's that the evidence proves that so and so. B may make no such assertion, in fact cannot reasonably make if he is in the right. For he may be in the right without having money on his side.
In fact agreement and disagreement is possible in regard to any aspect of a man's view and need not take the simple form of 'y', 'n'.

Many sentences express cognitive attitudes without being propositions, and the difference between saying yes or no to them is not that between saying yes or no to a proposition. This is even true of the ordinary hypothetical: [as can be seen from the above: it asserts something for the case that its hypothesis is true. we do the law of excluded middle not to the whole thing but to the consequence only & much more of the variable hypothetical. But this may be misleading what we have called variable hypothetical might perhaps better be called variable]

Thus, the theory of understanding them, and rightness or wrongness we must consider the different possible attitudes to it. If we know what these are and involve, we can proceed to ask to explain the meaning of the assertion that such an attitude is right or wrong, for this is simply having such an attitude oneself and thinking that one's neighbour has the same or a different one.

What then are the possible attitudes to the question "Are all men mortal?"
(1) To believe it with more or less conviction
(2) Not to have considered it
(3) Not to believe it, because it is uncertain
(4) To believe it, because convinced that a certain type of man who might exist would be immortal
(5) To disbelieve it as convinced that a particular man is immortal.

we have to analyse these attitudes, obviously in the first instance the analysis must be in terms of beliefs in singular propositions, and such an analysis will suffice for our present purpose.

To believe that all men are mortal, what is it? Partly to say so, partly to believe in regard to any so that turns up that if he is a man he is mortal. [also if he had been a man he would have been mortal? Leave till later]. The general belief consists in (a) a general enunciation of a habit of singular belief.

there are, of course, connected, the habit resulting from the enunciation according to a psychological law which makes the meaning of 'all'.

we thus explain (i) in terms of the notion of a 'habit'

N.B. Also structural generalisation embedded in a notation e.g. if A before B, B is not C before C
(2) offers no problem

(3) may seem to give a problem, if we ask 'what is it that the thinker considers?' But there is really none; it is not considering whether a thing is so or not, nor again considering whether or not to do something, but a kind of intermediary. The idea of the general statement rises, the evidence is considered and it falls again. In (4) and (5) it falls more decisively for the reasons given; namely, we have (4) we have another general statement which combined with the proposed would give a conclusion we are disinclined for itself a third general statement namely. All men are not of that type; and (5) we have a singular statement — in half contradicting the hitherto.

These attitudes seem therefore to involve no serious problem except that of habit; clearly any proposition about a habit is general, and hence the criticism of a man's general judgment is itself a general judgment. But since all belief involves habit so does the criticism of any judgment whatever, and I do not see anything objectionable in this. There is a feeling of circularity about it, but I think it illusory. Anyway we shall recur to it below.
This might go in middle of 7.

Variable hypotheticals are not judgments but rules for
judging "if I meet a cp, I shall regard it as a q.*

This cannot be negated but it can be disagreed
with by one who does not adopt it.
This account of causal laws has a certain resemblance to Braithwaite's, and we must compare them closely to see whether it escapes the objections to which his is liable. He said that a universal of law was one that he believed on grounds not demonstrative, and I said that it would not do for several reasons.

(a) Some universals of law are not believed at all.
   Some unknown causal laws

(b) Some universals of fact are believed on grounds not demonstrative.

(c) Some (derivative and localised) universals of law are believed on demonstrative grounds.

Therefore, put up a different theory by which causal laws were consequences of those propositions which we should take as axioms if we knew everything and organised it as simply as possible in a deductive system.

What is said above means, of course, a complete rejection of this view (for it is impossible to know everything and organise it in a deductive system) and a return to something nearer Richard's. A causal generalisation is not as I then thought, one which is simple but one we trust.

* R. B. Braithwaite, "The Idea of Necessary Causation,"
  March 1924, 2 (1928)
When I say this I must not be misunderstood; variable hypotheticals are not distinguished from conjunctions by the fact that we believe them, but they are different much more radically different. But the difference of a variable hypothetical being (often at least) a conjunction it is such a conjunction is distinguished from others in that we trust it to guide us in a new instance to derive from it a variable hypothetical.

Brouwer's view may explain how Richard came to say that laws were those which were believed, but but as he explained it it is of course wrong, the laws of the subject and, and often to the objections made above.

Brouwer's problem was to explain the meaning of 'P is a law of nature'. Our solution is that to say this is to assert P after the manner of a variable hypothetical. (Of course we may extend law of nature to any conjunction following from one in above sense.) But this solution is incomplete because it does not at all explain what we mean when we speak of an unknown law of nature, or one stated described but not stated.

But the characteristics of people depend in some way on chromosomes (but no one knows how).

Or he has discovered the law governing the extension of springs (but I don't know what law).
where in the second instance 3 say he too believes a variable hypothetical, and further imply that it is true not but since 3 do not know what it is 3 cannot myself adopt his attitude towards it.

Thus in each of these cases we seem to be treating the unknown law as a true proposition in the way on theory says is impossible.

The same difficulty also occurs in the finitist theory of mathematics, when we speak of an unknown true mathematical proposition. In this clearer field the solution should be easier and then extensible to the other.

An unknown truth in the theory of numbers cannot prima facie be intimated as an (unknown) proposition true of all numbers but one, inded provable. Provable in turn means provable in any number of steps and on finitist principles the number must in some way be limited e.g. to the humanly possible. So and so has discovered a new theorem means therefore that he has constructed a proof of a certain limited size.

When we turn to an unknown causal law what is there to correspond to the process of proof from on which the above solution turns? Clearly only the process of collecting evidence for the causal law, and to say that there is such a law, though we don’t know it.
I must mean that there must be such singular facts in some limited sphere (a disjunction) as would lead us, did we know them, to assert an unvariable hypothetical. But this is not enough, for there must not merely be facts leading to the generalisation, but it must not mislead us (when we act, for we could not call it a true causal law). It must therefore be also asserted to hold within a certain limited region taken to be the scope of our possible experience. Is this satisfactory? There was nothing corresponding to this in the mathematical case, for a mathematical generalisation must if proved hold in any particular case, but an empirical generalisation cannot be proved, and for there to be evidence leading to it and for it to hold in other cases also are separate facts.

To this account there are 2 possible objections on the score of circularity. We are trying to explain the meaning of asserting the existence of an unknown causal law and meaning of asserting the existence of an unknown causal law and our explanation may be said to involve the assertion of such laws and that in two different ways. We say it means that there are facts which would lead us to assert a variable hypothetical; and here it may be urged that this means that they would lead us in virtue of one possibly unknown causal law to form a habit which would be constituted by another unknown causal law.
To this we answer first that the causal law in virtue
of which the facts would lead us to the generalisation
must not be any unknown law of one by which
knowledge of the facts would first drive us mad and so to
the mad generalisation, but the known laws expressing
our methods of inductive reasoning; and secondly that
the unknown variable hypothetical must here be taken
to mean an unknown statement (whose syntax will of course
be known but not its terms or their meanings), which
would, of course, lead to a habit in virtue of a known
psychological law.
Our previous analysis of the relevant problem of analysis, but it is apt to leave us muddled and unsatisfied as to what seems the main question: a question not of psychological analysis but of metaphysics which is: "Is causality a reality or a fiction? If a fiction, is it useful or misleading, arbitrary or indispensable?"

We can begin by asking whether these variable hypotheticals play an essential part in our thought; we might, for instance, think that could simply be eliminated and replaced by the primary proposition which serve as evidence for them. This is, I think, the view of Mill who thought showed that instead of saying "all men die", therefore the Duke of Wellington will, we could say: such and such men have died, therefore the Duke will.

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We may be inclined to say that the evidence is not merely that ABC have died, but that A, B, C, have died and none so far as we know, not died; i.e., "all we know is have died". But the extra is not part of the evidence but a description of it, saying "and this is all the evidence".

This view, generally, is that...
This view can be supported by observing that the ultimate purpose of thought is to guide our action, and that on any occasion our action depends only on beliefs or degrees of belief in singular propositions. And since it would be possible to organize our singular beliefs without using variable intermediaries, we are tempted to conclude that they are purely superficial.

But this would, I think, be wrong; apart from their value in simplifying our thought, they form an essential part of our mind. That we think explicitly in general terms is at the root of all praise and blame and much discussion. We cannot blame a man except by considering what would have happened if he had acted otherwise, and this kind of unfulfilled conditional cannot be interpreted as a material implication but depends essentially on variable hypotheticals. Let us consider this more closely.

When we deliberate about a possible action, we ask ourselves what will happen if we do this or that, and we give a definite answer of the form "if p, q will result." This can properly be regarded as a material implication or disjunction "either not p, or q." But it differs, of course, from any ordinary disjunction, in that one of its members is not something we are trying to discover the truth of, but something within our power to make true or false. If we go on to "and if p, then q," we get more material implications of a more ordinary kind.

Note: it is possible to take one's future voluntary action as an
intellectual problem; shall I be able to keep it up?" but it only
by dissociating one's future self).

Besides definite answers "if P, q will result" we often
get ones "if P, q might result" or "q would probably result."
here the degree of probability is clearly not a degree of belief
in 'nothing' but a degree of belief in q given P, which it is evidently possible to have
without a definite
degree of belief in P, P not being an intellectual problem.
And our conduct is largely determined by these degrees of hypothetical belief.

Now suppose a man is in such a circumstance and
for instance that he has a cake and decides not to eat it because
he thinks it will upset him, and suppose that we say even
attent consider his conduct and decide that he is mistaken.
Now the belief on which the man acts is that if he
eats the cake he will be ill; taken according to our above
account as a material implication. We cannot contradict this
imposition either before or after the event, for it is true
imposition the man doesn't eat the cake, and before the event
we have no reason to think he will eat it and after the event
we know he hasn't. Since he thinks nothing false, why do
we dispute with him or condemn him?

Before the event we do dispute with him in a quite
clear way; it is not that he believes P, we P; but he has
a different degree of belief in q given P from ours,
and we can obviously try to convert him to our view.

But after the event we both know that he did not eat
the cake and that he was not ill; the difference
Note

If two people are arguing if \( p \), will \( q \)? both rubbish as \( \neg q \) then adding \( p \) hypothetically to their stock of knowledge and arguing on that basis about \( q \); so that in a sense if \( p, q \) and \( \neg q, \neg p \) are contradictions we can say they are fixing their degrees of belief in \( q \) given \( p \). If \( p \) turns out false these matter degrees of belief are rendered void. If either party believes \( p \) for certain, the question ceases to mean anything to him except as a question about what follows from certain laws or hypotheses; see below/after.
between us is that he thinks that if he had eaten it, he would have been ill, whereas we think he would not. But this is no difference of degrees of belief in any proposition, for we agree as to all the facts. Almost about be. The meaning of these assertions are unfulfilled conditions, and the fact that whether or not the conditions are fulfilled or not makes no difference to the difference between us, the common basis, as we may say, of the dispute lies in the fact that we think in general terms. We each of us have some variable hypotheticals (or in case of uncertainty clauses) which we apply to any such problem; and the difference between us is a difference in regard to these. We have degrees of expectation, vague or clear, as to the outcome of any state of affairs whenever or wherever it may occur. Where there is a fact, we know whether he died or could have known it as the position of all the cards at bridge or as from his point of view. But that is clear.

This is our expectation is general; when the sort is clearly defined we expect with the same probabilities in any case of the sort. If not, and we expected differently in every case of the sort, expectation in an imaginary case could have no meaning.
Footnote

* if \( p \) then \( q \) may also mean \( pq \) where \( p \) is not a fact or law, or not only composed of facts or laws, but also of indications in a secondary system. e.g. from a solipsistic standpoint "if I close my eyes I shall see red." The hypotheticals in Mill's theory of the external world are fictitious nature, and cannot be used to define the external world. All that could be used are laws stating that from which combined with my past experience it might follow that if I close my eyes I shall see red. But this could not form conjectures with the external world, unless we had sufficient knowledge of laws and arrangements of the external world, and make all such conjectures certain. See also conjectures and automata. This is only hypothetical, if the hypothesis can refer to a secondary system.

Mill's view must be rejected by saying that the external world is a secondary system, and that any talk about it commits one to no more than a denial of all courses of experience inconsistent with it.
All this applies of course equally well to the consequences of any hypothetical event and not only to human actions. We have chosen to explain it with reference to the latter, because, I think, they are of quite peculiar importance in explaining the special position possessed by causal laws, which are an important but not the only type of variable hypotheticals. In order to deal with this question let us begin with hypotheticals in general.

"If $p$, then $q$" can in no sense be true unless the material implication $p ightarrow q$ is true; but it generally means that $p ightarrow q$ is not only true but deducible or discoverable in a particular way not explicitly stated. This is always evident when $q$, then $p$; because $p, q$ is thought with stating even when it is already known that $p$ is false or that $q$ is true. In general we can say with Mill that "if $p$, then $q$" means that $q$ is inferable from $p$ i.e. if it is possible from $p$, together with certain other known facts and laws understood and not stated but in some way indicated by the context. This means that $p ightarrow q$ is inferable from these facts and laws, which is no way a hypothetical relation fact, so that in spite of the sound of inferable, Mill's explanation is not circular as Bradley thought, of course that $p ightarrow q$
follows from the facts: it is not a question of logic but the description of the facts “they are such as to involve x.”

Corresponding to the kind of laws or facts intended we get various subtle syntactical variations.

For instance if he was there, he must have voted for it (for it was passed unanimously), but if he had been there he would have voted against it (such being his nature).

In this case, variable hypotheticals.

One class of cases is particularly important, namely those in which, as we say, our “if” gives us not only a ratio cognoscendi, but also a ratio esseendi. In the case which is, e.g., the normal one in which we say, “if it had happened, q would have happened,” prod must follow from a hypothetical (x if x, x, and facts x, prod being definable as a history event not earlier than any of those described in x). A variable hypothetical of this sort we call a causal law.

We have now to explain the peculiar importance and objectivity ascribed to causal laws, how for instance the deduction of effect from cause is conceived as so radically different from that of effect cause from effect (no one would say that the cause existed because of the effect).

If we it is, it seems, a fundamental fact that the future is close to the present, is more mildly affected by the present but the past is not. What does this mean? It is not a clean
and if we try to make it clear, it turns into nonsense or a
definition: "we speak of ratio esseendi when the procedur
is earlier than the aphorism Df". We feel that this is wrong;
that we think there is some difference between before and
after this bit: at which we are getting, but what can it be?
There are differences between the laws connecting deriving effect
from cause and those deriving cause from effect; but can they
really be what we mean? No for what they are found
a posteriori but what we mean is a priori.
The second law of Thermodynamics is a posteriori; it only seems
what the law is that it seems to result merely from a Sea of Law
('ue chance) but there might be a law of shading)

What then do we believe about the future that we do not
believe about the past; the past, we think, is settled; if this
means more than that it is past, it might mean that it was
settled for us, that nothing now could change our opinion, and
that any present event is irrelevant to the probability
form, of any past event. But that is plainly untrue.

What is true is this: that every possible alternative,
however irrelevant to the any past event, To another
or to ourselves in the future, it can serve as a sign
but to us now what we do affects only the probability of
the future.

This seems to me the root of the matter: that I cannot
affect the past, is a way of saying something quite clearly
true about my degrees of belief. Again from the situation when
we are deliberating seems to me to arise the question general
difference of cause and effect. We are then engaged not on
classification (to which this
difference is utterly foreign), but on tracing consequences
of our possible actions which we naturally do in sequence
forward in time, proceeding from cause to effect and not from
effect to cause, if we can produce a t1 which produces
B or B’, which etc...; the probabilities of A, B are mutually
dependent; but we come to a first from our present position.

Other people say can only affect the future and
not the past for two reasons; first by analogy with
ourselves we know they can affect the future and not
the past from their own point of view; and secondly we set
subsume their action under the general category of
cause and effect. It can only be a cause of what is
later than it. This means ultimately that by affecting
it we can only affect indirectly (in our calculation) these events later than it. In a sense
my present action is an ultimate and the only
ultimate contingency.

Of course it is our own past we know we cannot affect;
our own future we know we can. The branching out of influence with
the velocity of light is known by experience;

Anything of this subject should contain a criticism of the self
as referred to by Russell in *Matter and Mind*. 
It is clear that the notion and use of causal laws presupposes no "law of causation" to the effect that every event has a cause. Why not that every event has an effect?

We have some variable hypothesically of the form of either for

\[ \text{called causal laws; others, if } \emptyset, \text{ then probability } \frac{1}{2}. \]

This is called a chance. We suppose chance to be ultimate if we see no hope of replacing it by law, if we knew enough facts. There is no reason to suppose it is not ultimate.

A law is a chance unity; of course as is shown in my essay on chance, the chances do not give actual degrees of belief but a system to which the actual ones approximate. So too we do not believe the laws for certain.
On the view that we have been explaining causal necessity is not a fact; when we assert a causal law we are asserting not a fact, but an infinite conjunction, or a connection of universals but a variable hypothetical which is not strictly a proposition at all, but a formula from which we derive propositions.

The most obvious criticism of this view is that it is circular, for it seeks to explain away causality by means of a notion, namely that of a variable hypothetical, which itself involves causality. For the idea of a variable hypothetical depends on our using it as such, i.e. according to a causal law of our own nature proceeding from it to particular beliefs. We must try to make the answer to this criticism really clear, for it is certainly unsound.

One minor point may be made first; variable hypotheticals involve causality no more and no less than ordinary beliefs; for it belongs to the essence of any belief that we deduce from it, act on it in a certain way, and if this notion involves causality just as much as does the variable hypothetical. The causal law in connection with the latter is merely more complicated but not essentially different. E.g. There is no hierarchy of types of causal laws much growing homogenous complication like (x1.. (x1) (y) (z)...

But now for the main point:
But now for the main point. The world, or rather that part of it with which we are acquainted, exhibits as we must all agree a good deal of regularity of succession. I contend that over and above that it exhibits no feature called causal necessity, but that we make sentences called variate causal laws from which, i.e. having made which, we proceed to actions and propositions connected with them in a certain way, and say that a fact asserted is a proposition which is an instance of a causal law is a case of causal necessity. This is a regular feature of our conduct a part of the general regularity of things; as always there is nothing beyond the regularity to be called causality, but we can again make a variate hypothetical about the conduct of us and speak of it as an instance of causality.

But may there not be something which might be called real connections of universals? I cannot deny it for I cannot understand nothing by such a phrase; it is what we call causal laws I find to be nothing of the sort.

So too there may be an infinite totality but what seem to be propositions about it are again variate hypotheticals and infinite collection is really nonsense.

Variable hypotheticals have formal analogies to other hypotheticals which makes us take them sometimes as facts about universals sometimes as infinite conjunctions. The analogy is misleading, difficult though they are to escape, and emotionally satisfactory so by more to different types of mind and both these forms of realism must be rejected by the realistic spirit.
The sort of thing that makes one believe want to take a realistic view of causality is this. Suppose the human race for no reason always suffered stomach ache and so avert ate them; then all their beliefs, strictly so-called, of that if I eat strawberries, I shall have a pain, would be true, but would there not really be something wrong? Is it not a fact that if they had eaten them they wouldn't have had a pain?

No it is not a fact; it is a consequence of my rule. Their rule fitted all the facts known to them, but they what is a fact is that I have eaten them and not had a pain. If we regarded the unfulfilled conditional as a fact we should have to suppose that any such statement as “if he had shuffled the cards he would have dealt himself the ace” has a clear sense True or false, which is absurd. If we only regard it as true if it were negative, can be further deduced from our system. Otherwise we say “you can’t say what would have happened”, but which sounds more a confession of ignorance and is indeed, because it means we can’t foretell what will happen in a similar case, but not because “what would have happened” is a reality of which we are ignorant.

But their system you say, fitted all the facts known to them; if two systems both fit the facts, is not the choice capricious? We do, however, believe that the system is
uniquely determined and that long enough investigation will lead us all to it. This is Peccei's not only truth as what everyone will believe in the end; it does not allow to the truthful statement of matters of fact, but to the true scientific system.

What was wrong with our friends the strawberry abstainers that they did not experiment? Why should one experiment? To increase the weight of one's probability; if $q$ is relevant to $f$, it is good to find out $q$ before acting in a way involving $f$ (see my notion weight). But if $q$ is known it is not worth while; they knew so they thought what the issue of the experiment would be and so didn't make naturally bother to do it.

The difficulty comes fundamentally from taking every sentence to be a proposition; when it is seen by considering the notion of coincidences, that chances are not propositions then it should be clear that laws are not either quite apart from other reasons.
(1) All theories and laws are constructed with a view to supplementation by discovery of further facts; these facts are always taken as known for certain, what is to be done when we are not certain of them is left quite vague, just as is the allowance to be made for uncertainty about the theory itself.

(2) Chance and law are used in the same way of a theoretical system as in a primary system; cause too if the theoretical system is temporal one law will always be there just so declared from; and a law in the theoretical system is at the remove of deduction.

(3) If the consequences of a law or theory are not clear, i.e. if there is no test whether something can or cannot be deduced from it, then it must be taken formally; it is a habit not of believing or whenever we see \( p \) but of believing the meaning of any symbol deduced from these marks.

(4)
(4) Something should be said of the relation to Hume.

Hume said as we do that there was nothing but regularity, but he seemed to contradict himself by speaking of determination in the mind and a feeling of determination as giving the ideas of necessity. We are accused of the same circularly unjust to get into a mess by taking an "idea" of necessity and looking for an impression. It is not clear to me that there are such ideas and impressions, but there may be.

When we are necessitated to think as a result of experience to think in a particular way, we probably do have a different feeling from when we freshly make up our mind. But we must say we feel ourselves being necessitated; for in the mind that is only regularly the necessity is as always a temptation a figment of speech. I think he understood this very well, and gave his readers credit for more intelligence than they displayed in their literalistic interpretations.

(5) As opposed to a purely descriptive theory of science, mine may be called a forecasting theory. To regard a theory as a summary of certain facts seems to me inadequate; it is also an attitude of expectation for the future. The difference is clearest in regard to changes; the facts summarised do not include an equal chance for a coincidence which would lead to qua summarised by and, indeed, lead to a quite different theory.