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(2)

The problem of philosophy must be divided if I am to solve it; as a whole it is too big for me.

Let us ~~take first~~ consider the meaning of general propositions in a given ~~[illegible]~~ sphere, esp the commonsense material world. This includes the ordinary problem of causality.

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

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

variable hypotheticals eg Socrates is poisonous, all men are mortal

For if these were conjunctions they would have as extensive range.

(Apart from this there are other reasons for thinking them not to be conjunctions.

3

Why are these not conjunctions?

~~The obvious~~

Let us put it this way first: what have they in common with conjunctions, and in what have they not in common. Also they differ from them?

Roughly we can say that when we look at them subjectively they differ altogether, but when we look at them objectively, ie at the conditions of their truth and falsity, they appear to be the same.

(x) 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 write~~ use it in class-thinking except in its application to a non finite class

ie we use only the applicative rule.

(c) what is the same as (b) in another way, it always goes beyond what we know or mean of "all men are mortal" and "the Duke of Wellington". It expresses an inference we are at any time prepared to make, not a belief of the primary sort.

A belief of the primary sort is a map of neighbouring ~~ways~~ by which we steer. It remains such a map however much we complicate it or fill in details. But if we professedly extend it to infinity, it is no longer a map; we cannot take it in or steer by it, & our journey is over before we read its remoter parts.

(d) The relevant degree of certainty is the certainty of the particular case, & of a finite set of particular cases; not of an infinite number which we never use, and of which we consider it be certain at all

3/

(x) φx resembles a conjunction

(a) in that contains all lesser ie here all finite conjunctions and appears as a sort of infinite bracket

(b) when we say, what would make it true? we inevitably answer it is true if and only if every x has φ; ie when we regard it as a proposition capable of the two cases truth and falsity, we are forced to make it a conjunction, and to have a theory of conjunctions which we cannot express for lack of symbolic power.

[But what we can't say we can't say, and we can't whistle it either]

If then it is not a conjunction it is not a proposition at all; and then the question arises in what way can it be right or wrong?

Now right in the case of a proposition right and wrong ie true or false, occur doubly. They occur to the man who makes the proposition whenever he makes a truth-function of it ie enjoins disjunctively about the cases of its truth and falsity.

Now this we never do with these variable hypotheticals except in mathematics in which it is now recognised as fallacious. We may seem to do so whenever we discuss the different theories obtainable by combining different kinds of notation. But here we do not, if P is such a law, consider the alternative P as ie (x) φx, and P̄ ie (∃x) φx, but neither having P and not having P (where not having it as a law in no way

4

implies its falsity ($\alpha \supset \beta$ implies $\beta \supset \alpha$) or else having $P = (\alpha \supset p) \supset \alpha$ or having $Q = (\alpha \supset \beta) \supset \alpha$.

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 criticising. If A thinks p and thinks also that B thinks p, he says B thinks truly; if he thinks p and that B thinks $\bar{p}$, he says B thinks falsely. But criticism may not always be of this simple type; it is also possible when B thinks p and A thinks neither p nor $\bar{p}$, but regards the question as unsettled. He may deem B a fool for thinking p, without thinking $\bar{p}$ himself. This happens almost always with hypotheticals. If B says "If I 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 material implication. Nor 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 even if he is in the right. For he may be in the right without having proof on his side

5

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 'p', '~p'.

Many sentences express cognitive attitudes without being propositions; and the difference between saying yes or no to them is not the difference 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 protasis 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

In order therefore to understand this and its rightness or wrongness we must consider the different possible attitudes to it; if we know what these are and involve, we can proceed easily 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?"

No let it stand it is hypothetical see ↓ below

(1) To believe it with more or less conviction

(2) Not to have considered it

(3) not to believe it because it is unproven

(4) ~~not to believe it~~ · ~~because~~ to disbelieve it — as convinced that a certain (the) 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 belief in regard to any x that if x is a man, x 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
(b) a habit of singular belief.

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

We thus explain (1) in terms of the notion of a 'habit'.

N.B Also structural general propositions embodiable in a notation eg of A before B, B before C, A 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 no problem 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 in (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 in (5) we have a singular statement – a fact contradicting the proposed.

7a

These attitudes seem therefore to involve no puzzling ideas problem except that of habit; clearly any proposition about a habit is general, and hence the criticism of a man's general judgments 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 is illusory. Anyway we shall recur to it below.

~~This might go in middle of 7.~~

~~Variable hypothetical or~~ Causal laws ~~are~~ form the system with which the speaker meets the future.
They are not, therefore, subjective in the sense that if you and I enunciating different ones we are each saying something about ourselves which pass by one another like "I meant to Grantchester", "I didn't". For if we meet the future with different systems we disagree even if the actual future agrees with both, so long as it might (logically) agree with one but not with the other, i.e so long as we don't believe the same things (~~A~~ B cf. A is certain, B doubtful, they can still disagree)

Variable hypothetical are not judgments but rules for judging "if I meet a φ, I shall regard it as a ψ."
This cannot be negated but it can be disagreed with by one who does not adopt it.
adopt

This account of causal laws has a certain resemblance to ~~Richards~~ 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 which was believed on grounds not demonstrative, and I said that would not do for three separate reasons

(a) some universals of law are not believed at all e.g. Scilicet . 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

I 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 ~~Richards~~ Braithwaite's. A causal generalisation is not, as I then thought, one which is simple but one we trust. (e.g. the death of rich cooks). We may trust it because it is simple, but that is another matter

* R.B. Braithwaite, "The Idea of Necessary Connexion", Mind 1924 & 1928

When I say this I must not be misunderstood; variable hypotheticals are not distinguished from conjunctions by the fact that we believe them, they are different much more radically different. But the existence 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 on a new instance to derive from it a variable hypothetical.

This explains how Braithwaite ~~Richard~~ came to say that laws were those which were believed, but put as he puts it it is of course wrong, the [illegible] Ramsey ~~conjunctions~~ and open to the objections made above.

To say Braithwaite ~~Richard'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 all explain what we mean when we speak of an unknown law of nature, or one stated ~~described~~ but not stated

e.g. It's law that characteristics of people depend in some way on chromosomes (but no one knows law).

or He has discovered the law governing the extension of springs (but I don't know what law)

where in the second instance I say he ~~has~~ believes a variable hypothetical, and further imply that it is true ~~not~~ but since I do not know what it is I 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 one 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 ~~can be~~ cannot ~~primâ~~ be interpreted as an (unknown) proposition true of all numbers but (as) one: proved or provable. Provable in turn means provable in any number of steps and on finitist principles the number must in some way be limited eg 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

must mean that there must have such singular facts in some limited sphere (a disjunction) as would lead us, did we know them, to assert a variable hypothetical. But this is not enough, for there must not merely be facts leading to the generalisation, but they must not mislead us. When made (or we could not call it a true causal law), it must therefore be also asserted to hold within a certain limited region between to 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 beyond 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 our explanation may be said to be relating 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.

12

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 e.g. 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.

What we have said is, I think, a sufficient outline of the answers to the relevant problems 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 causation 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 propositions which serve as evidence for them. This is, I think, the view of Mill who thought argued that instead of saying "all men die" therefore the Duke of Wellington will, we could say such and such men have died[x] therefore the Duke will.

x We may be inclined to say that the evidence is not merely that A B C have died, but that A, B, C. have died, and none so far as we know not-died; ie "all we know about 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, generalised, is that

This view

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 organise our singular beliefs without using variable intermediaries, we are tempted to conclude that they are purely superfluous

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 form give a definite answer of the form "if I do 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, p, is not something of which we are trying to discover the truth but something within our power to make true or false. If we go on to "and if q, then r" we get more material implications of a more ordinary kind.

[Note: it is possible to take one's future voluntary action as an

45

intellectual problem; "shall I be able to keep it up?" but then 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 "not-p or q" 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 circumstances and suffers from instance, that he has a cake and decides not to eat it because he thinks it will upset him, and suppose that we disagree with his conduct and decide that he is mistaken. How 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 proposition either before or after the event, for it is true provided 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 differ from him in a quite clear way: it is not that he believes p, we $\bar{p}$; 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 that

15a Note

If two people are arguing if p, will q? Do one both in doubt as to if they are or were adding p hypothetically to their stock of knowledge and arguing on that basis about q: so that in a sense if p, q and if p, $\bar{q}$ are contradictories we can say they are fixing their degrees of belief in q given p. If p turns out false these matter the degrees of belief are rendered void. If either party believes p for certain, the question ceases to mean any thing to him except as a question about what follows from certain laws or hypotheses see below pp ++++

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 degree of belief in any proposition, for we both agree as to all the facts. Almost basic

be. The meaning of these assertions about unfulfilled conditions, and the fact that whether or no 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 a variable hypothetical (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 wherever or wherever it may occur. Where there is apt to be ambiguity is in the definition of the state of affairs; for instance, in considering what would have happened if a man had acted differently, we are apt to introduce anything any fact we know, whether he did or could know it e.g. the actual position of all the cards at bridge as opposed to the a-priori probabilities of position from his point of view. But what is clear is that our expectations are 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 real case, expectation in an imaginary case could have no meaning.

footnote

* if p then q may also mean p ⊃ q where q is not a fact or law, or not only composed of facts & laws, but also of propositions in a secondary system. e.g. from a solipsistic standpoint "if q open my eyes I shall see red" The hypotheticals in Mill's theory of the external world are of this 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 open my eyes I shall see red. But this could not cover conjectures as to the external world, unless we think sufficient knowledge of law would enable us to make all such conjectures certain. I also conjecture something and assert it, this can only be hypothetical, if the hypothesis can refer to a secondary system.

Mill's view must be replaced by saying that the external world is a secondary system, and that any proposition about it connects 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 expound 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 $p \supset q$ is true; but it generally means that $p \supset q$ is not only true but deducible or discoverable in some particular way, not explicitly stated. * This is always evident when 'if p, then q' or 'because p, q' ('because' is merely a variant on 'if, when p is known to be true') is thought worth stating even when it is already known either 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 inferible from p (i.e. of course from p together with certain other premisses - facts and laws understood and not stated but in some way indicated by the context. This means that $p \supset q$ follows from those facts and laws, which in no way a hypothetical relation-fact, so that in spite of the sound of inferible, Mill's explanation is not circular as Bradley thought. Of course that $p \supset q$

follows from the facts, is not a proposition of logic but the description of the facts "they are such as to involve $p \supset q$".

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

For instance "if he were 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 laws variable hypothetical]

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 essendi. In this case which is eg the normal one in which we say "if p had happened, q would have happened" $p \supset q$ must follow from a hypothetical $(x)\, \varphi x \supset \chi x$ and facts r, $p \supset q$ being an instance of $\varphi x \supset \chi x$ and q describing events not earlier than any of those described in p. 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 get it, it seems, a fundamental fact that the future is due to the present, or more widely is affected by the present but the past is not. What does this mean? It is not a clear

4 and if we try to make it clear, it turns into nonsense or a definition; "we speak of ratio essendi when the protasis is earlier than the apodosis of". We feel that there is wrong; that we think there is some difference between before and after 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 2nd law of Thermodynamics is a posteriori; it only seems a priori because it seems to result merely from a species of law what is peculiar is that (i.e. chance) but there might be a law of shufflings]

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

What is true is this, that any possible present volition of ours is (for us) irrelevant to the any past event. To another (or to ourselves in the future) it can serve as a sign of the past but to us now it that we do affects only the probabilities 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 clear true about my degrees of belief. Again from the situation when

We are deliberating seems to me to arise the ~~the~~ general difference of cause and effect. We are then engaged not on disinterested knowledge or classification (to which this difference is utterly foreign), but on tracing (to different) consequences of our possible actions which we naturally do in sequence forward in time, proceeding from cause to effect not from effect to cause, ~~if~~ we can produce A or A' which produces B or B' which etc ... ; the probabilities of A, B are mutually dependent but we come to A first from our present volition.

Other people we 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 ~~subs~~ subsuming 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 ~~[I can only have]~~ only affect indirectly (in our calculation) ~~them~~ 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 silly ~~man~~ referred to by Russell in Analysis of Matter

- 9 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 hypotheticals of the form If ϕx then ψx (with ψ later than ϕ) called causal laws; others of the form if ϕx, then probability α for ψx. This is called a chance. We suppose chance to be ultimate if we see no hope of replacing it by law, if we know 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 simpler 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, not an infinite conjunction, nor 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 ~~existence~~ [epistemic] status of a variable hypothetical depends on our using it as such, ie 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 reasonable.

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 ~~should~~ [are] prone to act on it in a certain way, and if this notion involves causality just as much as does the variable hypothetical. The causal law [connecting] with the latter is ~~merely~~ more complicated but not essentially different. E.g. There is no hierarchy of types of causal laws merely growing homogeneous complication like $(x) \cdot\cdot (\exists y)(y) \cdot -$ $(x)(\exists y)(z) \cdot - \cdot$

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 variable 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 in 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 variable hypothetical about this conduct of us and speak of it as an instance of causality.

B But may there not be something which might be called real connection of universals? I cannot deny it, for I can understand nothing by such a phrase; 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 variable hypotheticals and 'infinite collection' is really nonsense.

Variable hypotheticals have formal analogies to other propositions which makes us take them sometimes as facts about universals, sometimes as infinite conjunctions. The analogies are misleading, difficult though they are to escape, and emotionally satisfactory as they appeal 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 supposed strawberries would give them stomachache and so never ate them; then all their beliefs, strictly so-called, of the 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 clean sense True or false, which is absurd. If we only regard it as sense if it, or its negative, can be further deduced from our system. Otherwise we say "you can't say what would have happened", ~~but~~ which sounds like 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

~~This page is awfully feeble~~

uniquely determined and that long enough investigation will lead us all to it. This is Peirce's notion of truth as what everyone will believe in the end: it does not apply to the truthful statement of matters of fact, but to the "true scientific system".

What was wrong with our friends the strawberry abstainers was that they did not experiment. Why should one experiment? To increase the weight of one's probabilities: if q is relevant to h, it is good to find out q before acting in a way involving h (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~~ contagion made naturally bother to do it.

The difficulty comes fundamentally from taking every sentence to be a proposition; when it is seen by considering the position of coincidences, that chances are not propositions then it should be clear that laws are not either, & quite apart from other reasons

Notes

(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 in a theoretical system as in a primary system; cause too if the theoretical system is temporal

(3) Of course the theoretical system is all ~~removed from reality, by~~ being three just those declared from: and a law in the theoretical system is at two removes of deduction.

(3) If the consequences of a law or theory are not clear, ie 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 ψ whenever we see φ but of believing the meaning of any symbol deduced from these marks

(4)

(4) Something should be said of the relation of this theory to Hume's. 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 idea of necessity. We are accused of the same circularity unjustly: he got into a mess by taking an "idea" of necessity and looking for an impression: it is not clear to me that there are such an idea and impression, 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 not say we feel ourselves being necessitated; for in the mind there is only regularity, the necessity is as always a matter of interpretation a figure of speech. I think he understood this very well, and gave his readers credit for more intelligence than they display in their literalistic interpretations.

(5) As opposed to a purely descriptive theory of a science, mine may be called a forecasting theory. To regard a law 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 chances; the facts summarised do not preclude an equal chance for a coincidence which would lead to one be summarised by and, indeed, lead to a quite different theory.