tal line where you will, as many horizon-
tal lines as you please can be assigned at
finite distances below it and below one
another. For any such section is at some
distance above the apex, otherwise it is not
a line. Let this distance be $\alpha$. Then there
have been similar sections at two distances
$\frac{1}{\alpha}$, $\frac{1}{\alpha}$, $\frac{1}{\alpha}$, above the apex, and so on
as far as you please. So that it is not true
that there must be a first. Explicate the
logical difficulties of this paradox: (they are
identical with those of the Achilles in
whatever way you may. I am content with
the result, as long as your principles are
fully applied to the particular case of
cognitions determining one another. Deny

LETTERS ON FAUST.

[By E. C. Brockman.]

VI.

DEAR H.—In following our theme through
the sphere of manifestation, we arrived at
the conclusion: "Alioth, man cannot
know truth, he has no Reason—he does not
possess a stomach, a capacity for sensual
enjoyment and an Understanding to minister
to the same—to be its servant." With
this conclusion, we have arrived at the
world of Reality—for we have attributed
subjective validity to the Understanding.
It also determines our position in that
world. The Understanding—Mephisto-
is our guide and servant; the world of
Reality is a mere means for individual ends—
for private gratification. Whatever higher
pretensions this world might make, such
pretensions are based upon the presupposi-
tion that man can know Truth, and are
therefore without foundation. Hence, this
world of Reality—the Family, Society,
and the State—have no right and no au-
thority against the individual inclina-
tions and desires of man. The latter are
supreme and find their limitation not in
Reason but in the power of the Under-
standing to supply them with means of
gratification. It is true that these means are
determined from without, and hence, that the
individual under this view is limited and
individual. The conclusion arrived at by
Faust. Under it

"For idle dalliance too old,
Too young to be without desire,"

is still professor in a German University.
His life falls in the historic period when a
knowledge of the natural sciences is not
as yet diffused, and many of the results
remain obscure for individual minds.
SUN-CLEAR STATEMENT

To the Public at large concerning the true nature of the Newest Philosophy. An attempt to force the reader to an understanding.

(Translated from the German of J. G. Fichte, by A. E. Kroeger.)

FIFTH CONVERSATION.

A. That which the Science of Knowledge deduces is to be a faithful and complete picture of fundamental consciousness. Can its deductions then contain more or less of anything else than what occurs in actual consciousness?

R. By no means. Every deviation from actual consciousness would be a sure proof of the incorrectness of the deduction of that science.

A. Hence, according to all our previous results, the total consciousness of a finite rational being can involve only the following:

FIRSTLY—The primary and fundamental determinations of consciousness, or common consciousness, or immediate experience, or whatever else you choose to call it.

These determinations form in themselves a complete system, which is altogether the same—apart from its exclusively individual determinations—for all rational beings. We have called this system common consciousness, or the first degree of consciousness.

SECONDLY—The reflection and representation of this common consciousness, the free separating, composing, and infinite judging of; which, being dependent upon freedom, varies according to the different use made of that freedom. This we have called the higher degrees of consciousness—the middle region of our mind, as it were. It is to be remembered that nothing can occur in these higher degrees which has not occurred previously in common consciousness, at least in its elements. The freedom of the mind has the power infinitely to separate and compose what is given in common consciousness, but it cannot create anything anew.

THIRDLY AND FINALLY—A complete deduction of all that which occurs in common consciousness—without any relation to actual experience—from the mere necessary manner of acting of the Intelligence in general; precisely as if that common consciousness were the result of this manner of acting. This is the Science of Knowledge, as the absolute highest degree, which no consciousness can transcend. In this science, also, nothing can occur which has not occurred in actual consciousness, or in experience, in the highest significance of that word.

According to our principles, therefore, nothing can enter the consciousness of a rational being, in any manner, which does not in its elements occur in experience, and in the experience of all rational beings, without exception. All have received the same gifts, and the same freedom further to develop these gifts; and no one can create something of his own. Our philosophy is, therefore, most decidedly favorably disposed towards common sense, and secures its rights, as we asserted at the beginning: and damaging if you, who have hitherto been the great leaders, suddenly become silent? You surely do not care for the opinion of the stupid! But sensible people will only think all the more of you.

Thus it is stated that Professor Jacob at Halle has utterly abandoned speculative philosophy, and devoted himself altogether to political economy, a branch of science wherein many excellent attainments may be expected from his praiseworthy accuracy and industry. He has shown himself a wise man by ceasing to be a philosopher; and I herewith publicly express my esteem for him on that account, and hope that every sensible man who knows what speculation is will share this esteem. Would that all the others would also abandon a science which, they have abundantly tormented themselves to grasp, and for which they have discovered that they are not made. Let them turn to some other useful occupation—grinding glasses, making verses, writing novels and studying agriculture or game-keepers; let them take service in the detective police, study medicine, raise cattle, or write devotional reflections on death for every day in the year,—and no one will refuse them his esteem.

SOME CONSEQUENCES OF FOUR INCAPACITIES.

[By C. S. Prince.]

Descartes is the father of modern philosophy, and the spirit of Cartesianism—that which principally distinguishes it from the scholasticism which it displaced—may be comprehensively stated as follows:

1. It teaches that philosophy must begin with universal doubt; whereas scholasticism had never questioned fundamentals.

2. It teaches that the ultimate test of certainty is to be found in the individual consciousness; whereas scholasticism had rested on the testimony of sages and of the Catholic Church.

3. The multifarion argumentation of the middle ages is replaced by a single thread of inference depending often upon inconspicuous premises.

4. Scholasticism had its mysteries of faith, but undertook to explain all created things. But there are many for which scholasticism not only does not explain, but renders absolutely inexplicable, unless to say that “God makes them so” is to be regarded as an explanation.

In some, or all of these respects, most modern philosophers have been, in effect, Cartesians. Now without wishing to return to scholasticism, it seems to me that modern science and modern logic require us to stand upon a very different platform from this.

1. We cannot begin with complete doubt. We must begin with all the prejudices which we actually have when we enter upon the study of philosophy. These prejudices are not to be dispelled by a maxim, for they are things which it does not occur to us to question. Hence this initial scepticism will be a mere self-deception, and not real
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tional reflections on death for every day in
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esteem.

But since, nevertheless, I cannot be sure
that they and the like of them will follow
good advice, I add the following in order
that they can not plead that I did not tell
them what would happen:

This is the third time that I make a report
concerning the nature of the Science of
Knowledge. I should not like to be com-
pelled to do so a fourth time, and I am tired
of seeing my words passing from mouth to
mouth disfigured in such a terrible manner
that I scarcely recognize them. Hence I
shall presuppose that many of our modern
literary men and philosophers will not even
understand this third report. I also presup-
pose, because I know it, that absolutely ev-
ery man can know whether he does or does
not understand something, and that no one
is forced to speak of a matter he is conscious
of not understanding. Hence I shall no
more leave this work to its fate than all my
future scientific works, but shall strictly
watch over the expressions it may excite,
and comment upon them in a periodical. If
it does not reform these gossips, it may at
least teach the public what sort of people
have undertaken, and still undertake, to di-
rect its opinion.

Berlin, 1801.

SOME CONSEQUENCES OF FOUR INCAPACITIES.

[By C. S. Peirce.]

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doubt; and no one who follows the Carte-
Some Consequences of Four Incapacities.

from signs is that the conclusion explains the fact. To suppose the fact absolutely inexplicable, is not to explain it, and hence this supposition is never allowable.

In the last number of this journal will be found a piece entitled "Questions concerning certain faculties claimed for Man," which has been written in this spirit of opposition to Cartesianism. That spirit of certain faculties resulted in four denials, which for convenience may here be repeated:

1. We have no power of Introspection, but all knowledge of the internal world is derived by hypothetical reasoning from our knowledge of external facts.

2. We have no power of Intuition, but every cognition is determined logically by previous cognitions.

3. We have no power of thinking without signs.

4. We have no conception of the absolutely incognizable.

These propositions cannot be regarded as certain; and, in order to bring them to a further test, it is now proposed to trace them out to their consequences. We may first consider the first alone; then trace the consequences of the first and second; then see what else will result from assuming the third; and, finally, add the fourth to our hypothetical premises.

In accepting the first proposition, we must put aside all prejudices derived from a philosophy which denies our knowledge of the external world on our self-consciousness. We can admit no statement concerning what passes within us except as a hypothesis necessary to explain what takes place in what we commonly call the external world. Moreover, when we have upon such grounds assumed one faculty or mode of action of the mind, we cannot, of course, adopt any other hypothesis for the purpose of explaining any fact which can be explained by our first supposition, but must carry the latter as far as it will go. In other words, we must, as far as we can, reduce all knowledge and reasoning to a general type.

The class of modifications of consciousness with which we must commence our inquiry must be one whose existence is indubitable, and whose laws are best known, and, therefore (since this knowledge comes from the outside), which most closely follows external facts; that is, it must be some kind of cognition. Here we may hypothetically admit the second proposition of the former paper, according to which there is no absolutely first cognition of any object, but cognition arises by a continuous process. We must begin then, with a process of cognition, and with that process whose laws are understood and most closely follow external facts. This is no other than the process of valid inference, which proceeds from its premise. A, to its conclusion, B, only if, as a matter of fact, such a proposition as B is always or usually true when such a proposition as A is true. It is a consequence, then, of the two principles whose results we are to trace out, that we must, as far as we can, without any other supposition than that the mind reasons, reduce all mental action to the formula of valid reasoning.

But does the mind in fact go through the syllogistic process? It is certainly very doubtful whether a conclusion as something existing in the mind independently, like an image—suddenly replaces two premises existing in the mind in a similar way. But it is a matter of constant experience, that if a man believes in the premises, in the sense that he will act from them, and will say that they are true, under favorable conditions he will also be ready to act from the conclusion and to say that that is true. Something, therefore, takes place within the organism which is equivalent to the syllogistic process.

A valid inference is either complete or incomplete. An incomplete inference is one whose validity depends upon some matter of fact not contained in the premises. This implied fact might have been stated as a premise, and its relation to the conclusion is the same whether it is explicitly posited or not, since it is at least virtually taken for granted; so that a valid incomplete argument is virtually complete. Complete arguments are divided into simple and complex. A complex argument is one which from three or more premises concludes what might have been concluded by successive steps in reasonings each of which is simple. Thus, a complex inference comes to the same thing in the end as a succession of simple inferences.

A complete, simple, and valid argument, or syllogism, is either apodictic or probable. An apodictic or deduced syllogism is one whose validity depends not unconditionally upon the relation of the fact inferred to the facts posited in the premises. A syllogism whose validity should not depend merely upon its premises, but upon the existence of some other knowledge would be impossible: for either this other knowledge would be posited, in which case it would be part of the premises, or it would be implicitly assumed, in which case the inference would be incomplete. But a syllogism whose validity depends partly upon the non-existence of some other knowledge, is a probable syllogism.

A few examples will render this plain. The following arguments are apodictic or deductive:

1. No series of days of which the first and last are different days of the week exceeds by one a multiple of seven days: now the first and last days of any leap-year are different days of the week, and therefore no leap-year can consist of a number of days one greater than a multiple of seven.

2. Among the vowels there are no double letters; but one of the double letters (e) is compounded of two vowels: hence, a letter compounded of two vowels is not necessarily a vowel.

In both these cases, it is plain that as long as the premises are true, however other facts may be, the conclusions will be true. On the other hand, suppose that we reason as follows: - "A certain man had the Asiatic cholera. He was in a state of collapse, livid, quite cold, and without perceptible pulse. He was dead cold. During the process he came out of collapse, and the next morning was well enough to be about. Therefore, bleeding tends to cure the cholera." This is a fair probable inference, provided that the premises represent our whole knowledge of the matter. But if we knew, for example, that recovery from cholera was apt to be sudden, and that the physicians who had reported this case had known of a hundred other trials of the remedy without consequence, then the inference would lose all its validity.

The absence of knowledge which is essential to the validity of any probable argument relates to some question which is determined by the argument itself. This question, like every other, is whether certain objects have certain characters. Hence, the absence...
of knowledge is either whether besides the objects which, according to the premises, possess certain-characters, any other objects possess them, or whether besides the characters which, according to the premises, belong to certain objects, any other characters not necessarily involved in these belong to the same objects. In the former case, the reasoning proceeds as though all the objects which have certain characters were known, and this is concluded; in the latter case, the inference proceeds as though all the characters requisite to the determination of a certain object or class were known, and this is hypothesis. This distinction, also, may be made more plain by examples. Suppose we can be legible number of occurrences of the different letters in a certain English book, which we may call A. Of course, every new letter which we add to our count will alter the relative number of occurrences of the different letters; but as we proceed with our counting, this change will be less and less. Suppose that we find that as we increase the number of letters counted, the relative number of e's approaches nearly 11 per cent. of the whole, that of the e's 8 per cent., of that of the s's 8 per cent., of the of the c's 4 per cent., and of the s's 4 per cent. Suppose we repeat the same observations with has a dozen other English writings (which we may designate as B, C, D, E, F, G) with the like result. Then we may infer that in every English writing of a certain length, the different letters occur with nearly those relative frequencies.

Now this argument depends for its validity upon our not knowing the proportion of letters in any English writing besides A, B, C, D, E, F, and G. For if we know it in respect to these, it is not nearly as in the others, our conclusion is destroyed at once; if it is the same, then the legitimate inference is from A, B, C, D, E, F, G, and H, and not from the six alone. This, therefore, is an induction.

Support that a piece of writing in cypher is presented to us, without the key. Suppose we find that it contains something less than 26 characters, one of which occurs about 11 per cent. of all the times, another 8 per cent., and another 8 per cent., and another 7 per cent. Suppose that when we substitute for these, in successive attempts, we are able to see how single letters may be substituted for each of the other characters so as to make sense in English, provided,

however, that we allow the spelling to be wrong in some cases. If the writing is of any considerable length, we may infer with great probability that this is the meaning of the cipher. The validity of this argument depends upon there being no other letters in the writing of the cipher which would fix any weight in the matter; for if there be—if we know, for example, whether or not there is any other solution of it—this must be allowable its effect in supporting or weakening the conclusion. This then is hypothesis. All valid reasoning is either declarative, Inductive, or hypothetical; or else it combines two or more of these characters. Deduction is pretty well treated in most logical textbooks; it will be necessary to say a few words about induction and hypothesis in order to render what follows more intelligible. Induction may be defined as an argument which proceeds upon the assumption that all the members of a class or aggregate have all the characters which are common to all these members of the class concerning which it is known, whether they have these characters or not; or, in other words, which assumes that that is true of a whole collection which is true of a number of instances taken from it at random. This might be called statistical argument. In the long run, it must generally afford pretty correct conclusions from true premises. If we have a bag of beans partly black and partly white, by counting the relative proportions of the two colors in several different handfuls, we can approximate more or less to the relative proportions in the whole bag, since a sufficient number of handfuls would constitute all the beans in the bag. The central characteristic and key to induction is, that by taking the conclusion so reached—§ major premise of a syllogism, and the proposition stating that such and such objects are taken from the class in question as the minor premise, the other premise of the induction will follow from them deductively. Thus, in the above example we concluded that all books in English have about 114 per cent. of their letters s's. From that as major premise, together with the proposition that A, B, C, D, E, F, and G are books in English, it follows deductively that A, B, C, D, E, F, and G have about 114 per cent. of their letters s's. Accordingly, induction has been defined by Aristotle as the inference of the major premise of a syllogism from its minor premise and conclusion.
and the other premise must assert that whatever characters are implied in \( P \) are implied in \( M \), or that whatever is \( M \) is \( P \).

In either case, therefore, the syllogism must be capable of expression in the form:

\[ S \text{ is } M; \quad M \text{ is } P; \quad \text{therefore, } S \text{ is } P. \]

Finally, if the conclusion differs from one of its premises, both in subject and in those other things which may be the same.

L. S. Men. — The term Hypothetical has been used in the following senses: — 1. For the theme or proposition forming the subject of discussion or argument. Aristotle divides these or propositions adopted without any reason into definitions and hypotheses.

The definition is one that states the existence of something. Thus the geometer says: "Let there be a triangle." 3. For a condition in a general sense. We are said to seek other things than happiness if our happiness, under the circumstances, Freedom is the opposite of determinism. 4. For the antecedent of a hypothetical proposition.

5. For a Material question which assumes facts. It is the antecedent of the consequent, for the reference of a subject to the things it denotes. 7. For a conclusion in modern times, for the conclusion of a syllogism from antecedent and consequent antecedent. This is my use of the term, S. For such a conclusion as to what we may theorize about the body of a science.

I give the authorities to support the seventh use:

Claud. — Lexicon Nationale, 1st Ed. — "Hypothesis or hypothetical ad a priori absurd, or mere veritas in cognition. Required multii, ut hase hypothesis vera esse cognoscam, tamen a priori apparearet, an illa ex eae deducti possint. Verum ab aliis, hoc unum desideratur, ut hase hypothesis pro esse cognoscam, ex ea tales deducti, quae respondent phenomenon, et satisfactin omnibus difflentiares, quae hae movet in sens, in quae de eae apparent, occurrerant."

Netton. — Hypothesea phenomenon ad deum et maris nostro propter gravitatis exposita, sed causam gravitatis mundi assignavimus. Rationem vero harrum gravitatis proprietatem ex phisicis aliqua deducere, et hypothesis non fuisse. Quin etiam enim ex phenomenon non deducti. Hypothesea vero, ut philosophii Propositiones deductum ex phenomenon, et reduntur generalis per deductionem."

Sir Wm. Hamilton. — "Hypotheses, that is, propositions which are assumed with probability, in order to explain something else which cannot otherwise be explained or proved." — Lectures on Logic (Am. Ed.), P. 188.

"The name of hypothesis is more emphatic, the form of statement of conclusion and premise may be so altered that they shall have a common term. This can always be done, for if \( P \) is the premise and \( C \) the conclusion, they may be stated thus:

The state of things represented in \( P \) is real,

and the state of things represented in \( C \) is real.

In this case the other premise must in some form virtually assert that every state of things such as is represented by \( C \) is the state of things represented in \( P \).

All valid reasoning, therefore, is of one general form; and in seeking to reduce all mental action to the formula of valid inference, we seek to reduce it to one simple type.

An apparent obstacle to the reduction of all mental action to the type of valid inference is the existence of fallacies reasoning every argument implies the truth of a general principle of inferential procedure (whether involving some matter of fact concerned the subject of argument, or merely a maxim relating to a system of signs), according to which it is a valid argument. If this principle is false, the argument is a fallacy; but neither a valid argument from false premises, nor an exceedingly weak, but not altogether illegitimate, induction or hypothesis, however its force may be overestimated, however false its conclusion, is a fallacy.

Now words, taken just as they stand, if in the form of a hypothetical \( \therefore \), thereby do imply whatever best, etc., it is necessary to make the argument conclusive; so that to the formal logician, who has to do only with the meaning of the words according to the proper principles of interpretation, and not with the intention of the speaker as guessed at from context, the only fallacies should be such as are simply absurd and contradictory, either because their conclusions are absolutely inconsistent with their premises, or because they connect propositions by a species of illogical conjunciation, by which they cannot under any circumstances be validly connected.

But to the psychologist an argument is valid only if the premises from which the mental conclusion is derived would be sufficient, if true, to justify it, either by themselves, or by the aid of other propositions which had previously been held true for long. But it is easy to show that all inferences made by man, which are not valid in this sense, belong to four classes, viz.: 1. Those whose premises are false; 2. Those which have some inexplicable, though only a little; 3. Those which result from confusion of one proposition with another; 4. Those which result from the indistinct apprehension, wrong application, or falsity, of a rule of inference. For, if a man were to commit a fallacy not of either of these classes, he would, from true premises conceived with

perfect distinctness, without being led astray by any prejudice or other judgment serving as a rule of inferential conclusion which had really not the least relevancy. If this could happen, close contemplation and care could be of little use in thinking, for caution only serves to insure our taking all the facts into account, and to make those which "go to account," distinct; nor can coolness do anything more than to enable us to be cautious, and also to prevent an argument by a passion in inferring that to be true which we wish to be true, because it may be true, or in following some other rule of inference. But experience shows that the calm and careful consideration of the same distinctly conceived premises (including prejudices) will insinuate the pronouncement of the same judgment by all men. Now if a fallacy belongs to the first of these four classes and its premises are false, it is to be presumed that the procedure of the mind from these premises to the conclusion is either correct. or err in only one of the three cases, it cannot be supposed that the more falsity of the premises will affect the procedure of reason when that falsity is not known to reason. If the fallacy belongs to the second class and has some force, however little, it is a legitimate probable argument, and belongs to the type of valid inference. If it falls into the third class and results in confusion of one proposition with another, this confusion must be owing to a resemblance between the two propositions; that is to say, the person reasoning, seeing that one proposition has some of the characters which belong to the other, concludes that it has all the essential characters of the other, and is equivalent to it. Now this is a hypothetical inference, which, though it may be weak, and though its conclusion happens to be false, belongs to the type of valid inference; and, therefore, if the author of the fallacy lies in this confusion, the procedure of the mind in those fallacies of the third class corresponds to the formula of valid inference. If the fallacy belongs to the fourth class, it either results from wrongly applying or misapprehending a principle. In this latter case, it is a fallacy of confusion, or it results from the委, a wrong rule of inference. In this latter case, this rule is in fact taken as a premise, and therefore the false conclusion is owing merely to the falsity of a premise. In every fallacy, therefore, possible to the mind of man, the
Some Consequences of Four Incessancies. 147

Summation of a growing process; and if so, there is no sufficient cause for the thought which had been the leading one just before, to cease abruptly and instantly. But a train of thought ceases by gradually dying out, it freely follows the law of association as long as it lasts, and there is no moment at which there is a thought belonging to this series, subsequently to which there is not a thought which interprets or repeats it. There is no exception, therefore, to the law that every thought is signalled and interpreted in a subsequent one, unless be that all thought comes to an abrupt and final end in death.

2. The next question is: For what does the thought-sign stand—what does it name—what is its suppositum? The outward thing, undoubtedly, when a real outward thing is thought of. But still, as the thought is determined by a previous thought of the same object, it only refers to the thing through denoting that previous thought. Let us suppose, for example, that a thought of a negro, not distinctly as a man. If this distinctness is afterwards added, it is through the thought of a negro is a man; that is to say, the subsequent thought, man, refers to the outward thing by being predicated of that previous thought, negro, which had been a thought of that thing. If we afterwards think of the negro as a general, then we think that this negro, this man, was a general. And so in every case the subsequent thought denotes what was thought in the previous thought.

3. The thought-sign stands for its object in the respect in which it is thought of; that is to say, this respect in the immediate object of consciousness in the thought, or, in other words, it is the thought itself, or at least what the thought is thought to be in the subsequent thought to which it is a sign.

We must now consider two other properties of signs which are of great importance in the theory of cognition. Since a sign is not identical with the thing signified, but differs from the latter in some respects, it must plainly have some characters which belong to it in itself, and have nothing to do with its representative function. These we call the material qualities of the sign. As examples of such qualities, take in the word "man" its consisting of three letters—in a picture, its being flat and without relief. In the second place, a sign must be capable of being connected (not in the reason but really) with another sign of the same object, or with the object itself. Thus, words would be of no value at all unless they could be connected into sentences by means of a real copula which joins signs of the same thing. The usefulness of some signs—as a weathercock, a tally, &c.—consists wholly in their being really connected with the very things they signify. In the case of a picture such a connection is not evident, but it exists in the power of association which connects the picture with the brain-sign which labels it: This real, physical connection of a sign with its object, either immediately or by its connection with another sign, I call the pure demonstrative application of the sign. Now the representative function of a sign lies neither in its material quality nor in its pure demonstrative application; because it is something which the sign is, not in itself or in a real relation to its object, but which it is to a thought, while both of the characters just defined belong to the sign independently of its addressing any thought. And yet if I take all the things which both of emponties which certain qualities and physically connect them with another series of things, each to each, they become suitable to be signs. If they are not regarded as such, then they are not actually signs, but they are in the same sense, for example, in which a flower can be said to be red, this being also a term relative to a mental affection. Consider a state of mind which is a conception. It is a conception by virtue of having a meaning, a logical comprehension; and if it is applicable to any object. It is because that object has the characters contained in the comprehension of the thought. Now the logical comprehension of a thought is usually said to consist of the thoughts contained in it; but thoughts are events, acts of the mind. Two thoughts are two events separated in time, and one cannot literally be contained in the other. It may be said that all thoughts exactly similar are regarded as such if they are compared and brought together in the mind. Thoughts have no existence except in the mind; only as they are regarded as such do they exist. Hence, two thoughts cannot be similar unless they are brought together in the mind. But, as to their existence, two thoughts are separated by an interval of time. We are too apt to imagine that we can frame a thought similar to a past one by putting it with the latter, as though this past thought were still present to us. But, in plain, that the knowledge that one thought is similar to or in any way truly representative of another, cannot be derived from mere perception, but must be an hypothesis (unquestionably "fully determined" by facts), and that therefore the formation of such a representing thought must be dependent upon a real effective force behind consciousness, and not merely upon a mental comparison. What we must mean, therefore, by saying that one concept is contained in another, is that we normally represent one to be in the other; this is a particular kind of judgment, of which the subject signifies one concept and the predicate the other.

No thought in itself, then, no feeling in itself, contains any other, but is absolutely simple and inanalyzable; and to say that it is composed of other thoughts and feelings, is like saying that a consequence is a necessary line composed of the movements of which it is the resultant; that is to say, it is a metaphor, or fiction, parallel to the truth. Every thought, however artificial and complex, is, so far as it is immediately present, a more sensation without parts, and therefore, without similarity to any other, but incomparable with any other and absolutely sui generis. Whatever is wholly incomparable with anything else is wholly inexplicable, because explanation consists in bringing things under general laws or under natural classes. Hence every thought, so far as it is a feeling of a peculiar sort, is simply an inexplicable fact. Yet this does not conflict with my postulate that that fact should be allowed to stand as inexplicable; for, on the one hand, we never can think, "This is present to me," since, before

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We have time to make the reflection, the sensation is past, and, on the other hand, when once past, we can never bring back the quality of the feeling as it was in and for itself, or know what it was like in itself, or even discover the existence of this quality except by a correlation from our general theory of feeling, not in its idiosyncrasy, but only as something present.

But, as something present, feelings are all alike and require no explanation, since they contain only what is universal.

So that nothing which we can truly predicate of feelings is left inexplicable, but only of those we can predicate of them. This we can reflectively know. So that we do not fall into the contradiction of making the Mediate immediate.

Finally, no present actual thought (which is a mere feeling) has any meaning, any intellectual value: for this lies not in what is actually thought, but in what this thought may be connected with in representation by subsequent thoughts; so that the meaning of a thought is altogether something virtual. It may be objected, that if no thought has any meaning, all thought is without meaning. But this is a fallacy similar to that of the successors of the speculative diagnosticians and the philosophers of the speculative sciences which a body fills there is room for motion, there is no room, for motion throughout the whole. At no one instant in my state of mind is there cognition or representation, but in the relation of my states of mind at different instants to each other. In short, the identity and (therefore in itself) unspecifiable of meditation—the Unanalyzable, the Inexplicable; the Soul as a whole being in a continuous stream through our lives; it is the sum total of consciousness, whose mediation, is the continuity of it, is brought by a real effective force behind consciousness.

Thus, we have in thought three elements: 1st, the representational function which makes it a representation; 2d, the pure denotative function, or real connotation, which brings one thought into relation with another; and 3d, the real subject of thought, or state of consciousness, which gives thought its quality.

That a sensation is not necessarily an intuition, or first impression of sense, is very evident in the case of the sense of beauty; and has been shown, upon page 106 of this volume, in the case of sound. When the sensation beautiful is determined by previous connotations, it always arises as a predicate; that is, we think that something is beautiful. Whenever a sensation thus arises in consequence, and not in a way that those other are more or less complicated. Thus, the sensation of a particular kind of sound arises in consequence of impressions upon the various nerves of the ear being combined in a particular way, and following one another in a regular manner, and with a certain rapidity. The sensation of beauty arises upon a manifold of other impressions. And this will be found to hold good in all cases. Secondly, all these sensations are in themselves simple, or more than the sensations which give rise to them. Accordingly, a sensation is simple, if it has its place in the complex of predicates; in other words, it fulfills the function of an hypothesis. But the general principle which to which such sensation belongs, is such and such a complicated series of predicates, is not one determined by reason (as we have seen), but is of a arbitrary nature. Hence, the class of hypotetic inferences which the arising of a sensation resembles, is that of reasoning from definition to definitum, in which major premise is of an arbitrary nature. Only in this mode of reasoning, this premise is determined by the conventions of language, and expresses the occasion upon which a word is to be used; and is known only by the conventions, which is determined by the constitution of our nature, and expresses the occasion upon which sensation, or a natural neural sign, arises. Thus, the sensation, so far as it represents something, is determined, according to a logical law, by previous conventions; and this determines that there shall be a sensation. But so far as the sensation is a mere feeling, in particular sort, it is determined only by an inexplicable, occult power; and so far it is not a representation, but only the material quality of a representation. For just as in the cases of the hypothesis, that reasoning from definition to definitum is not a simpler predicate substituted for that complex one; and that when we have an emotion, an hypothesis, strictly speaking, is hardly possible—the analogy of the parts played by emotion and hypothesis is very striking. There is, it is true, this difference between an emotion and an intellectual hypothesis, that we have reason to say in the case of the latter, that to whatever the simple hypothetic predicate can be applied, of the simple predicate is true; whereas, in the case of an emotion there is a proposition for which no reason can be given, but which is determined merely by our emotional constitution. But this corresponds precisely to the difference between hypothesis and reasoning from definition to definitum, so that there appears to be a difference, between emotion and sensation, and I would state it as follows:

There is some reason to think that, corresponding to every feeling within us, our emotion takes place in our bodies. This property of the thought—sign, since it has no rational dependence upon the meaning of the sign, may be compared with what I have called the material quality of the sign; but it differs from the latter inasmuch as it is not essentially to be found in order that there should be any thought—sign. In the case of a sensation, the manifold of impressions which precede and determine it are not of a kind, the bodily motion corresponding to which comes from any large quantity or from the brain, and probably for this reason the body experiences so great commotion in the bodily organism, and the sensation itself is not, a thought which has a very strong influence upon the current of thought except by virtue of the information it may serve to afford. An emotion, on the other hand, comes much later in the development of thought; and I mean, farther from the beginning of the cognition of its object—and the thoughts which determine it have already motions corresponding to them in the brain, or the chief gaging; consequently, it produces large movements in the body, and a large facility of its representative value, strongly affects the current of the thought. The animal motions to which I allude, are, in the first place and obviously, blinking, blushing, staring, smiling, scowling, posting, laughing, weeping, sobbing, thronging, finching, trembling, being petrified, shuffling, strutting, crooning, heartshaking, trepidation, swelling of the heart, etc. etc. To
Sensation and the power of abstraction or attention may be regarded as, in one sense, the sole constituents of all thought. Having considered the former, let us now attempt some analysis of the latter. By the force of attention, an emphasis is put upon one of the objective elements of consciousness. This emphasis, therefore, is not itself an object of immediate consciousness, and in this respect it differs entirely from a feeling. Therefore, since the emphasis, nevertheless, consists in a certain state of consciousness, and so can exist only so far as it affects our knowledge; and since an act cannot be supposed to determine that which precedes it in time, this act can consist only in the capacity which the cognition emphasized has for producing an effect upon memory, or otherwise influencing subsequent thought. This is confirmed by the fact that attention is a matter of continuous quantity; for continuous quantity, so far as we know it, reduces itself in the last analysis to time. Accordingly, we find that action does, in fact, produce a very great effect upon subsequent thought. In the first place, it strongly affects memory, a thought being remembered for a longer time the greater the attention is originally paid to it. In the second place, the greater the attention, the closer the connection and the more accurate the logical sequence of thought. In the third place, by attention a thought may be recovered which has been forgotten. From these facts, we gather that attention is the power by which thought at one time is connected with and made to relate to thought at another time; or, to apply the conception of thought as a sign, that it is the pure demonstrative application of a thought-sign.

Attention is roused when the same phenomenon presents itself repeatedly on different occasions, or the same predicate in different subjects. We see that this has a certain character, that it has the same, C has the same; and this excites our attention, so that we say, “These have this characteristic.” Thus attention is an act of induction; but it is an induction which does not increase our knowledge, because our “these” covers nothing but the instances experienced. It is, in short, an argument from observation.

Attention produces effects upon the nervous system. These effects are habits, or nervous associations. A habit arises, when, having had the sensation of performing a certain act, a, b, c, we come to do it upon every occurrence of the general event, i, of which a, b, and c are special cases. That is to say, by the cognition that every case of a, b, or c, is a case of m, is determined the cognition that every case of i is a case of m.

Thus the formation of a habit is an induction, and is therefore necessarily connected with attention or abstraction. Voluntary actions result from the sensations produced by habits, as instinctive actions result from our original nature.

We have thus seen that every sort of modification of consciousness—Attention, Sensation, and Understanding—is an inference. But the objection may be made that inference deals only with general terms, and that an image, or absolutely singular representation, cannot therefore be inferred.

“Singular” and “individual” are equivocal terms. A singular may mean that which can be but in one place at one time. In this sense it is not opposed to general. The sun is a singular in this sense, but, as is explained in every good treatise on logic, it is a general term. I may have a very general conception of Hernobulus Barbarus, but still I conceive him only as able to be in one place at one time. When an image is said to be singular, it is meant that it is absolutely determinate in all respects. Every possible character, or the negative thereof, must be true of such an image. In the words of the most eminent exponent of the doctrine, the image of a man must be either of a white, or a black, or a tawny; a straight, or a crooked; a tall, or a low, or a middle-sized man.” It must be of a man with his mouth open or his mouth shut, whose hair is precisely such and such a shade, and whose figure has precisely such and such proportions. No statement of Locke is so supported by all friends of images as his denial that the “idea” of a triangle must be either of an obtuse-angled, right-angled, or acute-angled triangle. In fact, the image of a triangle must be of one, each, whose angles are of a certain number of degrees, minutes, and seconds.

This being so, it appears that no man has a true image of the road to his office, or of any other real thing. Indeed he has no image of it at all, unless he can not only recognize it, but imagine it (true or falsely) in all its infinite details. This being the case, it becomes very doubtful whether we ever have any such thing as an image in our imagination. Please, reader, to look at a bright red object, or other brightly colored object, and then to shut your eyes and say whether you see that color, whether brightly or faintly—whether, indeed, there is anything like sight there. Hume and the other followers of Berkeley maintain that there is no difference between the sight and the memory of the red book except in their different degree of force and vividness. “The one for which the memory employs,” says Hume, “are faint and dull compared with those in which our original perceptions are clothed.” If this were a correct statement of the difference, we should remember the book as being less red than it is; whereas, in fact, we remember the color with very great precision for a few moments [please test this point, reader, although we do not see any thing like it. We carry away absolutely nothing of the color except the consciousness that we could recognize it. As a further proof of this, I will request the reader to try a little experiment. Let him call up, if he can, the image of a horse—not of one which he has ever seen, but of an imaginary one—and before reading further let him by contemplation* fix the image in his memory.

*No person whose native tongue is English will need to be informed that contemplation is essentially (1) protracted (2) voluntary, and (3) an action, and that it is never used for that which is set forth to the mind in this act. A foreigner can convince himself of this by the proper study of English writers. Thus, Locke (Essay concerning Human Understanding,


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Has the reader done as requested? for I protest that it is not fair play to read further without doing so. — Now, the reader can say in general of what color that horse was, whether grey, bay, or black. But he probably cannot say precisely of what shade it was. He cannot state this as exactly as he could just after having seen such a horse. But why, if he had an image in his mind which no man could have the general color than it had with the particular shade, has the latter vanished so instantaneously from his memory while the former still remains? It may be replied, that we always forget the details before we do the more general characters; but that this answer is insufficient is, I think, shown by the extreme disproportion between the length of time that the exact shade of something, looked at is remembered as compared with that instantaneous oblivion to the exact shade of the thing imagined, and the but slightly superior vividness of the memory of the thing seen as compared with the memory of the thing imagined.

The nominalists, I suspect, confound together thinking a triangle without thinking that it is either equilateral, isosceles, or scalene, and thinking a triangle without thinking whether it is equilateral, isosceles, or scalene.

It is important to remember that we have no intuitive power of distinguishing between one subjective mode of cognize another; and hence often think that something is presented to us as a picture, while it is really constructed from slight data by the understanding. This is the case with dreams, as is shown by the frequent impossibility of giving an intelligible account of one without adding something which we feel was not in the dream itself. Many dreams of which the waking memory

Book II., chap. 15, § 1] says, "If it [an idea] be held there [in view] long under attentive consideration, its Contemplation; and again, [ibid., Book II., chap. 10, § 1], "The eye by education comes to distinguish minute differences of color; but if we only absolutely discriminate images, we must, no less before our eyes are trained than after, a cognition of the present manifest in that character; and it is now commonly used, as a modern writer says, "to include all the products of the perceptive faculty, and imaginative faculties; every act of conception in short, of which the immediate object is an object of mind, present under the conditions of distinct existence in space and time." Finally, we have the authority of Kant's own example for transferring his Anschauungen to the human mind, for this is the common image of Germans writing Latin. Moreover, infinite frequency replaces anachronism or anachronism. If this constitutes a misunderstanding of Kant, it is one which is shared by himself and nearly all his countrymen.

The next question is whether we have any general conceptions except in judgments. In perception, where we know a thing as existing, it is plain that there is a judgment that the thing exists, since a mere general concept of a thing is in no case a cognition of it as existing. It has usually been said, however, that we can call up any concept without making any judgment, but it seems to me that in this case we only arbitrarily suppose ourselves to have an experience. In order to conceive the number 7, I suppose, that is, I arbitrarily make the hypothesis of judgment, that there are certain points before my eyes, and I judge that these are 7. This seems to be the most simple and rational view of the matter, and I may add that it is the one which has been adopted by the best logicians. If this be the case, then, what goes by the name of the association of images is in reality an association of judgments. The association of ideas is said to proceed according to three principles: those of resemblance, of contiguity, and of causality. But it would be equally true to say that signs denote what they do on the three principles of resemblance, contiguity, and causality. There can be no question that anything is a sign of whatever is associated with it by resemblance, by contiguity, or by causality: nor can there be any doubt that any sign recalls the thing signified. So, then, the association of ideas consists in this, that a judgment occasions another judgment, of which it is the sign. Now this is nothing less nor more than inference.

Everything in which we take the least interest creates in us its own particular emotion, however slight this may be. This emotion is a sign and a predicate of the thing. Now, when a thing resembling this thing is presented to us, a similar emotion arises; hence, we immediately infer that the latter is like the former. A formal logician of the old school may say, that in logic no term can enter into the conclusion which had not been contained in the premises, and that therefore the conclusion of something new must be essentially different from inference. But I reply that that rule of logic applies only to those arguments which are technically called completed. We can and do reason——

Elia was a man; he was mortal.

And this argument is just as valid as the fall syllogism, although it is so only because the
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The sign is such and such; the sign is that thing.

This conclusion, however, a modification, owing to other considerations, so as to become—

The sign is almost (representative of) that thing.

We come now to the consideration of the last of the four principles whose consequences we were to trudge; namely, that the absolutely inscrutable is absolutely inconceivable. That upon Cartesian principles the very realities of things can never be known in the least, most competent persons must long ago have been convinced. Hence the breaking forth of idealism, which is essentially anti-Cartesian, in every direction, whether among empiricists (Hume), or among 'positivists' (Berkeley, Hegel, Fichte). The principle now brought under discussion is directly idealistic; for, since the meaning of a word is the conception it conveys, the absolutely inscrutable cannot mean anything because no conception attaches to it. It is, therefore, a meaningless word; and, consequently, whatever is meant by a term as 'the real' is inscrutable in sense degree, and so is of the nature of a conception, in the objective sense of that term.

At the moment we are in possession of certain information, that is, of cognitions which have been logically derived by induction and hypothesis from previous cognitions which are less general, less distinct, and of which we have a less lively consciousness. These in their turn have been derived from others still less general, less distinct, and less vivid; and so on back to the ideal first, which is quite singular, and quite out of consciousness. This ideal first is the particular thing-in-itself. It does not exist as such. That is, there is no thing which is in-itself in the sense of not being relative to the mind, though things which are relative to the mind doubles are, apart from that relation. The cognitions which thus reach us by this infinite series of inductions and hypothoses (which though infinite a parte sententiae, is yet as one continuous process not without a beginning in time) are of two kinds, the true and the untrue, or cognitions whose objects are real and those whose objects are unreal. And what do we mean by the real? It is a conception which we must first have had when we discovered that there was an unreal, an illusion; that is, when we first corrected ourselves. Now the distinction for which alone this fact logically tells, was between the same relative to private inward determinations, to the negations belonging to idiosyncrasy, and an une such as would stand in the long run. The real, then, is that which, sooner or later, information and reasoning would finally result in, and which is therefore independent of the vagaries of me and you. Thus, the very origin of the conception of reality shows that this conception essentially involves the notion of a COMOUNITY, without definite limits, and capable of a definite increase of knowledge. And so these two series of cognitions—the real and the unreal—consist of those, which at a time sufficiently future, the community will always continue to re-affirm; and of those, which, under all conditions, will ever after be denied. Now, a proposition whose falsity can never be discovered, and the error of which, therefore, is absolutely inscrutable, contains, upon our principle, absolutely no error. Consequently, that which is thought these cognitions are the real, as it really is. There is nothing, then, to prevent our knowing outward things as they really are, and it is most likely that we do thus know them in numberless cases, although we can never be absolutely certain of doing so in any special case.

But it follows that since no cognition of ours is absolutely determinate, generalizations must have a real existence. Now this scholastic fallacy is usually set down as a belief in metaphysical fictions. But, in fact, a realist is simply one who knows no more reconceive reality than that which is represented in a true representation. Therefore, the word 'man' is true of something, that which 'man' means is real. The nominalist must admit that man is truly applicable to something; but he believes that there is something this a thing in itself, an inscrutable reality.

This is the myth of the physical sign. Modern nominalists are mostly superficial men, who do not know, as the more thorough Roscellinus and Ockham did, that a reality which has no representation is one which has no relation and no quality. The great argument for nominalism is that there is no man unless there is some particular man. That, however, does not affect the realism of Scottus, for although there is no man of whom all further determination can be denied, yet there is a man, determination being made of all further determination. There is a real difference between man irrespective of what the other determinations may be, and man with this or that particular series of determinations, although undoubtedly this difference is only relative to the mind and not in re. Such is the position of Scottus. Thus great objection is, there can be no real distinction which is not in re, in the thing-in-itself, but this begs the question, for it is itself based only on the notion that reality is something independent of representational relation.

Such being the nature of reality in general, in what does the reality of the mind consist? We have seen that the concept of consciousness, the entire phenomenal manifestation of mind, is a sign resulting from inference. Upon our principle, therefore, that the absolutely inscrutable does not exist, so that the phenomenal manifestation of a substance is the substance, we must conclude that the mind is a sign developing according to the laws of inference. What distinguishes a man from a word? There is a distinction without doubt. The material qualities, the form, to constitute the pure notative application, and the meaning of the human sign, are all exceedingly complicated in comparison with those of the word. But these differences are only relative. What other is there? It may be said that man is conscious, while a word is not. But consciousness is very vague term. It may mean that emotion which accompanies the reflection that we have animal life. This is a consciousness which is dimmed when animal life is at its ebb, in death, or sleep, but which is not dimmed when the spiritual life is at its ebb; which is the more lively the better animal a man is, but which is not so, the better man he is. We do not attribute this sensation to words, because we have reason to believe that it is dependent upon the possession of an animal body. But this consciousness, being a mere sensation, is only a part of the material quality of the man-sign. Again, consciousness is sometimes used to signify the I think, or unity in thought; but the unity is nothing but consistency, or the recognition of it. Consistency belongs to every sign, so far as it is a sign; and therefore every sign, since it signifies primarily that it is a sign, signifies its own consistency. The man-sign acquires information, and comes to mean more than he did before. But so do words. Does not electricity mean more now than it did in the days of Franklin? Man makes the word, and the word means nothing which the man has not made it mean, and that only to some man. But since a man can think only by means of words or other external symbols, these might turn round and say: 'If you mean nothing which we have not taught you, and then only as far as you address some word as the interpretant of your thought.'

In fact, therefore, men and words reciprocally educate each other. Each increase of a man's information involves and is involved by, a corresponding increase of a word's information. Without fattiguing the reader by stretching this parallelism too far, it is sufficient to say that there is no element whatever of man's consciousness which has not something corresponding to it in the word; and the reason is obvious. It is that the word or sign which man uses is the man himself. For, as for the fact that every thought is a sign, taken in conjunction with the fact that life is a train of thought, proves that man is a sign; so that every thought is an external sign, proves that man is an external sign. That is to say, the man and the external
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IV. Music.—Art represents, under different forms, the development of spirit. It is, accordingly, the degree of spirituality in the mode of expression which assigns to each of the arts its rank, its pre-eminence, and which serves to fix its relations.

Architecture is the most imperfect art, expressing thought in a vague manner only, through forms borrowed from inorganic matter. Next, Sculpture represents spirit, but still assimilated with the body, and only so far as corporeal form allows. Painting expresses the innermost and profoundest side of the soul, passion, and moral sentiment. Hence it rejects matter, in order that it may confine itself to surface. It employs visible appearance and color as a richer, more varied and more spiritual mode of expression. Nevertheless, this appearance is always borrowed from the visible, extended, and permanent form.

There is in the soul a necessity for signs, for materials, more in conformity with its nature, presenting nothing fixed and extended, and where the material side wholly disappears. This need is supplied in Music. Its end is to express the soul in itself, the inner sentiment, by a sign which no longer offers anything extended or material, by a sign invisible, rapid and fleeting as the movements of soul itself. This sign, which is, however, still produced by means of matter, no more recalls extension and its forms, but is sound, the result of the undulatory vibration of bodies.

As music abandons visible forms, it addresses itself to a new organ, to the hearing, a sense more spiritual, though less contemplative, than vision. The ear perceives this unextended sign, the resultant of that vibration which leaves no trace after it, and vanishes in its expression.

By thus divesting itself of external and material forms, sound is eminently fitted to be the echo of the soul and of sentiment. Accordingly, the problem of music will be to awaken the innermost chords of the soul, and to produce all its movements and emotions.

Thereby, also, its effects are explained. Its aim is to reach the utmost limit of sentiment; it is the art of sentiment. Between art and sentiment there exists so intimate a union that they seemly fuse together. Sound, that immaterial phenomenon, without proper duration, instantaneous, borrowing all its value from the sentiment which it conveys into the soul and echoes through its depths.

If we compare music with the other arts, we find in the first place, that it exhibits certain real analogies with Architecture.