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[Royce, Josiah]

Of the Interdependence of the Principles of Knowledge.

"

An Investigation of the Problems of Elementary Epistemology,

in Two Chapters,

With an Introduction on the Principal Ideas and Problems in which the Discussion takes its Rise.

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Preface.

As briefly as possible I shall attempt to state the main points of the following Essay, laying especial stress on those for which I desire most particularly to be held responsible.

Theories of Knowledge too commonly begin with the assumption of some form of Existence as already given in Experience. As I have understood the problem, it seems to me that the very meaning of the word Existence cannot be assumed as defined until the work of the Theory of Knowledge has been done. Instead of beginning then with Des Cartes question: What do I know? the What referring to Existence and so meaning: Do I know the external world as existing? Do I know Space and Time as existing? Do I know myself as Existing? — instead of all this I begin in the following with the question: What kind of a mode of consciousness is that which we call

Knowledge? Inextricably bound up with this is the question: What do we mean by the certainty of Knowledge? From a discussion of these two questions I try to reach a general conception of the nature and scope of Knowledge. From here on the intention is to aim at a definition of the meaning of Existence. And this aim I seek to realize by a discussion of the Principles of Knowledge.

The general purpose of this Investigation is therefore the definition of the concept Existence as found by means of the examination of the nature of Knowledge. Knowledge is a form of our consciousness. All, or some part of the content of Knowledge, will be what we mean by the term Existence. What this part is, is the thing we have to determine.

For the end in view I have found it necessary to examine the Principles of Knowledge. What these are everyone more or less clearly apprehends. The principle: Every event has its cause in some previous event, is a Principle of Knowledge, a Principle, that is, that enables us to unite various individual acts into Wholes. So is the logical Prin-

ciple of Sufficient Reason, or as we have preferred to call it, the Principle of Consistency. — These Principles have long been recognized, and the question has arisen, what is their connection? The answer is of great moment. It determines in great measure one's theory of the Nature of Existence.

Des Cartes considered all such Principles, of which for him there were an indefinite number, as united by this common bond, that they were known with absolute certainty as Eternal Truths. His theory was in consequence this, that all these equally reveal to us Existence, and that they do so in so far as objective Existence is parallel to the human soul in its changes and in its structure, at least up to a certain extent.

Spinoza with full consciousness declared the Principle of Causality precisely co-extensive in application with the Principle of Sufficient Reason. In his theory of Being there are therefore two fundamental aspects, or attributes of one Substance, in the one of which the Principle of Causality rules, while in the other the Principle of Sufficient Reason precisely reflects the former in all its content.

If Leibniz was ambiguous and uncertain as to the precise relations of the two principles, yet in so far as he kept them apart, he made

possible
a theory of Existence in which there was not a com-
plete parallelism of subjective and objective,
and in which consequently there could be intro-
duced the questions of Design, of Good and Evil,
of Freedom, and the like. - His followers once more
abolished the distinction by seeking to reduce
all to one principle. This affected their theory
of Existence much; but as they were not geniuses
like Spinoza, it affected the subsequent history
of thought very little.

For Kant, the principles in ques-
tion were different examples of the one syn-
thetic unity of consciousness, though he lays
so much stress on other principles, that
the one of ~~Sufficient~~ Logical, Sufficient Reason is neg-
lected and obscured [cf. on this point the criti-
cism of Ernst Laas, Kants Analogien der
Erfahrung, Berlin, 1876, p. 30 sqq.]. But in
the end the view held of their likeness con-
ditions his subjective theory of Existence.

Schopenhauer, who in his essay
of the Satz vom zureichenden Grunde attempted
a complete theory of the Principles of Knowledge,
used his results to found a theory of the en-
tire relativity, instability, and dreaminess of
all Existence for the Understanding; thus leaving
the way open for an undisturbed flight into
his own metaphysical sphere.

The importance of the problem for the Theory of Existence is thus sufficiently clear. We undertake then to show in particular how the definition of Existence is affected by the investigation of the Principles of Knowledge, as these again are seen in the light of the definition of Knowledge in general. Our enumeration and definition of the Principles will doubtless not be quite satisfactory if viewed from another standpoint than our own; but these differences about points of definition are endless.

So much for our purpose; now as to the realization. - We have in the general investigation of Knowledge (Chap. I), taken the method of examining first, after stating our fundamental problem, the essential nature of the activity of judging. This has led to a rather lengthy discussion of logical points (§§. 19-24). Especially essential to the argument are here the following points: - (1) The Judgment is an Act of Will; - (2) The Object of the Judgment is the Identification of the Subject- and Predicate-ideas, as they are in the mind at the moment; - (3) The Ideas as such exist only in the Judgment; - (4) Before judgment there is no identity or diversity, only the presence of suggestive feelings in the mind; - (5) What is asserted in a judgment is something that was not pre-existent to the judgment, but that comes into existence for the first time in the Judgment itself: Judgments

constructive of their own subject-matter. — To this follows an investigation of the possible opposition of judgments as acts of Will, an investigation of the utmost importance to the argument, and one that leads us to the conclusions as to Knowledge in general that are stated in §. 26. These will be found, I believe, though of course by no means entirely original, yet throughout tinged by a self-developed doctrine. — In the discussion of the judgment, I have made use, as introductory to the examination of the essential nature of the act of judgment, of the results of Prof. Sigwart in his Logik, a work that though but a few years old is already regarded in some quarters as a classic, and that certainly ought to be better known outside of Germany. I hope that in view of their importance, the citations and summaries given in §. 22 will not be found tedious. — Entirely new, so far as I know, is the use made in the latter portion of my discussion, of the term Ideas in themselves, a term which I use instead of the ordinary terms, Concept, Logical Idea, Begriff. The significance of

this usage lies in the theory it expresses, that Begriffe never enter into judgments at all, are not real facts of consciousness, but are Ideals of reflection, which express a likeness among judgments made or demanded for a given purpose. This view as to the Begriffe is indeed founded on facts that have by no means escaped the notice of so fine an analyst as Lotze (in his Logik of 1874), but I do not know that he makes any such attempt to employ them as I have done. — The intention is no other than to substitute these Ideas in themselves for the term Things in themselves as Kant uses it in the chapter on Phenomena and Noumena, i. e. in the sense of Grenzbegriffe. The use of this conception then for the Theory of Existence, though not so fully developed in this discussion as I could wish, will form, if I have the opportunity, the special subject of a future essay on the Things in themselves as they have been understood and reasoned about since Kant. — For the development of this thought I have been indebted in some degree to the work of Riehl, Der Philosophische Kriticismus u. seine Bedeutung für die positive Wissenschaft (Leipzig, 1874), although the indebtedness I think lies more in the way of impression

and of suggestion than of positive theory.

Having found as the main Result of the First Chapter the complete independence of every Act of Knowledge, *quâ* Knowledge, the second Chapter has to discuss the nature of the voluntary and external connection given to such acts in Reasoned Discourse. This having formed the subject of a very brief and condensed sketch of matter familiar to every student of Logic, which as such needed only to be transformed into the terminology of our own stand-point, the Principles of Knowledge follow, as expressive of the highest form of Synthesis, the Ideal Synthesis, in which intelligence engages. — Then come the Results for the Theory of Being.

Our result is what, to use a very old and very many-sided term, may be called Idealism. That is, we find no concept of Being which admits of Being separate from Consciousness. Being may be separate from this or that, but not from all Consciousness, as houses may be built without this or that, but not without any material. — In this Result there is nothing original, much borrowing that is inevitable. In these days of Transfigured and Reasoned Realism, which are but other names for Distorted and Unrecognized Idealism,

of Ideal-Realism, which expresses that kind of harmony between the lamb and the lion in which they lie down together with the lamb inside the lion; of the Transcendental Realism of the Unconscious; of a fast-dying Materialism; of an awakening Indifferentism that will soon become an enthusiasm; of so many other monsters of a Reptilian Age of Philosophy: it is perhaps well to be willing to avow what, if one must have a descriptive prefix, may as well be called Un-compromising Idealism, an Idealism that does not in the slightest interfere with the great works of the Sciences of Experience, but that retains for itself the right to define, in its own terms, the meaning of Experience as a whole.

One word more: I have used on the title-page the term Epistemology. This word was first coined, I believe, by Ferrier, in his charming philosophic Romance, the "Institutes of Metaphysics" (This is no place for questions or divisions of the Arts; but why class the "Institutes" among the dry books of philosophy when one puts Daniel Deronda among the romances). - The word is long, but it was suggested to me awhile since in conversation that the

coinage would do excellently to translate Erkenntnisstheorie in a single word. The advantage thus especially reaped is the power to translate without circumlocution the adjective erkenntnisstheoretisch. This I have thought an important suggestion, and would gladly see both noun and adjective in use instead of "Theory of Knowledge" and "pertaining to the Theory of Knowledge." — As for the adjective, the seeker of long words will find it on p. 8 of the Introduction et passim.

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Johns Hopkins University.
Baltimore, Apr. 2, 1878.

Introduction.

Definitions, Postulates, Problems.

"

"Philosophy therefore, the child of the world and your own mind, is within yourself; perhaps not fashioned yet, but like the world its father as it was in the beginning, a thing confused — Imitate the creation: if you will be a philosopher in good earnest, let your reason move upon the deep of your own cogitations and experience". [Hobbes] —

Of Certainty and of Subjective Certainty. —

§. 1. Certainty is the confidence that the mind feels in the enduring nature of its own judgments. But such certainty is pronounced by a critic Subjective when he conceives that in any instance it so depends upon what is changeable, individual or accidental in the mind of the one who judges, that it may in the sequel be altered, either to uncertainty, or to an equally definite certainty of the truth of a judgment opposed to the first.

Of Error. §. 2. When two judgments contradict one another, an individual who adopts one of the two as his own, will consider the other an Error. The same will hold when the two judgments are opposed not as contradictories, but as judgments which admit of possible intermediate affirmations. We may define Error therefore, provisionally, as the term used to describe a judgment by one who holds an opinion not to be reconciled with it.

Error has then, as so far defined, a purely relative significance. Whether a more positive and absolute definition of Error is possible, we shall see further on. — The only objection that it is necessary at this point to answer, is that we have assumed in our definition that one who calls any opinion an error, must hold an opinion opposed to it; must be able, in other words to put something in the place of what he rejects. But this, it will be said is not universally the case; and one may be sure that a given statement is false, without having the power to put a true one in its place himself. We reply

that in so far as one deems an opinion erroneous, he must, if he be in earnest in his view, claim some insight himself into the nature of the question involved. Else his objection is but the result of fancy; and he cannot even state it definitely. But his insight must take the form of a judgment; and this, by hypothesis is opposed to the former view. Yet the opposed judgment need not be, practically considered, a complete substitute for the previous one. On the contrary it may remain mainly negative. — We affirm only that no negation is possible without some affirmation; no application of the term Error without the implied assumption of the possession of a certain amount of truth.

Of True Opinion. §.3 True Opinion is the term applied to a judgment by one who agrees with it; while the words do not imply that the one who applies them supposes that the first maker of the judgment had absolute evidence of

the truth of the opinion expressed. In other words the term True Opinion generally implies a favorable judgment passed from a higher standpoint, or from one assumed to be higher, on the views of another. In using the expression about a view one has formerly held, or about another person's views, one usually assumes that he has better evidence than originally attended the ~~expression~~ formation of the opinion. This is in fact what is meant by the use of the word opinion; since, were it conceived that the proposition had been originally known with full evidence, some such term as Discovery, Axiom, Fact, or Truth would be employed instead of True Opinion: and did one not think that he himself possessed good evidence of the truth of the judgment in question, the term Opinion would be employed, but the adjective true would not be

Intr. §§ 3, 4.

applied without limitation of some kind.
The same relative character is seen in this definition as in case of that of Error. Both definitions are to be regarded as provisional; and they will be modified in the course of our discussion. For the present we are considering the phenomena of Thought as it were pathologically. By this means we may perhaps best gain a preliminary definition of terms, without fear of hiding too many assumptions in our earlier propositions. We shall come to the logical aspect of these phenomena soon enough.

Of Knowledge

§. 4. Knowledge is the term applied to a judgment by the one who makes it, and at the moment of making it, to express his certainty in making it, and his full confidence that this certainty is not what we have above defined as Subjective; but that it is fixed, definite, not accidental, and not subject to change. — The term Know=

ledge as thus used, differs from the terms Error and True Opinion, as above defined, in point of the reference with which it is used. For while they refer to the opinions of another, or, if to the opinions of the critic himself, then to those opinions as expressed at some previous time when his insight was not what he now assumes it to be; the term Knowledge, as now defined, refers to one's own opinions, at the time he holds them, and in the full consciousness that he is now holding them on certain evidence whose worth he appreciates; and so this term implies complete confidence in a present judgment, and a certainty that this (judgment) will remain valid throughout the future. — When one lays claim to the possession of Knowledge, he therefore does not deem this Knowledge, in so far as it is Knowledge, to be relative either to some previous opinion of his own, or to any opinion of

another person. He conceives that, in so far as it is known, it is certainly and finally known; and is thus independent of his past or future existence as a knowing being, as well as of any particular experiences or opinion that this existence may imply. He must hold therefore that this Knowledge is in harmony with all other Knowledge; and that, in itself considered, it contains, as Knowledge, nothing whatever that is vague, or that is accepted on trust, or that is not clearly grasped by the mind, or that is not, in short, [illegible], in every way indubitably [illegible] evidenced. All this is meant by the claim to Knowledge. No definition of Knowledge which overlooks the mentioned characteristics will satisfy the claims of the person who believes that he possesses Knowledge.

As in this provisional definition nothing is attempted but the description,

pathologically again, of the demand made by one who claims the possession of Knowledge; and as this description for the rest deals with the matter only in the rough, and in relation merely to the present needs of the discussion: no objection need be taken either to the epistemological or to the psychological incompleteness of the definition or of the description. We hope to make up in some degree for both faults in the sequel.

Of the Rightfulness of Claims to the Possession of Knowledge: and of Scepticism.

§. 5. The claim to the possession of Knowledge described in the preceding paragraph is adjudged Rightful, when one sees no means of casting any doubt on the certainty, fixity, and necessity of the judgment in question. To question this Rightfulness is an undertaking that may be engaged in in many ways, according to the special nature of the case. But when one tries in some general way to cast doubt on the Rightfulness of most, if

Intr. §§ 5, 6.

not of all claims to Knowledge that can be made, the undertaking is called that of a general or universal Scepticism. This may found itself on the consideration of the nature of a claim to Knowledge in general considered; or it may be a simple spirit of objection that assaults each claim to Knowledge wherever it appears, and whatever its nature. The judgment of the Rightfulness of a given claim to Knowledge must be, it is evident, as thus far defined, mainly relative to the standpoint of the one who judges of the claim. But so in like manner must all scepticism be relative to the standpoint of the doubter. Scepticism is by its nature relative. Absolute scepticism is a contradictio in adjecto.

Of the Natures of the various Claims to the Possession of Knowledge.

§. 6 The claim to the possession of Knowledge may be made in various ways, according to the nature of the case; and with

the character of the claim will the nature of the certainty and fixity of the Knowledge claimed vary. First, the Knowledge of a simple momentary fact of consciousness may be claimed. In this case the certainty is to be gained from simple experience, and the fixity is intended to be the fixity of the relation of the experience to the course of time. When one claims the Knowledge of a given pleasure or pain at a given moment, he claims the possession of what from that time forth is to be and remain an eternal truth, viz. that the being A, at the moment M, has suffered the given pleasure or pain. This truth, it is claimed by him, is to be forever just as finally and wholly true as the most universal and profound axiom ever dreamed of. - When one claims the Knowledge of the present existence of the external thing P, the fixity and certainty claimed for his judgment are

Inter. § 6.

both of them claimed in reference to the time and space-relations of the object said to be known. It is in this case claimed simply that the external ~~body~~ body P, in the moment M_1, ~~is~~ is known to exist in the space S. And this relation of P, M_1, and S is claimed to be an absolutely fixed, certain and enduring one, known independently of changeable and subjective fluctuations of belief and so rightly to be assumed as an eternal truth. - But when the Knowledge of some axiom or universal law is claimed, the Knowledge of some principle that is potentially to be exemplified for all time in some class of objects, then though the fixity and certainty claimed is no more ~~complete~~ complete in this than in the two former cases, yet it stands more out of relation to special conditions, and is assumed with fewer provisoes. - In fine then, the claim to Knowledge, though

in all cases alike the claim to the pos=
session of final, abiding, unchangeable
truth, is yet various in view of the greater
or less complication of the relations in which,
and of the provisions under which the
fixity and certainty of the truth in ques=
tion are claimed. — But that in all cases Know=
ledge claims to be abiding, whatever be
the character of its content, however fleeting
the existence of the thing known, this must
carefully be born in mind. And it follows
that in judging of the Rightfulness of
any claim to Knowledge, this same charac=
teristic of the claim itself must be con=
sidered; and that no objection to the validity
of the claim may be founded on the transiency
of the content of the Knowledge, if the Knowledge
itself be claimed in reference to this transiency.
Hence to the validity of the Knowledge of
the existence of the thing, in the moment

Intr §. 6.

M, in the mind of the being A, may not be objected that the pain ceases in the next moment, or that the being A and all memory of it will soon have vanished. The relation of M, Q, and A, is claimed to be known, and as known, is claimed as an eternal truth; though it should be soon totally forgotten and never further considered. The claim to the knowledge that, when equals are added to equals the results will be equal, is not more a claim to the knowledge of an eternal truth, than is, in the case mentioned, the claim to the knowledge of the given relation of M, Q, and A. Hence scepticism as to a claim to knowledge, founded on the transient nature of the object of this knowledge, must be worthless. For the enduring character claimed for the form, is independent of the decay and passing of the content.

Of the Act of Knowledge.

§.7 An Act of Knowledge is an individual judgment that falls under the definition of Knowledge previously given. As all Knowledge finds its expression in individual judgments, the sum of Knowledge must be wholly made up of single Acts of Knowledge. Knowledge as thus far defined is simply the term applied to a judgment by the one who, in making it is confident of its eternal validity as truth. The Act of Knowledge is therefore to be considered as the special descriptive term applied to any individual judgment when it answers the conditions of being confidently regarded by its framer as eternally valid. — It follows that all the considerations thus far brought into view as to Knowledge in general hold of the particular Act of Knowledge. The eternal validity claimed by the one who holds his judgment to be a genuine act of Know-

ledge, is independent of the fleeting nature of the subject-matter. All that is required is that the same form should be used in stating the same matter, and the most transitory of judgments, if a judgment of knowledge, will be as true a million years hence as now. Is the content of a special Act of Knowledge the presence of the body P at the space S in the moment M_1, then this act of Knowledge is, and remains, an eternal truth; for a million years from now it will still be true that the body P, at the moment M_1, was in the space S. Nor need anyone be led astray by the difference between the *was* and the *is*, or between a *now* and a *then*; for present and past tenses, adverbs of present or past time, do not belong to the form of the Act of Knowledge, but are simply imperfect ways of attempting to designate

the moment M, for which, and for which alone, the proposition is known to hold true.

Of the Union of Various Acts of Knowledge into Trains of Thought.

§. 8. It is a matter of experience that Acts of Knowledge are not found alone in the mind; but are connected by various means and for various ends into the complex of experience, or into trains of voluntary thought. Of the union of Acts of Knowledge in the course of daily experience we have not here to speak; since the subject belongs either to the special sciences of experience, or to the province of the psychology of the Association of Ideas. But of the union of Acts of Knowledge into trains of voluntary thought we shall have much to say in the sequel; and must speak of them in brief here. — Of the trains of thought in which the mind engages itself by voluntary effort, it may generally be said

that they are intended to lead to some truth which could not be obtained without the use of some such formal procedure. The train of thought is entered upon with a more or less definite end in view. This end is the attainment of Knowledge. The Knowledge however must assume the form of a definite Act of Knowledge or of several such Acts. In the train of thought we have therefore the phenomenon that the mind brings to pass in itself a series of Acts of Knowledge, with the end in view of finally attaining to the power of bringing to pass an Act of Knowledge which shall satisfy its objects, and bring it for the time being to rest. From this general truth as to processes of thought follow certain things as to special qualities of all thinking and of its content; and these we shall now briefly

set down.

First: It appears that not all Acts of Knowledge are alike satisfactory to the intelligence; but that the mind passes over many such Acts as mere accidents or as means, and is content on the other hand to rest satisfied with the occurrence of certain others which it regards as Ends or Results.

Secondly: It appears that in trains of thought the Act of Knowledge known as the Result, may be related to the previous Acts of Knowledge, the means, either as being simply suggested to the mind by them, or as being made possible as an act only by and through them. The mind may engage in the train of thought in the hope that some valuable knowledge may be suggested in the course of the mental activity

involved, or in the hope of making some desired Act of Knowledge possible as Knowledge. In the first case the train of thought will furnish, not the evidence, but the Act of Knowledge as such, this being supposed as in itself evident as soon as suggested. In the other case, the train of thought is assumed to furnish the evidence for the Knowledge obtained, but not the content of this Knowledge, which, not as Knowledge but as a demonstrandum, was previously before the mind. It should be added that these two relations may be in individual cases united with one another, so that the mind first enters on a train of thought in order to obtain the suggestion of Knowledge, receives instead the suggestion of something which needs further evidence, then pursues the train of thought further to find this evidence, then receives perhaps yet further suggestion,

and so on indefinitely: and of such complications there may be a great variety. But the double character of the possible relations of the Result to the previous Acts of Knowledge remains true.

Thirdly: It follows from the foregoing, that in every train of thought there must enter at least to some degree the purely psychological phenomenon of the connection of one Act of Knowledge with another by the band of Association, or of some like mental law. And in so far as this holds true, the consideration of the nature and value of trains of thought belongs to special sciences, and does not here concern us except incidentally. In so far therefore as in a train of thought the intention is merely to hit by chance on some satisfactory Act of Knowledge, we have nothing to do with such a train of thought in this discussion, except by way of example or contrast.

Intr. S. 8

But fourthly: it appears that in many trains of thought, it is claimed by the one who has engaged in them that the Result he reaches is, as Knowledge, dependent upon the previous Acts of Knowledge that have formed the means, and that its validity depends upon theirs. The connection here claimed between evidences and the evidenced, premises and conclusion, or the like, is that known as Logical, and it will form the subject of our main discussion hereafter.

It will be observed that the possibility of such dependence of one act of Knowledge upon another is not here assumed; but that, just as we have spoken thus far not of absolute Knowledge, but of the claim to Knowledge, not of Error in itself, but of Error as a term applied by a critic; so now we assume, not the necessary connection of individual Acts of Knowledge, but the claim of to be made to the consciousness of such a connection. And

in like manner we do not consider as yet the question whether or no all the connection among Acts of Knowledge does not in the end reduce itself to the purely psychological one of suggestion by association. This matter we leave untouched, and concern ourselves wholly with the claim made to the consciousness that is more than that of psychological connection. This claim we simply analyze; but do not seek to justify as yet.

Of the Nature of Reasoned Discourse.

§ 9. In so far as the connection of the Result of a train of thought with the previous members of the same is regarded as being a connection of dependence by logical sequence, the train of thought is distinguished as Reasoned Discourse from all unmethodical and haphazard sequences of judgments. The Result of a Reasoned Discourse is said to be proved, rather than simply discovered by inspection or accident. The dependence of the demonstrated Result upon the previous members of the Discourse is conceived, not as a consequence of mere psychological

connection, but as a logical necessity. That is, it is on the one hand not assumed that whoever is conscious of the previous members of the discourse must be conscious of the Result, nor of its necessity, (for the Result need not always be suggested to his mind by the premises or evidences); but it is on the other hand affirmed, that whoever considers the propositions that form the discourse, and then having the Result suggested to him, compares it with them, must, in so far forth as he reasons on the whole bearing of the discourse, come to hold the Result as a necessary consequence of the evidences. It is not conceived as certain that every man who hears the reasoning will admit the Result; but it is believed to be necessary, that, if he not only hear but follow the reasoning, and that purely in so far as it is reasoning, not in so far as it is pleasing or displeasing to him or the like, he will in the end come to hold the Result as certain.

—Now the dependence thus assumed must be one of right rather than of fact. For inasmuchas it is merely affirmed that a man, in so far forth as he reasons, comes necessarily to regard the Result as true if the evidences are true; it follows that only experience of men can tell us when, how, and how far a man can be trusted to reason; and that thus the assumption of the following of the Result from the evidences is not an assumption that for anyone person, at any one time, the Result would follow, but only that one has a right to demand of a man, as a rational being, that the Result should follow in his case. And thus much as to the relation of premises and conclusion in general.

—But there remain yet other matters of question as to the Nature of Reasoned Discourse. For one is led to inquire whether all

Results have like relations to their evidences, or whether the necessary connection of Result with evidence can be affirmed in an indefinite number of ways. For the purposes of such an inquiry it may be well to examine into the main classes of Reasoned Discourse, as determined according to the nature of the objects considered in the Discourse.

Of the Principal Classes of Reasoned Discourse, determined according to the Character of the Objects.

§ 10 When it is assumed that only one Result can be obtained from given evidences, a certain uniformity of action is demanded from all who reason on any subject; and, as it were, a kind of compulsion is put upon all, the compulsion of the nature of the objects involved. This is alike true of reasoning about the most airy abstractions, and of following the course of a discussion of the most intricate of the objective phenomena of nature. But

within this unity of the reasoning process in general, exists a diversity arising from the nature of the objects. Necessity is predicated of all reasoning processes, but not in the same way of every process. There are, in other words, various kinds of necessary connection assumed in reasoning.

First, then, when one reasons, the objects of his thought may be purely ideas of his own creation. The materials for these ideas are in such cases suggested from without, but the combination of the materials is due to the simple choice of the thinker. Reasoned Discourse whose object is such arbitrarily formed ideas has the connection known as Consistency among its parts, and has in general no other connection.

Secondly, when one takes as the object of his thought external things, considered as fixed and stable, and no thought of change

being introduced, the necessity predicated of his reasoning depends, not merely upon consistency, but upon the presence in his discourse of a recognition of certain general relations, without which external things are not found to exist. Thus his reasoning gives no certain results as to the nature of the external thing as such unless there be present in it certain Acts of Knowledge which are common to all the Discourses that deal with external things. These Acts of Knowledge deal with what may be called certain general Syntheses of thought in relation to things. Their presence, felt or expressed in the Discourse makes possible the arriving at Results that deal with things as things, and not as simple concepts arbitrarily formed. The Acts of Knowledge referred to deal with the concept of Space, and with the various

particular concepts that express Space-Relations. And it is evident that so long as one is dealing with space-relations, however arbitrarily he may combine them in his thought, he is yet not dealing with ideas that are formed with entire freedom, but with ideas that meet with more or less complete realization in a vast number of real things. These Acts include (2) those dealing with the numerical relations of things. They include (3) those dealing with the general nature of all things in respect of the combination of various qualities in the same thing, and of similar characteristics found to hold for things as things. - Some if not all of these various kinds of Acts of Knowledge must be concerned in every Reasoned Discourse dealing with things. The necessity of the connection of Result with evidences is consequently in this case dependent on the necessity and validity of these judgments.

Introd. §. 10.

Thirdly, in Reasoned Discourse the subject-matter may be external or internal phenomena considered as subject to change. Here the validity of the Results will depend upon the truth of certain general judgments concerning Time, concerning Cause, concerning the opposition of the Essential and Accidental in phenomena, or of Substance and accident in things. The character of the necessity predicated in this case depends upon that predicated of the judgments in question. — With this class is exhausted the Reasoned Discourse that deals with the Real, as we are accustomed to call it, as such. Yet with the logical connection of Consistency, with the investigation of the Real as apart from

or as connected with change, the re-
sources of Reasoned Discourse are
not exhausted. Quite as distinct, in
some of its modes is the Reasoned
Discourse that deals with the Ideal, as
from the other forms, as they are
from one another. A division of Reasoned
Discourse into classes according to its
objects, is not complete that does not
consider the following two classes.

Fourthly then, Reasoned
Discourse may deal, not with that which
exists in things objectively, but of that
which one finds in them of worth or of
worthlessness, of beauty or of ugliness.
For aesthetic criticism, in some form or
other a constant occupation of life, is an ac-
tivity that constantly requires the use of reason.
A critic does not base his reasoning, however,
on the object alone, nor yet on his personal
idiosincrasies of mind, nor on his moods;

for he seeks to impose his judgment on others. Wherein then does the claim to validity consist? Evidently in certain general judgments of Worth. The necessity of the reasoning here depends upon the necessity of the judgment of Worth, whatever this necessity maybe.

Fifthly, the object of a process of reasoning may be the determination of the moral character of an action. Ethical judgments are commonly not given without some attempt at justifying them. The Justification must imply a process of reasoning. The necessity of the result must depend upon the validity of certain general judgments of ethical nature. And the character of this validity is in many respects involved in obscurity.

Without being able to give any guarantee of the exhaustiveness of our classification, we have enumerated thus far five distinct classes of objects with which Reasoned Discourse may have

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to do. In case of each one of these classes of objects, the validity of the result depends on the validity of certain general judgments peculiar to the class of objects concerned. The necessity predicated of the general judgments will be found to vary somewhat; and with this of course the necessity of the whole course of reasoning in the different cases. Our five classes of Reasoned Discourse, with the necessary connection of Result with evidences predicated in each class respectively, may be then summed up as follows:- First Class, Reasoned Discourse concerning Ideas as such; Necessity involved, Logical: Second Class, Reasoned Discourse concerning Things as such; Necessity involved, Mathematical: Third Class, Reasoned Discourse concerning the course of events; Necessity involved Physical: Fourth Class, Reasoned Discourse concerning the worth of objects, events, or

ideas viewed aesthetically; Necessity involved, Psychological: Fifth Class, Reasoned Discourse concerning Right and Wrong; Necessity involved, Ethical. — Of this classification in general it may finally be said that it is provisional, and that in it we have not considered so much the true nature of the necessary connection of reasoning processes, as the assumptions of so-called common-sense as to these processes. In other words, wherever we find men reasoning, we see them claim a certain amount and kind of necessity for their results; and it becomes a very proper object of consideration to determine how many and what general classes of necessity there are which are claimed in reasoning. This and this alone we have sought to do. Whether all these classes of necessary connection will be found to bear the test of criticism we shall try to examine in the sequel. Here we but state the claims of hu-

man nature. The enduring nature of these claims we do not assert as yet.

In regard to the terms used to describe the various kinds of necessity, a word of justification may be needed. In separating Logical from Mathematical necessity we are rather following tradition than stating a truly fundamental distinction, as may be found later in the discussion. In including under Mathematical necessity the necessity of those judgments that deal with the union of various qualities in the same thing, we are but affirming the truly mathematical nature of certain concepts that have too long been left to uncertain metaphysical definition. There is no reason why the relation of Thing and Quality should not as much be made a subject of a general algebraic notation, as, in fact, in some special cases it has already been so treated. In speaking of Physical necessity as that which has part in processes of reasoning after the notion of change has been introduced, and only then, we but follow the ordinary view that sees in the office of natural science the discussion of

the changes that go on in Nature, and not directly of the phenomena of Nature considered as at rest. The latter are the subject of simply mathematical consideration. In calling the necessity of the aesthetic judgments a Psychological necessity, we do not mean to imply that there are no other judgments whose necessity is purely psychological; for it might be affirmed of all necessary connection of thought that it is in some sense psychological. But all other kinds of thinking claim to be more than a simply psychological basis. Thought on aesthetic topics alone appeals in the end to the constitution of human nature as its only support and is alone perfectly content to do so. All other reasoning processes desire to reach the certainty of some external support. Of the term Ethical necessity, finally, it appears that although one should at last reduce all ethical judgments to a purely psychological foundation, yet one would have to admit that men claim in fact that they have some higher

guarantee than a simply psychological one for the truth of their moral judgments. And the claim of common sense is all that we are now seeking to formulate. When we have formulated it we shall proceed to the work of criticism in due time.

Of the Processes of Thought, in general considered; and of the Problems suggested by such Consideration.

§. 11. Men feel Certainty; but find this Certainty in many cases changeable. They disagree in point of the content of their Certainty; and then they accuse one another of Error. They agree from time to time in the direction of their thought; and then they ~~denounce each other~~ condescend to approve the Opinions of one another as True. Undaunted by all this chaos of contending views the individual, confident of himself, announces continually his defiance of Time and of his neighbor by calling his own views Known Truth; meaning for himself by this that he intends to hold fast by these particular views forever, come what may. Nor is he content to have Truth

suggested to him by accident; but he has regular methods of going in search of it by means of trains of reasoning. Accidental as the trains of thought constantly are, in beginning, middle, end, the individual claims for them that they give him Truth, and that with perfect evidence too. He claims that they do this not merely by suggesting the content which his own mind is to grasp as truth, but also by furnishing the evidence, by proving the truth. Not only therefore does he trust in the enduringness of particular views; but he holds that one enduring truth can bring forth as it were another; can at least condition the other's existence. The fabrics that he produces in these great constructive efforts are limited in size only by the brief time his life gives him in which to build. And his abiding faith in them is limited only by the fickleness of human nature. Yet that limitation seems enough; for again and again the

structure of magnificent proportions that was at first dedicated to Science as a new treasure of Known Truth, is in but a few years left by its ~~[illegible]~~ architect to fall into neglect and ruin. And what was named Knowledge, now crumbles into the primal dust of Error.

This is from one standpoint the view one gets of the world of Reason. It is, despite its boasted superiority, in great part a world of Emotion. There are the Emotions of Certainty, the Emotions of disagreement and opposition, the resolutions, emotional phenomena, that take the form of claims to Knowledge; all these fill as it were the whole field as we look over the world of intellect; and we ask, What then is Reason, if all thought is thus tinged with the affections of the mind?

From another side however the case seems very different. The special sciences furnish us with fabrics of reasoning which outlast generations, and are proof against all prejudices. Such cases encourage us to

believe that if all the products of Reason are tinged with emotion, there are at least some emotions whose color does not dim the lustre nor injure the durability of the gems of truth. And the fate of all scepticism of a general nature in time past seems to assure us that, in any case, if positive reasoning often loses its hold on the minds of men and passes away, it never does so more rapidly or more easily than reasoning that is wholly negative. The great changes through which the human mind has passed seem therefore, viewed in this light, but indications of some vast purifying process through which the intellect of the race is finally to be freed from all that is disturbing and unstable in emotion, and ~~gradually~~ at last to be left with only those elements of mental life which conduce to constant and progressive development.

In this way it becomes and object

of no little interest to inquire into the nature of the thinking process; to determine what there is in it which tends regularly towards consistency and stability of result, and what there is in it which so commonly introduces error, changeableness, disappointment, and failure. Such inquiries have often been made, and they are to be found widely scattered in treatises on Logic, on the Theory of Knowledge, on Metaphysics. In attempting, as is to be done in the following, some discussion of this matter, we shall limit ourselves to two questions, of which the second will engage the most of our attention. These are (1) What elements in Thought are those in respect to which an enlightened criticism can acknowledge the claim to absolute stability which was above defined as Knowledge? (2) What relation do the various kinds of Reasoned Discourse defined in § 10 bear to these elementary Acts of Knowledge? We shall in other words

busy ourselves with the relation that the reasoning process which aims at the attainment of Knowledge, bears to Knowledge itself as generally considered. Wherein consists the necessity of each one of the species of Reasoned Discourse described in §. 10? In how far can the claim of common sense in respect to each be granted? These questions form part of our main problem, and these we shall consider in order as soon as the problem concerning Knowledge in general has been answered in a preliminary study.

Such is the purpose of this essay. But a little more remains yet to be done in this introduction in the way of definition and statement, and this will follow in the remaining two or three paragraphs. It suffices for the present to have pointed out how all thought may be treated as a pathological phenomenon, and how on the other hand some means must be found of purifying our mental processes

from the suspicion that through the emotional element which accompanies and pervades them they are vitiated and rendered liable to the corruption of error and change.

Of the Nature & Principles of Knowledge.

§. 12. From the account so far given of the forms which Knowledge assumes, or is claimed to assume (for only of claims have we as yet spoken) it appears that the individual Act of Knowledge may exist independently of other Acts of Knowledge, or may appear as determined by them. In the latter case, we have seen, the Act of Knowledge which forms the Result of the combination of previous Acts, follows from those of them which express the individual characteristics of the Reasoned Discourse in question and of its subject-matter, with a necessity dependent upon the necessity of certain general Acts of Knowledge, which are expressed or implied among the evidences, and which involve the universal characteristics that hold for the whole class of

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Reasoned Discourses under which the one Discourse in question falls. Thus, any Result in regard to the relations of things as things will depend upon the validity of the general judgments as to the Space-relations, and so on. Any Result which depends upon evidence of a purely physical order, will depend for its validity on certain assumptions as to the Laws of Nature, among which assumptions the one of causal connection is prominent; and so in like manner for the other kinds of Reasoned Discourse, each one will have general assumptions, that hold for all the individual Discourses falling under the one class.

These fundamental judgments, without which the conclusions of the various kinds of Reasoned Discourse will lack validity, we call in the following Principles of Knowledge. They have the following general characteristics:-(1) According to the claims made for them they are themselves Acts of Knowledge; (2) According to the same claims they give the

right to unite a number of other Acts of Knowledge into groups of greater or less complication, in which there is occasioned a methodical advance of Knowledge, the earlier Acts conditioning and rendering possible the later, and being evidences of these ~~relations~~ viz. of the Results; (3) These Principles render possible, as is maintained by common sense, the reasoning on their respective classes of objects, and so have as it were the power of creating Knowledge, of bringing light and order into regions of Thought, which, though of the utmost importance in any case, would remain, without these principles, entirely obscure; (4) These Principles are postulates of all thinking in the provinces concerned, are assumed as true by the ordinary consciousness, whether tacitly or expressly, and therefore receive none of the needed criticism in the sciences concerned especially, and primarily with them; (5) Owing to the very familiarity of their use, they remain

obscure, and are not clearly stated by the sciences that make use of them, at least are often not so stated, according to the familiar observation that one easily thinks logically before having studied logic; (6) They are, finally, as postulates, declared to be true without reserve, and without inquiry as to whether they are inborn ideas in the human mind or are merely products of experience, or as to whether they imply race-experience transmitted by heredity, or simply individual intelligence employed on ordinary facts.

These Principles, according to the purpose laid down in the preceding §, will form the subject of the following essay. And we shall have to examine them in their relation to Knowledge in general, as it is to be defined in our preliminary study.

Of the Postulates of the Discussion.

§. 13. Postulated in every Reasoned Discourse is the validity of the principles on which the class of Discourse in question depends. Postulated as well is the rationality of the disputant, his

freedom from prejudice, his knowledge of the important facts of the case. Postulated, we say; but unfortunately postulates are not axioms, and the distance between the assumption of personal fitness to discuss a subject, and the proof of personal fitness, is only too great. In view of all this, one can but attempt, without too great confidence, to accomplish any difficult task such as the one before us here, and can give no guarantee of success but his own good will. Yet because this is of itself so insufficient a security, it is proper to state at the outset as well what one assumes as what one undertakes, in order that the reader may not be without means of judging the discrepancies of accomplishing something worth the labour. For the reader can more easily judge of an attempt at a new method than the explorer himself; since the reader is of the two the colder and more impartial.

First then, though the reasoning process is under discussion, we assume in part the validity of the reasoning-process. This assumption is the familiar one of all metaphysical writers; though its consequences are overlooked by many. One has a right to assume the validity of the reasoning process in so far as he intends in his discussion to describe and not to justify that process, and that is in so far as reason is used for purely dialectic purposes, for the simple analysis and comparison of thoughts in deduction or dispute. In so far as the reasoning-process is made use of for this purpose, it is not capable of formal justification, for all reasoning, even such as is necessary for the operation of justification, presupposes the validity of the fundamental processes of reason. This is evident, and is well-understood. But the thought is often

just to an improper use. It is made on the one hand to justify dogmatism as to all the Principles of Knowledge, whether these relate simply to processes of analytical thought or to the most obscure of the theorems of fundamental Natural Science or of Ethics. It is made on the other hand to uphold the doctrine of the absolute impossibility of universal scepticism. Both applications seem quite out of place. In so far as the reasoning process has to do with more than simply analytical or dialectic methods, it is quite open to general suspicion and criticism. All the Principles of Knowledge can be questioned without fear of inconsistency, except the Principle of consistency itself; and such questioning may be as developed and systematic as you will. It may be indeed successfully met; and may also turn out to be itself successful. But at all events it is

not to be disposed of a priori and without a careful hearing. But in so far on the other hand as the reasoning-process is beyond the reach of definite and systematic questioning, it is still not beyond the reach of scepticism. On the contrary one may doubt universally if he chooses, and you cannot refute him by asserting the Principle of Consistency are at least certain. For he may doubt that if he likes; and though he is unable in that case even to state his doubt, yet it may remain a real, if indefinite doubt. Universal scepticism is beyond the reach of refutation; and who cares whether it is so or not? For universal scepticism is a mood, not a doctrine; and as all have at some time in the history of their thought been subject to the mood, so in like manner are all indifferent to any attempt to banish such a mood forever. The irrational remains possible for every mind; and reason can never secure itself against mental

bankruptcy. And, in any case, though one hold fast by the Principle of Consistency, he may yet doubt the power of the human mind to follow this principle in any particular case. He may hold with the rest of the world that consistency assures true results in case the starting-point be true; but he may doubt that any finite mind is capable of consistency, to any full degree, in a lengthy argument. Such doubting would not be impossible or self-destroying; it would on the contrary have much in its favour. But yet it would be sufficiently radical for the most absolute Pyrrhonist. — But as said, all this we leave out of account, and must do so. Else were all discussion worthless. We must assume that consistency is a good thing; we must assume that we are able to practice consistency ourselves. And because we assume these two things, our results can have only an hypothetical value. If one is not troubled with any irrational,

and for that very reason irrefutable doubt, and if he cannot detect any inconsistency in our argument; we shall ask him to follow us. That is all. We cannot say with certainty of any of our arguments that they are throughout perfectly consistent. On the contrary, nothing seems harder, in these regions of thought, than logical accuracy.

Our first Postulate is therefore the Principle of Consistency, the Principle of Dialectic or purely formal Discourse. On the basis of this we are to investigate the other Principles of Knowledge; and also to give a description (since a justification is impossible) of the workings of this Principle itself.

Our second Postulate is of the simplest possible nature, and we mention it only to indicate that in this discussion there is no attempt made to base the ex-

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perience of man on anything that is not experience, or the truth of consciousness on anything that is not consciousness. We postulate that is to say, the whole inner life of man, the whole complex of feeling, impulse, conflict of emotion, desire, will, and whatever else there be that may directly or remotely be of worth as illustrating, completing, explaining, the processes of thought, in their essential or accidental exemplifications. We postulate this, and wish the fact understood in order that it may not be supposed that in what follows there is any attempt to base all Knowledge on one final fact of consciousness, or on one all-powerful highest principle. On the contrary we hold that the manifold of consciousness must be accepted as

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it is, and that any attempt to reduce it to one single form must shatter on the great fact that it is endlessly various in its forms. We assume the whole complex of consciousness, we say, as given; and our task is to analyse this in so far as it may have relation to Knowledge. But this on the other hand does not mean that we assume all that this complex has been thought to have in it of profound metaphysical nature. We find in the mind at starting no knowledge of a substantial entity miscalled Self by many schools. We find no revelation direct and unquestionable of a metaphysical Will, of a Divine Nature, of fundamental Being. All these may appear in the end as results of the investigation.

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We are unable to find any of them at the beginning. What is in consciousness is a continual flux of passion and action, both being simply names of Feeling. These assume unlimited shapes, enter into numberless complications, pass over the one into the other by insensible gradations. They can but be described. We are unable to reduce them, nor to do more than faintly imitate the subtlety of nature in finding words for them. They are the material on which we work. We cannot build without them. We must assume them. We cannot prove their existence; but find this existence as evidently given. And finally, our Postulate does not assume that we know a priori that any class or kind of these feelings is common to all mankind, or that what one finds

in himself he has a right to demand of all others as a fact in their consciousness. We only mean to say that, such is the fate of philosophy and of life in general, [illegible] every affirmation, basing itself on something present in the mind of one man, seeks admittance to the thought of another purely in the hope and confidence that in his mind too some like basis for a like affirmation lies hidden, or has already been discovered; so that the ideas of the first may not be wholly shut out from the sympathy of the second. This assumption of a common humanity is purely practical and entirely beyond the reach of full demonstration. Yet so valuable is it, so necessary for all, that no genuine thinking would be possible without it. For all thinking seeks form

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lation; and all formulation is based, obscurely or confessedly, on the thought of a listener to whom an argument is to be announced. - This postulate then of the right to make use of the whole wealth of consciousness as a store-house on which to draw in our investigation into the nature of Knowledge, is made as a necessary one; not to be sure as a premise on which our conclusion is to rest, but as a maxim, which shall direct the course of our research; not as a speculative thesis like Fichte's Ich or Schopenhauer's Wille, but as an armory of suggestion, a treasury, out of which, if we turn out to be good workers in our task, we may bring forth things new and old.

These two postulates, on both of which we have already proceeded in what we have [redacted] done towards defining

our task, form all that is necessary for the general regulation of our undertaking. Special Postulates will appear under special heads hereafter.

General Remarks. §. 14 We have entitled the whole investigation "The Interdependence of the Principles of Knowledge" in anticipation of what will naturally result from any successful examination of these Principles; and in accordance with the general assumption of most writers who have treated them. Even were our result the denial of all Interdependence, still the title, in view of the almost universal tendency of philosophic thought, would be quite well justified. For what all have sought, must be a main subject of thought even for him who denies its existence. For were his negation

so simple as to need no argument, so many would scarcely have failed to reach it long before.

In fact however we shall be found to maintain such an Interdependence, and to discover its field in the common tendency expressed in all the Principles to advance the sphere of genuine Knowledge beyond the strict limits set for it, and to introduce into it an hypothetical character.—

—Thus therefore, in the foregoing, we have endeavored, as best we might, to follow the precept of the great master of method whose words head this chapter, and to make our first great efforts towards ordering the chaotic material everyone has to conquer as he approaches the Theory of Knowledge. And if our method seem to resemble the creation in that this one thing,

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that it is arbitrary, we can but ask for patience, and plead inexperience. For, on the one hand, the first day of Creation was not the whole of the history of the universe; and, on the other hand, not everyone who tries his bungling hand at the ordering of Chaos is necessarily predestined to accomplish any creation. Let it be permitted to us to try Hobbes's good advice; and may some indulgence be shown if in our eagerness we make bad use of it.

Chap. I.

The Claim and the Realigation:- Knowledge as Found in the Individual Act of Knowledge.

"L'intelligence semble donc un vouloir, qui n'a pour objet essentiel que le vouloir même" [A. Fouillée.]

"

Of Approved Knowledge; & of Rational Doubt.

§. 13 When the claim to the possession of Knowledge described in §. 4, has been, according to the terms of §. 5, declared Rightful, and that after the very fullest and most careful examination which one conceives it in his power to make, i.e. when one can cast no shadow of rational

doubt on the claim in question, we call this Knowledge Approved i.e. declared beyond the reach of any doubt from the standpoint of the critic who applies the term. The term, as thus defined is relative; but this relativity (v. §. 5) is necessary, and not at all to be deplored. Approved Knowledge will be applied in the following discussion to all that we find ourselves unable to doubt from our standpoint. - It is understood that we here mean, by the power to cast doubt, the power to cast Rational Doubt. Into the gymnastics of irrational fancies of all kinds, including irrational doubts, we have no time to enter. The subject belongs to Psychology. A Rational Doubt must assume a more or less positive form, and be an assertion of the probability, greater or less, of a proposition opposed to the one doubted (v. §. 2 note, on the positive character

of the imputation of Error). The mere possibility of an opposed proposition is sufficient to throw some doubt. - By Rational Doubt we do not however mean necessarily a Doubt of practical value. A Rational Doubt may exist where there would be no ground in practice for paying any attention to it; or in regard to a subject concerning which no practical question can arise at all.

Of the Purpose of this Chapter.

§. 16. Approved Knowledge must have all the qualities claimed for it by the one who possesses it. The one who possesses it claims that it is Knowledge; the critic is supposed to approve this claim in all particulars. Approved Knowledge must therefore have in fact the quality of endurance first of all. - In all the following discussion, we must be understood to speak of that which for us is Approved Knowledge, whenever

we use the word Knowledge absolutely, i.e. without express limitation or extension. We shall discuss in this chapter the qualities that must be present in every judgment in order to entitle it to be called Knowledge, or Approved Knowledge. We shall at the same time be discussing more or less the content of Knowledge, considered as a whole. And we shall, by way of comparison, lay side by side our results as to the nature of Knowledge, with what is commonly assumed to be Knowledge in the sciences. And thus it is that we hope best to accomplish the task set for us in the Introduction, viz. the preliminary task of the analysis of Knowledge in general.

The Antinomy of the Theory of Knowledge.

§. 17 The Theory of Knowledge opens with an Antinomy, in which a fundamental difficulty of the whole subject is expressed. The difficulty referred to is very elementary, and therefore not commonly considered or often

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plainly expressed. But that it is a real one must we think be admitted by anyone who examines it. It forms the kernel of a great deal of sceptical discussion. We cannot avoid the consideration of it. The Antinomy referred to may be briefly stated as follows:—

Thesis.	Antithesis.
Knowledge is possible for the human mind.	No Knowledge is possible for the human mind.
That Knowledge is possible follows evidently from the existence of the activity of thought itself; in fact from the very power of asking the question as to possibility. For, assume that Knowledge is impossible, and either your assumption is itself a Knowledge, or it is not. If it is, a contradiction is involved. If not, then it is at best but opinion. Is it Opinion, then at least	That Knowledge, as enduring opinion, is impossible, follows from the changeableness of every opinion of the mind. The mind holds for Knowledge to day what it rejects as Error tomorrow. Some opinions of many minds seem stable; but there is only a psychological probability that they will not change in the future. If then there is no means of certifying to the un-

we know it to be opinion, since otherwise it would be contradictory to itself; and know is as well to be an opinion opposed to the opinion that Knowledge is possible. Hence so much is known, even of the negation of Knowledge itself, which is again contradictory to this negation. Hence Knowledge is possible, being given in some sense in the formation of every opinion.

changeableness of any opinion, there is no claim to the possession of Knowledge which cannot be refuted by future events. Rather no claim can be free from doubt, none is entitled to a place as Approved Knowledge.

The form of the Antinomy, used in stating the above argument, is one that Kant's example ought to have made a classic instrument of philosophic discussion. No other form is more serviceable for the clear statement of difficulties and for the purpose of arousing fruitful questioning into the real relations of the opinions involved. That the form in question is as old as the Sophists, but speaks the more highly in its favor, yet through the modern fear of dialectics it has fallen into disuse.

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Discussion of the Antinomy.

§.18 How can that opinion be termed Knowledge which itself is at all times subject to change? And what human opinion is there that is not subject to change? If any have not changed, they yet may change in the future? What security is there in our consciousness that we shall retain even the most positive persuasion unbroken? Is there at best more than a general probability that we shall do so? And if we do not; if we hold today one view, and tomorrow one exactly opposed, who shall be judge of the truth? Ourselves? But we have just proved, by our fickleness, our incapacity for all such judgment. Another? But who secures us his accuracy? — Such is the sum of the argument of the Antithesis of the above Antinomy. On the other hand the Thesis sums up its argument in the one point, viz. that the Antithesis must be in the end unstatable, and even if stated, contra-

dictory. Who can argue without assuming the basis of all argument? Who can deny the possibility of knowledge without the certainty at least that his denial is not the same as the affirmation of knowledge he disputes? Who can doubt without knowing that he doubts? — If we consider the force of these arguments, and compare their respective provinces, we shall see that one compares the present Act of Knowledge with future ones, or past ones, and finds that, abstractly and experimentally considered, there is no certainty of agreement between this Act and the others; while the argument for the Thesis confines itself simply to the present, and asserts that, past and future to the contrary notwithstanding, the present Act of Knowledge is certain in and for itself, and is beyond the reach of any cavil whatever.

This difference of objective point, as above, the one argument considering the Act of Knowledge in time, and the other viewing it separately for itself, opens to us the only way of solving the difficulty and reconciling Thesis and Antithesis. If a Theory of Knowledge is to be possible at all, if the whole subject is not to be left in utter obscurity, then the Acts of Knowledge which we are to approve must be found of such a nature that they cannot be contradicted by any act whatsoever, either in past or future. They must be above the reach of contradiction, so that it is not merely impossible for anyone now to maintain the negative or even to construct the negative of the Acts of Knowledge in question at the time they are formed as Acts of Knowledge, but also so that for all time it shall remain impossible to form the negative, and that for every consciousness. This they must be, else the argument of the Antithesis will defeat the claim to Knowledge made in

them. This they must be in and for themselves considered, so that their absolute stability may follow, not from any general psychological considerations as to the human mind in its character of consistency or inconsistency, nor from any like considerations, but solely and directly from their own nature as Acts of Knowledge. The mind that possesses them must be able to say at the moment of possessing them, that, by virtue of their inmost nature, they can never admit of contradiction from any source. - Is it possible to find such Acts of Knowledge, then for them the argument of the Antithesis fails, and they satisfy all the conditions of true Approved Knowledge. Otherwise doubt remains hanging over all claims to Knowledge, however familiar their content, and however positive their form. Such is the reason of the Antinomy of the last paragraph. All thinking is of itself the assumption of Knowledge; hence the general denial of Knowledge by a thinking

being is an absurdity: so runs the Thesis. All Knowledge is founded, if at all, in the consistency of Thought with itself. But this consistency is rendered doubtful by many things; and is of itself an unprovable hypothesis. Hence no claim to certain Knowledge can be permitted to stand. So runs the Antithesis. And the reconcilement can only be found, if at all, in the production of such Acts of Thought as by their own nature, not through the nature of mind as determined by a developed Psychology (for to argue from this would be a *petitio principii*), are simply beyond the reach of contradiction, and cannot possibly have other judgments opposed to them either now or at any other time, either by the mind that made them or by any other mind.

Where shall one turn in the hope of finding such Acts? How is an act of Knowledge that

cannot be opposed by a negative proposition, conceivable. For it is to be noted that the mere power to form the contradictory proposition is enough to cast a shadow of doubt on the original Act of Thought. The mere power to oppose to the proposition A is B the contradictory A is not B in which A and B have the same meaning as before, is fatal to the absolute validity of a claim to Knowledge. Such an opposition may be made at the present time for the pleasure of making it, for the sake of amusement or of example. But who knows whether it may not in the future come to be held as a positive belief itself? Such an abstract possibility is sufficient to overthrow the claim of any judgment to be called in the strict and approved sense Knowledge.

But then must not our result be in this way wholly sceptical? Is it not always formally possible to oppose to any

proposition its direct contradictory? And if so, must not then every proposition be formally vulnerable, and so fall a prey to our sceptical procedure? — These questions seem unavoidable. We reply to them, in order, simply thus: (1) Our conclusion is not sceptical, as will be seen further on; but on the contrary leaves open a wide field for Knowledge: (2) Our position will indeed recognize that, "formally," that is without reference to the meaning of the terms involved, a negative can be inserted after the copula of any proposition, but that, nevertheless, if the meaning of the terms be taken into account, many propositions will be found which by their nature do not admit of the existence, even hypothetically, of a contradictory: (3) Not every proposition will be found vulnerable; on the contrary we shall find, not a few, but an indefinite

multitude of Acts of Knowledge, which our honest scepticism will not enable us to doubt. – To show how all this is possible, to introduce into the number of recognized forms of judgments the class of judgments that admit of no negative, is now our immediate task. To accomplish it we shall have to discuss in detail the nature and classes of judgments, the meaning of affirmation, negation, agreement and contradiction, as well as of such other terms as shall present themselves for examination in the course of the undertaking.

Of Judgments in the most general Consideration.

§. 19 A Judgment is the expression of a claim to Knowledge. False statements made with intent to deceive may take the form of judgments, but are not logically such in so far as they are consciously deceitful. The same holds of statements made in the expression of simple poetical fancy, or in jest. The only

Judgments for Logic are earnest and honest statements of belief. Judgments are stated in Propositions. The grammatical form of the Proposition ~~is~~ consists with it the junction of two and only two principal ideas in thought; and it is generally agreed that the purpose of every Judgment is to express the relation of two ideas or of the things or classes of things they represent, to one another. How Judgments express such relations, what relations they express, and whether these relations are meant more of the ideas than of the things, or vice versa, these are the main problems concerning the nature of Judgments.

Of Judgments as expressing Knowledge of Ideas.

§. 20 An argument that claims for Judgments that they may be regarded as an expression of the relations of ideas rather than of things, seems at first to be open to the objection once for all that in Knowledge we claim to have certainty as to things and

not as to mere ideas; that the distinction between Knowledge and fancy, real life and dream, is mainly this, that in the one case, as we conceive, our judgments hold true for the relations of things, while in the other they but deal with the relations of ideas. But it may also be replied that Knowledge is in fact claimed as well of the relations of our ideas as of the relations of the corresponding things; and that Knowledge of things seems impossible without at least the presence and mediation of the Knowledge of our own ideas. And so we may at least assume that in every judgment a claim is made to the Knowledge of Ideas and their Relations. We have a right then to consider judgments in so far as they express a claim to a Knowledge of Ideas, without taking into account for the first in how far they lay claim to a Knowledge of

things. This we shall for the first do.

The question whether the judgments with which Logic has to deal first with things, or first with our notions, is, after all of no great importance from the Logician's standpoint strictly considered. But for the purpose of the following discussion it was necessary to take passing notice of it. Jevons, Principles of Science p. 8 very properly slights it. Lotze's remark, Logik (1874) p. 5-7: "Jedes Urtheil ..... will ein Verhältniss zwischenden Inhalten zweier Vorstellungen, aber nicht ein Verhältniss dieser beiden Vorstellungen aussprechen", is not at all opposed to our present mode of viewing the Judgment. — It will be seen hereafter that we really regard the whole difference between a Knowledge of our own ideas, and a Knowledge of external things as mainly practical, and so as having only an indirect theoretical significance.

Chap. I. §. 21.

Of the Relativity of the Judgment of the Relation of two ideas.

§. 21. Our own ideas – what do we mean by this phrase? We commonly call all propositions, expressions of judgments, in which with a tolerable degree of intelligence we express more or less definite thoughts in more or less familiar words. But how often it is that we use terms of the most complicated significance without careful thought, without clear appreciation of our words, and without sufficient foresight into the true significance of their combination. When we claim in a Judgment to have obtained and now to express a Knowledge of our own ideas, do we mean that we know some relation as existing between the ideas properly involved in the full meaning of the terms used, or only that we know a relation between the more or less vague ideas that may be at the mo-

ment suggested to our minds by the imperfectly comprehended words? -This is a question of some moment. For men are constantly engaged in discussions in which many terms are employed whose significance is very various and often quite unsettled. One makes a judgment with the use of one meaning of a term; and another follows him with the use of another meaning of the same term. The resulting judgments disagree; an imputation of error arises; a conflict follows; and yet perhaps there was no difference at all between the two at bottom. -The answer seems obvious. What one claims to know in a judgment, can be, in so far as it is a relation of his ideas, only a relation of those ideas that are expressed to his mind, by the given terms, at the moment he makes this particular use

of them. By one's own ideas we mean the ideas he now has, at the time of the supposed knowledge of their relation which finds its expression in the Judgment in question. Every Judgment is relative to the momentary insight of the thinker.

Of the Classes of Judgments. Sigwart's Classification.

§ 22 Of all the later attempts at classifying the Judgments that occur in thought, none has been, in so far as we know, so complete, profound, and acute, as that developed by Prof. Christoph. Sigwart in his Logik, published at Tübingen in the year 1873 (the first volume alone has appeared). As for our purpose, that of examining into the essential nature of the process of forming Judgments, the correct division of Judgments into classes is very necessary, and as just this classification of Sigwart's is for our purpose most suggestive, we be-

leive that we cannot do better than to state briefly his results, adding such criticism as may be of assistance to our further progress.

I. Einfache Urtheile: (a) Erzählende; (b) Erklärende

1. The first great class of Affirmative Propositions according to Sigwart is that of the Simple Judgments. They are defined thus (Log. I, p. 95):

— "Wir verstehen unter einfachem Urtheil eines welches, in welchem das Subject als eine einheitliche, keine Vielheit selbstständiger Objecte in sich befassende Vorstellung betrachtet werden kann (also ein Singularis ist), u. von diesem eine in Einem Acte vollendete Aussage gemacht wird."

Of the Simple Judgments there are two classes, Erzählende Urtheile, and Erklärende Urtheile.

a) Erzählende Urtheile: (α) Bezeichnungsurtheile. [p. 57 q.]

2. To begin with the Erzählende Urtheile, the first and simplest sub-class under this head is that of the Bezeichnungsurtheile. Here the subject is something given in Perception. The Predicate is "eine

innerlich reproducirte Vorstellung". Examples of this kind are the Judgments: This is blood; This is snow; or the simple call of Fire! Fire! What one sees arouses an idea or memory of something formerly seen. The two, viz. the perception and the idea, are felt to be one in content. This feeling is expressed in the judgment. But the present perception differs from the past ~~exis~~ and through its very presence. The identity of content and the diversity of position in time give rise to the process of naming, and are expressed in it.

(3) Eigenschaften Thätigkeitsvortheile. [p. 62 sq.]

3. Next in order come the Eigenschafts- u. Thätigkeitsvortheile, which state the properties of things. In these there is first that synthesis which gives the notion of the thing as a unit, second the synthesis which attaches the quality or activity to the subject, viz. to the thing. – That is, the subject is not merely subsumed under the predicate

as is the common statement in regard to these judgments. Only qualities can be subsumed under classes of qualities, only things under classes of things. To refer a quality to a thing is to imply an independent comprehension and identification of the thing to which the quality is applied.

(γ) Impersonalien u. verwandte Urtheilsformen. [p. 64, sq.]

4. In the case of the judgments that express quality or activity, the synthesis in which the predicate is formed in the mind may precede the synthesis by which the notion of the thing is brought to consciousness; or it may cloud the latter and almost conquer it. In the first case we have the judgments in which the order is inverted, the predicate coming first; in the second the judgments known as Impersonal, in which the activity is expressed, and referred to an entirely indefinite and obscure subject: e.g. It Rains. These judgments shade off gradually into mere Benennungsurtheile.

Chap. I. §. 22. 5, 6.

(δ) Relations-urtheile [p. 66 sq.]

5. When in a judgment a relation is predicated as existing between two things, we have a triple synthesis. First the relation, as given in perception is identified; and then in each direction one of the aspects of the relation is identified with the corresponding member of the relation, i.e. with one of the two things. How all this is done appears in a judgment such as "the man is on the horse". The relation expressed in on, the man as being on one side, the horse as on the other of the relation, are all three necessary conceptions in the formation of the judgment.

(ε) Urtheile über Abstracta.

6. When a quality or manner of action of a thing is made the subject of a special proposition, and is either united in the synthesis of a judgment with some one of its modifications, or is spoken of as that through which the given thing possesses a certain predicate, we have, finally, the sub-class of Urtheile über Abstracta.

b. Erklärende Urtheile [p. 87]

7. This completes the list of the sub-classes of the Erzählende Urtheile. The Erklärende Urtheile are those whose subject is the significance of the word or words in which the grammatical subject of the proposition is expressed. They differ from the previous class in that they are valid independently of the time-conditions on which the Erzählende Urtheile depend.

II. Plurale Urtheile: (a) Plurale Urtheile im engeren Sinne; (b) Allgemeine Urtheile; c) Particulare Urtheile [p. 166 sqq.]

8. When in a series of judgments the same predicate is repeated of a number of things, one may combine the judgments for convenience thus: A and B and C are P. But if A, B, &c. fall under one general name, N, then one may say simply: Some Ns are Ps. This is the Plurales Urtheil im engeren Sinne. — If the word "all" is used, it must properly mean only all of some particular set of objects; it must be justified by actual enumeration; it must really be an answer to the question: Are there any exceptions? Strictly speaking in this

case the "all" is the logical predicate, the object of the whole judgment. Only by the presupposition of the presence of single objects of judgment, and by the claim that one has counted them can the "all" be justified. A judgment in this form is an Allgemeines Urtheil. - Such judgments as, All men are mortal, All bodies are extended, and the like are not proper universals; but they are either ~~Einzelne~~ Erklärende Urtheile, in which the "all" is used for the sake of indicating, (imperfectly) what is implied in a definition, or they are the expression of an inductive conclusion from observed to unobserved cases. - If the word "some" is used in other than the sense of the Plurale Urtheile in engern Sinne, it can only be to indicate exceptions to a general rule, or to prepare the way for a universal. Thus alone is the true Particulares Urtheil possible. - These three divisions make up the second great class of Affirmative Propositions, viz. the Plurale Urtheile.

Of the Nature of the Affirmative Proposition in General

9. Thus then the forms of the Affirmative Propositions, in so far as they are categorically expressed, have been defined; and

Chap. I. §. 22. 2.

before going further it is well to ask what general results as to the nature of the categorical affirmative judgment to figure at ~~the~~ reaches. It has already become evident that he considers the judgment rather as an affirmation of the objective relations of things than as a simple union of concepts in the mind; and herein his starting-point is different from our own, which seeks to discuss the judgment as an expression of a subjective act of the mind. Just this difference of standpoint will be found suggestive for our ~~the~~ investigation; and we willingly devote a space to the brief summary of his conclusions on this matter. He says (p. 77):- "Mit der In-Einsetzung verschiedener Vorstellungen ist das Wesen des Urtheils noch nicht erschöpft; es liegt zugleich in jedem vollendeten Urtheil als solchem das Bewusstsein der objectiven Gültigkeit dieser In-Einsetzung.

"Die objective Gültigkeit aber beruht nicht unmittelbar etwa darauf, dass die subjective Verknüpfung den Verhältnissen der

entsprechenden Scienden entspricht, sondern auf der Nothwendigkeit der In-Einsetzung."

The sense of this is that in the judgment on the one hand nothing is possible as a knowledge of real things except in so far as our consciousness is trustworthy; i.e, that we are but certain of our combination of ideas and so not of the real things in their combination; while, on the other hand, we are not content with simply this combination of ideas, and mean in the statement of it to tell something about the outer objects. - But so much in any case is certain, viz. that in every judgment our final support is the subjective necessity of the joining together in our minds of these ideas in just this way. The objective validity = our subjective certainty; such is the final result of the examination of every judgment. Sigwart therefore comes himself to a conclusion very much in favor of the general thought that has governed our procedure thus far, viz. the idea that the judgment is pro-

perly to be examined first of all from its subjective side. And we may add too, Is not the other side of the act of judging, the assumption of the presence of something whose relations are objectively like the subjective union of our notions, itself an assumption whose significance is mainly subjective, and which may be treated as purely a part of the subjective act of thought? We shall at all events be able to accept Sigwart's classification as one according to the classes of ideas that appear in judgments, without asking whether it also corresponds in its divisions to the classes of things into which judgments afford us insight. — Such being then the relation of the judgment to external reality, it remains to inquire what the act of affirmation in itself is, or rather (since a complete definition of so peculiar an activity is not possible), how the act of affirmation is related, prepared, or maintained in the mind. Sigwart's conclusions on this point are as follows.

Chap. I. §. 22. 10.

Of the Nature of Affirmation.

10. Affirmation is the Synthesis of Subject and Predicate. This synthesis may be simple or complex; but it is in every case a synthesis of the two. The subject is thus not so much subsumed under the predicate, as identified with it. A difference between the ideas of subject and predicate is in consciousness; this difference is to a certain degree, if not wholly, cancelled by the act of judgment. The simple act of judging is in Aristotle's words (quoted Log. p. 5), οὐνθεσις νοημάτων ὡς πρᾶγμα ἓν ὄντων. — The subject is that member that is first present to the mind; the predicate must have its meaning and its character already established by usage and previous thought [cf. Log. p. 23]; every judgment thus presupposes the previous presence of ideas in the mind. — Finally, no affirmative judgment can be as it were stored away as a final result in the mind, to

be repeated at pleasure as a result; but it must from its very nature as a living process of thought (ein lebendiger Denkact), be formed anew whenever it is to exist for the mind. - Logic, p. 23: -

"So wie wir eigentlich reden wollen, hat das Urtheil als solches seine wirkliche Existenz nur im lebendigen Urtheilen, in demjenigen Acte eines denkenden Individuums, der sich in einem bestimmten Momente innerlich vollzieht u. im Satze ausspricht, u. jedes Fortbestehen des Urtheils als lebendigen Vorgangs im Denken ist nur dadurch möglich, dass dieser Act immer u. immer wieder, in der Regel aus Veranlassung seines äusseren Ausdrucks, mit dem Bewusstsein seiner Identität wiederholt wird."

Negative Propositions and Negation in General.

11. This view of the nature of the activity of affirmation quite coincides with the ideas so far developed; and we fully accept it, reserving merely the privilege of developing the thought and endeavoring

Chap. I. §. 22, 11.

to make it more definite in the sequel. But there remain other classes of judgments yet untouched, and these we must speak of, examining in each case Sigwart's views. — But one distinction we must omit here in summing up our author's views; and this is the distinction of analytic and synthetic judgments, the famous ground of the battles of Neo-Kantian philosophy at the present day. This matter will form the subject of our discourse at a later stage. Here we should have to assume too much. — The whole class of Negative Propositions has been thus far omitted from all consideration. How does Sigwart define and classify these, and what view does he hold of the nature of negation as a mental act? This subject falls next in our way. — Here is the answer in general (Logik. p. 119):-

Die Verneinung richtet sich immer gegen den Versuch einer Synthese, u. setzt also eine irgendwie von aussen herangekommene oder innerlich entstandene

Zumuthung, Subject u. Prädicat zu verknüpfen, voraus. Object einer Verneinung ist immer ein vollzogenes oder versuchtes Urtheil, u. das verneinende Urtheil kann also nicht als eine dem positiven Urtheil gleichberechtigte u. gleich ursprüngliche Species des Urtheils betrachtet werden.

The first consequence of this consideration is, that the negative propositions all suppose positive propositions to which they are opposed; and all are therefore subordinate in form, not equal in the ranks of classification, to the affirmative propositions. — The negative proposition only serves to check the extravagances of thought. For this reason negations in indefinite multitude may be constructed concerning any one thing; and this is the reason why a negative description of a thing is impossible as a complete one. — In the negative proposition (cf. p. 121) the two terms have the same

meaning as in the corresponding affirmative. The copula too has the same meaning; and must not be called negative. What happens is that the connection of subject and predicate expressed in the copula of the affirmative, is denied in the negative. The negation is a judgment about a judgment. It is not a simple act, like the affirmation; but a complex act. — Wherein the act of negation consists, can, beyond this statement, viz. that it supposes and nullifies a previous affirmation, in no wise be defined, since the act is peculiar and fundamental (p. 121). — As for the forms of negative judgments, they very simply follow the forms of the positive. When the affirmative contains a duplicity, triplicity &c. of synthesis, the negation is, without special modification or determination, equivocal (p. 124). — The negation has finally its ground either in simple lack of a given predicate, or in positive exclusion of it from the subject.

Chap. I. §. 22. 12.

The Principle of Contradiction.

12. The act of negation is thus an act that always relates to judgments, and never to simple ideas. Negation implies strife, and strife (p. 134) can only arise where two ideas endeavor to find application to the same subject. Hereafter can it appear that the two ideas are incompatible, or opposed, or contradictory, or however else one may be pleased to define the relation in question. The validity of a negation depends on the consciousness that what is various cannot be identified in so far as it is various. This consciousness is one that cannot be grounded in any other, but that is fundamental in the mind. - With this consciousness is immediately connected the Principle of Contradiction, which is (p. 145), in fact, but a definition of the meaning of the act of denial in terms of itself, and has only worth in bringing nearer to consciousness what one actually does in every act of denial of a proposition. The Principle of

Chap. I. §. 22. 12, 13.

Contradiction is expressed in the formula: The two judgments, A is B, and A is not B, cannot at the same moment be true. The Principle of Contradiction is therefore not expressed in the formula A is not non-A; it refers to propositions, not to concepts. The latter, the ordinary form of the principle is really without application, founded on an incomplete comprehension of the nature of negation, and so not properly to be retained in logical doctrine (p. 118 sqq.). —— The nature of Negation is fully understood when to this Principle of ~~Negation~~ Contradiction is added the other principle, much neglected in Logical analysis, that the denial of the denial is precisely equivalent to an Affirmation. — The Principle of Excluded Middle is properly to be expressed thus: Of two contradictory Judgments the one must be true, the other false, and there is no third judgment possible. (135 sqq.)

Verneinende Plurale Urtheile. (Logik, p. 182 sqq.)

13. As in case of the affirmative, so in case of negative judgments, a num-

ber of negatives having the same predicate can be united in one expression. A is not P, B is not P, C is not P, all together form under the supposition of a community of class of the subjects the compound judgment "Some S's are not P's. - As in case of the plural affirmatives, so in case of the negative judgments, we may have universals, obtained originally by actual count. Of these the logical form is: The A's that are not B are all the A's, commonly expressed in the words: No A is B, which form indeed is the more fundamental, as expressing the actual count that has taken place. — Of different nature is the negation of a universal affirmative. Here the negation is directed against the "all", which forms properly the predicate of the affirmative universal.

The Modality of Judgments. Logik, p. 189 sqq.

14. So much then as to the nature of Negation, and of the place of the Negative Judgments in the classification. It now

comes in order to speak of the distinctions of Modality. These Sigwart rejects as logically unessential to the act of judgment. The so-called problematic judgments are only in so far judgments at all, as they declare the the speaker's feeling of uncertainty. The apodictic and assertoric judgments only differ in the ways in which they were attained, not in their nature as judgments. — The force of these views we shall better be able to estimate further on; and we pass over discussion of this part of Sigwarts analysis in this place.

Of Hypothetic and Disjunctive Judgments.

15. Thus far we have considered Judgments as simple acts that may be combined as it were by simple addition into Plural and Universal Judgments, but that have not been regarded as inwardly complex. — We now come to the classes of Judgments wherein the various elements of the subject and predicate are complicated by the union of various forms of speech in various ways. — These comprise most es-

peciallly those wherin various complete sentences are combined in one judgment. — First in order among these come the Hypothetical Judgments. These express and predicate (p. 241, sqq.) the necessary sequence of one hypothesis from another. This necessary sequence is the proper predicate of the judgment — Second in order among the principal classes of these complex judgments come the Disjunctive Judgments. These assert that of a given number of mutually exclusive Hypotheses, one must be true. The content of this assertion is the predicate of the judgment. — And these two classes are the two great ones into which complex judgments fall.

Summary. 16. Thus is completed the analysis of the judgments that occur in our thought, and the one great result is expressed (p. 257) thus:

"Die Urtheilsfunction ist über-

all in of fern die selbe, als sie kate=
gorische Aussage eines Prädicats
von einem Subject ist."

This remarkable and yet quite clear result is, we think, of no little value. The act of the mind in forming judgments is the same, be the judgment simple or complex, singular or uni= versal, problematical or necessary, hypo= thetical or disjunctive. In all these forms of judgment the mind asserts a particular predicate of a particular subject, and that directly, categorically, and unreservedly. If the form of the judgment be only: I am uncertain whether &c., still what is asserted, viz. the uncertainty, is asserted cate= gorically and confidently. This unity of the act of judgment has been made apparent by our author in that he has started in his division of judgments, not, as was formerly done, from certain

striking peculiarities in the modes of expressing judgments in language, but from the mental process itself that occurs in judging. This process he has followed in the lengthy analysis of which we have given but the barest outline, into minute details; and the result is the thesis just quoted. This thesis, and the main features of the classification described we lay at the basis of the following investigation; and we have stated Sigwart's view at some length that it may clearly be seen what in the ~~[illegible]~~ remaining discussion of judgments we ourselves wish to be held responsible for, and what is suggested to us by our author's analysis.

The Act of Judgment as an Act of Will.

§. 23 "The Act of Judging is everywhere the same". Such is Sigwart's result. If we ask him for a description of this act further, we receive the reply that it is the cate-

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gorical synthesis of subject and predicate. This reply cannot satisfy the purposes of our present inquiry; although it may be quite sufficient for the purposes of Logic. We desire to know something more about the nature of the act of judgment. What happens in the mind when we judge?

Negative Argument. a. The Act of Judgment not an act of Subsumption of Subject-notion under Predicate-notion.

1. The subject, as we have seen, is not subsumed under the predicate. On this point, but briefly alluded to as yet, we must lay no little stress. The judgment: Cherries are red, is not a subsumption of the notion of cherries under the wider sphere of the notion of redness. Nor is it the subsumption of the class Cherries under the sphere of the wider class of red things. If the judgment in question were either of these things it would be expressed as such, and we should not have had to wait for Logicians to come and transform it before our eyes into a foreign shape. In the first

place this judgment, Cherries are red, is either a judgment of experience, or a judgment of definition. If of experience, it reduces to a mere summing up of various single judgments of the form: This (cherry) is red. If of definition, it in the end reduces to the same form. For if it is a part of the definition of cherries that they should be red, the rose means simply that he has formed in his mind a series of ideas of things; that in these ideas there are certain properties or elements common to the whole series, and certain elements that he chooses to make variable; that one of the constant elements is that of redness; that to the whole series of ideas in question he proposes to give a common name, that of cherries; that therefore, as he determines, all those ideas and only those that have the properties of the whole of the series in so far as these are constant, are called cherries; that therefore all cherries must have

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the mentioned common property, redness. Now that one can form and has formed this series of ideas, that, in accordance with his will they have the common elements in question, that one of the common elements is redness, all these things require individual judgments which are simply summed up in the judgment of definition, (all) Cherries are red. This judgment of definition therefore falls apart into simple judgments, and, if we take account of these simple judgments merely, as acts of the mind, we have as the elements, the atoms of which the judgment is made up, simply such formulae as "This is red"; wherein the "This" may refer to an object before the mind, or to the object supposed to correspond to a given idea of the mind. — But now in this simple judgment, wherein lies the subsumption? What occurs in it is not the arising of an idea in the mind which has a wider sphere than the first idea and, which

thus includes it as a part. Quite the contrary; for the idea first in the mind, the subject-idea, may have many other elements besides the one of redness. It may contain the elements of extension, solidity, taste, &c. &c. It may in consequence occupy more room, if you please, in consciousness, and so have really greater extent than the simple predicate-idea of redness. Nor does the simple judgment: This is red, predicate at the moment the existence of other red objects with which the present object may be classed. It is true to be sure, experientially, that there must have been an experience of red objects before, else the present one would not be classed as red. But this is not affirmed in the judgment; but added on by someone who studies the antecedents of this judgment afterwards. In the immediate unreflected judgment: This is red, the mind is as little concerned about how it came to the notion of redness, as

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it is about the problems of logic in general. In short, there is no question of extension or intension, of classes or spheres, of subsumption or inclusion. What happens is simply this. Here is the object, or the thought of it, arising in the mind. Here, directly beside it, the mind does not without special reflection know whence or why, arises the idea of redness. This idea is in fact derived from previous impressions. In effect it might as well be an eternal idea of the soul for all the mind at the moment of finding cares. This idea of redness is not connected with any distinct object as it arises in the mind. There is no memory of red clouds, of red blood, of red clothes, of red strawberries, only an idea of redness. All special accompaniments disappear. The idea is not in the strict sense a memory, for there is no consciousness that one has had it before, but only the certainty that one has it now. This second idea stands beside the first. The act of the mind is simply to

take that portion of the first idea that agrees with the second, and unite them by a definite identifying activity. One idea is as if were, laid over the other, made to cover it, infused into it. — Only then does the mind become conscious that all this activity depends on previous experience, when it is at a loss to make a given judgment, i.e. when something arises in experience that seems strange, that is not answered by the appearance of an idea beside it, that receives no immediate predicat. Then in the effort to obtain one, the mind begins to search among its stores, to experiment on the keys of association, if haply the missing note may be found, to reflect in short on its own methods. Then it is brought home to us, that previous experience is the source of our power to judge. But in the simple act of judging, direct, plain, unreflected as it is, there is no consciousness of dependence on the past, and consequently no subsumption of present under past, but pure identification of two present ideas.

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3. The Act of Judgment is not the Reflected Assertion of Identity of Extension or Intension, partial or total.

2. If the above hold true of simple judgments, what shall we say of the plural judgments that result from their combination, or of the universals that refer to a whole class of objects? Here it would seem that in accordance with the views so far expressed we must hold to the theory which, beginning in Hamilton's Quantification of the Predicate, has developed to its latest form in the doctrine of Jevons, the theory namely that regards the subject as laying claim to a part, more or less definite, of the extent or content of the predicate-notion, and as being identical with this part, although outside the other parts. This theory avoids the indefiniteness of the doctrine of mere subsumption, but it is none the less a theory which converts the natural judgments of thought into an artificial form they by no means properly take. The assertion: Cherries are red is not identical, as an act of the mind, with the asser-

tion Cherries are some red things, nor with Jevons' form of the same perversion of the natural activity of judging, Cherries are the cherry red things. Cherries are red, means simply to express the confidence of the mind that whenever the idea known as cherry arises in the mind, the idea known as redness will arise by the side of it, and be related to it in the manner described in the last section. This confidence may arise in any way you please; but it is not the assertion of the relation of the cherries as red things to other red things; it has nothing to do with the class of red things in general, nor with the extent of this class, nor with the proportion of red things that are cherries, nor with any like consideration. — The whole attempt to quantify the predicate of natural judgments arises from the misunderstood nature of the so-called conversion of propositions. A converted proposition is an

entirely new proposition, having other basis and other objects. It is only indirectly connected with the original proposition. To try to transform the original proposition so as to make it signify its connection with the second, is to warp it by introducing considerations totally unessential and foreign to it. Cherries are red, is a judgment intended for the identification or description of cherries. Some Red things are cherries, is either a useless playing at judgment, or it is a judgment intended to explain the application of the notion of redness. Herein appears the entire variety of nature of the two judgments. That cherries are red however only gives ground for saying: Some red things are cherries. And why? Not because of the nature of cherries, but because of the nature of our experience of redness, or of like properties. We have seen some red things that were not cherries. The memory of these prevents us from saying

All red things are cherries. Or we have not seen or do not remember, or do not choose to take into account the other red things. Yet still we may not draw from the first judgment the conclusion: All red things are cherries; and that simply because our experience has taught us in general that the seeing of a certain class of red things does not prevent us from seeing any number of other red things of different class. But all this reflection has nothing to do with the first judgment. That asserted, not concerning redness nor concerning the class of red things, but concerning cherries. - In brief then, to quantify the predicate is to introduce a new judgment that was not present before, and to pervert the natural course of our faculty of judgment in order to serve ends foreign to the original one. The act of judgment is not the assertion of the relation of the classes of ideas under

which subject and predicate may be subsumed, but of the identity of these ideas themselves in one or more features.

Identical are therefore all judgments in so far as they assert total or partial identity of subject- and predicate-ideas. But in so far as the ideas identified are regarded as having separate and independent causes in the feelings that precede, the judgments are not entirely identical. Judgment is of identity, not in identity. "Mammals are mammalian animals" is no example of the true kind of identification as it occurs constantly in thought. "This man", thinks one hesitatingly as he scans the face of some one who accosts him, "this man", and his memory is busy with half-forgotten recollections, - "this man is my old friend whom I have not seen for many long years!" he finally exclaims. Here is a judgment of identity. Yet the identity is no dead-repetition.

The Judgment in the Complication-class in the Simple forms an Act of Identification.

3. The polemic in which we have indulged against the doctrine of subsumption, is not intended to hold as against the methodical value of this doctrine in the theory

of syllogistic reasoning, or in any other department of logic. To fashion judgments according to some particular model may be valuable enough for special purposes. But we are here dealing with the essential nature of the act of judgment, and to understand this we must study the judgment in its most natural and unperverted form. The natural judgment is, as a judgment, not the subsumption of the subject under the predicate. This is what we have thus far maintained. It now remains to study the various more complicated forms of judgments, to see whether they also can be reduced to a simple identification of ideas that arise in the mind, as figures of ~~speech~~ hints, and as we have already claimed ourselves, in this particular ~~case~~ enlarging upon him. The brief analysis into which we here enter will be made as independent as possible. — We have objected to the calling of the judgment, Cherries are red, a subsumption of the class of cherries under the class

of red things. Our objection was simply that there was no intention of such subsumption in the natural act of thought. But take a judgment that is expressly a judgment of subsumption. What shall we do with this judgment: The whales fall under the class of the Mammalia? Must we not admit that here is no assertion of the identity of any subject and predicate, but an express subsumption of the subject under the predicate? Must not our general statement in regard to the nature of judgment fail in this case? We ask in reply: What is the logical subject, what the logical predicate of such a judgment as this? The subject on the one hand is certainly not the whales as they live in the sea; for these do not fall into classes. On the contrary our concept of the class whale, or of whales as a class, is meant as the subject. Well and good, it will be said; but this class of whales is by hypothesis subsumed under the higher

class of mammalia. Quite right, but this is not to the purpose. For what is the logical predicate? Not the class of mammalia, but — the subsumption expressed as something already accomplished by science in its investigations. Of the class of whales this property is predicated, viz. that it is subsumed under the class of Mammalia. And the predication follows precisely the same principle as before; it occurs by means of an identification through an act of the mind, of the property in question with the concept of whale. Thus, abstract and advanced as this judgment is, it is precisely like the most simple of mental acts in that it consists in the identification, total or partial, of the subject- and predicate-notions. — Take now an example of an historical statement: Caesar paused upon the banks of the Rubicon. The same thing occurs here. The notion of time is introduced; but the synthesis of subject and predicate is in the end

just such as in the simple and typical
This is red. "Caesar"; an idea determined for
each one by his knowledge and his
standpoint, probably exactly alike in no
two persons, but assumed by the narrator
as known to all; "passed upon the banks
of the Rubicon"; every word contributing
something to the one complex idea, to the
synthesis that makes up the predicate, a
synthesis that everyone is supposed to
make for himself, wherein time, place, ac-
tion, relations in space to surrounding ob-
jects, significance of the moment, all
these are more or less completely indica-
ted. Here you have the two syntheses.
The act of judgment is the identifica-
tion of these two ideas, just in the same
way as in the simplest judgment. How one
comes to identify them, what right he has
to do so; these are other questions. One does
identify them; and that is all we are
here considering. — We have already in-

dicated in speaking of the judgments that express subsumption how all judgments of relation are to be treated; judgments that in fact Sigwart somewhat obscures by his mention of the triple synthesis (v. §. 22. 5. p. 83, the abstract we have given). Any number of syntheses may occur within the limits of a given judgment; but only one of these constitutes the judgment itself. All the others are subordinate; most if not all of them generally unconscious. The one that stands out clearly in consciousness is the synthesis of subject and predicate after they have been separately constructed. In the judgments of relation the subject is put identical with the idea of that which is in the relation to the predicate. — The complication of subordinate syntheses is especially great in case of the hypothetical judgments; but the same general fact holds. — And this is perhaps sufficient in the way of individual examination of the kinds of judgments.

We may safely conclude, we think, that in general the act of judgment is an act of identification, not of the whole meaning conveyed in the subject-word with the whole meaning conveyed in the predicate-word; but of at least one aspect of the subject-idea with an aspect of the predicate-idea, viz. with that aspect of the predicate-idea that presents itself to the mind in the act of forming the judgment. Thus on the one hand the subject is not subsumed under the predicate-idea; nor, on the other hand, as in the theories of the quantification of the predicate, is the predicate-idea analysed to see whether or no its whole extent is comprised in that aspect of it that appears in the given judgment; but a more or less distinct idea arises in the mind as the subject-idea, another by the side of it as the predicate-idea, and the aspects of the two, in so far as they are agreeable, are identified.

The Identity of Subject and Predicate as Constructed by the Act of Judgment and as therefore Existent only in this Act.

4. Judgments are at all events not simple mirrors of the external truth. In all that we have had to say about them we have seen how they imply activity of the mind. Even viewed as recognitions of the identity of subject and predicate-ideas in some one respect, they

are at all points marked as active re-
cognition. Quite like ideas might rise in the
mind without having any notice taken of
their identity; the most various ideas as brought
into some connection, are found identical in
some aspect, when one acts concerning
them in the form of judgment. Judgments
are acts, this is the most important re-
sult of all our discussion thus far. Let us
add some thoughts on the significance
of this active nature of judgment. — First
then, only in judgment can identity of aspects
be recognized. If one says: I have an idea
in my mind, and beside it another, and
these two ideas are identical in some of their
aspects; yet I do not judge them to be so, do
not bring them together, let them lie where
they are, and do not puzzle myself with
the trouble of affirmation or fear of contra-
diction, but just know the identity without
judging of it: we should think such a per-
son very absurd in his statements. Knowledge
is not possible in any case without judgment.
When one lays claim to any knowledge what-

ever, be in the very claim judges; and his judgment is an activity. – Now what follows from this? We answer, the fact that before the act of judgment the two ideas compared cannot be said to be like or unlike one another, nor to be identical in any aspect. – This somewhat unexpected result of the investigation of the judgment will lead us a long way towards our final conclusions. We must examine it. – The objection immediately arises, have we not ourselves several times, yes, but a few lines above, spoken of ideas as like or identical before the act of judgment? We have, but not when speaking in the strictest sense. We have as little objection to the expression: ideas are first alike, then judged to be alike, as to the expression, the sun rises and sets. Both expressions arise from an universal and necessary deception of the ordinary consciousness. But in the last analysis the expression: subject and predicate have first like aspects, and are afterwards identified in those aspects in the act of judgment, is meaningless. If the

subject- and predicate-ideas are asserted to have been alike in the aspect in question before the act of judgment, the assertion must signify that they could be known to be alike before the act of judgment; and this is but saying that they could be judged alike before being judged alike; which is a contradiction. Identity of aspect is an expression that has meaning only in and by the act of judgment. What may be the likeness or unlikeness of our ideas before we judge of them, we can never know. Likeness and unlikeness can only be said to belong to these ideas when we judge of them; such at least must be the limitation of our consciousness. — Another, more dangerous objection may be taken from the apparent distinction that we have here made between our ideas in themselves and our ideas as we know them.

What sort of ideas have we before we know that we have just these ideas and no others? 2. What may be the nature of the ideas in themselves before they are compared, and identified with or separated from one another? This matter demands a separate consideration; and this would carry us too far for the present. We leave it until the next paragraph, and here content ourselves with applying our results to the main question before us, to the determination of the nature of the act of judgment.

Summary of the Results as to the Nature of the Act of Judgment.

5. Let us now sum up briefly the results of the whole discussion on the nature of the Judgment. — A Judgment, we saw in §. 19, is a claim to Knowledge, made in the form expressed in language in a proposition. According to §§ 19, 20, 21, the direct result of every judgment is the expression of the relations of two principal ideas, viz. those forming the subject and predicate respectively; the ideas in question are not

necessarily the ones that would be present to the mind of anyone who might read the words in which subject and predicate are expressed, but only just those ideas that are at the moment in the mind of the thinker. Every judgment is relative to the thinker's standpoint at the moment. In §. 22 we have the statement of Sigwart's result, which we follow as far as it goes, viz. the result that in the act of judgment, whatever its form, one thing and one only is meant to be accomplished, viz. the synthesis of subject-idea with predicate-idea. In the present paragraph we have endeavored to render more definite this result of Sigwart's, by calling attention to the fact (v. sec. 3, p. 116) that there is but one clear synthesis in every judgment; and that all subordinate syntheses besides the one of subject and predicate are really not to be taken into account as conscious syntheses; and by making use in general for the synthesis of subject and predicate in all kinds of judgments of the

term Identification, which Sigwart has used with apparent hesitation, and but seldom. At the same time we have sought to simplify the whole matter by getting rid of the idea that the identification of certain aspects of the subject-and predicate-ideas can be accomplished by the artificial contrivance known as subsumption, or that the identification we mean is the same in nature as the [redacted] kind of identification introduced from without into judgments by certain logicians for special ends, and known as Quantification of the predicate. Lastly, attacking the act of identification itself, we have sought to rid it of some of its obscurity by rejecting one hypothesis as to its nature. We have found it, namely, no act of reception, by which in some way the pre-existing identity of two ideas was simply accepted on faith by the mind, but an act of construction, whereby an identity that as identity was not in the ideas before the act of judgment, is created at the very moment its existence is declared.

Chap. I. §. 23.

— Such are our separate results. What is their significance? — First we find, with Sigwart, that whereas for Kant there were twelve distinct Einheitsfunctionen, in fact there is but one, the Einheitsfunction par excellence, the identification of subject and predicate in some aspect. Secondly, if we ask what this Einheitsfunction is, we have as answer that in so far as it is judging at all, it is pure activity. The ideas themselves to be sure are given in the act of judgment from elsewhere. At least so far they remain an insoluble ingredient in the act of judgment. But in so far as it is judgment, the act is pure act; and it is for the same reason not the separate ideas, which are not acts but facts. What is done in the judgment is the assertion of identity. But this identity does not exist in the ideas before the judgment; it is constructed first in the act of judgment. What judgment is, is all activity. What it asserts is its own construction. Its aim is but its own realization. It works

but in its own service. Everything about it has meaning only from the standpoint of action. A finished, lifeless, immovable judgment, something that could be examined like a work of art, is impossible. A judgment is only when it becomes. All that makes it of worth is born with it, and dies with it; to be revivified again perhaps, but only in a like act. What name can one find for such an act? Intelligence is regarded as passive by most thinkers who have not (and alas, there are only too many who have not even to-day) been taught better by the profound thought of Kant. Intelligence is by such still spoken of as the mirror of the world. Intelligence, that mental caldron into whose magic depths nothing can drop and ever appear again in like form as it entered. And so if we called these pure acts, these primal manifestations of thought, Intelligence, we might, though justified in our use of terms well enough, be nevertheless

found offending against some definition. We prefer to be more express in our language, and to say boldly that all Judgments are Acts of Will. Like all other acts of will they have in them a foreign element, the material on which they works. In case of active life this material for the Will is made up of the objects we see and hear and handle, of tools, and food, and toys, and money, and weapons, and words. In case of the activity of Judgment the material is made up of our ideas. And as from the use of tools there is brought forth, not the mere heaping up of the tools themselves in various shapes, but the construction of pleasing or necessary objects; as from food one gets not merely the arrangement of food on tables, but also the satisfaction of hunger; as through the use of weapons there is attained not merely the sound of the clash of weapons, but also the slaying of enemies; so upon the use of ideas in

judgment there is consequent, not merely the massing of ideas, but the birth of entirely new forms of mental life, which elsewhere than in judgment itself are not to be found.

The Judgment is Identification by Act of Will.

6. Here then we have the answer to the question with which this paragraph opened. To define the nature of the synthesis of subject and predicate in which every judgment has its being, and to explain how this synthesis is made, through what kind of mental operation; these were our objects. We may express our final results as to each of them in two sentences. The synthesis in question is a synthesis of identification of certain aspects of subject and predicate. The means by which it is accomplished is an Act of the Will, whose object is the identity.

Further Questions.

7. A Judgment an Act of the Will? - So be it; but are we thus on firmer ground than before? The Will is indefinitely various, inconsistent, untrustworthy. As

least such is its reputation. Whatever the Will does it can undo at pleasure. Whatever it has affirmed, it can most certainly deny. How then are we nearer our final object? We started out with the intention of reaching unassailable propositions. Here we are, after a long study on the nature of propositions in general, apparently more hopelessly involved than ever. The sceptical result seems inevitable. If the Will alone can affirm, cannot the Will also deny? Cannot the Will then affirm and deny all things at pleasure? Where then is certainty to be sought? Or do we perhaps intend to put some limitation to the Freedom of the Will, and so bind down the affirmative power of the mind to some Categories of Knowledge? And, a propos of this, what influence does this whole discussion have on the question of the Freedom of the Will? - These questions and others rush in

upon us, and seem to demand attention. We shall ~~consider~~ treat them all in good time. In fact, we were never nearer our goal than just at this moment. The unassailable judgments will soon be manifest enough. Meanwhile let us turn from this general consideration of the Act of Judgment to the discussion of its relation to the material on which it works, and through which alone it is possible.

Of the Subject and Predicate Ideas as the Materials of Judgment.

§24. No discussion of the nature of Judgments would be at all complete that omitted the discussion of the Ideas that, as subject and predicate, form essential parts in every act of judging. We have spoken of the Judgment as pure act. What do we intend to do with the raw material without which all judging were impossible? And first as to our knowledge of these ideas. How and in what way do we know them; and do we know them at all, apart from the act of judgment?

Chap. I. §. 24. 1.

Of the Knowledge of the ideas in themselves.

1. The simple statement of the result of the preceding investigation is this, that in the Judgment, in so far as it is a judgment, an identity is willed between two ideas that are in the mind; and that in so far as the judgment is an Act that claims to be Knowledge, this will is one that is assumed to be enduring and trustworthy. If the Will may make precisely the opposite decision hereafter in respect to the same ideas, the judgment in question is not Knowledge. But if the Will is always bound to endure by this its present act, then the statement in question is Knowledge, and is to be approved as such. – Now as to the two ideas themselves whose identity is willed, the question arises, are they known in the act of judging as distinct and separate ideas? If so, then in judgment is not something more known, i.e. willed, that the identity of

Chap. I. §. 24. 1.

aspects of the two ideas? The reply is that the willing of the identity is in itself the willing of two ideas as identical; and of how the two ideas that are willed identical are related to the act of willing them identical no further account can be given than that everyone may see directly for himself how this all is, by simply performing an act of judgment for himself, in his own mind. Beyond what everyone can discover of the two ideas and their identity by examining his own acts, no one can tell him. For the whole matter is too peculiar to be described, and too directly visible to be made clear by discussion. In the act of willing identity, the will itself inevitably brings with it, and has inextricably bound up with it, the consciousness of the members that are willed identical. This is all we can say. — But what then did we

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mean by saying that the ideas in themselves are not identical, but are only made so in the act of willing? What were these ideas in themselves? – We reply, first, that the statement about the ideas in themselves was directed against the false theory that, seeing in intelligence the faculty only of mirroring an outer world, would have it that in judgments ideas as such, pre-existent to the act of judging in all their interrelations, simply picture certain of these real relations in the act of judgment; and that so the mutual relations of the ideas are independent of all recognition of these relations. An argument against the term, Ideas in themselves, would be fatal to the theory we oppose; for it would reduce all ideas to the simple necessary constituents in every act of identification; and this is just what we wish ourselves. But in fact the term,

Ideas in themselves, has a perfectly justifiable meaning and use; only these ideas in themselves are not the ideas that appear in and form part of the judgment. The members of the act of identification are as was remarked long since, merely the ideas as they are momentarily in the mind when one judges. The ideas in themselves are the ideas that are capable of analysis and connection with one another in a whole series of judgments, and that as such are realized only partially and symbolically in any one judgment. The ideas whose identity we actually will in judgment are the ideas that are in consciousness along with the act of willing. The ideas in themselves are abstractions of our own, and express the fact that we desire to be able to introduce one and the same idea into a whole series of acts of willing, that we ought to be able to do so, that we ideally must be able to do so. — To take

an example: when our judgment of the last paragraph: Cherries are red, is uttered, everyone who hears it and understands the language, will doubtless be able to form and agree with this judgment. But perhaps no two hearers will form the same judgment, strictly speaking, for they will not have quite the same idea of cherry and redness in their minds. One who has just eaten cherries will have a different idea suggested to his mind from that suggested to the mind of one who has not eaten them for a long time; certainly a very different idea from the one of a hearer who had never eaten cherries at all; and still more widely different from the idea suggested to a native of some country where no cherries grow, who had never seen a cherry, but only a picture of one, or had heard the fruit described. One who liked cherries would have a different idea from the idea of a man who did not

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like them, and so on. The same holds true of the idea of redness. But all who hear the proposition (are to) make like judgments, will like identities. Here you have the variety of ideas actually present and identified in the minds of the hearers. But now, in the long run, no one is satisfied with this variety. For himself, each one feels that instead of changing his ideas for every new experience, he would like stability of ideas. All together, men feel that mutual understanding is desirable, but of course not fully to be realized under such circumstances. An effort is so made to obtain fixity and unity of ideas. And how? First of course by the actual examination in common of objects. To be sure we all have as nearly as possible the same idea of a cherry, we may bring one in and look at it. But this is not always possible, nor is it in every case quite satisfactory. Totally impossible is it when the subject of discussion is purely ideal. So we try another

expedient. We make in common other judgments in which the idea of cherry enters. Agreeing in these judgments we believe ourselves to have attained more certainly a community of ideas. We agree that cherries are round, that they grow on trees, that they ripen early in the season, that they make excellent pies, and much more to the same effect. It seems impossible that if we all make these judgments alike we should still be using very various ideas of cherries in making them. Thus we reach unity. But still there remains indefiniteness; still a personal equation is yet unremoved. The attempt to remove it gives us, in important cases, the extended and accurate definitions of science, whose object is everywhere to correct the personal equation of variety and instability of notions, by introducing a number of judgments into the mind with every idea, judgments that can be easily remembered and repeated, and that will confine the elements of change of ideas within the closest limits possible.

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—Now in all this we seem to ourselves to be ~~[illegible]~~ aiming at the realization of a single idea as separate and apart from every individual judgment, and as entering into each judgment with its own nature already fixed. In fact we never attain such an independent idea. In fact in everyone of our judgments about it we have but a momentary and one-sided view of it, or rather it is for the time being but a single side of an act of identification. Nevertheless to attain such an independent idea is our wish, our ideal, the object of our definitions. And to these unattainable ideals of fixed and stable notions, we give the name of Ideas in themselves. By the term we mean not that which enters into any judgment, or that which is known in its nature as such apart from judgment; we mean only that which one desires to have enter into every reflected judgment, and that one postulates as pre-

existent to each such judgment. – This definition of Ideas in themselves as the ideals of reflective thought, the independent and stable elements we postulate but never can know, and that we define only by means of individual judgments, although they are assumed as de jure before all individual judgments about them; this definition, we say, is framed in accordance with the spirit of Kant's true critical definition of the concept of the Ding an sich; – not to be sure in accordance with the concept as Kant himself sometimes loosely defines it, nor in accordance with the notion that certain uncritical interpreters and judges of Kant have always been willing to find in it. Kant's Ding an sich, in its purely critical sense, is as little the cause of the Erscheinung, as our above-defined Ideas in themselves are the cause of the individual ideas. Hence all the profound wisdom that, from Jacobi to the latest defender of

the faith, has been expended in pointing out a certain famous and obvious difficulty in the application of the Category of Causality to the Ding an sich, is as little formidable to the true critical thought as it is in itself cheap and threadbare. Yet no doubt the very next critic of the Kantian Philosophy will discover afresh this fundamental defect and parade his discovery as if nobody had ever read the Critique before. – But all this by the way. Our object has been to show that the term Ideas in themselves is perfectly justifiable as expressing what, for the sake of unity and fixity, we should like to possess; while that which we really do possess is always but an idea as it enters into, exists by, and is known through the act of judgment and through that only.

(Of the Ideas Psychologically considered.)

2. Another question remains. How do we stand as regards the psychological character of the elements of the act of judgment? We

have seen that in the judgment, Cherries are red, there are present the two ideas, subject and predicate, but that they are present in and along with the act of identification. A few psychological questions arise which, for the sake of definiteness, we must mention in passing; although they are not of the first importance. — (a) We have said that in some cases, if not in all, aspects of the subject- and predicate-ideas are identified. What does this mean? If the ideas exist in so far only as they are judged about, how can certain aspects only be identified, while others remain unidentified. We mean by this only that at the moment the identification is willed there is generally a consciousness of the incompleteness of this will itself, a consciousness, that is, that it does not extend to the whole of the ideal content of subject and predicate. What this consciousness is, everyone must see for himself. It is potentially a judgment on the extent of the identification. Actually

(a) Of the Aspects that are identified.

of course it is no judgment, but only a feeling that attends a judgment. It implies, an assumption that other judgments might be made in which these same ideas would occur, only in other aspects, wherein there would be no identity willed. — (b) Equally indescribable and equally directly perceivable is the union of many elements in every ~~simple~~ idea, whether this be subject or predicate, which appears in an act of judgment. It is this union that produces the unlimited variety of ideas of which we spoke above. The word synthesis is but a name, no description of the process. How complicated this union may be is a psychological problem that is nowadays much investigated (e.g. in the psychology of the sense-perceptions). We cannot enter into it. It is sufficient to say that the union of many elements is perceived in consciousness as a union, not as the separate elements that compose it. While judging the identity, one does not analyze all that is in both members.

(b) - Of the Union of many Elements in one Idea.

(c) — Of the Antecedents of the Judgment in the Mind.

(c) Before judging as to cherries something must suggest the idea of a cherry. Before judging that they are red something must give rise to just this judgment, in preference to any other. Such is the universally accepted psychological principle, which we propose here neither to prove nor to question; but only to notice in connection with our general argument. What shall we say, if the idea of cherry of which we judge exists only at the moment of judging, what shall we say of that which going before our judgment suggested cherry as a subject for judging? And as to redness also; what shall we say of that which suggested these two ideas, subject and predicate? Were the means of suggestion themselves the ideas of cherry and of redness? Such might be concluded from the preliminary statement in §. 23, 1, p. 105 sqq., where we were taking the act of judgment apart, not examining it in its unity. We know now that strictly speaking the ideas of which one

judges, do not, as ideas, exist apart from the act of identification, unless one considers them ~~identified~~ as possible ingredients of an indefinite number of judgments, and so as ideas in themselves. But actually, each idea in each judgment is an inseparable part of that judgment; and did not enter it from without, but ~~was~~ is born with it. In so far then as cherry and redness exist in the mind just prior to the judgment that identifies them in certain aspects, they are not there existent as ideas, in the proper sense; but as feelings, strong or weak, as the case may be, objects of sense or of memory, but at all events indefinite, disconnected, unrelated. Antecedent to all judgments are the feelings that represent and suggest the ideas that appear in them. But these feelings are not, strictly speaking, the ideas themselves. —— (d) Strictly psychological further is the question, how are ideas related to their original causes?

(d) The relation of ideas to their causes.

Chap. I. §. 24. 2

Is every idea, that is, necessarily the picture of some feeling once had? – To this question one must unhesitatingly respond in the negative. Every book is full of thousands of words that suggest quite definite ideas to our minds without arousing in any sense feelings that we have had before. If one claims that all ideas that are formed in the mind relate in some more or less distant way to previously experienced feelings, he simply utters a truism, something that nowadays nobody thinks of disputing. But if he claims that all, or even the most of the ideas in which we reason and judge are like the original impressions they stand for, he neglects to take into account the unmeasured rapidity of identification of ideas by the mind, a rapidity which does not permit any definite remembering of the original circumstances

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under which the ideas were formed, or of the original sensual or emotional content of the feelings from which they come. The best example of all this is the reasoning of algebra. Here one may follow for hours trains of reasoning that are as definite and certain as anyone could wish, without having in any way the memory of the feelings which originally were necessary to the formation of the notions represented by the various signs. —— (c) – From this standpoint the old conflicts on the nature of abstract ideas do not retain much significance. If one reasons on straight lines, he neither reasons about straightness as an entity in which straight lines inhere, nor, in many cases at least, about some individual straight line. To be sure, in the axiom, A straight line is the shortest distance between two points, one thinks usually of a straight line of definite length. Not so, however, need

) – Of the Psychological Nature of Abstract Ideas

it be when one affirms the equation of a straight line to be in the Cartesian geometry $y = ax + b$, or $Ax + By + C = 0$, and from this deduces say the fact that a ~~straight~~ line may or must have a given number of intersections with a given kind of curve when the two have a certain relative position analytically expressed. One may reason thus and obtain most remarkable results about straight lines without picturing a straight line to himself for a dozen or two pages of discussion. If one replies that in this case we are not reasoning about lines, but about abstract signs arbitrarily made to stand for them, we reply that such is just what we are maintaining ourselves. Abstract ideas are simply that ~~is~~ arbitrary mental signs that stand for great numbers of objects, as x and y do in algebra. For the rest, how much one may picture of the corresponding objects when he hears an abstract term, is a purely personal matter. Everyone

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suits his own convenience. The value of training in thought consists greatly in bestowing the power of reasoning accurately with the minimum aid from mental pictures and the freest use of arbitrary signs. For so one gets along most rapidly. The scientific master-worker no more needs to have a picture in his mind for every abstract idea than Bismarck needs to know every individual German in order to manage the affairs of the Empire. ——— So much then on the psychological nature of ideas, in so far as the matter here concerns us. And thus more and more we have found the ideas, which at first seemed the true rulers of the act of judgment, the realities whose relations the judgment was to copy and present, we have found them, we say, disappearing in the act of judging itself. We have seen that they have no proper existence

as ideas before or outside of the judgment itself; that in any case they stand in no relations to one another before these relations form the subject of judgment; that as Ideas in themselves they have only ideal existence, that before the judgment occurs there are no ideas, but only suggestive feelings; that in a word the judgments as pure acts find merely their reverse in the ideas conceived as the dead material for the activity; that so an idea that does not enter into a judgment is an impossibility.

Of the Classes of Ideas, and of the Classification of Judgments that may be based thereon.

3. Ideas may be divided, first according to their relation to the original impressions in which they take their origin, into Concrete and Abstract ideas. Concrete are those whose content is something conceived as immediate in feeling. Abstract are those whose relations to their origin are not apparent in themselves, but only determined by psychological discussion. The Concrete Ideas comprise:

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(a) Ideas of things or feelings as such; (b) Ideas of Qualities as such; (c) Ideas of Events as such. (Among later logicians Lotze has perhaps laid most stress on this triple division of concrete ideas.) — The Abstract Ideas comprise (a) Ideas of Classes; (b) Ideas of mental processes as such (as of judgments and the like); (c) Ideas of the Results of mental processes as results. Concrete Ideas may be divided secondly according to the degree of combination, into compound and simple. Compound are those expressed in plurals of nouns, or by the use of the words some, many, and the like. They simply express a repetition, or demand for a repetition of the simple idea. Any one of the concrete ideas may be pluralized. — Many words may be able to express ideas of two or more sub-classes according to circumstances. Many ideas commonly called abstract would be by the above classification called concrete. Thus Virtue, predicated of

an individual man, is, in general, really meant as a concrete quality. If virtue is really taken as an abstract idea, it expresses the result of a mental process of analysis and synthesis, and so belongs to class (c).

(3) ——— A classification of judgments according to this schedule of the classification of the ideas that may enter into them, may here be interesting. We omit the compound and plural judgments, in regard to which we fully agree with Stewart, and have nothing to add. The other portion of our classification will be seen to differ in several points from his. The negative judgments are left out of account.

I. Judgments on Concrete Ideas:—

a. On Things or Feelings:

(1) Of Naming; (2) Of Recognition.

b. On Qualities, or On Things and Qualities:

(1) Judgments of recognition or of naming of Qualities.

(2) Judgments predicating Qualities of Things or Feelings.

(3) Judgments on Relations of Things or feelings or qualities.

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c. On Events:

(1) Judgments of narration.

(2) Judgments of naming or of qualifying events.

II Judgments on Abstract Ideas: –

a. On Classes:

(1) Judgments of naming or of recognition of classes.

(2) Judgments of class-characteristics.

b. On Mental Processes as such.

(1) Judgments of naming or of recognition of mental processes.

(2) Judgments of the connection of mental processes.

α. Of the necessary sequence of mental processes – Hypothetical Judgments.

β. Of the exclusive relations of particular judgments of a certain form to one another – Disjunctive Judgments.

γ. Of other relations of mental processes to one another.

(3) Of the worth of mental processes in themselves considered. Of these the principal are the Judgments of Modality.

(α) Judgments of Possibility.

(β) Judgments of Necessity.

(c) On the Results of Mental Processes as such:

(1) Judgments of enumeration.
(2) Judgments expressing the Principles of Knowledge and their consequences. &c.
3. Judgments on Abstract Qualities.

III. Judgments involving both concrete and Abstract Ideas. — Of these latter no classification has been attempted. The most important such judgments are those of definition of Classes by means of the qualities of the objects falling under them, those of subsumption, and the like.

Such is our classification, somewhat roughly given, and doubtless full of defects. But it seems to us not wholly without suggestiveness, on account of the somewhat novel view of the nature of abstract ideas which lies at the basis of it; and we give it for what it is worth. That such qualities as sweetness, redness, and the like should be called in the logical sense abstract ideas, seems to us unnecessary. In the idea of redness as it appears in the judgment, Cherries are red, there is indeed no thought of other red things than cherries; but there is a sen-

suous element directly perceptible in it. Viz, in consciousness, of a sensuous nature. Adress = name need not arouse an idea of this sort; and often does not. Body is an abstract idea for the physical investigator; and he may think about it long without recalling the sensuous elements on which it rests. Redness is a concrete quality, which assumes in almost all cases a sensuous form in idea. Why should both these ideas be treated as if they were equally abstract. — It will be noticed that we have omitted to mention Sigwart's class of Ableitende Urtheile (v. above, §. 22, 7; p. 84). The reason is that, as shown in the brief analysis §. 23, 1; p. 102 sq., we consider the judgments of definition simply short-hand expressions for a great number of individual judgments.

Of Extension and Intension of Ideas; of Definition, &c.

4. We have omitted all mention of the distinction known as that of Extent and Content, of Extension and Comprehension, of Extension and Intension of ideas, — except to be sure in one place (p. 104), where

we have treated it in a manner that everyone must call very unappreciative. There was objected to the theory that the idea of cherry, in our stock example, is subsumed under the idea of redness, simply the fact that the idea of cherry will generally take up more room in consciousness, have in fact greater extent, than the other idea. The ~~expression~~ is perfectly obvious that by extent the logicians do not mean extent in consciousness, but number of possible things that have the quality redness. This objection we foresaw and purposely neglected. For we are free to say that this whole discussion of extent and content and their reciprocal relations, has to do only with what we have called the Ideas in themselves, not with the actual ideas that appear in our judgments; and that it does not concern us in the slightest. For we are examining the actual activity of judgment. In our judgments as actually made, the ideas

that enter have no quality of extend, in the ordinary logical sense, at all. This, these, most, or all cherries are red, is a judgment that has only to do with the ideas that are in the mind. It is indifferent to this judgment how many varieties of cherries there are, how many individual cherries, how many other kinds of red things, and how many shades of redness might be discovered. Not the so-called extent, but purely and simply the content of the ideas appears in the act of judgment. The extend of the ideas can only refer to the number of judgments or of classes of judgments into which they may enter. And this consideration, as before remarked, has significance only for the ideas in themselves. — Only the ideas in themselves finally can be made the subject of definition, of logical division, of schematization, and of similar formal operations. Ideas as they actually appear in judgments cannot be defined; for they must be immediately known. They cannot be divided,

for that implies the introduction of the property of extension, which does not belong to the ideas as they enter into judgments. And all like formal operations are but attempts to grasp and hold in a series of judgments what was first known and willed in a single judgment, and to add on to this which was first constituent of one judgment, other elements that are constituents of new and (as is supposed) related judgments. –

—Herewith ends our examination of Judgments in general. We pass to the discussion of the nature of opposition and contradiction of judgments. This will lead us directly to the results sought from the outset.

Of Opposition and Negation. – §. 25. Judgments being acts of will, a discussion of the nature of conflict of judgments may best be opened by a brief consideration of the nature of the conflicts of Will in general. We may then pass to the examination of the conflicts of those peculiar

acts known as Judgments.

Of Will-Conflicts in general; Direct and Indirect Conflicts.

1. No conflict of the Will with itself, or with another Will, is possible in the abstract. Conflict can only arise in individual cases. A particular act, having a particular content, must be on the one hand willed, on the other hand resisted, before there can be a conflict. An inactive will is not in the abstract opposed to an active will. Only in some special case, where one side wills, the other resists, is there conflict. The conflict of a Will, whether with itself, or with an external Will, may be of two kinds, direct and indirect. Direct conflict exists where a single action, or each one of a series of actions, is simply negatived, or sought to be nullified, by the opposing will. The result of such direct opposition is the simple performance of the act or acts in question, or their simple non-performance, according to the result of the conflict involved. That is, in the direct resistance of a positive act of will, there is nothing that is itself posi-

tive. If the resisting will has its way there will nothing be done at all; the resistance tends to bring about total inactivity. In so far as the resisting will is simply and directly resisting, it does not take any positive means. It is but negative. — Direct opposition is seldom found unmingled with indirect opposition. Indirect opposition arises when there are two positive wills whose consequences tend to nullify one another in some particular respect, though commonly not in all. For example, two persons desire the same object, an object that both, we will suppose, cannot obtain together. The two wills that express the definite intention of satisfying the respective desires, conflict indirectly. For the consequences of these ~~wills~~ wills, expressed in acts, will be either that one of the two parties will fail, or that both of them will fail to obtain the object. But in the original independent acts of will of each of the two there was no necessary direct opposition. Neither need have said, or willing, that the other

should not have the object in question. They might not have known of each other at all. It only turned out so in the attempt to realize the two wills, that both could not be satisfied, and that so one at least had to be nullified. — The result of indirect conflict is generally not purely negative. Usually positive acts, sometimes of great importance, result on both sides. In case of direct opposition, either the resistance fails, and then follows the realization of the positive will (if it be not otherwise opposed); or the resistance succeeds, and then nothing results at all. — Indirect opposition is a subject of objective inquiry after the fact. If the results tend in some points to nullify one another, then one concludes that there was indirect opposition of the wills concerned. Direct opposition can be known only by subjective examination at the time. As direct opposition it leaves no traces behind it by which it could be known, in case it was not re-

cognized as direct opposition at the time. All traces disappear for one reason: either the direct opposition succeeded, or it did not. If it did, nothing was done, and there are no effects at all; consequently no traces of the opposition. If it did not; then the original will was accomplished just as if there had been no resistance. Direct opposition, then, can be observed at the moment of its occurrence; and then like other things observed it can be remembered afterwards. But it cannever be concluded from the effects left behind it. — Direct opposition of two wills can so be observed and known only by an individual in his own consciousness. Two wills in different persons may be directly opposed; but in this case neither of the persons can know the opposition as direct. — Direct opposition finally must always presuppose community of object on the part of the two opposed wills. Indirect opposition does not presuppose precise community of object. Or the so-called minus

lands of California, conflicts arose continually, at one time, between the occupants who wished to use the meadow-lands for pasture and farming, and the miners who wished to wash gold from the meadow-gravels. Here the one party desired the use of the soil, the other of the sub-soil. The one party wished vegetable products; the other sought minerals. The claims thus thus arose were obviously incompatible; the wills concerned were in conflict; but the conflict was indirect; the objects were not common to both parties. Indirect opposition can occur when neither will is conscious of the content of the other. Direct opposition implies that each will is accompanied by an coëxistent consciousness of the content of the other.

Of the Opposition of Propositions as Acts of Will expressed in Words, and of the Judgments so Expressed.

2. The peculiarity of judgments as acts of will is that they do not aim at outer objects recognized as outer at the moment of judging. In so far as they express confidence, this confidence is one of interest to ourselves; it is a confidence

in our own ideas. The ideas, as we have seen, have being only in and by the judgments. The judgment is an independent act of will concerning objects constructed by it-self. The results from this nature of the act of judgment are as follows, in respect to the matter of conflict and opposition of judgments: —

a. No Direct Opposition or Conflict of judgments is possible.

Proof (1). Direct opposition, if existing between two judgments, would have to be of such a nature that it could possibly be known as direct opposition. But this could not be. If an opposition exist between two judgments it could not be known as direct — For, first, direct opposition between two judgments as acts of will could only appear and be known in the form of the resistance to the formation of one of these acts, not in the form of opposition between the finished acts themselves. For a judgment is not an act that has its subject matter outside itself, that seeks to attain something that was there before it. On the contrary, all that the judgment

does, is to identify two ideas that appear as ideas for the first time in itself. All that is necessary for the completion of a judgment is the act of willing the two ideas identical in certain aspects. The will, in a judgment, is the deed. Hence a direct opposition to the will formed in a given judgment could only be seen while the will was forming. Once formed, the act would be accomplished. Since then direct opposition to an act of judgment could only appear while the judgment was forming; no opposition that appeared afterwards, in the form of a new judgment, could be known to be direct opposition. - Secondly, that no direct opposition could exist between two judgments and be known to exist, follows from the property of direct opposition mentioned above, that it is always between wills that have precisely the same objects. But since the ideas that would form constituents of either of the two acts supposed to be in opposition, do not exist, as ideas, previous to the judgments into which they enter, but only in those judgments, it can never be known that the two ideas judged

identical or the one case are the same as the two whose non-identity is declared in the other case. For the objects of these two acts of will are not independent existences; but each pair of objects exists only in the will-act whose object it is. — Thus then opposition between two judgments can never be known to be direct, first since opposition to a given act of judgment could only be known to be direct if it existed, not the finished judgment, but the judgment in process of formation; secondly, since the ideas in two opposed judgments could not be known to be precisely the same ideas, because as ideas the constituents of each judgment have no existence apart from it, and are bound up in it: and these ideas would have to be known to be the same in order that the opposition should be known as direct. — And since the opposition of two judgments can never be known to be direct; we affirm that it is insignificant to say that this opposition may be direct after all. For that which exists is that which may possibly be known as existent.

Proof (2). — Direct opposition between two judgments would imply that the ideas involved

were the same. But the statement thus involved is meaningless. The ideas are to be the same in the two propositions; i.e. the subject of the one is to be the same as the subject of the other; the predicate the same as the predicate of the other. But this means that the pair of ideas directly identified in the one case, has its identity directly rejected in the other. Since the ideas are not independently existing ideas in themselves, since they exist but in the two judgments concerned, our only means, however, of defining them as the same in the two cases is to notice whether they are identified or not in both cases alike. If this is not the case, the affirmation that they are the same is meaningless. — Hence no direct opposition of Propositions is possible, since Propositions express finished Judgments.

b. All opposition of Propositions is indirect.

Discussion. All direct opposition is excluded when an act of judgment is once formed. Being formed this same act of the will can never be denied. Another act of will, very

much like the first, might be directly resisted in the attempt to form it. The original act can never be repealed. Such is the result so far. It remains to see what kind of opposition exists or may exist between various finished acts of judgment. Above it is said that if the opposition be not direct, it must be indirect. But how is this to be understood? We reply, that all opposition among propositions already formed, must exist, not for and in these propositions themselves as they stand; but solely for the one who reflects upon them: and that this opposition for the one who compares the judgments means that he conceives that the theoretical or practical consequences of the one proposition would finally be directly opposed to some theoretical or practical consequences of the other, and so would nullify, or tend to nullify these. Let us explain by a simple case first the opposition of practical consequences. Suppose a dispute to rise between two absent-minded persons on the question of the day of the

week. One says, It is Tuesday. The other, It is Wednesday. Now there is, we affirm, no direct opposition of these judgments. Each is an independent identification of two momentary subjective notions or ideas in the mind of the judger. Each is as such a perfectly true judgment. But there is an indirect opposition between the judgments, an opposition that is felt by both parties instantly. For, that one thinks of the present as Tuesday, the other as Wednesday, involves practical consequences. The two we will say have an engagement at a certain hour on Wednesday to take a walk together. The engagement they both recognize. Now shall the walk be taken or not? Each feels in his own mind a direct contradiction of some will of his own to be consequent upon his acceptance of the view of his friend. Direct conflict, perhaps, will be felt in his own mind between the will to walk and the will not to walk, according as he leans more or less towards

pleasing the others will. If this direct conflict is at the moment not felt, it is presupposed that it will soon be felt as a consequence of the actual variety of opinion. Hence the practical consequences of the one proposition are opposed to those of the other; and so an indirect opposition exists. In general, one may say, the opposition of propositions such as, This is Tuesday, and, This is Wednesday, is mainly practical in the ordinary sense of that term. It ceases when there is no opposition of the practical consequences of these judgments; and this is the case when one of the propositions is uttered on Tuesday, the other, the second, on Wednesday. — Theoretical opposition of propositions is in like manner indirect. Its significance is somewhat as follows. When one reflects on two judgments, he commonly connects each in his mind with a series of judgments which are formed, as we say, in consequence of it. Now it appears that some one of the acts that result from the first

judgment, is the expression of a will that, if in consciousness at the moment of formation of some one of the acts that result from the second judgment, would tend to resist the formation of this latter act, would consequently be directly opposed to it. The consequences of these two acts are at some point directly opposed; i.e. these consequences at some point would be opposed, not as independent judgments, but as tendencies to the formation of judgments one of which, directly resists the other, and if successful prevents it from becoming a developed judgment. The propositions: The measure of the force of a moving body is the velocity of the body; and: The measure is the square of the velocity of the body, are only opposed propositions so long as, being understood of force in the same sense, one conclusion from the one tends, as an act of judgment remembered, to negatively oppose every attempt to

form some judgment that would, in regular order, result from the other. As soon as the two propositions are understood of force in different senses, the opposition ceases, because no such conflict of consequences ensues. The sum of this argument is, that propositions or judgments can only be in conflict through their consequences; and that this conflict of consequences can only occur when, at some point, the memory of a judgment consequent upon one of the original judgments, supposes in the mind the attempt to form a judgment consequent upon the other original judgment, i. e. when the indirect conflict reduces to a direct conflict. From this introduction of the notion of consequences, follows another characteristic of the opposition of propositions as expressing judgments: viz. —

c. Opposition of propositions is only possible on the supposition that each one of the judgments concerned, as an act of will has, as consequent upon it, other acts of will.

Or, which is the same thing, opposition is only possible, as theoretical opposition, between two propositions, when the two are capable of entering into Reasoned Discourse. Or, opposition of a theoretical nature presupposes the existence of Reasoned Discourse.

Discussion. If direct opposition of propositions, or of the judgments they express, is impossible, then all opposition of independent propositions is excluded. Propositions once formed, are finished acts of will, and cannot, as such, be resisted. But if two acts of the will have once been formulated in propositions, there may have as consequences the formation, or attempts at the formation of two distinct series of acts. At some point in one of these series, the attempt to form one of the judgments may be resisted directly by the consciousness of a previous judgment in the other series. We say, it must be noticed, the attempt to form some judgment of one of the series, not the judgment itself. If once formed it could not be resisted directly. But

the yet forming judgment, the as yet incomplete act of will, could be resisted directly. Only thus mediately can two finished propositions come into conflict; only through their consequences. Therefore to declare that two finished propositions are in conflict, i.e. that two past judgments are in conflict, is to declare that both have or may have consequences. Now if these consequences be practical they must show themselves opposed at some point in real life. If theoretical, they can only be spoken of at all under the supposition that there is connection among propositions theoretically considered. And this, by the terms of the description of Reasoned Discourse given in the introduction, presuppose the true existence and validity of Reasoned Discourse. - V. §. 7. p. 23 of the Introd.

d. If Inconsistency be defined as the use of different ideas in the formation of two judgments without the consciousness that the ideas are distinct, it follows that all true opposition of propositions as the expressions of judgments must arise from Inconsistency.

Proof. The two acts of judgment expressed in the two propositions are themselves not directly opposed. That is, the one identification does not directly oppose the other. But the opposition of consequences before referred to creates the appearance of direct opposition. And how? By making it appear as if the same ideas that are identified in the one, are in effect refused identity in the other. But this is only appearance. ~~In fact the appearance~~ In fact the ideas of each proposition have significance only within that proposition, and are not the same as those in the other proposition. But difference of ideas in various judgments, if unattended by a consciousness of this difference, produces inconsistency. Hence, since indirect opposition of propositions arises through the consequences of the propositions, and since the consequences could never become opposed except through the impression ~~idea~~, that the same ideas are involved in the two propositions that are indirectly opposed, and since this impression is a deceptive one, and disappears on a closer view of the act of judgment, it follows that all opposition arises through inconsistency

e. From the above it follows that there is no true opposition among judgments as judgments at all; but that all opposition arises through a practical demand of our own that whole series of our judgments shall be made upon the same ideas, or upon ideas partly the same, and through the fact that from the nature of judgments themselves this demand can never be fully realized. In other words all opposition of judgments belongs not to the judgments as they actually are, but to the judgments considered as judgments about the Ideas in themselves.

Remarks. - In all our discussion about the nature of opposition there has been visible a good deal of circular reasoning. We were aware of this. It was unavoidable, in fact rather desirable. For to prove directly that judgments in themselves considered are not opposed in any case, was impossible. All reasoning about opposition supposes opposition. We desired only to show that wherever opposition is found it always implies much more than a mere

comparison of the judgments opposed.
Opposition always implies that we suppose:
(1) that the judgments [redacted] have other
judgments consequent upon them; (2) that
judgments [redacted] can be formed in num-
bers about the same ideas. Now neither
of these two suppositions holds of the judg-
ments in themselves considered. Each judg-
ment is, as act of will, complete in itself.
Each judgment again is concerned about its
own ideas. Thus no judgment, as a judgment,
answers to these two suppositions. The two
suppositions reduce then to simple demands
that we make about judgments in general.
We demand that Judgment-series, trains
of reasoning, should be regarded as acta-
ally present; and that an actual connection
should be assumed among the members
of these series, a connection founded upon
a community of ideas. These are simply de-
mands that we may consider judgments as
if they were so and so. They are not statements
about the nature of judgments as judgments.
If they were, they would have already been con-
tradicted by our previous examination of
the nature of judgments. As demands, they

have a practical justification. We make them because we choose to. It happens that we make them according to regular rules that we shall examine hereafter. But as demands they do not yet alter the inner nature of judgments. And the judgments remain in themselves untouched by opposition. — Thus then we have tried to show. And if our reasoning seemed circular it was but because, since no reasoning can by itself grasp the nature of the judgments that go before all reasoning, the only way to do this is to eliminate that which is added on in the process of reasoning by showing how these additions pre-suppose, not the simple judgments, but the judgments plus the reasoning process itself. To prove directly what a judgment is, is impossible. Possible only is it to eliminate what is mingled in our minds with the judging process, in order to come as near as we can to grasping the judgment as it truly is by itself —

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— In short then, just as things are not alike in themselves, but only like in so far as they are judged alike, nor different, except in so far as we judge them different; so judgments themselves are not in themselves considered opposed or harmonious, but completely independent, only receiving connection through our practical activity about them. — This practical activity has its form in the assumption, that the ideas in two or more judgments are the same, or in the intention that in a series of judgments the ideas shall be the same. But when the ideas in two or more judgments are the same or are assumed to be, we have arising the notion previously described, the notion of Ideas in themselves. Only in view of and in respect to the Ideas in themselves, can propositions agree or differ, harmonize or oppose, be identical with or contradictory to one another.

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Of Negation of Propositions as Expressions of Acts of Will.

3. Negation of a proposition is commonly expressed in negative propositions. But that negative propositions are not original forms of propositions, and that there are, properly speaking, no negative judgments, the ~~[illegible]~~ results we accepted from Sigwart's analysis. From our present stand we can more definitely say that it is more proper to speak of the negation of propositions than of the negation of judgments; that the negation of a proposition ~~[illegible]~~ is accomplished by the insertion of a particle, not; while the mental act that corresponds ~~to~~ this outward negation is the direct opposition to and rejection of the act of will that would have been realized in the judgment, even while the judgment itself was in process of formation, and before it was completed as an act. Negation is, on the subjective side, the successful resistance to an attempted judgment, the suppression,

by direct opposition, of a not yet completed act of will. —— It follows from this and from the previous discussion, that no negation of a once accomplished judgment is possible, but only the negation of some judgment viewed as a consequent of the first, i. e. only the resistance to an attempt at forming some judgment that would be, if formed, a consequent of the first, or would be waived as such. – No act of judgment therefore, once formed, can ever be negatived, nor can it, in the sense in which it was formed, be opposed directly, nor annulled, nor rejected.

Consequences as to the Nature and Extent of Knowledge and as to the Meaning and Limits of Error, of True Opinion and of Reasoned Discourse.

§. 26. – We questioned awhile since as to whether by reducing all judgments to acts of Will we had not removed ourselves hopelessly far from our goal, the attainment of true and unassailable propositions. We see now how ill-grounded such questioning was. The Will can indeed deny all, except its own acts once accomplished. And here is the final basis of certitude. A

judgment is at once a thing willed and a thing done. And what is done cannot be undone. Attempt to undo it, and you simply resist the doing of something now attempted, i.e. you arouse a present inner conflict; but you do not touch the former act. - Thus every act of judgment, regarded in itself as a finished act, answers the most sceptical test of the Antithesis in §. 17. No negative can be formed to it after it is once accomplished. The consequences of these views we shall now briefly state.

Judgments as acts of Knowledge

1. All Judgments are Acts of Knowledge; hence more than mere claims to Knowledge. What is known in and through them is the identity of some aspects of subject- and predicate-ideas.

Knowledge as made up of Judgments.

2. Conversely, all Knowledge exists in the form of Judgments; and no Knowledge exists as Knowledge except in the form of a Judgment. The fields of Judgment and Knowledge are coextensive. Where there is Knowledge there is also Judgment; and where

Judgment is, there is also Knowledge. And ~~nothing~~ nothing, besides, before, or beyond Judgment can be Knowledge, but only at best material for Knowledge.

Sense Perception not Knowledge; Feeling in general not Knowledge. —

3. In sense-perception, without present, active, conscious judgment, there is no Knowledge as Knowledge; only material for Knowledge. If one replies: Yet I know I see this color, hear this sound, before judging that I see and hear; we retort in our turn that in his very claim to know without judging, he has judged. — The same holds without exception of all the data of Feeling. These data are necessary material for all our Knowledge; for if we had them not, we should never judge. They are previous to judgment, they ~~prepare~~ prepare judgment; but they are not judgment, and hence not Knowledge. As to any question such as: Are sense-perceptions of more or less worth than Knowledge? Are Feelings lower

than Knowledge? We reply simply that such questions depend on how one looks at the matter, and are in no sense philosophical questions. Are building-materials better or worse than a house, to use the old Aristotelian example? No doubt, one answers, the house is better. But how if the question is one of existence, and you are to decide whether there shall be building-materials or houses? Then the question immediately becomes an absurdity. For there will be no houses if there are not building materials. Feelings must go before Knowledge, to give it matter.

Syntheses of Feelings do not Involve Knowledge necessarily.

4. Nor yet do all syntheses of Feelings involve Knowledge. For many complicated syntheses of Feeling do not appear in judgments until after they are formed; and we only discover that they are syntheses by reflection and psychological examination. On the other hand the conscious syntheses of identification which, in judgments, become after the fact,

when they still remain in memory, simple impressions left in Feeling. And as such synthetic impressions, they may become material for the ideas in new judgments. Thus arise the so common judgments about judgments.

Self-Consciousness does not necessarily involve Knowledge. — In what sense Knowledge involves Self-Consciousness

5. Self-consciousness may or may not involve Knowledge. It will involve Knowledge in so far as it enters into any judgment as a constituent part, that is as subject- or predicate-idea. So far, however, as it remains simply a feeling, it does not form a part of or involve Knowledge; any more than do other feelings. — If it be asked whether all judgment involves the accompanying consciousness of Self as the one judging, we reply that until one knows what is meant by the Self concerning which the question is asked, no answer can be given. We said in the introduction, §. 13, p. 53, that we can find in the complex of direct consciousness, no substantial entity

ruchae is mis-named Self by many writers. We meant by this only that the Self of direct consciousness is the very opposite of what is required of an objective real entity that can claim the name of Substance. The Self of inner consciousness is sometimes a feeling, sometimes an abstraction merely hinted at in feeling, sometimes intensely active, sometimes almost vanishing in its passiveness, and sometimes lost entirely in a flood of new emotions or great purposes. Whatever is substantial about the soul must learn its being outside this most anomalous of variable quantities. But the Self of inner consciousness is interpreted in so many ways that, when asked if it is necessary for a given activity, one feels it imperative to inquire what kind of self-consciousness is meant. In the matter of the activity of judgment then, we can only say that just that self-consciousness exists

in it that is necessary for the end of willing the identity of two ideas, no other, no more, and no less. What this is, let everyone see for himself. We affirm only that it is not the same self-consciousness as that which is involved in feeling pain, in experiencing defeat, in laughing at another's frailties, in revelling in sense-enjoyments, in doing good actions, or in contemplating works of art. With no one of these varied forms of self-consciousness is it identical; but it is simply itself, the consciousness of a peculiar kind of will-activity.

Comparison with the Kantian Doctrine of Knowledge.

6. As in our above discussion of judgments we found, not with Kant twelve, but only one fundamental form of the act of judgment; so now we find that Knowledge exists, not through twelve, but through one single Category, if one pleases to use the expression, viz. through the Category of Identity. But with Kant we find the great result to hold, - that

Chap. I. §. 26.6

one greatest of all philosophic results in the history of thought, and the one that will always be recognized as Kant's greatest among his many great services — the principle namely that all Knowledge is creative, that its objects such as they are, exist and must exist in, through, and for itself. — One hears much nowadays about Knowledge as relative. It is well to remember that Knowledge is relative only because it is creative, because, in other words, if the creative activity of Knowledge were other than it is, the objects and content of Knowledge would be other than they are. Were Knowledge founded upon and determined by what is not Knowledge, founded and determined we mean in its capacity as Knowledge, then it would be Absolute indeed, but dead. Now that, as Knowledge, it creates its own ideas, it is relative indeed, but full of life.

Chap. I, §. 26. 7.

Comparison with the Doctrine of Experience.

7. With Kant again we are in full harmony in our result as to the relation to Experience. Knowledge, so runs the Kantian doctrine, is not, as Knowledge, from Experience; but it is with and in Experience. Now lest we should be laid open to J. S. Mill's rebuke of the use of propositions by certain school of Philosophy, we hasten to explain these little words, from, with, and in as here used. From Experience is all Knowledge, said a certain school not yet dead; and meant by it that the ideas that form the members of our propositions walk in bodily upon us from our senses, and simply in some mysterious way unite to form judgments. With and in Experience is Knowledge for Kant; because on the one hand if you consider sense-perception and Feeling in general as constituting Experience, then Knowledge, as something different from this raw material, runs along side it, uses it, trans-

forming it into intelligent shape, viz. into ideas, and judging on the ideas at the time it forms them; while, on the other hand, if you mean by Experience the definite acts of judgment themselves, all knowledge is in Experience, the meaning of which is that all knowledge takes the form of Judgments, and all judgments are directly present to consciousness. What makes knowledge that which it is, is the form it gives everything it touches. Such is the Kantian conclusion, to which we fully adhere. What more specially concerns the relation of the ideas that constitute the material of knowledge to the feelings from which they spring, has been briefly treated, in so far as is necessary, in §. 24. 2., where the psychological nature of the ideas was discussed.

8. The independence and separateness of the individual acts of knowledge brings with it as consequence

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Chap. I. §. 26, 8.

that Knowledge as a whole is not and cannot be realized, but that Knowledge appears only as divided into the numberless individual acts of Knowledge, which like crystals, complete in themselves, wanting nothing, yet often disappointingly minute, pass before our consciousness in succession. Knowledge comes not in a flood, but drop by drop; nor is it given to the human mind to possess in very truth more than one drop at a time. All Knowledge is either actually existent in a present judgment before the mind, or it is truly Knowledge in potentia, Knowledge ideally assumed as future or past, but not truly existent at all. Knowledge as a whole, exists, in other words only as an ideal. Actual Knowledge is the smallest part of this ideal whole. Each act of actual Knowledge is present in a single moment of time, and is past the next moment.

Knowledge in the Individual Act does not Involve Memory.

9. Since in the Act of Knowledge the subject- and predicate-ideas are identified in a single movement of the Will, there is obviously no memory concerned within the act itself. Both ideas are present in the mind, and not as being present are identified. The subject-idea is not remembered as something past when one comes to the predicate-idea; but both are grasped at once. In this bringing together into the same place in consciousness of the two ideas, consists the essence of the act of judgment.

In the Act of Knowledge there is no Consciousness of Time.

10. In precisely the same way it follows that in the Act of Knowledge there is no consciousness of the passage of time. This does not at all imply that it takes no time to form a judgment. It undoubtedly does take some time, though a very brief one. But of this time the one who is judging is not conscious. - A very important consequence of this is

the principle that we shall meet a little distance further on, viz. the principle that the flight of time and all it involves cannot be the subject of a direct act of Knowledge. But this does not specially concern us here.

Relation to the Doctrine of Present Sensation as the Object of Knowledge.

11. A very old doctrine as to the nature of Knowledge claims that what is immediately known are the present sensations, the momentary data of Feeling. The theory above stated differs from this in two points of prime importance. First, we hold that there may be much in Knowledge that is not in Feeling. For Knowledge consists in Judgments. Judgments are about aspects of momentarily present ideas. These ideas are not present as feelings, but as ideas, and may have but the most arbitrary and symbolic connection with the feelings that were their original causes or whose syntheses they were. Thus

then, much more is in knowledge, on one side at least, than there is in feeling. Thus, if we write, d. nap. log $x = \frac{dx}{x}$, every one who sees these signs has, we may suppose, certain present sensations. But he who knows the elements of the Differential Calculus has other experiences than those contained in the sensation. He immediately passes a judgment on the correctness or incorrectness of the equation as written. In this judgment, whose content are ideas of logarithm, differential, &c., he probably is not reminded of previous feelings at all, but has only ideas suggested to his mind, whose identity he wills. And as for the present sensation, he no doubt forgets it altogether; though for one ignorant of the meaning of the signs employed, it would be the only thing in consciousness. — Secondly, we maintain that the mere present

data of feeling do not constitute Knowledge at all until they are reflected on, until they rise from their position of Feelings to the position of Ideas in acts of Judgment. In the case just assumed the man ignorant of mathematics and the mathematical student alike have in Feeling the data of sense as to the equation referred to. But the one will probably pass judgment on the data of Feeling as such, and will say, here are such and such letters, &c. He will first feel, then know through an act of judgment that he feels; and that is all. The mathematician however, though his feelings will be the same as those of the other, will not reflect upon them; and so he will not know that he feels: while, if the equation occur in the midst of a long investigation he will in passing over it be momentarily yet fully conscious of the identity of the subject- and predicate- ideas

suggested. The one will know the content of the present feeling; the other will not. Present knowledge may thus be both wider and narrower in content than present feeling. Is it replied that all that is in knowledge over and above feeling is derived through Association; we reply that Association only gives us present feelings (by revival from past) but not necessarily knowledge. Is it still opposed to us that the ideas that are identified in knowledge are themselves feelings, we admit this as true in case of the concrete, but not in case of the abstract ideas as previously defined. At last if the abstract ideas be called feelings, it can only be in a transferred and indefinite sense. — The whole difference between present knowledge and present feeling is summed up in the one statement: That one may feel without knowing that he feels; but cannot know without knowing that he knows.

Chap. I. 26, 12.

Negative Consequences as to the Acts of Knowledge.

12. The above-stated theory as to the nature of Knowledge brings with it as negative result the somewhat paradoxical conclusion that no Act of Knowledge is, as Knowledge, conditioned by or in any way dependent upon any other Act of Knowledge. The only connections possible are those of ordinary or invariable sequence, and of voluntary sequence. What is known in one Act cannot be made more completely known than it is by any external sequence. — Thus then all thought of Principles of Knowledge as themselves creative of Knowledge in sequent propositions, vanishes. What the Principles of Knowledge are and accomplish we shall see in the following chapters. They do not however reduce to principles of mere psychological association, but have a hyper-psychological significance which we shall have to examine.

Of Error

13. The imputation of Error described in §. 2 of the Introduction can never be made by an enlightened criticism against the identification of subject- and predicate-ideas which is the true achievment of every act of judgment; but only against a proposition or the judgment it expresses in view of the theoretical or practical consequences involved. How consequences can be involved we shall see more particularly hereafter; a general account has already been given.

Of True Opinion

14. An Opinion, as different from Knowledge can only be defined as a judgment considered not alone in itself; but in reference to its theoretical or practical consequences, which are supposed not to be fully appreciated as yet. And the opinion is to be named True, when, after the discussion of the consequences, these turn out to be satisfactory, i.e. agreeable to the expectations enter-

tained at the outset. — Both the terms, Error and True Opinion, will be better understood when we have discussed the Principles of Knowledge. We mention them again here, in order to indicate what advance has been made in the argument, since the opening of the Essay.

Of the Relation of Reasoned Discourse in General to Knowledge. — Conclusion.

13. As we above compared the single Act of Knowledge to an individual crystal, so now we find Reasoned Discourse to be some kind of artificial aggregation of these crystals. But the truth of Reasoned Discourse must be found, not in itself, but in the individual acts of which it is composed. The only realization that a claim to Knowledge can receive is in individual judgments. In what order these shall be presented, is determined by the nature of the Reasoned Discourse in which the judgments appear. That the judgments in question shall be possible for our minds, may also

Chap. I. §. 26, 13.

be determined by course of reasoning. But that they shall be true is not determined by the reasoning, but by themselves as they appear in Knowledge. — What then did we mean by saying in the introduction that we intended to treat of trains of thought not so far forth as the connection of parts was one of suggestion by Association of ideas, but solely in so far forth as the connection was a logical one? We meant what will appear in the following chapter more clearly, that logical connection is indeed, as such, no connection by association; but that it is necessarily limited to being no connection of foundation and superstructure but of intention and intended, of means and end. —

— The work of this chapter was to be the analysis of the claim to Know-

ledge, and the determination of approved Knowledge, together with some comparison of our results with the common views as to the nature of Knowledge. We find that Knowledge is, as such, alone realized in the individual Acts of Knowledge, which, like the Monads of Leibniz, may mirror any number of other Acts, but which must be, each for itself, absolutely independent, completely certain. In the Act of Knowledge two principal, perhaps very complex ideas, are in some aspect identified. These ideas are not feelings as such, nor Ideas in themselves that could be capable of analysis and definition, nor external realities. They exist in and by the act of identification itself. Psychologically considered they are derived in some way from, or at least related to, previous data of Feeling. But this does not influence their present character as ideas; and they need not have at the moment more than the faintest

trace of their origin. They are often but arbitrary mental signs. Their identification is a momentary act of Will, of which no more can be said than that it occurs. The certainty (of the identification) and in general all certainty, is the expression of the positive character of the Will itself. Once accomplished (an identification) can never be negatived. Negation can only occur while (it is) still incomplete. — The number of these Acts of Knowledge is unlimited, unless it be by the duration of active consciousness. Their connection with one another is, strictly, speaking but external. They may suggest one another by Association. Then we have the haphazard trains of thought. Or, they may be united by definite intention of the mind. And then we have Reasoned Discourse, governed by Principles of which we now come to speak.

Chap. II.

The Purpose and the Means:-

Reasoned Discourse, its Primary Forms, and the Principles of Knowledge.

Purposes of the Chapter.

§.27. We now approach the goal of our whole investigation, the examination of Reasoned Discourse to see in what way its primary forms are related to Knowledge in general and to one another. We must first examine in what way the connection assumed in all Reasoned Discourse between premises and conclusion is to be understood, then how the various classes of Reasoned Discourse are to be veived, and

whether our enumeration of them is complete. We shall then be able to discuss the Principles of Knowledge that stand at the head of each of the classes of Reasoned Discourse, and to determine whether they are entirely distinct, or whether there be bonds of connection and interdependence among them: The significance of the whole problem for the objects of philosophy in general will, we trust, be recognized in our results.

Of the Nature of Opposition as Illustration of the Nature of Reasoned Discourse.

§. 28. Anyone who comes, with even the most general notions of the nature of thought, to the consideration of Reasoned Discourse, will notice immediately one universal characteristic in it, viz. that it everywhere has the purpose to put an end to strife. For this very reason it is commonly full of strife itself. It is everywhere dealing with resistance. Reason is like the monarch of a small and

yet powerful kingdom in the midst of barbaric tribes. The armies of this monarch are organized; those of his neighbors are mobs. Yet they far exceed him in numbers. Were they capable of united action, they would crush him, and make his land a wilderness. As it is, he is always at war with some of them; and on the whole he makes himself respected to such a degree, that when any of them are not actually assaulting him, they are only too willing to have the benefit of his alliance. He loses tribute, and fails to receive it. He makes victorious campaigns, but does not conquer. He receives protestations against his tyranny at the very moment the protesting freebooters are ravaging his fields. He has bestowed upon him gifts that would ruin him if he accepted them. He is flattered by assurances of eternal fidelity from

those who desire nothing so much as his downfall. But through all, by well-organized, consistent effort, he maintains his place, enjoys his higher civilization, reaps the produce of his lands, and gathers them into vast store-houses; builds great cities and fortresses and palaces; rejoices in the sweet fruits of victory; but dares not cease for a single moment his vigilance. As he among the barbarians, so is Reason among the prejudices and emotions that swarm in the mind. — Reason has then its very essence in the resistance to resistance, in the overcoming of its enemies, in the conquering of opposition. The examination of the nature of opposition then opens up to us a clearer insight into the nature of the reasoning process. To such an examination, based upon the one in the last chapter (§. 25), we now proceed.

Opposition as Indirect and as Direct. The Nature of Direct Opposition more fully discussed.

in so far as brevity and the needs of our argument permit and require. ———

1. Opposition was found to be indirect, wherever it exists between propositions. That is, there was found to be no opposition between propositions themselves, but only between the consequences at some point. But the indirect opposition makes itself known as a direct opposition of the consequences. That is, wherever an opposition exists at all between two propositions, it makes itself known only in and by virtue of the presence of Reasoned Discourse, which brings about the existence of consequences; while at the same time at the point where it appears, it appears as direct opposition to the attempt to form a judgment. The nature of the direct opposition is thus properly to be studied as a means towards the understanding of indirect opposition. — The direct opposition to a judgment is what is stated in a negative proposition. What happens

in such a direct opposition is this. The proposition whose mental construction as a judgment is denied, is already before the mind dimly or clearly as a feeling. The judgment is about to be formed. There is a certain consciousness of what it will be. There is a growing will to form it. Suddenly a resistance to this will arises. If the resistance is irresistible, the proposition is rejected. But in its rejection neither the whole proposition as expression of the judgment, nor the judgment itself with its ideas is brought so clearly before the mind as in case of the affirmation of the judgment. In case of resistance to a yet unformed act of will, the act of will is not brought as distinctly into consciousness as were it really unresisted and completed. — Or, on the other hand, the resistance to the yet unformed act of will may be simply sufficient to prevent its completion, but not sufficient to impress

the necessity of rejecting it. In this case there arises consideration on the attempt. – In either case however there is for the time being strife. But strife is in general, in matters of Will, but the expression of obstructed Intention or Purpose. All direct opposition of propositions has thus reduced to direct opposition of consequences. But direct opposition when examined, turns out to be an expression of a purpose that is, for the moment or permanently, baffled. To speak more exactly, when a yet incomplete act of judgment is directly resisted, we have the feeling which in consciousness represents the future judgment, acting as the momentary object towards which the will is directed. The intention is to complete this as yet only ideally present judgment. This intention it is that is resisted. This object it is that is for the time being kept in the distance.

Of Reasoned Discourse as the Expression of a Purpose to overcome Opposition.

2. If we return to the definition of Reasoned Discourse as seen in the light of what was said §. 8, pp. 19, 20, about the contrast of the two kinds of trains of thought, (the one class starting out to seek hap-hazard for Acts of Knowledge, the other desiring to make some conceived Act, some demonstrandum, an actual Act of Knowledge), we see that Reasoned Discourse would never exist did we not at times find opposition in our attempts at judgment. Were we able, whenever we have the feeling of what an Act of Judgment is to be, and the intention to arrive at the complete performance of the act itself, were we always able to complete the act, we should never have occasion for Reasoned Discourse at all. In the experimental trains of thought we might still engage, but trains of reasoning about demonstranda would be impossible. Thus then, if the very notion of the opposition (indirect) of two

finished judgments is made possible through Reasoned Discourse, Reasoned Discourse itself is on the other hand made possible through the direct opposition to some attempted but as yet incom= plete judgment. This incompleted judg= ment becomes, as it is more or less clearly perceived in consciousness, a goal for the efforts of the mind. The striving to at= tain it completely is what we have in Reasoned Discourse. Reasoning is a methodical attempt to overcome the opposition felt in the mind against some as yet incompletely formed judgment.

3. Indirect opposition between finished judgments is discovered and in fact created, by the suppositions and assumptions of Reasoned Dis= course. How this is done may be already in general understood. The methodical effort to accomplish fully an incom= plete act of judgment, may be suc=

cessful or not according as the course of the argument is unobscured by defeat, or stopped entirely by direct opposition. Now, in fact, according to methods that will be better described hereafter, the attempt to accomplish an act of judgment is usually prosecuted through the comparison of already past acts of judgment with the present attempt and with one another. Consequences of the propositions, the expressions of the previous judgments, are developed in order, the whole being governed by the one main intention. But the whole success of the undertaking depends on the harmonious development of all the series of consequences. If a irresistible direct opposition to one of the members of one of the series arises, the whole course of the argument must be altered, or else the original intention must be given up. Thus then, if the direct

opposition that arises be considered as resulting from the conflict of consequences of two or more of the propositions that have been used as auxiliaries, there we have indirect opposition, obstructing if not totally defeating, the original intention. The indirect opposition would never have come into existence had not the Reasoned Discourse engaged in conditioned it. When it did come into existence its significance was this, that it expressed the disappointment, temporary or final, of the attempt in which the Reasoned Discourse had its being.

Of the Methods of Reasoned Discourse.

§. 29 Let us now examine Reasoned Discourse in respect of the methodical procedure in which it takes its form. We have as its first nature its purpose, viz., the overcoming of opposition. The various ways in which it overcomes

opposition must be in the most general and cursory way discussed, in order that we may understand what part the Principles of Knowledge play in the matter, when we come to discuss them hereafter.

Of the Incompleted Judgment.

1. Suppose an attempt be made to form a judgment that would, if formed, be expressed in the proposition: A is B. What kind of a concept has the mind of this judgment before it is formed? First, then, the mind has an idea of will-acts in general. That is, it has the power to form judgments about will-acts in general; and without forming such judgments it has a more or less distinct impression of them, an impression that might develope into a judgment at any time. This is in fact what, in English Philosophy, is usually meant by the word idea, though we have sought to employ

in a more exact sense this much-abused word. At any rate, such an impression of judgments as a class of will-acts, as well as of all will-acts taken together, exists in consciousness. The impression which could develop into the ideas A & B, are also in the mind. These impressions may be separately developed into ideas in other judgments, such as would be expressed in: A is M, B is N, and so on. Thus the mind learns by experience. But still no judgment appears as yet that quite satisfies the desire felt. This desire is made most definite by the expression of the desired judgment in words, although, until the moment when the wished-for act is accomplished, the words do not convey entirely clear ideas to consciousness, but can only be brought to do so by taking them out of their connection and making them into propositions that express easily realizable judgments such as the A is M, B is N, above. In

this unformed state then, the judgment exists before the mind. How do we set about the accomplishment of it?

Of the One General Method of Reasoned Discourse. — Of Logical Ground or Reason.

2. First and above all we set about the accomplishment of a yet incomplete act of judgment, by searching for already accomplished and now reproducible acts of judgment that resemble the first, or are believed to resemble it. This, in one shape or another we always do. No reasoning process exists that does not proceed according to this general principle of likeness. To speak more definitely, when to the impression we have of the object of our search, the formation of A is B, there comes the memory of a judgment previously formed, A' is B', and when these two, the impression of the as yet unformed judgment, and the memory of the previous one, become the basis of a new

judgment in which the judgment A is B is, in certain aspects (to be examined hereafter), identified with the judgment A' is B', then there is found to result the more easy formation of the judgment A is B, in favorable cases its immediate positive and complete formation. If now, although the likeness between A is B and A' is B' is judged, the judgment A' is B' is itself not completely formed, and requires still further attempt, then we look for a new judgment, A'' is B'' which shall be itself complete, and which shall give basis to the judgment A' is B', that is bring about the completion of it. This is in the briefest terms the character of the whole reasoning process. Reasoning is the founding of one proposition on another, the proving of one by the other; so runs the ordinary account. We ac-

cept this account with this proviso: viz;
we understand by founding one proposition
on or proving it by another, the accom=
plishment of a more simple act of will
that by its similarity with the desired
act of will, renders the latter's accomplishment
possible. The Logical Ground or Reason
for a proposition is a proposition that
expresses a judgment which by its simi=
larity to the judgment expressed in the
grounded or concluded proposition ren=
dered the formation of the latter as a
completed judgment possible. — As we be=
fore saw that without opposition no Reasoned
Discourse would be needed, so now we see
on the positive side, that without the existence
of that quality of mental life by which
the formation of a simpler judgment
renders then possible the formation of a
somewhat more complicated judgment,
no Reasoned Discourse would be practi=
cable.

Chap. II. §. 29, 3.

Of the External Form of the Reasoning Process.

3. The process of reasoning has thus been in general stated. It comes next in order to speak of certain external modifications of the form of the process. As so far stated, the procedure is as follows. If A is B is to be demonstrated that A is B. In order to do this we look for a previously formed judgment, A' is B', so like the desired one that a clear consciousness of the formation of the one is followed by the formation of the other. If this also is incomplete, we look further, and so on. The statement of the relation of A is B and A' is B' is of course an hypothetical judgment: If A' is B', then A is B. In case A' is B' remains incomplete, we go on to another judgment or attempted judgment A'' is B''. If A'' is B'' then A' is B', forms the bridge over which the argument passes. And so we proceed. At last it is supposed that we come to a judgment that is in itself complete. We may sym-

bolize this by, $A^{(n)}$ is $B^{(n)}$! Then, going back-
wards, and assuming as we always do
that the judgments we make in reverse
order are the same as those we made or
wished to make in advancing, we say:
$A^{(n)}$ is $B^{(n)}$; therefore $A^{(n-1)}$ is $B^{(n-1)}$; therefore &c.
---------- A'' is B''; therefore A' is B'; therefore,
finally, A is B. The <u>therefore</u> throughout
means only that having completed
the act $A^{(m)}$ is $B^{(m)}$ at any point in the se-
ries, the act $A^{(m-1)}$ is $B^{(m-1)}$ is immediately
completed, although we found it im-
possible to complete this act before.
— This is the typical form of the process
of reasoning. We may however and do
vary this form for practical purposes.
The variations are mainly external. First
comes the common synthetic form of geo-
metrical and like systematic reasoning.
Here as before we state the <u>demonstran-
dum</u> at the beginning: Theorem: A is B.

Chap. II. §§ 29, 3, 4.

Next we take some proposition expressive of a once completed act of judgment, one now reproducible, but whose connection with the demonstrandum may be very remote. This act makes possible other acts, and we come down in a series to the required one. Thus: A is B. For we have $A^{(n)}$ is $B^{(n)}$ and this gives is $A^{(n-1)}$ is $B^{(n-1)}$; and this again gives us $A^{(n-2)}$ is $B^{(n-2)}$; ..... ----- A^{II} is B^{II}; and from this we get A^{I} is B^{I}, whence follows A is B. Q. E. D. — Again we may go to work in a manner resembling the unmethodical heuristic trains of thought, keeping our real intention hidden, until we reach the proposition A is B. — Different from these methods however is the indirect method, the reductio ad absurdum, whose significance must be discussed hereafter.

Of the Incomprehensibility of the Connection of Individual Acts in Reasoning

4. The external form of the train of reasoning is however not the important point of our present research. We ask, what kind of likeness between propo-

sitions is it that makes passage from one judgment already completed to the completion of an attempted judgment possible? And here it must first of all be remarked that this question can receive its answer only through experience. An entire mystery is it, by itself considered, that one act of the will should be the assistant at the birth of another. Entirely undecided must it remain, before the verdict of experience, what acts can determine other acts, i.e. bring other acts into being. Perfectly possible were it that a kind of beings should be found who like ourselves had Knowledge, but who were destitute of Reason, that is in whom one act of Knowledge rendered possible any other. Whether any of the animals approach this condition, we do not know. Perfectly possible were it on the other hand that a race of beings should have all the (material) Knowledge we have, but should connect it in totally different

ways, so that all their primary acts individually were in agreement with ours, although their methods of reasoning were not in anywise like. Such beings might find a connection between the price of gold and the Pythagorean Theorem, or deduce the motions of the planets from the results of deep-sea soundings. To them the same nature would have other laws than it has to us, although their individual knowledge of objects, feelings, material relations of special things, and the like, might be in accordance with ours, and although, for all we know, their practical life might be just as fortunate. - Perfectly mysterious is it again that when we desire to perform an act of judgment, we should ever find ourselves resisted in this act, although when we are successful in an act we find that all that there is in it is of our own making.

Chap. II, §. 29. 4.

It is perfectly possible to imagine a being to whom there were never present an atom of resistance to the formation of any act of judgment. Such a being would be Kant's ideal of the creative intelligence, whose own ideas are always realities, who knows the things in themselves. But for us the fact remains that we constantly meet with resistance in our efforts to judge. Whence this resistance comes is entirely another question, in fact a later refinement of our consciousness when we begin to reflect in a metaphysical way. For the first it suffices that we meet with resistance, that in many cases we are able to overcome it, that the systematic method of overcoming it is by performing acts like what the desired one is intended to be, which acts make the attempted one, in many cases, possible. To find in what this effective likeness consists, forms our present object

Chap. II. §. 29. 5.

Of Connection by Community of Ideas, i.e. of Ideas in Themselves.

5. As all acts of judgment agree in being acts of identification through the will, we shall not expect to find any gradation of acts according to the character of the will concerned. In all judgments alike we will identification. Judgments are most readily to be classified according to the ideas that enter into them. Such a classification we attempted in the last chapter. And so, if two judgments are called alike, they will be alike due to likenesses in the ideas that enter into them. The effective likeness will be found to consist in this also, that is in the likeness of ideas. In fact, as we showed in the last chapter, there never can be community, but only likeness of ideas between two judgments. Nevertheless, as we shall now find, when the effective likeness, the likeness that is found in case of logical sequence, exists between two judgments, there is the as-

sumption made that at least one idea is common to the two. The endeavor to give this supposition form, has already introduced us to the concept of the Ideas in themselves. Let us now state certain principles as to the likeness of acts of judgment, which are constantly understood in reasoning processes.

First: When two acts of judgment, compared in the memory, are found to be precisely alike, so that a careful examination reveals no unlikeness between them, we say that the ideas identified were the same. This statement is strictly speaking incorrect, as we previously shown. And the precise likeness of the acts of judgment themselves by no means follows from the identification of the two in memory. Practically the statement is not generally attended with troublesome consequences, and we make use of it constantly, and could

not reason at all if we did not make use of it.

Secondly: When one of the two members of the identification in one of the acts of judgment, is that in the judgment that gives it its aspect of identity with the other judgment, i.e. when the two judgments are themselves judged alike in a given feature, viz. in point of one side of the identity in each, then the judgments are said to have an idea in common.

Thirdly: If either both or one of the ideas of one judgment should not be found (in the ordinary sense of the term) in the other, but should be like one or both the ideas found in the other, and that in definite measure, i.e. when in comparing the judgments they are found alike in point of some aspect of one or the other of the sides of the identity, then the judgments are said to have, not ideas, but elements of ideas in common.

Fourthly: That judgments have both the ideas in common, or one idea

in common, or elements of ideas in common, are expressions that have meaning only in and by the comparison, not of the ~~circ~~ independent ideas, but of the judgments themselves; and these expressions signify degrees and aspects of likeness among the judgments, not original community of ~~likeness~~ the ideas. But now, for the sake of convenience, we may abstract from those parts of the judgment that are found unlike, and consider separately those parts that are like: we may thus abstract from the unity of the judgments as wholes, and consider the parts as if they were independent and existent in themselves. We may speak of the judgments as like in so far as the same ~~like~~ ideas enter into them, as if the ideas were as ideas pre-existent to the judgment and entered into it. This is the justification of the use of Ideas in

themselves as auxiliaries, arbitrary abstractions, in the reasoning process.

Fifthly, If we consider the three classes of community among judgments first given as stated in terms of the Ideas in themselves, we have that judgments may be alike, first in possessing and using the same Ideas, secondly as having one Idea in common, thirdly, as having elements of one or both Ideas in common.

Sixthly, If we ask now in general how the kinds of likeness of judgments affect the methodical course of the reasoning process, we have as reply principally this: that as on the one hand all reasoning is the endeavor to overcome opposition to the formation of a judgment; soon the other, no other methodical means of overcoming opposition is known to the mind, than bringing the attempted judgment

into harmony with previous ones, first by so arousing memory as to bring to light some judgment that had both Ideas the same as the present, or secondly by bringing to light a series of judgments whose members had a community of one idea or of the elements of one or both ideas with the given judgment. And further, we must take notice that when either of these two things has been accomplished in a certain definite way, and the mind is fully confident of its memory, then there is the immediate formation of an act of judgment that is considered to be the one desired, to such an extent at least that the conflict ends for the time. And finally, as to the satisfactoriness of the result, it is evident that the act of judgment thus reached remains satisfactory only so long as the mind retains confidence in the trustworthiness of its own memory, and is satisfied that the pre-

viously intended judgment is that actually reached. If doubt arises, the question is opened again: Hence it follows that if all Judgment as such is Knowledge; all Reasoned Discourse as such is doubtful. If Judgments are true so soon as willed, Reasoned Discourse is satisfactory only so long as the mind is pleased to be satisfied with it. For the Judgment has its end in itself. But Reasoned Discourse has its purpose in the quieting of external strife, and can never be secure against the breaking out of strife anew. No Judgment once made can ever be resisted. No Reasoned Discourse, however well established, is beyond the reach of rational doubt.

Thus then the whole of Reasoned Discourse is open to what we have described as Rational Doubt (v. §. 15, last Chap. in fine). For when we throw doubt on reflection on a process of reasoning that

bers once been accepted, we throw doubt, not on the conclusion, for that, in so far as it was a finished judgment, cannot be doubted; but on the whole process considered as in relation to an original intention of our own. We doubt if the process of reasoning really did what it was intended to do, really brought us to the accomplishing of the act we intended to accomplish. — If anyone objects to our affirmation that all reasoning may be in error, that we ourselves claim that every proposition, once completed, expresses an act of knowledge, and that every course of reasoning, being made up of such acts must be throughout, on our hypothesis, true; then we respond that a reasoning process is regarded as in error, not because alone of the falsity of the propositions that make

it up, but because of the failure to attain in it the result required. And the complete attainment of this result remains always doubtful, because at the end of the reasoning we are apt to mistake an interesting result for the one desired, and only are reminded of our failure by further thought.]

Of the Connections that bring Satisfaction; i.e. Attainment of the Purposes of Reason.

6. Where in the comparison of a judgment attempted with the memory of previous judgments actual, one of these previous judgments is found to be just like the desired one, the desired act follows immediately in all cases. Here perhaps doubt may arise on reflection as to the trustworthiness of the memory, as to the satisfaction of the original intention, and the like. But in so far as these doubts do not arise, the reasoning remains satisfactory. — Not so is it universally when memory only furnishes judgments previously accomplished and reser-

bring the at present desired act by community of a single Idea, or of elements of one or both Ideas. Here the desired act is rendered possible only under special circumstances. The general principles of this kind of reasoning have already been investigated by logicians, and we have best to mention their results in connection with our own peculiar view of the nature of the reasoning process in general. — When two propositions have one Idea in common, the truth of one can follow from the truth of the other only through the mediation of a third, which has an Idea in common with both, and which so substituting for the Idea peculiar to the first proposition, the same Idea expressed in terms of the Idea peculiar to the second, reduces the first to likeness with the second. The principle of all this kind of reasoning is very

be stated thus: When two Ideas are identified in a given judgment, and when a judgment resembles this one, on one side of the identity only, to such an extent as to have an Idea in common with it, then in a third judgment, the conclusion, the Ideas identified in the two judgments respectively with the common Idea, may be identified with each other in precisely the same aspects in which they were identified with the common idea. Or, expressed in terms of the likeness of the judgments alone, A likeness of two judgments on one side of the identity only, involves the possibility of the formation of a third act of judgment, like each of them in point of one side of the identity, but unlike each in point of that side of the identity in which they before were like. This principle is the one that is commonly stated thus: Of like things like may be predicated.

Chap. II, §. 29.6.

—When two judgments have, not an idea in common, but only elements of ideas, the identification still takes place in similar fashion as before. The principle here is (expressed in terms of the Ideas in themselves): When elements of Ideas are the same in two judgments on both sides of the identity, the one follows from the other immediately in so far forth as the sameness of elements is regarded; but when on one side only of the identity in each judgment elements of an idea of one are found the same as elements of an idea of the other, then from both judgments follows a third, in which those elements of the second idea of the first judgment that were identified with the common elements, are now identified with those elements of the second idea of the other judgment that were in like manner identified with the common elements. Or expressed in terms

of the similarity of the judgments: When two judgments are alike in point of certain aspects of one side of each, then from these we may form a third judgment like each in the corresponding aspects of the other sides, respectively, of the two judgments. — These kinds of likeness of judgments make possible the passage from the formation of ~~one~~ one of them to the formation of another, or from the formation of two to the formation of a third. And when by experience we have noted these ways in which our thought progresses, we make methodical use of them to overcome the resistance to any act of judgment which may arise during the formation of this act. The formation of the act being resisted, we appeal to our memory or to present experiment to make possible the formation of the ~~desired~~ acts or series of acts in which some shall appear whose likeness to the desired act

Chap. II. §. 29. 6.

is of the required sort, viz. such that their formation renders possible the formation of the desired act. [— The Aristotelian form of describing the process of reasoning as being made up of complete or incomplete syllogisms, need not be discussed by us in this connection. It is sufficient to say of it that its adequacy has long been doubted, if not disproved. The description of the reasoning process as an advance through total or partial identity of the Ideas in themselves or one or both sides of successive judgments is that carried out in full by Jevons in his Principles of Science. This account, as will be seen, we have used as an abstract account, not of the nature of reasoning in itself, for this proceeds by likeness of judgments, not of Ideas, but of what the reasoning process appears when viewed in a certain light. We reason

actually by comparison of judgments. But the reasoning-process may be regarded as if it were one of comparison of Ideas in themselves. So Jevons regards it, and his account, viewed from this side, seems satisfactory enough. — The description of the reasoning process as at bottom an advance through a consciousness of the similarity of our acts of judgment viewed as wholes, has, in later times, been adopted by Spencer, in his Principles of Psychology.

Of the Three Aspects of Reasoned Discourse.

7. The reasoning-process may be regarded in three ways: as a psychological fact, as a voluntary activity, and as an ideal. Viewed as a psychological fact, we are always tempted to explain it. We say, reasoning is but one form of the Association of Ideas. One judgment arouses another in the mind. The connection is often irresistible. The apparent necessity of all reasoning as a

connection of premises and conclusion is a psychological necessity. The logical process is but one example of the uniformity of natural events. Thus regarded, one can become very sceptical about the certainty of the results of reasoning. The connection of conclusion with premises, one says, is after all but similar to the connection of one's dinner [redacted] with the ringing of the dinner-bell. It is a connection of regular sequence. Yet just as the dinner-bell might ring and yet no dinner be forthcoming, so the premises might appear and yet no conclusion follow them. Where then is the transcendent certainty of the reasoning process? - On the other hand however this same psychological method leads us to a kind of dogmatism that is none the less pretentious because it contains a vicious circle. Psychologically considered, one comes to regard reasoning as a result of which experience of the

world is the efficient cause. One then declares the connection of premises and conclusion to be a reflex of connections present in a world independent of consciousness. One says then that the truth of the reasoning process is not in itself, but in the knowledge it gives us of things in themselves. — Both these forms of the psychological way of viewing the reasoning-process are one-sided. — What they mean really is this: Form to yourself a complete psychological theory of the human mind, and then of course all connection of ideas will be but one example of psychological connection, and all reasoning will be but one form of Association. Form to yourself again a theory of the whole universe, wherein all parts are regarded as united in definite ways, and of course human reasoning will appear as determined by the rest of the series, by its environment, if you please. But how have you

come to form either of these great fabrics? Purely and simply by reasoning. Without reasoning you would never have formed any of these ideas of things or processes to which Reason itself is to be subordinated. Reason has built her own prison-house, forged her own chains, put on her own fetters, and now sits and pines in a captivity of which she herself is the sole cause. Such is the consequence of the simply psychological consideration of the reasoning-process. In the consciousness of this lies the ground for the dissatisfaction we all feel when we hear that reasoning is but Association of Ideas, or for the rebellion of the truly critical thought against the claims of dogmatic cosmologies. We know when we hear these things that someone is trying to persuade us to clip our wings without our own claws — But are then psychological and resulting cosmological

theories to be rejected? By no means. They are regarded, from our standpoint, as syntheses by which we order to ourselves our experience. We engage in these syntheses because we choose to do so. The syntheses are satisfactory, because as rational beings we find ourselves satisfied with them. No explanation of our satisfaction can be given as final, because every explanation is a synthesis itself, and may be absorbed in a yet higher synthesis. In fact we find that we have to follow experience in these syntheses, because nothing else turns out to be finally satisfactory. Individual syntheses give us individual sciences. Universal syntheses on experience give us Systems of Philosophy. But after all the grand fundamental fact of all is that we make syntheses, and that because we wish to. And this carries us to the next aspect of the reasoning-process, that in which

it appears as a voluntary activity. This is the view we have taken in the foregoing. Useless it is to give any final metaphysical basis to our procedure as reasoning beings, but quite practicable is an attempt to reduce reasoning to its lowest terms by finding what the one thing is towards which we aim in all reasoning. This one thing we have found is the overcoming of resistance to the formation of some act of knowledge which we desire to see completely formed. The opposition to resistance takes certain definite forms that we cannot further explain, but must accept for what they are. — The reasoning-process as thus viewed, appears as a more or less effective attempt to accomplish a certain purpose. With the attempt in any individual case we may feel a different degree of satisfaction at different times as we reflect upon it. And thus every process of reasoning is accepted with only provisional certainty. — But the

likeness of the reasoning-process to itself, its methodical and comparatively simple character, arouses in our minds the wish to rid it of all the disturbing elements that enter into it. We are lead to conceive of a reasoning-process in which there should be no lapse of memory, perfect appreciation and easy reproduction of all required past acts of knowledge, and no disturbing elements from without, such as the wandering of thought and like phenomena of disturbance. We conceive that such a reasoning-process, were it perfectly realized in our minds, would accomplish our purpose to perfection, and so remain permanently satisfactory. To this Ideal, never fully realized, we give the name of Reasoned Discourse par excellence; and this it is that text-books on Logic seek to describe. They represent, and justly too, that this reasoning-process

gives absolute security of the attainment of Truth. For truth in Reasoned Discourse is satisfied intention; and by hypothesis the Ideal mental process is to be the one that would satisfy permanently, and so gain for us all we intended. This is the third aspect under which the reasoning-process may be viewed; and this aspect is perfectly authorized. Only we should remember that there is in us no faculty that acts as a panacea for all error, nor that gives us the royal road to truth. But all that we truly experience is reasoning more or less imperfect, that gains for us more or less of satisfaction. Only by noting and trying to avoid those paths by which we most commonly run into error, do we reach the Ideal of a highway of Truth. — In these three aspects may Reason be regarded. Each

one is in its place justified. But each needs completion by the others. The psychological way of looking at the reasoning-process is apt to forget that we can never finally base our Reason on anything external and foreign to Reason. The volitional aspect of the reasoning-process fails to satisfy us from an ideal stand-point; for it shows us only too strongly the imperfections in which all our reasoning is involved. The ideal aspect of Reason is apt to lead us in its turn into an obscure dogmatism, if we forget that the Reason we actually have is not the Ideal we have imagined, that it is incomplete and fallible.

Of Fallacies, Of Error and True Opinion

8. Fallacies are failures to accomplish our ends in reasoning. When we fall into fallacies we mistake for a likeness of two judgments what turns out to be none. The result

is either a meaningless proposition, i. e. a combination of words to which no judgment corresponds, or a judgment that is not the one we had desired. The fallacy is exposed when, more clearly recollecting what we desired, or more carefully comparing the judgments the imperfect recollections of which had been identified in the act of judgment whose consequence was the fallacy, we perceive the failure to reach the one, or the variety of the other, and so have our work to do over again. — In connection with this remark we may notice that the words Error and True Opinion, defined at the outset as judgments passed by another, from his stand-point, or the words of a disputant, now are seen to have meaning for the most part in respect to the intention of the reasoning-process criticised. When one conceives that the intention has been attained, he

calls the result true. When, the opposite, he speaks of it as error. - But in the Introduction we spoke of these terms as being used in reference to the confidence of the individual. When we called a view of an individual erroneous, he meant, we said, that the certainty of this view was but subjective, and would be altered, perhaps, in future. Of these terms we are now able for the first time to see the true significance, and we therefore proceed to the re-definition of them all:-

a. Certainty, in matters of reasoning, is the confidence the mind feels that in the acts of judgment it has been able to accomplish, it has fulfilled its original intent, and so gained for itself permanent satisfaction. But this certainty is in all cases subjective. For the mind hereafter, in reflecting on this same process of reasoning, may come to feel dis-

satisfaction, to declare that its original purpose, only known in any case in the form of a memory, was not accomplished, to construct for itself afresh its intention, and so to open the whole strife anew.

b. When two persons are supposed to have engaged or to be engaging in the same discussion, i.e. when their intentions in reasoning are supposed originally the same, and one satisfies himself by results which do not satisfy the intent as interpreted by the other, the two make mutually the imputation of Error. - And speaking absolutely, Error is the unstable assumption of the satisfactoriness of a given result, as viewed after the instability of the assumption has become apparent.

c. When two parties, reasoning in the same direction as before, find themselves satisfied by like results,

they term one another's conclusions True Opinions. - And speaking absolutely, True Opinion is every assumption of the stability of satisfaction with a given result, which, assumption within given limits, is verified. The term is applied however only by one who is himself within the limits in question.

- The terms ~~that~~ more accurately defined were in the beginning ambiguous. They seemed to be applicable as such alike to Judgments and to Processes. We have now found them to be properly applicable only to Processes, or to Judgments considered solely as parts of Processes. A Judgment is, once formed, in and for itself true; but it may be false to the purpose for which it was formed, or different from what it was intended to be, and herein lies the falsity or error commonly attributed to propositions in argumentative dispute.

Chap. II. §. 29, 9.

Of Indirect Reasoning.

9. We have lastly to speak of a highly developed form of Reasoned Discourse, in which advantage is taken of all the elements of reasoning-processes, to attain by an unique method the power of accomplishing a desired Act of Judgment. When an Act is resisted, the resistance itself can never be immediately victorious in case there is any reasoning possible at all. For immediate victory would exclude all reasoning and result at most in the pronouncing of a negative decision expressed in a proposition. If reasoning then is to be possible at all, there must be a resistance to the resistance. The overcoming of the original resistance may now be accomplished by direct means, as already described. But it may also be undertaken indirectly, by treating the resistance to the affirmation as if it were itself an affirmation, and simulating, as the mind has the power to do, simulating

acquiescence in this counter-affirmation. Then to a mind already skilled in the reasoning-process, the simulation in question, will make it possible to simulate, in definite and methodical order, other propositions that would be made possible as soon as the simulated act were really accomplished. In the course of the series of simulations, one of the simulated acts may be opposed directly, even while it is being simulated, by the memory of some previous actually performed act from some other series. The opposition directly to an act that is regarded as a direct consequence of the simulated act, produces an immediate rejection of the simulated counter-affirmation, and a consequent performance of the desired act. - The indirect reasoning-process is open to precisely the same flaws that can enter the direct processes. An act not consequent upon

the simulated act, may, through hastiness of examination or lapse of memory, be taken for a consequent of it, and this may cause the rejection of an act that is really not the one first simulated, and so an affirmation of an act that is not the one desired. And thus may follow a defeat of the original intention, which, discovered upon reflection may cause us to declare of the whole process that it is fallacious.

Of Synthetic Reasoned Discourse; and of the Principles of Knowledge.

§. 30. The reasoning-process that formed the subject of the last paragraph, was there regarded as a voluntary process. It was viewed from its active side. We can view it from another, the passive side, by considering what has happened in any Reasoned Discourse, as we look back over it after the fact. Here the activity is only remembered, not ex-

perienced as a living reality, and in memory it appears as an event, not as a volition. Viewed in this light, reasoning is found to be a process in which passage is made from one act to another, by means of the likeness of acts, or by means of the confidence we have in the likeness of [redacted] the acts formed.- But when reflecting thus on the process of reasoning, we find ourselves not content to regard it alone as a process. We seek to conceive of the premises and conclusion as coexistent truths, whose relations are such that we have been enabled to pass from one to the other, not as successive judgments one of which made the other possible. In the actual process of reasoning we passed from one individual act to another through the aid of the likeness between them. But in reflecting on our processes afterwards, we view them as Wholes, in which a great number of judgments, all existent and all true at the same time, were viewed as [redacted]

ranged in aggregates according to their grades of likeness. Thus then, just as in viewing judgments we were led to an ideal consideration of the members of these judgments whereby these members appear as Ideas in themselves preexistent to the judgments; so now, in considering the connection of judgments, we come to view the individual judgments as originally present in their relations, before we became conscious of their presence. The passage from one judgment to another is viewed as conditioned by the inner nature of these judgments themselves. Our reasoning appears not as the satisfaction of intention, but as the grasping of preexistent Truth. We have, we will say, experienced the passage in the mind from the judgments A is B, and B is C, to the judgment A is C. On reflection, we regard the process as a single

fact of consciousness, the judgments are existing and true at the same moment, and the relations among them as pre-existent relations which we only grasp in sequence because of our own mental nature. - Extend this method of consideration over the whole extent of the sphere of mental life, and you have the conception of a realm of Truth, in which all individual truths are coexistent and definitely related to other truths, forming with these Systems of Knowledge. In so far as these systems are known, it is conceived that the relations of parts are known, and that each part thus becomes a reflex of the whole system of which it forms a part, and that by knowing it thoroughly, you come to know more or less clearly all the other parts of the same system. - To this synthetic method of viewing

the realm of Knowledge, we now have to devote special attention.

The Synthesis of Reflection as a Fact.

1. The fact of the synthesis of reflection in which we view our mental processes as wholes having interrelated parts, is well known. Everyone thinks of Geometry as a united science, all whose propositions are true at once. In fact, in order to make the proposition known as the Pythagorean Theorem the vehicle of Knowledge to the mind, we had previously to form many data of Knowledge, such as those expressing the properties of parallelograms, triangles, and the like. But in reflecting on these processes we forget that they were successions, or neglect this fact, and think of them as systems and wholes. So we do in all cases. The concept of a science in general is not the concept of a great number of possible trains of reasoning, but of a great number

of interrelated truths. No sooner have we clearly comprehended a train of reasoning, than we proceed to construct it in our minds as a whole, as a fabric of inter-dependent parts, having foundation, superstructure and pinnacle, all alike necessary to its completion.

The Synthesis of Reflection as an Economic Activity

2. This synthetic activity is best understood by considering its purpose. We think of a science as a whole rather than of the same science in the form of the process we had to go through in learning it or in comprehending it, because so to consider it is more satisfactory to us, and requires less expenditure of energy. We think of one theorem of geometry as true at the same time with another, and as having a definite relation to it, because it is easier to remember both theorems and the character of the sequence of the acts they express than to remember them along with the process by which one of

them as an act, followed upon, and was attained through the performance of the other. In general, since the object of all reasoning-processes was the attainment of definite Acts of Knowledge, we find it most convenient, in considering the matter afterwards, to take notice of the ends rather than of the means. We remember therefore the whole in the form of certain relations of judgments as [redacted] Truths, not in the form of a process with certain steps in it. — It is this method of viewing our reasoning-processes in general that leads us to look upon one Act of Knowledge as conditioned, in its capacity as Knowledge, by other Acts. This opinion we have had to combat. But to the forms of expression that give rise to it, we have no objection; since these but express the convenient synthesis of thought by which we get as it were the schedules in brief of our long processes

of reasoning, for use in future for other purposes. — An economic activity of the mind then is the synthetic process, whose purpose is the same as that which leads the mathematician to symbolize long operations by a stroke of the pen. — The significance of this thought as to the nature of the synthetic process has long been obscurely perceived; but not until quite lately, in so far as we are aware, has it been fully appreciated and used as the foundation-principle of a view of the whole scope of philosophy, as is the case in the short essay by R. Avenarius (now Editor of the Vierteljahrsschrift für Wissenschaftliche Philosophie) entitled: Philosophie als Denken der Welt gemäss dem Princip des kleinsten Kraftmasses (Leipzig, 1876), a truly important contribution to thought, whose influence on our own standpoint in the following discussion we cheerfully recognize.

Definition of a Science

3. A Science may be defined as the aggregate of a number of Results of trains of Reasoned Discourse, which Results, owing to a certain definitely perceived likeness among themselves and among the trains of Thought by which they were as Acts of Knowledge made possible, are considered in the synthesis of reflection as united in logical relations, and as true at the same time.

Of the Determining Principle of a Science.

4. That Act of Knowledge by which the likeness of the Results in any Science is ~~attained~~ grasped, and through the recollection of which the purpose and the limits of this Science are defined, is called the Definition or Determining Principle of the same. The Definition of a particular Science is therefore to it, what the Definition of Science in general is the scientific activity as a whole.

Chap. II. §. 30.

Of the Hypothesis involved in every Determining Principle.

5. In the Definition of a particular Science, two things are involved, first a review of a number of methodical trains of reasoning in the past, secondly a determination of the character of future trains of reasoning in so far as they shall have to do with the Science in question. In regard to the past trains of reasoning, it is perceived that they and their Results have such definite likeness that they can be and are all considered as forming part of a Whole. Of the future trains of reasoning, and of their Results, it is determined that they shall be admitted into and form part of the present Science, only in so far forth as they answer to the present Definition, i.e. in so far forth as they possess the mentioned definite likeness with the former trains of thought. - Thus is involved in the Determining Principle of every Science

a double hypothesis; viz. in one direction an hypothesis of the carefulness of the examination and trustworthiness of the memory of the past trains of thought; and in the other direction an hypothesis that an agreement of ~~[illegible]~~ future Results and methods with the present can be properly estimated and controlled. The first hypothesis is an assumption, the second an intention or determination as well.

Of the subdivisions of Sciences. — 6. Every Science is capable of division into lesser Sciences or branches. And the branches are or are not regarded as independent Sciences, according to convention, which is but another name for convenience. Thus Geometry is divided into Plane and Solid Geometry. Plane Geometry is likewise divided into Geometry of rectilinear figures and Geometry of curves, and so on. Each one of the subdivisions has its own determining Prin-

ciple, which has as before the doubly hypothetical character above remarked.

Of the Ways in which Sciences are commonly Defined or Sub-Divided - Of Division as Determined by the Ideas in Themselves.

7. These divisions of the whole realm of Knowledge into Sciences, and of the Sciences into Branches, is commonly regarded as a division either according to Objects, or according to Methods. Each one of these kinds of division is accounted for on the basis given above. Sciences are defined according to a likeness of Results and of train of reasoning within certain limits. The stress in the definition may be laid more on the Results, or on the reasoning. In the first case the division is said to be accomplished according to the subject-matter, in the second place according to the Methods. - The division according to Objects or subject-matter is the most usual and the most important. A likeness of Results as Acts of Knowledge, is of course interpreted as a likeness

based upon the community of Ideas or aspects of Ideas among these acts. The Ideas are called the subject-matter or Objects (Object in the sense of materia, not in the sense of causa finalis) of the judgments. A series of trains of reasoning then, that have as purpose the attainment of certain Results about certain Ideas in themselves, are united in thought as a single Science. - From this point of view, Sciences are defined and sub-divided according to the Ideas in themselves supposed to enter into them.

Of the Synthetic Procedure

8. If you consider as the purpose of any Science the discussion of certain systematically related Ideas in themselves, you have the following as a general account of the procedure of all sciences. First one begins with a definition of the Ideas of which the Science is to be. The significance of these definitions appears plainly

from our previous discussion. What is defined is in no case an Idea previously existent in the mind; for the Ideas defined are to be something more than Feelings, but yet not judgments, and other than these two classes of consciousness, the indefinite consciousness and the definite there are not. Nothing previously in the mind then is defined, but in definition arises for the first time what was not there before, a judgment or series of judgments of determination, which state the limits of likeness and unlikeness which are set for the Science that is to follow. Do you define Geometry as the science of space-relations, then you mean simply that there are possible certain series of judgments whose Results resemble one another in just this, that at least one side of the identity is presented to consciousness as something spatial, or is intended to stand for such an original presentation. And the same holds true of the definitions of objects which

stand at the head of the various branches of Geometry. When one defines a circle as a figure every point of which is equidistant from the centre, he means that the branch of the science which is to treat of circles, shall have as its Results judgments into which either the more general Ideas of space-relations, or those particular Ideas which are contained in the judgment of definition, appear, and no other space-Ideas. The definition of an object, is the definition of an Idea that is to appear in a class of judgments; and the definition of an Idea, is but the statement of a similarity that exists among a whole class of judgments. — The definitions being set up, the science is then set forth in the form of trains of Reasoning Discourse. The Results are supposed to be judgments that have been made possible through the reasoning, and that lie within the limits set in the definition.

Chap. II. §. 30. 9.

Of the Synthetic Procedure (continued).

9. The Definitions with which the Science begins, are to be statements of likeness among a whole series of trains of reasoning and among their Results. The Definitions then, are supposed or intended to be founded on previous judgments, and on the observation of them. For this reason, all Science intends to be founded on Experience. Experience is to be taken, as ordinarily used, in two senses. It signifies the content of a present Act of Knowledge. It signifies also the content of past Acts of Knowledge, stored up in memory in the form of impressions. These are two very different things. In so far as past, an Act of Knowledge ceases to be Knowledge. Only the impression left by it in the mind, more or less completely preserved, can be made to take form in one side of the identity in a new Act of Knowledge. Of the content of a present Act of Knowledge, there can be no doubt. – Now the sense in which all Science intends to found itself on Experience

is the sense in which ~~the~~ the word im-
plies past Acts of Knowledge and refers to
them. In present experience is never a Sci-
ence, but only an individual Act. Sciences,
considered as syntheses of whole series of
Acts, are not of the present, but of the past.
In this sense then are all Sciences founded
on experience, and for this reason is it im-
possible to construct Sciences whose ideas
are absolutely fictitious, i.e. of the like-
ness of whose judgments we can have
no impression whatever. — But once thus
formed, what progress is it possible
for a Science to make? When we first de-
fine the Science, it had already in some
shape been existent in our minds pre-
viously. There were past Acts of Knowledge
that answered the description. What is
our object in determining to make new
Acts of the same sort? — Two objects are
possible: — (1): We may purpose to see how
many acts, or how many sub-classes of
acts, or what important acts or sub-
classes of acts, may be possible within

the given limits. We may intend in other words to complete and order the Knowledge we already have in the given direction. — Or (2): We may purpose to unite the class of Acts in question with other Acts, of another class, and then to determine what Acts are made possible by this union. — The first purpose is the one that governs what is called Analysis, the second is Synthesis in the narrower sense. — Analysis, defined in reference to the Ideas in themselves, is the separation of these Ideas into their classes. Defined in reference to the judgments, it is the determination of the subordinate similarities that may exist among judgments already similar in given aspects. — The processes of Synthesis in the narrow sense are of two kinds: — a. Synthesis of Experience or Real Synthesis; b. Synthesis by arbitrary Principles, Ideal Synthesis. Of these two kinds of Synthesis in the narrower sense we shall now have to speak.

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Of Real Synthesis.

10. Synthesis in the narrower sense we have said to be the procedure in which we unite the Acts of Knowledge concerning which the purpose of the discourse is to treat, with certain others that do not belong to this same series. Real Synthesis we have defined as that sub-class of Synthetic procedure in the narrower sense, in which we add to the Acts of Knowledge previously present ~~or~~ described in general in the definition of the Science, other Acts, which were not found among these, but which are found in the course of our Experience. The particulars of the procedure are somewhat as follows. Suppose we define the Science of Astronomy as that Science which treats of the motions of the heavenly bodies. This definition presupposes that the heavenly bodies, as objects, have been previously known; i.e. that Acts of Knowledge, into which

the Ideas of the heavenly bodies have entered, have been in the mind, and are now remembered. The purpose of the Science, which is in any case to be a Synthesis of trains of reasoning, is to obtain Results, Acts of Knowledge, into which Ideas of the heavenly bodies shall again enter. Were the procedure what is commonly called Analytic, it would consider only what the possibilities are as to the heavenly bodies, i.e. what Acts of Knowledge into which the Ideas of the heavenly bodies enter, can be formed, or at least what classes of Acts. In fact however, such an analytic treatment would, in case of the Ideas of the heavenly bodies, be of little worth to anyone. These Ideas are remarkably simple, in other words the subclasses of judgments under the one great class of which the Science treats, are very few and easily exhausted. Another than the analytic Synthesis (for such we call the process of scientific Analysis)

must be adopted. So we unite the acts of Knowledge concerning the heavenly bodies with Acts of Knowledge from other Sciences. The Results are Acts of Knowledge concerning the heavenly bodies, and hence belong, not to the other Sciences, but to Astronomy. With Acts of Knowledge concerning space = relations we combine the first; and obtain Knowledge of the motions of the heavenly bodies; with Acts of Knowledge concerning Mechanics, and obtain Knowledge of the Force of Gravitation; with Acts of Knowledge concerning the properties and phenomena of light, and obtain Knowledge of the constitution of those of the heavenly bodies that are self-luminous. So we proceed; and here we have the Synthesis of Experience. - Acts of Knowledge not contemplated in the Definition, but not in dis-

harmony with it, are made use of to obtain Results which by the Definition belong to the Science, but which without the auxiliary Sciences would never have been obtained. And since these auxiliary Sciences are independent of the first, the Synthesis that unites them with it is a Synthesis dependent upon Experience, and is so called a Real Synthesis.

Of Ideal Synthesis.

11. One other means is found of adducing to the Results of simply Analytic Synthesis. The judgments that are to form the content of any defined Science may have certain general likenesses which themselves are not made part of the definition, so that judgments not possessing these latter likenesses, would fall under the Science in case they possessed the marks mentioned in the definition.

It may then not be given in the definition that the mentioned subordinate resemblances should subsist. But it may be assumed, or postulated, or (if the opinion of some turn out to be correct) proved, that the resemblances that form the subject of the Definition, will always be found along with these resemblances that form no part of the definition. Or, expressed in terms of the Ideas in themselves, it may be postulated that all representatives of these Ideas will be found connected with certain other Ideas that do not result from the analysis of the first. — Again it may be assumed to be possible to form by a comparison of the judgments of a science, entirely new judgments, in which Ideas appear that were not in any of them; as, after observing a whole company of men, it is possible to introduce into a judgment an Idea

not in anyone of the single Judgments by which the individuals were recognized, an Idea of the number of the individuals, or of their ordering in place, or the like. — Either one of these two assumptions is an assumption of the right to make a Synthesis of one set of judgments with another, for the purpose of affecting the Results. One of them assumes that the power to judge the likeness in one respect of certain Acts of Knowledge, will co-exist with the power to judge the likeness of the same Acts in another respect. The other assumption is that, about the Ideas that enter into a certain class of judgments, an entirely new class of judgments may be made, in which new Ideas enter. In both cases we have, not experiment, as in the last case, to see what new acts the synthesis of the two sets of judgments will make

possible, but assumption, that the synthesis will have a given kind of Results. Assumptions of this order form the basis of Ideal Synthesis, and the expressions for the bases of Ideal Syntheses are the Principles of Knowledge.

Of the Ideal Synthesis as seen in the First Principle of Knowledge.

12. The full value of the Ideal Synthesis can only become apparent after the detailed discussion. We shall for the present point out in general the significance of Ideal Synthesis for the formation of any conception of a Science as a Whole. — We said in the first place that a Science is to be the ideal result of the Synthesis of reflection, which looking back over a series of trains of reasoning, considers them and their Results as all true at the same time, and as interrelated, thus forming a grand Whole. As soon as we began to define a Science, we had however to fall back into

the way of viewing it that sees it in its individual successive parts. We saw that the Determining Principle of every Science must come at some point of time, as the summary of the likeness of certain past Acts of Knowledge, and as the determination of the limits of likeness of certain future Acts. We saw in like manner that the operations of the Science, though, as synthetic operations their purpose is to so systematize the trains of reasoning that these may be regarded as an interrelated Whole, are yet successive. What one assumption or set of assumptions can we find which shall express the unity we claim for each Science? We reply, the assumptions of Ideal Syntheses. The mere fact of reasoning is never enough to define a Science. The Real Synthesis but gives us the combination of the material which is to be made into a Science. In thinking

of the Science as an actual Whole, we make use of some form of the Ideal Synthesis. This may seem at first somewhat obscure. Let us illustrate. Suppose the manner of procedure of a Science to be wholly what we have called the Analytic Synthesis, the Synthesis in other words in which we sub-divide the Ideas in themselves supposed to stand at the head of the Science, or, in other words, in which we discuss the various subordinate likenesses that may exist among judgments which have the one general likeness. Now if we are to be able to consider the Results of the investigation as forming a Whole of interrelated parts, we must suppose that the reasoning may be so reproduced upon reflection, as to give us the same Results in the same or in another order as the one in which we obtained them first. Since moreover the analysis of certain individual judgments brought us in the first place to Results as to all the judgments of the given class, viz. as to the sub-classes, limits of likeness, &c. of these judgments, we must be able, if the Science is truly an interrelated whole, to come to like Results by starting with other judgments

as examples. The particular instances through which an Analytic Science is defined, are unessential to the Results of the Science. Any set of specimen cases would do as well as that started as another. The Synthesis of the Science as a Whole depends then upon and expresses the assumption that from one set of examples the same Results as to the whole class of Judgments and its sub-divisions could be deduced as from another set, other things being equal. Without this assumption we should know that we had formed in the beginning a set of Judgments with a certain likeness, that we had sought to define this likeness, that we had then found numbers of other Judgments like the first set in some particulars, that we had sought to grade the likenesses in regular order as subordinate likenesses, that in a word we had been analyzing. We should not know however anything of this series of events as constituting the foundations of a Science. When we assume that from other examples and in another order we could make the same sub-divisions, definitions and classifications, we

are able then to form to ourselves the conception of the Whole as a Science. A Science then, even if it be analytic, is not bound to any one set of trains of reasoning but simply to a series of Results, and it is a Science in so far forth only as it assumes, not that these Results were obtained, at one time, in a given order, and by the use of a given set of examples; but on the contrary that they can be obtained at all times by thought of a certain general character, in a great number of ways, from a great number of sets of examples. The assumptions thus formulated are assumptions of Ideal Synthesis. To declare of an Analytic Science that it may be set forth from an indefinite number of starting-points, is not to state a fact of experience, but an assumption of Synthetic thought, an assumption without which we should have no idea of an Analytic Science at all, but an assumption that can never be adequately verified. Experience, as preserved in memory, gives us trains of reasoning, in which one act follows upon another, and

is the object of the preceding one as deter-
mined by voluntary purpose. Experience
does not give us any such connection of
trains of reasoning as enables us to say
as a fact that one train of reasoning may
under certain definite conditions be substi-
tuted for another and bring the same Results.
This however we do say, as an arbitrary
assumption, made by ourselves for the sake
of being able to regard the sum of a great
number of past and future, realized and
possible trains of thought as a united Whole.
— Suppose now that the Analytic Science in
question is defined as follows. We notice in
our experience certain like Judgments of
the form a_1 is b_1, a_2 is b_2, a_3 is b_3 &c. Of these
judgments in so far as they are alike in the
noticed particulars, we propose to treat, as well
as of all judgments in general that are to be
like them. We notice in the given judgments
the likeness M. We define the Science as the Sci-
ence that is to treat of judgments having the
qualities M, or of the class of Ideas expressed
in say in Id. M. (meaning the Ideas supposed
common to the judgments that are alike in
the qualities M). We now proceed to the Attaining

of analytic results. We look for possible subordinate likenesses that may ~~exist~~ be found among the judgments of the general class in question. We find for example the judgments, a_p is b_p, a_q is b_q, a_r is b_r &c. like the original ones in the qualities M, but having certain other likenesses, expressed in m. We declare that there may be a subdivision of the science, which shall contain these judgments. Such is in the briefest form the outline of the science in so far as it is analytically developed. This process continues as long as we choose to continue thinking on the subject. But thus we have as yet no Science, but only a process. A Science is present only when we assume that the examples a_1 is b_1, a_2 is b_2 ---- a_p is b_p, a_q is b_q, and the courses of reasoning founded thereon, were not essential to the analysis of the likeness $\underline{M}$, nor of the Idea $\underline{Id.\,M}$, but that we shall be able to take in future new judgments, having the likeness M, and divide and subdivide them in a way like the former, or in all respects not in discord with it. If to-day we divide geometrical figures into plane and solid figures, [illegible]

basing ourselves merely on those figures that come into our minds at the time, then in so far as we hold Geometry in its analytic aspect to be possible as a science, we do not expect to be forced tomorrow, when we examine the subject, to give up this division in favor of one into moral and immoral figures, or sad and joyful figures or tailed and tailless figures, or Silurian and post-Silurian figures. Yet has experience ever told us what we shall do tomorrow? Who knows but that we might take for judgments of space-relations tomorrow judgments that fell into some of these classes and not into the former? But then we should be crazy, says one. How, may we ask do you know that? It is a petitio principii, and is just the same at bottom as the synthetic assumption of which we are now speaking. "We should be crazy", is but a passionate way of saying that with a very deep-seated and firm resolve, we today assume the fundamental synthesis without which Geometry would not exist as a science at all, but would be remembered

only in the form of detached experiments at reasoning in the past. – The sum of the argument is then that Synthesis is necessary to the conception of even an Analytic Science, that the Synthesis necessary is an Ideal Synthesis, and that its content is the assumption, unavoidable if we would have the Science, but unprovable, that the presence of judgments that by their likeness with others are brought under the definition of the scope of the Science, brings with it the possibility of subdivisions agreeing in character with those rendered possible by all other judgments that fall under the definition. Now what is this Assumption but what we defined in the Introduction as the Principle of Consistency, the first of the Principles of Science? This Principle it is that by asserting the abiding nature of an Analysis once made, renders all Reasoned Discourse capable of being regarded not as a mere sequence, but as a Whole. Reasoned Discourse proceeds according to the likeness of judgments. The Principle of Consistency, by asserting the power to define a given kind of likeness of judgments, sen-

ders possible the claim to an abiding truth in a given Reasoned Discourse, i.e. the claim to the power of reaching like results in many ways, and of repeating these Results when once reached, together with the ~~methods~~ powers of reaching them. — The results as to the Principle of Consistency are as follows: —

a. The Principle is one of Ideal Synthesis, i.e., it asserts that such a likeness of judgments as makes possible the bringing of them under a certain Definition, also makes possible the obtaining of like Results in particular regards in case of the Analytic procedure on the basis of these judgments.

b. The Principle, as one of Ideal Synthesis, is unprovable and arbitrary. Experience can never assure us before the fact that we shall be able to obtain like Results in any given direction by the employment of like premises.

c. But on this Principle all Analytic Proof depends, or rather the assertion of the existence of Proof at all, is equivalent to the assertion of this Principle, and *vice versa*. For the assertion of proof is not the asser-

tion that one has, at a given moment, been able to make first one Act of Knowledge possible and then another, nor that in doing this his purpose was fulfilled of passing from one to the other; but that in future the ~~connection~~ one Act will make possible the other for himself or for anyone else normally constituted and rightly supplied with Associations of Ideas. This unity of action of the mind is more than is found in anyone Reasoned Discourse, but it is what must be assumed in order that we should be able to regard any Reasoned Discourse as a Whole or as furnishing a Proof.

d. Thus is filled what must Gave seemed an obvious gap in our account of Reasoned Discourse in general. For we described it simply as a process in which one Act makes possible another. But to the ordinary consciousness it is a process in which the dependence of Acts as it were in themselves, before they come to follow one another in our consciousness, is expressed and interpreted to the mind. This opinion as to Reasoned Discourse is is simply the expression of the Ideal Synthesis

to which Reasoned Discourse appears not as an accidental success of the inventions of the mind, but as a Whole, expressing pre-existent Truths. One Act is regarded as dependent upon another, in Analytic Reasoned Discourse, because of the Ideal Synthesis that regards this Discourse as reproducible in the same or in like form in future conditions of consciousness.

e. The first Principle of Knowledge deals with the judgments that fall within any one definition, not with the union of Ideas that fall under two or more definitions as such union may be given in experience. It is therefore Analytic, or as we prefer to call it analytically Synthetic, not Synthetic in the narrower sense. – It is in consequence, considered in relation to the Ideas in themselves, the Principle that deals with Ideas as Ideas, not as representatives of Objects; a statement that will be better understood after we have discussed the meaning of Object. It is the Principle that renders possible reasoning in general in so far as this is understood as giving us not momentary, but fixed Results. – It is an assumption, and unprovable. – The purpose of the assumption is the power to synthesize economically the Results of our Discourses, so that we may regard

these apart from the processes in which they first appeared, and as forming Wholes.

Summary of Results and Passage to the Ideal Synthesis of the Other Principles of Knowledge.

13. The discussion of the Principle of Consistency was intended first as an example of the way in which the Ideal Synthesis enables us to view a science as a Whole. That is viewed as a Whole, of which it is assumed that there are many ways of traversing it. All attempts at the assistance of thought through the use of external figures to represent [illegible] analytic processes, such as the common device of representing syllogistic reasoning by the relations of spheres or circles, all such, we say, are applications of the Ideal Synthesis for the end of representing analytic processes as Wholes of interrelated parts. — Here is the first realization then of the economic synthetic activity in thought. Sciences, in so far forth as they are made up of processes of reasoning about Ideas as Ideas, i. e. in so far forth as they are analytic in their procedure, are regarded as Wholes through the Ideal and arbitrary synthesis of the Principle of Consistency. Though Reasoned Discourse as an activity is possible without this Principle,

yet it cannot be viewed as Reasoned Discourse that is productive of Proof, without the assumption of the Principle of Consistency, which asserts that like premises, in so far forth as they are like, give like conclusions. — Having discussed this first form of Ideal Synthesis, it becomes incumbent upon us to discuss the other forms, as they are found expressed in the other Principles of Knowledge. And first we have to define what is to be meant by Reasoned Discourse about Objects as such, as opposed to Reasoned Discourse about Ideas as such. For all the remaining Principles of Knowledge are concerned with Objects. What forms of Ideal Synthesis are there that demand other than pure Ideas as such? How do they make their demands? What are these demands, and what is their significance?

Of Objects or Things as Expressions or Results of Ideal Synthesis. —

14. If the subject-matter of Reasoned Discourse be Ideas, their procedure the Analytic Synthesis, then the union of these into Sciences, regarded as Wholes, is made possible through the Principle of Consistency. The other Principles of Knowledge must make possible Sciences as Wholes when the reasoning-processes are partly of the sort called above by the name Real Synthesis. Real Synthesis,

however, of various classes of judgments with one another, gives us the power to form judgments about Objects as conceived apart from Ideas, in case, that is, that the Real Synthesis be united with some form of Ideal Synthesis. Ideal Synthesis of the various Principles of Knowledge other than the Principle of Consistency is thus always concerned with Objects. How all this is we shall now see. — That in actual Knowledge we are concerned only with momentary Ideas, has appeared as the Result of our investigations too often to need any further discussion now. Objects therefore as in anyway different from our Ideas, are never subjects of direct Knowledge. Nor, yet when we have risen to that stage of voluntary connection of our judgments in our minds at which we separate similar from dissimilar aspects in these judgments and so rise to the concept of Ideas in themselves, do we necessarily regard these ideal constructions as Objects. We have a great deal of analytic investigation in mathematics, dealing with imaginary quantities. Yet no one is led to believe that these imaginary quantities are Objects, but everyone regards them

as Ideas, capable of definition and analysis, and of such character that they are methodically of great value. In short, in so far as we merely analyze, we do not regard our ideas or our Results, as being concerned with Objects. When then do we do so? What arises the notion of Object? For answer let one notice at what point, in the first place, the term Thing appears in our arguments. We constantly use this term without meaning an independently existent Thing by it. We use it whenever we find a new set of Ideas, i.e. a new class or new classes of judgments, coming into relation to some previously present set of Ideas or of judgments. "The Idea is this", used at the beginning of an explanation, implies that one is about to enter into a purely analytical exposition of previously suggested thoughts. "The thing, the matter, the subject, is this", introduces an explanation into which many sets of ideas or judgments are to enter, even if the subject-matter be not one of supposed external or hyper-conscious significance. Virtue, regarded as an Idea, expresses the likeness of one side or both of many acts of judgment, the community of

Idea among these judgments, the consequent uniting of them into a single class, the Idea Virtue expressing their likeness. Virtue spoken of as a thing, an actuality, an object of desire, a fact, an external reality, implies a union in the mind of certain other judgments with the first, and the consequent introduction of new Ideas as its connections with the first, Ideas of a world of actual practical life, of conflicts and obstacles, and motives, or of moral laws, or of rewards and punishments, &c. &c. Whenever, in brief, we use the word Thing, we always do so believing or experiencing, that a complexity of Ideas is before us, that the Ideas of one fundamental class are brought into union with the Ideas of another class, and that the Results gained from the mere analysis of the one, are altered or added to by the presence of the other. The same holds for the word Object. When two or more sets of Ideas are found in a relation to one another such as could not be analytically expected from an examination of either set by itself, the two are said to have or refer to a common Object, or to represent various aspects of the same Thing. Such a union of various sets of

Ideas is accomplished whenever we have the Real Synthesis described above. The union however is by itself not sufficient to constitute a confidence in the Objects as at all constant. There must be added to the observation of the union of Ideas, or of the judgments they represent, the assumption that such union may be reproduced at pleasure by reproducing the judgments of the fundamental class. This assumption is one of Ideal Synthesis. Its effects is the rendering possible of a Science that deals with a certain class of Objects, as distinguished from Ideas. — We may explain more fully by an example. Suppose we start off with the definition of the Science of Astronomy as that Science that deals with the heavenly bodies. This Science, as we saw in sec. 10 of this Paragraph, is rendered what it is by Real Synthesses with Acts of Knowledge from other Sciences. But these Real Synthesses would yet not be sufficient to constitute it a Science, did we not believe that they are more or less permanently possible; that when we unite the Acts of Knowledge that are expressly concerned with the heavenly bodies, with Acts that are parts of other trains of reasoning, we do not achieve a merely momentary success, but

obtain Results that are permanently satisfactory. This assumption is one that cannot be verified by experience, but that is an example of Ideal Synthesis. It presupposes that when we again make judgments like the first set in that they are concerned with the heavenly bodies, these judgments will be like the first set also in that they may be united with judgments of the other orders in Real Synthesis. — The combination of the Real Synthesis with the Ideal Synthesis constitutes a Science of Objects. The Real Synthesis introduces the possibility of a connection of one set of Ideas with another. The Ideal Synthesis introduces the assumption of the permanence of this relation. Both together give us the Objects or Things as standing in permanent relations. — The Real Synthesis is expressive of the connections of Experience. The Ideal Synthesis is expressive of what cannot be fully given or realised in Experience. It is in experience that a given set of judgments can be united with another set to produce Results different from those that would have followed from the analytic investigation of

either. It is an arbitrary assumption that the presence of judgments like the former ones of the first set, will enable us to unite these with judgments like the former ones of the second set, to produce Results similar to those before obtained. -Thus then in general is it seen how Objects or Things are made possible as subjects of Science, and what kind of Syntheses are concerned in their making. The various classes of Objects will now be considered, with the Principles of Ideal Syntheses connected with each.

Of the First Class of Objects and the Principles of Knowledge concerned therewith.

13. The first class of Objects are the External Things, if we consider them apart from their changeable character. What their Externality is, we shall hereafter discuss. At present we examine them in so far as they enter into and form part of Science. - External Things, considered as subjects of Science and apart from the changes that go on in them, are regarded: (1) as in Space, and subject to the Laws of Space; (2) As combinations of various qualities in one Unity;

(3) as Coexistent; (4) as capable of being made the objects of judgments of comparison and number. — Any one of these aspects of things may be translated directly into the form of a Synthesis of judgments. We form say a judgment in which the idea of a right-angled triangle arises. At some previous time it was found possible to make a like judgment, in union with others, give us the Act of Knowledge expressed in the Pythagorean Theorem. Recognizing the likeness of the present judgment to the former ones, we assume that a like union would give us like Results, and so say immediately of the idea at present before us, that a judgment into which it should enter, and which should be expressive of the Pythagorean theorem, would be true. Here we have an Ideal Synthesis, in which is assumed the permanence of the Real Synthesis formerly made of certain judgments. The Ideal Synthesis is that of the permanent validity of the Space Relations. The same can immediately be shown for the other aspects of things as subjects of Science. — Let us take now in their order these

expressions of Ideal Synthesis, and analyse them. (1) All judgments on external things are founded on previous impressions in Feeling. It is noted that ~~[illegible]~~ in certain impressions or feelings there is the Space-form. That is, in a great number of judgments founded on Feeling directly, ideas of space-relations enter. This is an ultimate fact. But furthermore, in the developed consciousness, the judgments into which space-relations enter are ~~[illegible]~~ connected together, so that certain sequences are easily noted. Thus at a very early stage the judgment of that space-relation known as the crookedness or bent character of a motion, is followed by the judgment of the greater length of this motion, within certain limitations, over the length of an even or straight motion. The consequence of this connection of judgments is, that at a developed stage, where great complexity of ideas exists, where very extensive Syntheses of Feeling (cf. §. 26, 4, h. 182) have been made, judgments are found following one another with considerable regularity. On this fact the geometrician seizes, and uniting the judgments of one sub-class with those of another, he proceeds both in the way of Analytic and of Real Synthesis to the construction of the trains of reasoning involved

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in Geometry. But in all this there is no Science. A Science of Geometry exists only when we assume in addition to the Analytic and Real Syntheses engaged in, the permanence of these Syntheses, so that judgments of one class or sub-class are always connected or to be connected in certain definite ways with judgments of other classes or sub-classes. This assumption is purely arbitrary. No "always" exists, in the universal sense in Experience. No proof can be given of the assumption. But in the same way no refutation of this assumption is possible. For if a given particular application of the assumption turns out erroneous, we make under the class A which was assumed to stand in the given relation to B, a subdivision A_1 which does, and another sub-division A_2 which does not stand in the relation to B; we say that the relation to B is not <u>essential</u> to the class A, but only to A_1; but we still assert that all the essential relations must be permanent. It is as in case of the Principle of Consistency, where, if we fail in an individual case, we accuse, not the Principle of Consistency of untruth, but ourselves of Inconsistency. So in the Science of Geometry, a given assumed relation may be refuted, but not the permanence of Space-Relations in general.—

Chap. II. §. 30. 15.

To state then the Principle of Ideal Synthesis that makes it possible for us to have a Science of Things in Space, we may have it in several forms: - A Science of External Things is possible only when we are able to regard them as in Space; Space Relations are permanent, and being so make possible the Science of Things in Space; What is true of some class of Space-Relations at one time, is true of the same class, in the same regard at all times; In Geometry as a science, all the Theorems are true at once. Such are the various statements of the Space-Principle. Its necessity for the formation of a Science of Things as such, appears in the fact that all our Feelings or impressions that form the basis of judgments about Things as Things, apart from the ideas of change, include and presuppose space-elements. All Science of things at rest presupposes therefore the possibility of Geometry. - But is the Space-Idea inborn, or is it psychologically developed from experience? This question is entirely unessential to the epistemological investigation of the Space-relations. Without Space-relations and the Ideal Synthesis of them we should have no Geometry, no Science of External Things. There would remain to us but the qualities of our Feelings, and their succession. Such is the sim-

the truth. But does Space exist externally? Or is it not a mere form of our thought? A form in which we feel, it certainly is, and also a form in which we think i. e. perform Real and Ideal Syntheses. But whether it exists externally or not depends purely upon what you mean by externality. And a discussion of this we must postpone. —(2) All judgments on things, being founded on previous judgments of feeling, exhibit to us certain regular combinations of feelings both together and in sequence. Our combined feelings we are able to analyse and remember apart, as well as combine again in thought. Judgments are thus brought into existence in which the various qualities of things are considered separately and together; or in other words wherever a union of facts of feeling is found, which union is in Experience found stable, a single thing is postulated as the basis of the qualities whose representatives are the given feelings, and the feelings are considered in their turn as representative of the qualities whose unity is the thing. The qualities are considered as separate from the feelings, in so far forth as feelings are found in combination only once, but

qualities may be reproduced anew in other feelings like the first and combined alike, but separated in time: the thing as a unity is considered as different from the momentary union of the particular feelings, in so far as it is capable of an indefinite number of representations in consciousness, while each individual representation is fleeting. — A Science of things as unions of qualities is however only then possible, when to the Real Synthesis that is made possible by given unified judgments, there is added the Ideal Synthesis which regards these relations of unity as in some degree permanent. The permanence assumed is formal, and is only the permanence of the relation of qualities to one another and to the unity of the thing in general, not the permanence of any given set of qualities or of any individual thing. —

(3) But this definition of a thing as a union of qualities, leaves open much room for arbitrariness in the definition of an individual thing. For the union of feelings in consciousness is a very complicated one. What from one point of view appears a single

thing, from another point of view appears a great number of things. We call an atom a thing (an hypothetical thing, to be sure); or a clump of matter a thing; or an organized cell a thing; or a union of such cells in say a leaf, a twig, a thing; or a tree a thing, or a forest, a thing; or perhaps a country, a continent, a planet, a system, the entire universe, still a thing. What or how close, or how permanent, or how complicated a union of qualities shall be, in order that we should feel authorized to name it thing, is not determined by the definition of thing. Now when two or more unions of qualities are presented to consciousness from time to time, each of which is from one standpoint pronounced a thing, while the connection of these two unities is again such that we could, from another standpoint, call the aggregate of all qualities of both things themselves constitutive of a single thing, then the two things themselves are said to be Co-existent. And coexistent things must stand in similar relations to one another as do the different qualities of the same thing. Therefore the Ideal Synthesis by which

there is made possible a Science of things as coexistent, is precisely similar to the Ideal Synthesis by which is made possible a Science of Things as possessing Qualities; and it is a Synthesis that assumes the permanence of the relations of Co-existence. —(4)— But in consciousness appears a reflective activity by which what first appeared separately in Feeling, and was known through separate acts of judgment, is united with other known content of ~~Feeling~~ Feeling in judgments of comparison, of enumeration, and of other like syntheses. Here the fact of such Real Syntheses of Judgments is given in consciousness. But no Science of such synthesis would be possible were there no uniformity in the manner of these Real Synthesis, and no Ideal Synthesis in which the permanence of the Operations of the Real Synthesis were assumed. The Ideal Synthesis of the permanence of the Operations in question, makes possible the Science of the Calculus in general, from Arithmetic upwards, as well as other less developed Sciences of comparisons of qualities, whose scope is simply enormous, but whose validity depends entirely

upon the arbitrary Ideal Synthesis involved. —— To state them briefly, the Ideal Syntheses that on the basis of certain Real Syntheses make possible for us the Sciences that deal with Things apart from change, we have the following Principles of Knowledge for the first class of Objects: —

a. All External Things are in Space; Space Relations are permanent; so that what is true of a class of space-relations at one time is true of the same class forever.

b. All External Things are Unions of Qualities; and what is true of a union of qualities as such in one case, must be true in all cases and forever.

c. External Things are Coexistents, in so far as they are regarded apart from time. And the relations of Co-existence are permanent; and what follows from these relations now, follows forever.

d. All External Things are possible subjects of enumeration and comparison. And all enumerations, and all definite Operations of comparison, are permanent in their nature, and the Judgments expressing them are forever true.

These all are arbitrary syntheses. They can never be proved by experience. Through experience they may have been, for all we know, psychologically developed, but that

does not affect their significance for Science. As little as they can be proved can they ever be refuted. In no experience could they be contradicted. – Without them we should have the individual Acts of Knowledge involved. We should have the Operations of Reasoned Discourse. But we should have no Science of Things. – The Principles in question involve necessity. The necessity is an arbitrary one, like that of the law-giver. In this class of Reasoned Discourse we have called it Mathematical Necessity, because the Sciences made possible by it are the Mathematical Sciences.

Of the Second Class of Objects and the Principles of Knowledge Concerned Therewith. –

16. The Second Class of Objects are things considered as subject to change. Commonly, under this class of things, there is included more than in the other class of things; and this is quite natural and proper. For there are Internal Things, namely the qualities of our feelings in so far as we make these a subject of reflection, which exist only in Time, i. e. only as changeable, not as permanent, and which therefore never come to be treated as Things apart from change, or as things in space, or the like. – Things in Time, are regarded: (1) as falling

under the general law of the passage of time; (2) as being in causal connection the one with the other; (3) as being either substantial, i.e. relatively or absolutely permanent, or Accidental, i.e. passing and fleeting. — Of these three aspects we have now to show, first how they involve Real Syntheses; second, how, on the basis of these, Ideal Syntheses make Sciences of things in the various aspects possible. —— Concerning the relation of time in general, we must combat the opinion that Time is a object of direct Knowledge. Time is just in the same sense an object of direct Knowledge as is Space, i.e. both of them are as impressions given in Feeling. Space is given in Feeling as Extension, Time as Succession. The Feeling of Extension is the basis for the Knowledge of Space, the Feeling of Succession is the basis for the Knowledge of time. But as Extension and Succession, we know neither Space nor Time. — In regard to Time, we do not directly know Succession as Succession, because to know this would be to know one event as after another, in other words to identify things that are separate (for the Act of Knowledge is an Act of Identification), to violate the prin-

ciple that in the Act of Knowledge there is no memory, no consciousness of former and latter, no thing but the one act. What then is it that we know when we make judgments about time? We identify ideas suggested and made possible by Feelings of succession. We do not in judging of the flow of time know that b follows a; we know that we have the feeling that b has followed a. b and a, in so far as they are known successively, are not known in one Act at all. What is known in the judgment of succession is that we now have the idea b, and the idea a attended with the totally inexplicable feeling that a represents as a memory a preceding a. In this case the judgment takes the form: b is equivalent to a. But what happens in the judgment is the identification of present ideas alone. We feel the passage of time, and know our feeling, not however the passage of time itself. — It follows from this of course that we do not know time as infinitely divisible, or as infinitely divided,

nor the present as an infinitesimal point, nor any like subtlety of the reflecting consciousness. The present moment, as known to us, is the time we take to form an Act of Knowledge, whatever this may be. The flight of time is but a common datum of Feeling. — Sequence then is not a subject of direct Knowledge, sequence that is as a real phenomenon of the world about us. A feeling of sequence attends all our other feelings. This feeling of sequence itself forms the subject of Acts of Knowledge, and we interpret it in the form: When the moment B is, the moment A has been and is not, the moment C is not and is yet to come. Yet really to know A B and C in this relation, would be to know non-existent as existing; hence the sequence as such is not in Knowledge. This is what lay at the basis of the Eleatic paradoxes, and in this form would we seek to overcome the difficulty which from very different standpoints both Herbart and Hegel have, in our own century, urged against

the ordinary interpretation of Experience on this point. Experience is right, both in the Reality of Sequence, and in the Reality of the members in a Sequence apart from this Sequence. But the ordinary interpretation of Experience is wrong, in regarding the Sequence as known in the same way as the members. — The Real Synthesis in all our Knowledge of Things in time, consists in the union of judgments successively formed and of various contents. When a union of qualities appears again and again in consciousness in the same form, we form the Synthesis of the Thing as unchanging. In so far as the succession in consciousness is varying and of various contents alone, we form the notion of Change pure and simple. In so far as in the series of changes in consciousness there is regular recurrence, not of given unions of feelings, but of given sequences of feelings, we have the conception of Order, Law, Uniformity of Nature. In so far as there is a recurrence of the same union of certain qualities along with a change of other qualities, we add to the notion of Thing, that of Substance, and to the notion of the relation

of qualities to one another, that of the relation of Accidental or Transient to Substantial Qualities. — Our inner consciousness with its change of emotions &c., gives us the conception of Change pure and simple, because in many cases, though there is doubtless uniformity, it is so complicated as to be undiscoverable to us. — Wherever we can discover uniformity in the recurrence of feelings, as is the case most especially with the feelings having in them the space-quality, i.e. with Nature, we have illustrated Law. — And in Nature too, in the constant examples of the contrast of stability in some points with change in others in one and the same thing, we have the Real Synthesis of thought that gives us the conception of Substance and Accident. — Here then we have the Real Syntheses of Acts of Knowledge from which we get the basis for the Sciences that deal with things as changing. The Ideal Synntheses yet needed to make these Sciences possible, are quite simple, though, through the anthropomorphic elements with which they have been mingled, they have been much obscured. — The permanence of these Real Synthesis is, so

Chap. II, §. 30. 16.

in all cases, their objective point. The universality of Change, of succession, is the affirmation of the first. This universality gives basis to no particular Physical Science, but is presupposed alike by all of them. The hypothesis that Arithmetic is the Science of Pure Time, we reject. Kant seems to have hesitated on this point, preferring to see in Mechanics the Science made possible by the Time-intuition. Schopenhauer's argument on the matter is brief and unsatisfactory (Vierf. W. d. S. v. Z. G, §. 38, 4th. Ed. p. 133). The view we take has received late expression in the books of Wolff, Struktur u. Philosophie (Berlin 1878), Bd. II, p. 51; cf. also Baumann, Philosophie als Orientirung über die Welt (Leipzig, 1872), p. 327. Arithmetic for us is the result of a Real Synthesis pertaining to Things considered apart from change. This Synthesis, like all other thought-operations, requires time for its accomplishment. But time-measurement is not its object. Time as succession is the object then of the synthesis that makes all Physical Sciences as such possible. The essential Uniformity of succession is the content and object of the second Ideal Synthesis. The assertion of this synthesis is that all variations of modes of succession are themselves conse-

quent upon variations in antecedent successions, so that the fundamental successions or modes of succession are absolutely regular, and only the combination of these modes is responsible for apparent irregularity. This, the assumption of causal connection, applies not to things as things, but alone to events as events; it is an absolutely arbitrary, unprovable, and irrefutable assertion, made as a required basis for all Physical Science, in obedience to the general purpose of all Synthetic Thought to conceive all things in the most convenient shape. — The third of the Ideal Syntheses affirms a fundamental likeness under all variety of external and internal change, and the power to refer all possible changes & grouping of qualities to one or to a number of final and permanent groupings. Without this Ideal Synthesis we could not think of the World as a whole, of Matter as Matter, of Mind as Mind. All Sciences dealing with natural phenomena, be these physical or mental, would be impossible as Science but would exist only as fragmentary reasonings. This Ideal Synthesis is that of the permanence

of Substance. It too is arbitrary, and can neither be contradicted by any fact of Experience, nor proved through any. — To state these Syntheses then in simple form, we have them thus: —

a. All Events occur in Time, nor can there be either limit to or regress in the Succession of Changes.

b. All Events are definitely caused; i.e. there are certain fundamental sequences which, whether we know them or not, are realized in all the complications of phenomena; the combinations of these sequences are seen by us in the actual events; and these fundamental sequences are absolutely uniform.

c. All Events are Changes in Things. In every Change, in an external thing there is a Substantial that remains, and a Fleeting that passes away; and the truly Substantial in Things, whether it be one or many, never passes, but remains perpetual and indestructible.

These are the Ideal Syntheses whose content are the Things considered as changing, whose objects are the Sciences that deal with Things as changing, whose product is Reasoned Discourse having Physical Necessity, and capable in this regard of being considered as a Whole.

Chap. II. §. 30. 17.

Of the Third Class of Objects and the Principle of Knowledge concerned therewith. —

17. Thus far we have been dealing with Ideas treated as Ideas, or with Things in their relations of coexistence or sequence. We now come to the Real and Ideal Syntheses that render possible, in so far as they are fixed themselves, a Science of the Worth or of the Right of Things. And first of Things in their aspect as possessing Worth. — All the Principles of Knowledge so far discussed imply no community of feeling between several reasonable beings, but could conceivably be employed by one alone. It is assumed that all rational beings will agree in the Results derived from these Principles. But this is only a formal assumption, a definition of rationality. — Otherwise is it with the Judgments of Worth. In case of these it is considered of no value for a single individual to possess a fancy or liking for some one thing. It is in the community of tastes that the power of Reasoned Discourse on Worth or Beauty lies. Here is a Principle of Knowledge concerned with the community of consciousness of various minds. — The Real Synthesis

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is very complicated in particulars, very sim-
ple in its general characteristics. Judgments
of Worth arise in the mind. There is a likeness
among these, and a certain uniformity of
their occurrence. Certain of these are found
to meet with agreement from others. The
possibility of an agreement in some, arouses
the determination to agree in other judg-
ments. Herein arises argument. The argu-
ment assumes various changes. But the one
thing it assumes from beginning to end
and above all others is a purely Ideal
Synthesis: There is Worth in Things and
Events, and the worth-differences are capa-
ble of determination. The final determina-
tion is believed to lie in an absolute agree-
ment of all. This agreement is Ideal. It is
never actually reached. But it is none
the less postulated as an Ideal. And the failure
of most to reach it is regarded as arising
from individual incompleteness of de-
velopement. Yet after all the Ideal Synthesis
is regarded as one conditioning, not the re-
lations of external things, but the relations

of judgments of Worth passed upon these things. The necessity involved is therefore not physical, as one belonging to the nature of things, but Psychological, as one pertaining to the nature of man. — The historical development or the particular content of the worth-judgments, has nothing to do with this Principle of Worth. The Principle itself is like the others arbitrary, unprovable and irrefutable. It makes a Science of Worth possible as a Science; but this Science has remained so far undeveloped, because of the unsettled nature of the Real Syntheses concerned.

Of the Fourth Class of Objects and the Principle Concerned therewith.

18. There remain still the Real Syntheses of Ethics, and the Ideal Synthesis concerned therewith. The Real Syntheses relate first to the judgments of the Right and Wrong of Actions. They are extended to things as related to actions. All things are capable of being included in the Real Syntheses of Ethics, in so far as all things and events can be considered as assisting in or opposing the ends of

Right Action, or as possible assistants or Opponents. The World can so be regarded as a possible subject of ethical discussion, with regard that is to the Good and Evil that are in it. What the Real Syntheses as to Right and Wrong are, we cannot pause to discuss. The Ideal Synthesis, the arbitrary assumption that governs all Ethical Argumentation is this, that there is a Right and Wrong, a Good and Evil, and that this is independent of individual opinion or notion, but capable of claiming the attention of all who are not by subjective obstacles kept from appreciating it. This assumption cannot be proved. But without it there would be no possibility of ethical discussion.

Of the Synthetic Process in General

19. We see then that wherever, by means of Reasoned Discourse, we go beyond the individual Act of Knowledge for the purpose of voluntary connective Acts, and wherever, furthermore, we in Reasoned Discourse seek for more than a momentary and accidental success in our methodical attempts at reaching Results, we are forced to resort to Synthesis.

but that this Synthesis, whether Analytic or Real, is incapable of furnishing us with a Science whose character can be considered one of stability and permanence, without the addition of an entirely arbitrary Ideal Synthesis, unavoidable, unprovable, irrefutable, through which and through which alone we gain the power of looking on our combinations of Reasoned Discourse as Wholes. — And we see besides that in justification of the Ideal Syntheses nothing can be said but that they are made, and that we choose, not from individual whim, but in our capacity as rational beings, to make them. Therefore to call them Inborn Ideas, or psychological results of Association, or hereditary transmissions, or any like thing, adds nothing whatever to the epistemological significance of these Syntheses, and brings us not one step nearer to the clearing up of the final mystery that hangs overall our Knowledge and all its combinations.

Of Analytic and Synthetic Judgments.

20. At the close of this long discussion of Synthesis, we can at last define the distinction between Analytic and Synthetic Judgments. Analytic and Synthetic

are distinctions that do not apply to Judgments in so far as these are Acts of Knowledge. In so far as this is true of them they are neither Analytic nor Synthetic, but Identical. Analytic or Synthetic are Judgments only in so far as we regard the purpose with which they are made, and regard them as in Reasoned Discourse. And Analytic are all judgments in so far as their purpose is to express the likeness of a given series of judgments, in defining a class of judgments, in separating Ideas in Themselves or in setting the limits of a Science. Synthetic are all Judgments that express a union of classes of Judgments whether Real or Ideal.

Sigwart defines thus (Logik, I. 101, §18): "Alle unmittelbar aus den ihnen verknüpften Vorstellungen entstandenen Urtheile sind analytisch, alle diejenigen, welche noch einer weiteren Voraussetzung bedürfen ---- sind synthetisch". – This definition loses its force in our own theory of the activity of the Faculty of Judgment. The one given above seems to us better to answer the true spirit of the much disputed Kantian definition. We have the advantage too in defining the two classes here and thus, that we have just shown how the Synthetic Judgments are "Possible".

The Interdependence and its Consequences.

§. 31. – Common to all the Principles of Knowledge is the characteristic that they deal in every case with Ideas, and that their object is Ideal Synthesis into which these Ideas enter. – This community is connected with an Interdependence, which is of great importance for the Theory of Existence.

1. The Connexion of Logical and Mathematical Necessity.

1. Since all Objects are formed for Science through the Real Syntheses of Ideas, Objects may themselves be regarded as complex Ideas. As complex Ideas they may be subjected to purely analytic treatment. A Real Synthesis once formed and declared permanent by Ideal Synthesis, may be made a subject of logical, analytic or deductive treatment. In other words all Things may be regarded as Ideas. – Conversely, since before all power of analysis gives the power to perceive the likeness of judgments, and to form Ideas in consequence of this likeness, and since this original formation of the Ideas must have included a Real Synthesis of judgments, all Ideas may be regarded

as products of Real Synthesis, or as Things. The distinction between Idea and Thing is consequently purely relative. The same process, regarded in simpler or more complex aspects, gives us the Ideas and the Things of which Science treats. The Ideal Synthesis is similar in the two cases; and Logical and Mathematical necessity give but two aspects of the same Results. All that appears under the Ideal Synthesis of the Principle of Consistency may be put in the form of the Ideal Syntheses of the relations of Co-existence in general, and vice versa.

The Connection of Mathematical and Physical Necessity.

2. All reasoning on known relations of succession, can be put in the form of reasoning on relations of co-existence. All of the relations of Time, can be graphically represented in the form of relations of Space. And vice versa, all relations of Space, can be expressed in the form of relations of Time, by supposing an active construction in the mind of these relations, or a successive knowledge of the individual points of Space. All

Ideal Syntheses having to do with the permanent Things, can be interpreted as Syntheses of Things as changing, and conversely. The Ideal Synthesis of the permanence of the Space-relations, can be defined as a Synthesis of the permanence of certain kinds of sequences. And permanence of recurrence of sequences can be expressed in terms of permanent Space-relations. The Synthesis of Things as Things, can be interpreted as a realized Synthesis of the Substance; and the Synthesis of Substance as the completed Synthesis of Things. The Synthesis of enumeration can be translated into the form of Time, and the measurement of Time accomplished through the Synthesis of Enumeration. — The Synthesis of Mathematical Necessity, can be translated into the form of the Synthesis of Physical Necessity, and conversely. Hence also, by the last section, the Synthesis of Physical Necessity can be translated in terms of the Synthesis of Logical Necessity, and conversely. The distinction of these three Ideal Syntheses is relative in respect of their Results.

Of the Connection of Logical, Mathematical, and Physical Necessity, with Psychological and Ethical.

3. All Objects, Ideas, Events, and the Syntheses by which they are made what they are, may be regarded in the aspect of Worth or Worthlessness. The aesthetic treatment may be applied to all phenomena. The postulate of discussion of aesthetic questions is that they Things have a true Worth in relation to Consciousness. In like manner all Things and Processes, all Ideas and Events, may be regarded and judged in their Ethical significance, in relation to the conflict of Good and Evil. All the Syntheses of the other Principles of Knowledge give material to these two critical Principles for their judgments. — Conversely however the Results of these Syntheses may be made the subject of the Syntheses of the other Principles of Knowledge; and Ethics or Aesthetics may be treated as physical, as logical, or as mathematical sciences.

4. In fine then, the Principles of Knowledge have this Interdependence, that though the operations are different

in the different cases in a greater or less degree, the Results of any one of the Syntheses may be seen under the form, or expressed in the terms of any one of the other Syntheses. Therefore the Principles of Knowledge are Ideal Syntheses of coordinate value, similar aim, and like character, whose connection is such that all Objects of one of them can be regarded as falling within the circle of any one of the others. No one of them is deducible from any one of the others as from a higher Principle. Yet no one of them is complete in itself as an account of our Syntheses of Knowledge. Of the Objects of each it may be said that they are not fully determined till they have been examined in the light of all the others.

5. Brief as this statement is, we needed the whole of the previous discussion to be able to make it. Not otherwise could the field of Knowledge have been rightly mapped out, nor the scope of the various Ideal Syntheses understood. - The consequences of the investigation are we believe of no incon-

siderable importance. — First then we solve, if our conclusion is right, the old dispute on the connection of Reason and Cause. The Principles that govern these two conceptions are independent and coordinate. The Principle of Sufficient Reason is not the Principle of Causation; nor is one higher than the other. But all Results obtained through the one may be interpreted in terms of the other. All Results whose Necessity is Physical, may be regarded as if their Necessity were Logical and conversely. — Secondly, applying this to the conception of the World at large, one may regard the World as a Logical Whole, or as a Physical Whole, according to his mode of Synthesis at the time. Each Synthesis will be true; and if they be not confused together, no error can arise. — Thirdly, in the matter of Mathematics, we answer the question as to whether this Science is Synthetic in the necessary sense, or Analytic in its procedure. From our standpoint we can say, that all new

conceptions are introduced synthetically, but that all operations on the basis of Results, are analytic; and that in so far as regards Results, it is equally easy to regard them as Ideas or as Things. – These and many other like consequences flow from our theory of the nature and extent of Knowledge. To enumerate we have not time. The principal one, and that which concerns us chiefly, at the close, is the Concept of Existence.

Of the Concept of Existence.

§. 32. – If the common error of Systems has been their one-sided view of the nature of Existence, some regarding it as purely Logical, others as purely Physical, others as purely Ethical; some treating it in the Mathematical form until it seemed but a dead formula, others interpreting it in Aesthetic symbolism that became lost in obscurity; we would seek for our part to avoid these errors by declaring all the mentioned aspects to be Ideal Syntheses of the World as a Whole, equally justified,

equally arbitrary, and equally passing the bounds of experience. We would define our Results then somewhat as follows.

Existence as Given in the Act of Knowledge

1. Existence, as the Object of Knowledge, is given primarily in the individual Act of Knowledge. As thus given it is not external to Consciousness, but is very Consciousness itself; it is not in relation, but is given as absolute; it is not the source of any thing else, but is purely self-identical. In it there is the content of Feeling or of Abstraction, which content however is not known as Feeling (i.e. distinct from Abstraction) nor as Abstraction (i.e. distinct from Feeling; but purely as an identity of present ideas.

Existence as Given in the Synthesis of Reflection

2. Existence, as given secondarily through Synthesis, Real, Analytic and Ideal, of the content of many Acts of Knowledge, is given not as external or foreign to Consciousness, but as Ideas in themselves, i.e. as Ideal possible Content of an indefinite

number of Acts of Knowledge past or future.

The Ideas and the Things.

3. The Ideas in themselves, products as they are of Synthesis, and not data of direct Knowledge, are classed according to their complexity, as Ideas or as Things. But all Things may be viewed as Ideas, and all Ideas as Things.

The World-Concept.

4. The World, as given as a concept or Idea by the various kinds of Ideal Synthesis, can never be an object of direct Knowledge. But as an Object of Synthesis, it can with equal truth be regarded as an Idea in itself, as the Existent in Space, as the Whole of parts, as the Existent undergoing Change, as the Substance whose Accidents alone change, as the Theatre of Physical Law, as the Object of Worth-consideration, as the scene of the conflict of Good and Evil. — Real then, in so far as the World is real, is Logical Sequence; real is Mathematical Connection; real is Causal Uniformity; real is Worth; real is Right. None of these can claim more than a synthetic reality; and no one possesses more reality than the others.

Externality

5. All Externality of Existence has meaning only from the standpoint of Synthesis; and it means not the quality of being foreign to Consciousness, but the quality of being, as Existence in Real or Ideal Synthesis, independent of this or that mode of consciousness, and relatively or absolutely stable as a synthesis or as a permanently possible content of Knowledge. In this sense then, and in this only are Space and Time, and Things in Space and Time, and the connections of Things in Space and time, external to Consciousness. Thus is answered the question which from time to time have risen in our discussion as to the externality of things.

Knowledge of Existence through Experience.

6. Since all our Knowledge of Existence is either direct Knowledge of the content of one Act, or Knowledge of the Synthesis of many Acts; and since we find no other Knowledge of Existence in us, it follows that all Knowledge of Existence is in Experience; and that the Sciences of Ex-

perience alone give us truth as to the Nature of individual things, just as Philosophy alone discusses the nature of experience as a whole.

Existence is Consciousness

7. And the sum of all is the very old truth: Existence is Consciousness, and the limits of Consciousness can never be transcended. For the one hand we cannot in the least determine what and how various kinds of Consciousness may exist, we can on the other hand form no notion of things foreign to Consciousness and yet Existent.

These are our Results. And if we have not been able to determine the external and determining causes of the Synthesis of the Principles of Knowledge, our inability lay in the nature of the case. — Yet because we have called these Syntheses arbitrary; we would not have it supposed that they are the expressions of individual whim or fancy. For from it; these Syntheses are the most regular, the most impersonal, the most unalterable of all mental facts. Arbitrary we

call them, meaning merely to express thereby that they look no higher than themselves for their warrant; and that on the other hand, regarded from without, they are perfectly inexplicable, total mysteries.

Individual they are not, because not all that is Consciousness is Self. Self is the transient in Consciousness; the individual passes; Existence remains. And if for the problem: Which is prior, Existence or Consciousness? we find a solution in the Result: Existence and Consciousness are one; we must on the other hand give a less satisfactory answer, if one so pleases to regard it, to the question: Which is prior, impersonal or personal Consciousness? For to this we answer, Individual Consciousness is but a shadow; what is permanent is the World.