

# Logic

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1867 | On a New List of Categories | W 2:57

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...logic treats of the reference of symbols in general to their objects.

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1873 | Chap. XI. On Logical Breadth and Depth | W 3:98

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...Logic is the study of the laws of signs so far as these denote things – those laws of signs which determine what things they denote and what they do not...

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1882 | Introductory Lecture on the Study of Logic | W 4:378

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*“Dyalectica,”* says the logical text-book of the middle ages, *“est ars artium et scientia scientiarum, ad omnium aliarum scientiarum methodorum principia viam habens,”* and although the logic of our day must naturally be utterly different from that of the Plantagenet epoch, yet this general conception that it is the *art of devising methods of research*, —the *method of methods*, — is the true and worthy idea of the science. Logic will not undertake to inform you what kind of experiments you ought to make in order best to determine the acceleration of gravity, or the value of the Ohm; but it will tell you how to proceed to form a plan of experimentation.

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1886 | One, Two, Three | W 5:295

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Logic treats of signs. A sign is a third.

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1893 | A Search for a Method: Fragments [R] | MS [R] 594

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Logic is a critic. It distinguishes between what it approves and what it condemns. This is why it must divide propositions by dichotomy.

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1895 [c.] | On Quantity, with special reference to Collectional and Mathematical Infinity | NEM 4:267

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Logic and metaphysics make no special observations; but they rest upon observations which have been made by common men. Metaphysics rests upon observations of real objects, while logic rests upon observations of real facts about mental products, such as that, not merely according to some

arbitrary hypothesis, but in every possible case, every proposition has a denial, that every proposition concerns some objects of common experience of the deliverer and the interpreter, that it applies to that some idea of familiar elements abstracted from the occasions of the excitation, and that it represents that an occult compulsion not within the deliverer's control unites that idea to those objects. All these are results of common observation, though they are put into scientific and uncommon groupings.

1896 | The Regenerated Logic | CP 3.429

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Logic may be defined as the science of the laws of the stable establishment of beliefs.

1897 [c.] | Logic. The Theory of Reasoning. Part I. Exact Logic. Introduction. What is Logic | PSR 35

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Logic is the Theory of Reasoning. Its main business is to ascertain the conditions upon which the just strength of reasoning depends.

1897 [c.] | Logic. The Theory of Reasoning. Part I. Exact Logic. Introduction. What is Logic | PSR 43

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Logic proper is the theory of reasoning. That is to say, it is the study which aims to ascertain what must be the perceptible relations between possible facts in order that the knowledge that certain ones are true may warrant us in assuming that certain others are not true.

This definition is opposed to the treatment of logic as a branch of psychology or as founded upon psychology. For according to our definition, it makes no difference to the logician whether a fact is thought in this way or in that way unless the distinction will alter our right to draw a conclusion.

1897 [c.] | On Signs [R] | CP 2.227

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Logic, in its general sense, is, as I believe I have shown, only another name for *semiotic* (σημειωτική), the quasi-necessary, or formal, doctrine of signs.

1899 | On Topical Geometry, in General (T) | CP 7.526

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Logic is a branch of philosophy. That is to say it is an experiential, or positive science, but a science which rests on no special observations, made by special observational means, but on phenomena which lie open to the observation of every man, every day and hour. There are two main branches of philosophy, Logic, or the philosophy of thought, and Metaphysics, or the philosophy of being.

1902 | Minute Logic: Chapter I. Intended Characters of this Treatise | CP 2.93

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Logic is the science of the general necessary laws of Signs and especially of Symbols.

1902 | Minute Logic: Chapter IV. Ethics | CP 1.575

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It is pretty generally admitted that logic is a *normative* science, that is to say, it not only lays down rules which ought to be, but need not be followed; but it is the analysis of the conditions of attainment of something of which purpose is an essential ingredient. It is, therefore, closely related to an art; from which, however, it differs markedly in that its primary interest lies in understanding those conditions, and only secondarily in aiding the accomplishment of the purpose. Its business is analysis, or, as some writers prefer to say, definition.

1903 | Lecture I [R] | MS [R] 452:5

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At the outset, we define the principal purpose of logic to be to learn how to conduct any inquiry. [—]

In my opinion, the purpose of logic must ultimately come to be recognized as that of studying all that will be true of signs, or representations, independently of what particular signs have actually been created.

1903 | C.S.P.'s Lowell Lectures of 1903 2nd Draught of 3rd Lecture | MS [R] 462:46

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...logic is the science of regulating your thoughts so as not to be surprised when it can be avoided; and therefore whatever is said in logic about the modes of being of qualities, of laws, etc must be understood as *regulative* truth in Kant's sense.

1903 | CSP's Lowell Lectures of 1903. 2nd Part of 3rd Draught of Lecture III | CP 1.539

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Now it may be that *logic* ought to be the science of Thirdness in general. But as I have studied it, it is simply the science of what must be and ought to be true representation, so far as representation can be known without any gathering of special facts beyond our ordinary daily life. It is, in short, the philosophy of representation.

1903 | Lecture I [R] | MS [R] 449:55; EP 2:256

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The ultimate purpose of the logician is to make out the theory of how knowledge is advanced.

1903 | Harvard Lectures on Pragmatism: Lecture V | CP 5.129

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Supposing [...] that normative science divides into esthetics, ethics, and logic, then it is easily perceived, from my standpoint, that this division is governed by the three categories. For Normative Science in general being the science of the laws of conformity of things to ends, esthetics considers those things whose ends are to embody qualities of feeling, ethics those things whose ends lie in action, and logic those things whose end is to represent something.

1903 | Syllabus: Syllabus of a course of Lectures at the Lowell Institute beginning 1903, Nov. 23. On Some Topics of Logic | EP 2:260; CP 1.191

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Logic is the theory of self-controlled, or deliberate, thought; and as such, must appeal to ethics for its principles. It also depends upon phenomenology and upon mathematics. All thought being performed by means of signs, logic may be regarded as the science of the general laws of signs.

1904 | A Brief Intellectual Autobiography by Charles Sanders Peirce | Peirce, 1983, p. 71; MS [R] L107:20-21

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Logic [...] studies the relation of the phenomenon to the essential character of the phenomenon as controllable, that is, its reasonableness, or embodying an idea. That which embodies an idea is a sign, and it is best to make logic the science of the general properties of signs.

This quote has been taken from Kenneth Laine Ketner's 1983 reconstruction of Peirce's 'Autobiography'

1904 | A Brief Intellectual Autobiography by Charles Sanders Peirce | Peirce, 1983, p. 77; MS [R] L107

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[Peirce] regards logic as the science of signs in general.

This quote has been taken from Kenneth Laine Ketner's 1983 reconstruction of Peirce's 'Autobiography'. Ketner identifies the source as "variant pages" of the manuscript.

1904 | Reason's Conscience: A Practical Treatise on the Theory of Discovery; Wherein logic is conceived as Semeiotic | NEM 4:192-4; HP 2:826-8

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*Logic* is that branch of normative science which studies the conditions of *truth*, or that kind of excellence which may or may not belong to objects considered as representing real objects.

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...logic, as a normative science, entirely disregards what the particular state of things may be, and

undertakes [to] show what procedure must lead to the discovery of truth, whatever that truth may be.

1904 [c.] | New Elements (Kaina stoiceia) | EP 2:309-11

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Logic, for me, is the study of the essential conditions to which signs must conform in order to function as such. How the constitution of the human mind may compel men to think is not the question; and the appeal to language appears to me to be no better than an unsatisfactory method of ascertaining psychological facts that are of no relevancy to logic.

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Logic is the study of the essential nature of signs.

1905 | Adirondack Summer School Lectures | MS [R] 1334:40-41

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Logic [...] is but an application of ethics to thought. For *reasoning* differs from the formation of a new belief by the action of the association of ideas only by being a deliberate, controlled piece of conduct.

However, the one sole way to success in logic is to regard it as a science of signs; and I defined it in 1867 as the theory of the relation of symbols to their objects. Further experience has convinced me that the best plan is to consider logic as embracing more than that, and the general theory of signs of all kinds, not merely in their relation to their objects but in every way.

This way of looking upon logic is the one salvation for the science.

1905-06 [c.] | N | MS [R] 603:38-39

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Logic, - I do not mean to define, but only to characterize it, - is supposed to be a science which investigates the principles upon which we are to decide whether any given argument makes its pretensions good or not.

1906 | The Basis of Pragmaticism | EP 2:385-7; LI 274-5

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Logic is no doubt a science of "thought"; but "thought," in that sense, is no more internal than it is external. Logic is the science of truth and falsity. But truth and falsity belong as much to propositions printed in books as to propositions in the human consciousness. The fact that a proposition is conscious or unconscious does not affect its truth or falsity.

But it may be said that logic is the theory of reasoning, and that reasoning can only be performed by a mind. That is certainly true, and must be true; for if anything could independently reason, it would be what we understand by a mind. But it does not follow that the phenomena that psychologists discover have any bearing upon the theory of reasoning. [—]

Logic includes a study of reasoning, it is true, and reasoning may be regarded, -not quite correctly, but we may waive that point, - as a psychical process. If we are to admit that, however, we must say that logic is not an all round study of reasoning, but only of the conditions of reasoning being bad or good, and if good to what degree, and in what application. Now good reasoning is reasoning which attains its purpose. Its purpose is to supply a guide for conduct, - and thinking, being an active operation, is a species of conduct, - in case no percept from which a judgment could have been directly formed, is at hand. Its object is to say what the reasoner either *will* think when that percept occurs, or what he *would* think if it did occur. The psychological process of reasoning is wholly aside from the purpose of logic.

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1906 [c.] | On Existential Graphs as an Instrument of Logical Research | MS [R] 498

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...the very kernel of logic consists in the investigation of the validity of arguments, which depend upon their necessary conformity (whether perfect or not) to real facts. Now thinking one way or another will not alter facts. Logic, it is true, does not inquire into the facts of real and non-significant things. It studies especially that which is true or false, as to whether it be necessarily true or not.

But it is necessary to draw a distinction between *thinking* and *thought*. A sentence printed in a book is true or false. It embodies thought, although it does no thinking. It is subject to logic. It does no thinking in the sense that it is not living. It has not, nor has any logical machine, a sufficiently complicated construction, to permit us to recognize its action as thinking. But though a machine cannot be made or even perhaps designed that will exhibit such freedom of logical transformation as to be called thinking, it is possible to describe in a general way a mechanical construction which would merit the name of a thinking machine. Logic itself has nothing to do with the process of thinking. It only compares the premisses with the conclusions and it therefore has no concern with any character of the mind that might not be shared by unconscious machines or by external signs.

[—] ...in order that the logician may recognize as germane to his studies all that really can concern them in any essential way, while guarding himself against being diverted from his line of inquiry, it is best that he should recognize that the object of his study is the form of construction and forms of functioning of signs in general, including mental signs but not confined to them.

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1906 [c.] | On the System of Existential Graphs Considered as an Instrument for the Investigation of Logic | MS [R] 499

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...it will be necessary for the present and for a long time to come to regard logic, not as a distinct science, but as only a department of the science of the general constitution of signs, - the physiology of signs, cenoscopic semeiotics. For it we roughly define a sign as a medium of communication, a piece of concerted music is a sign, and so is a word or signal of command. Now logic has no positive concern with either of these kinds of signs, but it must concern itself with them negatively in defining the kind of signs it does deal with; and it is not likely that in our time there will be anybody to study the general physiology of the nonlogical signs except the logician, who is obliged to do so, in some measure.

1906 [c.] | On the System of Existential Graphs Considered as an Instrument for the Investigation of Logic | MS [R] 499(s)

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...we may as well consider Logic as the Science of the Nature of Signs, Semeiotic.

1908-09-09 | The Logic Notebook | MS [R] 339:322r

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...logic is merely the science of ideas considered as signs.

1909 | Preface | MS [R] 634:15

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...it would seem proper that in the present state of knowledge logic should be regarded as coëxtensive with General Semeiotic, the *a priori* theory of signs.

nd | On Classification of the Sciences | MS [R] 602:8

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The purpose and utility of logic [...] lies in its final achievement of a methodeutic for the guidance of thought; and from this point of view logic is the theory of the self-control of thought in order to realize its intention, which is truth. So regarded, logic may be called a special kind of ethics, if by ethics we mean the theory of the self-control of conduct in order to realize a deliberately adopted purpose. For inquiry is only a particular kind of conduct.

nd | Notes on B. Peirce's Linear Associative Algebra | MS [R] 78:4

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In short, logic is the theory of all reasoning, while mathematics is the practice of a particular kind of reasoning.

nd | A Suggested Classification of the Sciences | MS [R] 1339:12

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Logic is the science of the classification of arguments. Reasoning is self-controlled thought; and thus Logic is directly dependent upon Ethics, or the science of self-control, in general.

nd | Miscellaneous Fragments [R] | MS [R] S104:23

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Logic is [...] synonymous with semeiotic, the pure theory of signs in general.

nd | Logic: Fragments [R] | MS [R] S64

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Logic, in general, seems to be the science of what is universally true respecting scientific representations. In a narrow sense, logic is the science of the general conditions of the truth of scientific representations.