Logic

...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.