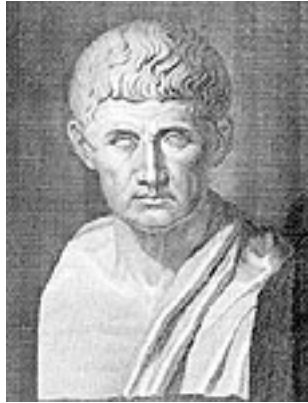


“The Sea-Fight Tomorrow” by Aristotle



Aristotle, Antiquities Project

About the author. . . . Aristotle (384-322) studied for twenty years at Plato’s Academy in Athens. Following Plato’s death, Aristotle left Athens, studied zoölogy and, for a while, was tutor to the young Alexander of Macedonia. Returning to Athens, he founded the *Lyceum* and the first great library of the ancient world. Here, it is said, he earned the name of the “peripatetic philosopher” from his propensity to think and lecture as he walked. His views on logic still shape the structure of the science.

About the work. . . . In his *On Interpretation*,¹ Aristotle outlines the basis for what has been designated since the Middle Ages the “Square of Opposition” under the assumption that statements have existential import.² Statements involving future possibilities pose unique problems for logic, and there have been many attempts to develop a consistent and reasonably complete temporal logic. In this reading selection, Aristotle concludes that

1. Aristotle. *On Interpretation*. Trans. E. M. Edghill, 350 BCE, Part 9.

2. More precisely, statements have existential import if the referents of its terms exist in some way or are not empty. Under this interpretation, the statement “The sea-fight is not an event occurring tomorrow” *seems* to imply somewhat cryptically that we are ontologically committed to the existence of at least one sea-fight that does not occur tomorrow.

sentences about the future do not qualify as being statements at all since, strictly speaking they have no truth value—hence, the all-important law of the excluded middle is not in question. On this view, sentences concerning future contingencies involve possibility. Yet, there is more to the story when the question of future truths is related to the metaphysical presuppositions when “actuality” and “potentiality” used in a logic system.

From the reading...

“... propositions whether positive or negative are either true or false, then any given predicate must either belong to the subject or not, so that if one man affirms that an event of a given character will take place and another denies it, it is plain that the statement of the one will correspond with reality and that of the other will not.”

Ideas of Interest from *On Interpretation*

1. Clarify what a universal statement is. (You might have to use a reference work or a standard logic text.)
2. What is the technical definition of “contradiction”? State one or two examples of contradictory statements.
3. Explain what it would mean for events to happen because of necessity? Try to clarify what “necessity” would mean on this view. Would a difference between logical and physical necessity help here? The sea-battle either takes place tomorrow or it does not take place tomorrow. If truth is not dependent on the time something happens, then it is true now (or false, as the case may be) from a metaphysical point of view that the sea-battle takes place tomorrow even though I cannot know this at the present time. Aren’t there many other kinds of truths, that I either do not know now or cannot, in principle, know?

4. Does Aristotle’s distinction between actuality and potentiality solve the problem of future truths? Explain his distinction with respect to statements about the future? Is the difficulty of understanding the nature of the referents of future truths being “passed off” to the difficulties inherent in the problem of existential import?

The Reading Selection from *On Interpretation*

[Truth Value of Statements]

In the case of that which is or which has taken place, propositions, whether positive or negative, must be true or false. Again, in the case of a pair of contradictories, either when the subject is universal and the propositions are of a universal character, or when it is individual, as has been said, one of the two must be true and the other false; whereas when the subject is universal, but the propositions are not of a universal character, there is no such necessity. We have discussed this type also in a previous chapter.

When the subject, however, is individual, and that which is predicated of it relates to the future, the case is altered. For if all propositions whether positive or negative are either true or false, then any given predicate must either belong to the subject or not, so that if one man affirms that an event of a given character will take place and another denies it, it is plain that the statement of the one will correspond with reality and that of the other will not. For the predicate cannot both belong and not belong to the subject at one and the same time with regard to the future.

Thus, if it is true to say that a thing is white, it must necessarily be white; if the reverse proposition is true, it will of necessity not be white. Again, if it is white, the proposition stating that it is white was true; if it is not white, the proposition to the opposite effect was true. And if it is not white, the man who states that it is making a false statement; and if the man who states that it is white is making a false statement, it follows that it is not white. It may therefore be argued that it is necessary that affirmations or denials must be either true or false.

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Moonrise at Chatham Strait, NOAA, John Bortniak

Now if this be so, nothing is or takes place fortuitously, either in the present or in the future, and there are no real alternatives; everything takes place of necessity and is fixed. For either he that affirms that it will take place or he that denies this is in correspondence with fact, whereas if things did not take place of necessity, an event might just as easily not happen as happen; for the meaning of the word “fortuitous” with regard to present or future events is that reality is so constituted that it may issue in either of two opposite directions. Again, if a thing is white now, it was true before to say that it would be white, so that of anything that has taken place it was always true to say “it is” or “it will be.” But if it was always true to say that a thing is or will be, it is not possible that it should not be or not be about to be, and when a thing cannot not come to be, it is impossible that it should not come to be, and when it is impossible that it should not come to be, it must come to be. All, then, that is about to be must of necessity take place. It results from this that nothing is uncertain or fortuitous, for if it were fortuitous it would not be necessary.

Again, to say that neither the affirmation nor the denial is true, maintaining, let us say, that an event neither will take place nor will not take place, is to take up a position impossible to defend. In the first place, though facts should prove the one proposition false, the opposite would still be untrue. Secondly, if it was true to say that a thing was both white and large, both these qualities must necessarily belong to it; and if they will belong to it

the next day, they must necessarily belong to it the next day. But if an event is neither to take place nor not to take place the next day, the element of chance will be eliminated. For example, it would be necessary that a sea-fight should neither take place nor fail to take place on the next day.

These awkward results and others of the same kind follow, if it is an irrefragable law that of every pair of contradictory propositions, whether they have regard to universals and are stated as universally applicable, or whether they have regard to individuals, one must be true and the other false, and that there are no real alternatives, but that all that is or takes place is the outcome of necessity. There would be no need to deliberate or to take trouble, on the supposition that if we should adopt a certain course, a certain result would follow, while, if we did not, the result would not follow. For a man may predict an event ten thousand years beforehand, and another may predict the reverse; that which was truly predicted at the moment in the past will of necessity take place in the fullness of time.

From the reading...

“For a man may predict an event ten thousand years beforehand, and another may predict the reverse; that which was truly predicted at the moment in the past will of necessity take place in the fullness of time.”

Further, it makes no difference whether people have or have not actually made the contradictory statements. For it is manifest that the circumstances are not influenced by the fact of an affirmation or denial on the part of anyone. For events will not take place or fail to take place because it was stated that they would or would not take place, nor is this any more the case if the prediction dates back ten thousand years or any other space of time. Wherefore, if through all time the nature of things was so constituted that a prediction about an event was true, then through all time it was necessary that that should find fulfillment; and with regard to all events, circumstances have always been such that their occurrence is a matter of necessity. For that of which someone has said truly that it will be, cannot fail to take place; and of that which takes place, it was always true to say that it would be.

[Potentiality and the Future]

Yet this view leads to an impossible conclusion; for we see that both deliberation and action are causative with regard to the future, and that, to speak more generally, in those things which are not continuously actual there is potentiality in either direction. Such things may either be or not be; events also therefore may either take place or not take place. There are many obvious instances of this. It is possible that this coat may be cut in half, and yet it may not be cut in half, but wear out first. In the same way, it is possible that it should not be cut in half; unless this were so, it would not be possible that it should wear out first. So it is therefore with all other events which possess this kind of potentiality. It is therefore plain that it is not of necessity that everything is or takes place; but in some instances there are real alternatives, in which case the affirmation is no more true and no more false than the denial; while some exhibit a predisposition and general tendency in one direction or the other, and yet can issue in the opposite direction by exception.

Now that which is must needs be when it is, and that which is not must needs not be when it is not. Yet it cannot be said without qualification that all existence and non-existence is the outcome of necessity. For there is a difference between saying that that which is, when it is, must needs be, and simply saying that all that is must needs be, and similarly in the case of that which is not. In the case, also, of two contradictory propositions this holds good. Everything must either be or not be, whether in the present or in the future, but it is not always possible to distinguish and state determinately which of these alternatives must necessarily come about.

From the reading...

“It is therefore plain that it is not necessary that of an affirmation and a denial one should be true and the other false.”

Let me illustrate. A sea-fight must either take place to-morrow or not, but it is not necessary that it should take place to-morrow, neither is it necessary that it should not take place, yet it is necessary that it either should or should not take place to-morrow. Since propositions correspond with facts, it is evident that when in future events there is a real alternative, and a potentiality in contrary directions, the corresponding affirmation and denial have the same character.

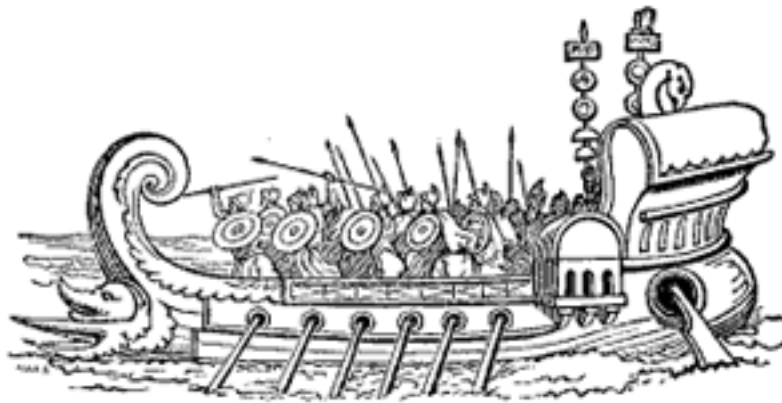
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This is the case with regard to that which is not always existent or not always nonexistent. One of the two propositions in such instances must be true and the other false, but we cannot say determinately that this or that is false, but must leave the alternative undecided. One may indeed be more likely to be true than the other, but it cannot be either actually true or actually false. It is therefore plain that it is not necessary that of an affirmation and a denial one should be true and the other false. For in the case of that which exists potentially, but not actually, the rule which applies to that which exists actually does not hold good. The case is rather as we have indicated.

Related Ideas

“On Prophesying Dreams” by Aristotle (<http://www.classics.mit.edu/\aristotle/prophesying.html>). *Internet Classics Archive*. Short reading on the Aristotle’s analysis of the logic of dreams and future truths from MIT.

Aristotle’s Logic (<http://www.plato.stanford.edu/entries/aristotle-logic/>). *Stanford Encyclopedia of Philosophy*. An introduction and overview of Aristotle’s contribution, including §12 Time and Necessity: Sea-Battle, by Robin Smith.



A Greek Galley, S. G. Goodrich, *A History of All Nations*, 1854

Topics Worth Investigating

1. Is the problem of “future truths” just another variation of the problem of existential import? Review Immanuel Kant’s selection on “Existence Is Not a Predicate” and attempt to relate Kant’s argument to Aristotle’s statement: “For events will not take place or fail to take place because it was stated that they would or would not take place, nor is this any more the case if the prediction dates back ten thousand years or any other space of time.” Are Kant’s and Aristotle’s views compatible?
2. When Aristotle writes, “propositions whether positive or negative are either true or false, then any given predicate must either belong to the subject or not. . . ,” he is stating the so-called law of the excluded middle: any proposition (*i.e.* a sentence with a truth value) is either true or false but not both. The law of the excluded middle is a founding principle of classical logic. Investigate whether or not fuzzy logics or multivalued logics reject this principle.
3. Study carefully the first sentence in the reading selection. Is Aristotle presupposing that meaningful statement must be a description of an existing subject? Explain.
4. How is the problem of statements about the future related to the philosophy of fatalism? Some people stoically say, “Whatever will be, will be. There’s no sense in worrying about it.” Show how Aristotle’s view, if true, would disprove such a fatalistic doctrine.

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