

As to its force, induction makes the claim that its conclusion is probable. The degree of probability depends on the weight of the reason (evidence) for the conclusion. The degree of probability can range from slight to overwhelming (sometimes called "moral certainty"), but never attains certainty.

Deduction may also be defined in terms either of its form or its force. As to its form, the most familiar is the syllogism. In a syllogism, the reasons (called the premises) and the conclusion are structured in a special way:

reason (major premise)  
reason (minor premise)  
conclusion

In a syllogism, two features are important: the structure of the argument and the truth of the premises.

Of course, deduction can take other forms. Deductive reasoning can have a single reason for a conclusion (e. g., "He knows this stuff backwards and forwards; therefore he should do well on the midterm examination."). Or it may involve a whole chain of reasoning in which each conclusion serves as a reason for another conclusion (e.g., "She is a bright, personable, good-looking girl; she should have no problem whatever attracting a number of boy friends. Sooner or later she will doubtless discover among those boy friends a very special one. From there it is just a short step to the altar.").

As to its force, deduction makes the claim that its conclusion is certain. In a syllogism, deduction makes the claim that if the structure is sound and the premises are true, then the conclusion must follow. In either a single-link deduction or a deductive chain of reasoning, deduction makes the claim that the conclusion must follow.

Retroduction or Adduction is essentially a variant of the inductive form of hypothesis. The models that retroduction proposes are attempted explanations of sets of data. And yet they are more. They are pattern statements which attempt to make sets of data intelligible, i.e., meaningful; and not simply statements that attempt to explain them.

That is, in hypothesis we are attempting to establish some sort of causal connection between a set of facts and an attempted explanation; whereas in retroduction we are attempting to render facts meaningful by seeing them as part of some sort of pattern of meaning-relationships. In other words, in retroduction the pattern (or model or construct) gives meaning to the individual facts by contextualizing them in a framework of meaning. A hypothesis explains why the facts are the way they are; a retroductive model explains what the facts mean in context.