

2



Historical Explanation



2.1 Questions

1. What is explanation in history? How does it differ from explanation in science?
2. Explanation is the same for all subjects. Discuss.
3. Compare and contrast explanation in history and in natural science.
4. Using examples explain the following aspects of explanation in history:
 - Descriptive
 - Genetic
 - Structural
 - Definitional
 - Causal

2.2 Explanation in History

The question here is whether there are any peculiarities about the way the historian explains or attempts to explain the events he/she studies.

2.3 What Steps Does an Historian Take When They Set Out to Elucidate an Historical Event or Set of Events?

1. They will begin by tracing connections between that event and others with which it stands in inner relationship (in the case in question, certain previous events in history of industrial relations in Great Britain).

2. The underlying assumption here is that different historical events can be regarded as going together to constitute a single process, a whole of which they are all parts and in which they belong together in an especially intimate way.
3. The aim of the historian here is, to see it as part of such a process, to locate it in its context by mentioning other events with which it is bound up. This process is known as “colligation.”
4. The historian, just like the scientist, does make appeal to general propositions in the course of his study, though he does not make these explicit in the same way as the scientist does.
5. History differs from natural science in that it is not the aim of the historian to formulate a system of general laws, but this does not mean that no such laws are presupposed in historical thinking.
6. Historians do make constant use of generalizations, in particular generalizations about the different ways in which human beings react to different kinds of situation.
7. History thus presupposes general propositions about human nature, and no account of historical thinking would be complete without proper appreciation of that fact.

2.4 An Example: British General Strike 1926

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2.5 Historical Explanation

It is a device that enables one to follow the sequence of events or an act of giving reasons where an act occurred. Narratives are descriptive in nature while the explanations are analytical in nature. Narratives deals with what happened, but explanations deals with both what happened and why it happened.

Explanation shows the significance of the events by showing the connections. Explanations begin by showing the conditions and result of those conditions.

Dealing with actions of people explanations seek to show the motive of actors to show whether they were honest in what they left behind, intentions are expressed by their actions.

Historical explanation therefore examines the motives of subconscious motives, mental outlook, and common to people of his age or time, the influence by nationality, class, association and external factors which determine what alternative was open to the actors.

Explanations of historical events depend upon how they are conceived, which means precisely whether they are regarded as determined at random. Historical explanations deal with cause and effect in history.

2.6 Effect or Result of the Cause in History

The consequences help to understand the meaning in an event. It's by explanation what a wider lesson can be perceived than by a mere narration. It should be based on common knowledge when describing a society, we should examine it in relation to the wider society because some of the happenings were widespread over a large area e.g. feudalism in medieval Europe or plantation slavery in new world or colonization of the Third world. Each element has some general factors that prevail in a continent for example Africa, Latin America have common factors.

Comparisons between regions of countries involved enable us to separate the essential from particular and weigh our explanation accordingly. Know its wider implications to be able to utilize and explain the issue in a broader manner and to make sense. When explaining, we use a theory (hypotheses). This is important in explanation because it raises important questions and alerts scholars to fresh source material.

From the 18th century, theory has played a major role in historical discourses. Theory also helps us to understand how political, social and economic components are arranged together to form a whole society. Theories can be used to show historical change or the direction in which change is moving. Such theories explain the destiny of mankind by ascribing a meaning to history.

In medieval Europe, the writers were concerned with a linear progression of creation to the last judgment as controlled by providence. In the 18th century, the linear pattern was secularized through the theory of progress to enlighten historians. History therefore, became a story of a material and intellectual improvement whose outcome in the future was to lead to victory of reason and human happiness.

At present the theory has been developed into modernization theory to explain why some countries developed while others became underdeveloped. Theory forces historians to move away from particular to general in an effort to make sense of the subject as a whole. It helps us to reflect on certain reflections about the nature of historical process.

2.7 Quantitative Method of Explanation in History

This came up in response to scientific method and the realization that historians cannot do away with the use of numbers. The use of numbers has helped to explain some trends in the world. Computerization has made it easy for historians to compute numbers, although numbers by themselves are not history, they can be interpreted to give historical facts. Numbers are vital in giving actual evidence as opposed to assumptions. Numbers can tell the behavior of people e.g. results of an election can be interpreted to give people's attitudes towards certain parties.

In economic history, numbers are vital especially when we compute the taxes, salaries, wealth, output, trade data, population and therefore numerical data can only be explained but not narrated so we are suggesting that numerical data can be used to support certain social theories that historians can use to interpret the past. Thus historical explanation is wider.

2.8 Types of Explanations

2.8.1 Descriptive Explanation

This is narration or simple description without indication causes it may as well cover causes of any event or occurrence.

2.8.2 Genetic Explanation

This is explanation by pointing to an origin of a given phenomenon, indicating the successive stages of development of a given historical event what were the factors that led to this? It addresses the causes and the origins or genesis of an event.

2.8.3 Structural Explanation

This points to the role of a specific element in a given whole, placing certain processes within a larger setting. It examines historical processes from different perspectives; it deals with the nature or role of specific elements.

2.8.4 Definitional Explanation

Explanations by offering meaning of phenomenon and questions like What? Why? How? Where?

2.8.5 Causal Explanation

This is concerned with providing explanation by indicating the causes. This takes the historian above simple descriptions of events and links historical writing to scientific theories theoretical contexts or the role of theory. Explanation should focus on human actions as being goal oriented.

Explain the actions by addressing what were the mental characteristics of the agent, conditions under which they acted, which were the means they had at their disposal? What are the goals they had in view? What knowledge did they have at their disposal? Explanations are done on the following premises:

- Explanation gets complicated when causation assumes that human beings are rational, for example, explanation of unintended consequences of an action.
- An explanation is also by reference to dispositions that is, conditions in which people were.
- Another type of explanation is by factors external to the system.
- Explanations by reference to laws which laid down the sufficient and necessary conditions or both.
- Explanations by reference to favorable conditions.
- Explanation ties well with causation.

2.9 Scientific Explanation in History

Science refers to exact disciplines whose results are obtained through experimentation. This involves observation and testing of facts. This is done in laboratory for example biology, chemistry and physics.

2.10 Carl Gustav Hempel

2.10.1 General Laws and Explanation in History

He was born in 1905 in Orianenberg, Germany. He studied at the University of Gottingen, Heidergberg, Berlin and Vienna. He left Germany for United States of America in 1934. He became a research associate in philosophy at the University of Chicago 1937-1938. He had teaching positions at City College, New York, and Queen's college, Pittsburgh, Yale and Princeton University. He taught as a visitor at Columbia and Harvard. His publications deal with deductive and inductive logic, epistemology, methodology and philosophy of math's and of empirical science.

His work on the nature of explanation and the structure of scientific theory has been the focus of all subsequent investigation into those subjects. His major book is *Aspect of Scientific Explanation* (1970). His studies of the logic of scientific explanations are attempts to formulate general explanations to formulate general modes of explanation that will reveal some of these similarities. The models to answer certain disputed questions about methods of explanation in social science constitute Hempel's main contribution to philosophy of social science.

The concept of explanation outside science is vague. Broadly speaking, to explain something to someone is to make it plain or understandable to that

person. So explanations are persona relative in the sense that what counts as a satisfactory explanation for one person will not do so for another. A satisfactory explanation for a given person will depend up those antecedent beliefs, intelligence, and other personal factors (idiosyncrasies). But scientific explanation is supposed to be independent of such personal factors. In Hempel's view, a condition of adequacy events is that it provides information which shows objectively that the event was to be expected.

He wrote to refute idealists' view that history cannot be interpreted using general laws. He argued "general laws have quite analogous functions in history and the natural sciences and that they form an indispensable instrument of historical research and that they even constitute the common basis of various procedure, which are often considered characteristic of social sciences in contradiction to the general sciences."

By a general law, we shall here understand a statement of universal conditions from which is capable of being confirmed or disconfirmed by suitable empirical findings. The term law suggests the idea that the statement in question is actually well confirmed by the relevant evidence available.

A universal hypothesis or general laws may be assumed to assert a regularity of the following type for example in every case where an event of specified kind occurs at a certain place and time.

An event of a specified kind e will occur at a certain place and time, which is related to in a specified manner to the place and time of the occurrence of the first event. The symbols c and e have been used to suggest the terms cause and effect which are often, through by no means, always applied to events related by a law of the above kind.

The main function of general laws in the natural sciences is to connect events in patterns which are usually referred to as explanation and prediction. The event in question consists of the following:

1. A set of statements asserting the occurrence of certain events.
2. A set of universal hypotheses such as the statement of both groups are reasonable and well confirmed by empirical evidence.
3. From the two groups of statements the sentence asserting the occurrence of the event can be logically deduced.
4. Describe the initial and boundary conditions for the occurrence of the final event, hence group one – states the determining conditions for the event to be explained while group two – contains the general laws on which the explanation is based. They imply the statement that whenever events of the kind described in the first group occur, an event of the kind to be explained will take place.

2.10.2 Illustration

Explanation on the cracking of an automobile radiator during a cold night;

The sentence of group one may state the following:

1. The car was left in the street at night.
2. Its radiator which is made of iron was completely filled with water and the lid was screwed on lightly.
3. Temperature fell from 390⁰F to 250⁰F in the morning. The air pressure was normal.

Group two, sentence would have empirically laws such as the following:

1. Below 32⁰F under normal atmospheric pressure water freezes.
2. Below 39.2⁰F the pressure of a mass of water increases with decreasing temperatures, if the dome remains constant or decreases when the heater freezes, the pressure age in increases.

The examples given above, deal with types of events and not individual events. Hempel argues that both history and science can give an account of their subject matter only in terms of general concepts and history can grasp the unique individuality of its objects of study more and no less than can physics or chemistry.

A set of events can be said to have caused the events to be explained only if general laws can be indicated which connect cause and effect in the manner characterized above. "Historical explanation too aims at showing that the events in question were not a matter of chance, but was to be expected in view of certain antecedent of simultaneous conditions."

For instance people who have jobs do not like to lose them, those who are habituated to certain skilled but not welcome change, those who have become accustomed to the exercise of a certain kind of power do not like to relinquish their control, if anything they want to develop greater power and correspondingly greater prestige.

This government offices and bears once created, in turn, institute drives, not only to fortify themselves, against assault but to enlarge the scope of their operations. Historians use reconstruction of universal hypotheses on which the words use hence therefore because, consequently naturally, obviously etc. are often indicative of the tacit presupposition of some general laws.

They are used to tie up the initial conditions with the event to be explained, but that the latter was naturally expected as a consequence of the stated conditions follow only if the suitable general laws are presupposed, for example the statement that the dust bowl farmers migrate to California because continued drought and sandstorms render their existence increasingly precarious and because California seems to them to offer much better conditions.

Universal hypothesis populations will tend to migrate to regions which offer better conditions. However, the explanations in history may be called explanation sketch because it consists of more or less vague indications of the laws and initial conditions considered as relevant and it needs filling out in order to turn into a full pledge explanation.

Hempel challenges the Collingwood's view of re-enacting the experience of the agents, for it does not constitute an explanation but its functions suggest certain psychological hypotheses which might serve as explanatory principles.

The methodology does not guarantee the soundness of historical explanation to which it leads this is because the historian tries to realize how himself would act under given conditions and under particular motivations of his erodes, then the tentatively generate his findings into a general rule and uses the latter as an explanatory principle in accounting for the actions of the persons involved.

An historian may be incapable of feeling himself into the role of a paranoiac historic personality, yet he may be well be able to explain certain of his actions by reference to the principles of abnormal psychology.

Thus the explanation in history is done by subsuming it under general empirical laws and the criterion of its soundness is not whether it appears to our imagination, whether it is presented in suggestive analogies or is otherwise

made appear plausible... but exclusively whether it rests on empirically well confirmed assumptions concerning initial conditions and general laws.

Explanations on bursting of car radiators on cold nights and migration of dust bowl farmers to California. The character of the general laws might be different in the two cases the former might be universal in scope and well attested, the latter a statistical law with an uncertain probability value, but explanation in both examples is achieved by deducing the phenomenon in question from statements comprising a set of general laws and specific antecedent conditions. Thus according to Hempel historians offer explanation sketches and not explanation. Thus, this becomes explanation sketches and not explanations. Thus requires "filling out" that is the sketches would have to be expanded before Hempel would regard them as full pledge explanations.

Carl Hempel on the functions of general laws in history argues that "historical explanation too, aims at showing that the event in question was not a matter of chance, but was expected in view of creating antecedent or simultaneous conditions. The expectation referred to is not properly or divination but rational scientific anticipation which rests on the assumption of general laws." There are no accidents in history such as war and revolution.

History becomes a consumer, but not a producer of general laws that is it applies laws borrowed from elsewhere. History aims at giving sufficient conditions or necessity conditions that participate or prompt the actor to act.

Law explanations, according to Hempel it does explanation by representing the event to be explained as an instance of a generalization to the effect that events of that sort usually occur in situations of a certain kind for example the defeat of Finland in 1940 is explained by the greater size of the Russian army. There are however uncertainties about them. Are they to be interpreted as a tiny

sufficient or necessary condition? On the one hand, it is difficult for impossible to include enough to make an explanation literally sufficient larger armies have been sometimes defeated.

2.10.3 Use of General Laws in Explaining History

General Law can be confirmed or discarded by use of suitable empirical findings. The term law suggests the idea that the statement is confirmed by relevant evidence available. According to Hempel “historical explanation aims at showing that the event in question was not a matter of chance, but was to be expected in view of certain antecedent or simultaneous conditions.” Some words such as hence, therefore, because, consequently, naturally, obviously support use of general laws.

History aims at giving sufficient conditions or necessary. Conditions that precipitate propel or prompt the actor to act no prophecy antecedent and simultaneous conditions. History as a science positivist’s explanation is supposed to use universal empirical laws that should apply certain social laws that are applicable everywhere in the world. According to Hempel history observes the rules of accuracy and therefore it aims at giving the truth. Hempel gives the following reasons why history should use general laws?

1. History deals with human beings who operate in certain environment, so it deals with conditions of masses of mankind living in a social state whose it seeks to discover the laws that given these conditions. History is dynamic. Mass action possible to use general laws.
2. Historians are accurate in their conclusions i.e. stating the truth personal bias is not part of history all possible options.

3. Historians find several causes that lead to the occurrence of an event sequence like in science repeating the experiment.
4. Selection in history is not a weakness all disciplines do selection. History selects from many sources add up to giving evidence.
5. History is objective it is a representation of what happened according to available evidence exactness and dependable truth.
6. History is a well organized discipline historical events did not happen as accidents they have origin antecedent and simultaneous condition necessary and sufficient condition to speak of oral occurrence.
7. History deals with cause, course and effects that is, the events are a buildup of causes (sequence – one affair leads to another).
8. Possible to predict what is likely to happen for example inflation; prices going up, workers demanding more money, employers refusing, strike, go-slow, demonstrations.
9. Man is susceptible scientific analysis that is a product of society behaves according to his/her socialization can predict his behavior.
10. Historians use hypotheses (theoretical framework) and the hypotheses are modified according to data collected.
11. Historical research is a product of inter-disciplinary approach the researcher borrows heavily from other disciplines. Other disciplines cannot stand on their own without history.

2.11 Use of Theory/Hypothesis in Explanation

It is important since it raises important questions and alerts scholars to fresh source materials. Since 18th century, theory has played a regular role in historical discourses. It also helps historians to understand how political social and economic components are arranged together to form a whole society. According to Left Gordon theories can be used to show historical change or the direction in which change is moving. Such theories explain the destiny of mankind by ascribing a meaning to history.

Theory forces historians to move away from particular to general in an effort to make sense of the subject as a whole. It helps historians to reflect on certain reflections about the nature of historical process. Historical explanation aims at showing that the event in question was not a “matter of chance” accidental.

Historical explanation is to describe how in order to know why, to break down a term into its constituents in order to explain how it became when it was. History explanation has its own features since it is concerned with complexes; it explains the whole thus explaining parts and answers questions who? Where? When? How? Norwell Smith historical explanation “consist in a series of steps each of which mentions a particular fact.”

2.12 Explanation According to Positivists

They believe that explanation is the same for all subjects, historical and natural sciences explanations are the same. Explanation is supposed to use universal empirical laws i.e. they should apply certain social laws that are applicable everywhere in the world.

Such laws subsume or exhibit a deductive pattern i.e. the method used should be logical.

An important person here is Carl Hempel in his book, *Functions of General Laws in History*, argues that “Historical explanation, too aims at showing the event in question was not a matter of chance, but was to be expected in view of certain antecedent or simultaneous conditions. The expectation referred to is not prophesy or divination but rational scientific anticipation which rests on the assumption of general laws.”

There are no accidents in history, what happens is a product of something, what causes it – due to these then we are explaining events. They classify historical events to general events that deal with kinds of events for example revolutions, wars, overthrow of governments Thus according to historians; one should ask oneself, why do the revolutions occur? The moment you ask this, it is possible to have general issues that lead to this revolution for example political issues such as oppression, dictatorship among others, there is a limit, before people react.

2.12.1 Why Do Wars Occur?

Positivists argue that it is possible to relate the points. History becomes a consumer, but not a producer of general laws. The discipline applies laws borrowed from elsewhere thus history becomes consumer of general laws. History aims at giving sufficient/necessary conditions and or necessary conditions that promotes the actor to act.

2.13 Explanation According to Relativists

History deals with non-repeatable events (unique) events which have unique causes and therefore, do not expect a similar event occurring elsewhere in

different places. A philosopher by the name Michael Qakeshott in his book, *Experience and its Modes* says or comments “the moment history enquiry is regarded as instance of general laws; history is dismissed because science which utilizes general laws deals with general features of the world that history is interested in individual things and not general events.” History deals with specific events for example in Kenya, Mau Mau rebellion led by Kikuyu at particular place Mt Kenya and in a particular time, 1952.

R. G. Collingwood in his book, *An Idea of History* argues that human actions are different from actions by objects. Human action is a product of thoughts that is reason. Natural events that the scientists deal with can be seen while historical events have both the inside and outside, for they are not mere events. By inside it is the thought side. Therefore historical events requires discovery of the thought of the agent in this case a historical action is an expression of the thought. R. G. Collingwood says “in science the event is discovered by perceiving it, and the search for its cause is conducted by assigning its class and determining the relation between that class and others, for history, the object to be discovered is not a mere event, but the thought expressed in it to discover that thought is already to understanding it.”

To understand an action, historians must re-think or re-enact the agent thought in his/her mind he/she must engage the situation in his mind, the same way an actor does. He must see the possible alternatives and the reasons that forced the agent to choose one rather than the other. It is very difficult for two people in different environments to have similar thoughts like another.

Therefore re-thinking is the limited evidence available. A few actions of the historical agent had a thought in the sense of being done consciously. It is also argued that historical actors act without reasoning (acting through emotions). Some of the actions are out of irrationality of unconscious thought hence

somebody acted foolishly – is historian also forced to act as a fool? To understand what had happened? There are situations where the agent has rational understanding and the action is done contrary to his/her good reasons (person being confused).

2.14 Explanation in Natural Sciences

2.14.1 Dualism of Explanation

The nature of human beings is not like that of purely physical or even mindless biological entities. Mans nature is not fixed once and for all but is essentially modified by the culture in what he lives.

Man has no nature, he has only a history – but of those is so, there can be no universal laws about human acts, they cannot be based on causal laws analogous to those of the natural sciences.

When we seek an explanation of a purely physical event, it can be explained in terms of antecedent causal conditions – this can mess the point when a human act is under consideration.

Men have purposes when they act, they have motives and intentions, they make plans, and thus their actions are in part determined by some goals they seek to achieve in the future.

If a human act is to be explained satisfactorily, we must above all understand that act, by seeing the motives and purposes which entered into performance, as well as the particular character of eth man whose motives and purposes they are. In history it is explanation by the method of emphatic understanding that is

sought. Historians are interested, not in a nature which repeats itself, but in happenings that occur only once.

Historians are concerned not with revolutions in general, but with particular revolutions and their particular circumstances and personalities and because historical events are unique they cannot be explained in terms of general laws.

Historical explanation is radically different from explanation in natural science. It requires reconstruction in the historian's mind of the character of those who acted in the past and of the circumstances under which they acted, the explanation is said to be successful when the historian gets the sense of relieving the past he seeks to explain.

2.14.2 Explanation by Scientists/Natural Science

- Scientists no longer attempt to explain the phenomena with which they deal in any ultimate sense. They do not propose to tell us why things are what they are to the extent of revealing the purpose behind nature.
- Scientists are content with the for more modest task of building up a system of observed uniformities in terms of which they hope to elucidate any situation which falls to be examined.
- Given such situation, their procedure is to show that it exemplifies one or more general laws, which can themselves be seen to follow from, or connect with, other laws of a wider character.
- The main features of these process are, first, that it consists in the resolution of particular events into cases of general laws and secondly, that it involves nothing more than an external view of phenomena under

consideration (since the scientist is not professing to reveal the purpose behind them).

- It can thus be said to result in an understanding which is properly described as “abstract” (existing in thought or an idea but not having a physical or practical existence (vague, impractical) thus historical understanding is not this abstract, but is concrete. Do historians explain the facts in the same way as natural scientists?

2.15 Max Weber (1864-1920) and Scientific Explanation in History

2.15.1 Historical Sociology

He was a German sociologist, historian and philosopher. He argued that the scientific investigators methods were peculiarly well adapted to discovering the probable results of policies, he was likely to think that a policy value must also be settled y reference to results.

Weber, argued policies could be rational, not merely in the sense of adapting means to ends, but in the sense that they consistently and genuinely express the attachment to certain values of an agent who is indifferent to the achievement or non achievement of further ends.

Weber denied that any form of social activity could be purely economic. All activities have an economic aspect in as far as they face scarcity of resources and thus involve planning, cooperation and competition.

But economic considerations alone cannot explain the particular direction taken by any social activity or movement, for these other values have to be taken into consideration.

Further, the sociologists own culturally conditioned values are already involved in the way in which he has isolated an intelligible field of study from the infinite complexity of social life.

Hence, there is certain subjectivity, of value at the very foundations of social scientific inquiry, but this needs not damage the objectivity of the results of such inquiry. Social phenomena involve the action of agents who themselves attach a sense to what they are doing. Correspondingly, sociology requires an outstanding of the sense of what is being studied.

Without it, Weber argued the sociologist would not even be in a position to describe the events he wants to explain. According to Weber understanding is particularly susceptible to the investigators subjective bias, and the sense of unfamiliar forms of activity is likely to be interpreted by reference to what is familiar, but perhaps only superficially similar.

Weber therefore thought that understanding must be supplemented by what he sometimes seemed to regard as a distinct method of inquiry, causal explanation. Weber argued that causal explanations in sociology are, as much, completely naturalistic and that the social sciences are distinguished by the addition of understanding.

This point can be illustrated by Weber's treatment of authority. As a prelude to a causal treatment, he tried to define authority as "the probability that a command with a given specific content will be obeyed by a given group of persons." The presence of expressions like "command" and "obeyed" in this definition shows that it already presupposes understanding.

2.16 Karl Popper Raymund and Scientific Explanation in History

He was an Australian philosopher of natural and social science. Popper is notable for having offered a systematic interpretation, culminating in a purported formal refutation of all historicism, that is, any views to the effect that there can be a large scale, long-term predictions about the course of human society.

The interpretation, through inevitable yoking together very desperate views, is valuable, not least for its distinction between historicist prophecies and the conditional, short-term predictions about human affairs that can be genuinely scientific, and so form basis for reformatory ‘social engineering’ as opposed to “utopian” transformations, implementable if at all only by grossly cohesive methods.

He makes much too of a distinction between laws of gravitation, and trends, for example the course of biological evolution and the patterns of development allegedly discerned by subtractive philosophers of history.

In the universality of law, its application to all cases, past, present and future lays the only basis for scientific prediction. Trends are essentially observed or inferred facts, calling for explanation in terms of laws, and not in themselves the basis for satisfied predictions.

Popper argues that the course of history is strongly influenced by the growth of human knowledge and that we cannot rationally predict the future growth of knowledge – thus it follows that man cannot predict the course of history.

Popper has argued that no theory has been established as more than an interesting, perhaps dangerous, speculation. The burden of proof falls on the upholders, not the critics of such theories.

Popper applies his theory of knowledge to man and society in the form of an attack on historicism, the doctrine that there are general laws of historical development that render the course of history inevitable and predictable. Popper asserts that scientific method applies both to nature and to society. Social science can discover laws that make clear the unintended consequences of human action, but there can be no laws of the whole system. It follows that social reform must proceed by piecemeal social engineering, not by total revolutionary reconstructions of social order.

For Popper the growth of knowledge begins with the imaginative proposal of hypothesis, a matter of individual and unpredictable insight that cannot be reduced to rule. Such a hypothesis in science talks than myth if it excludes some observable possibilities. To test a hypothesis, we apply ordinary observation statements whose falsehood would refute it. A serious and scientific test consists in a preserving search for negative, falsifying instances.

The proper method of science is to formulate the most falsifiable hypotheses and consequently those that are simplest, have the greatest empirical content, and are logically the least probable.

