

## Law of Nature, Observation and Research: An Integrated Approach Towards the Study of Natural Law Jurisprudence and Scientific Discovery

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### Abstract

Nature is linked to everything existing on the earth and the whole universe. It has its own laws to govern all belongings, including land, waters, seas, plants, and animals. Nature likes to balance its own creations, the air, the environment, and the space, and so on, through its own laws and denies human interventions in its affairs. Nature knows its own laws when and how to operate, destroy, and create with the passage of time, and what to preserve, keeping alive for its welfare, and to all its belongings. But as opposed to it, human beings, an intelligent and rational animal, not being satisfied with natural control, have always been engaged in modifying the natural resources in diversified forms to their own uses, and claiming that they have been creating new things, inventing and discovering something extraordinary to their credit. The real fact is that their power is limited in the sense that they can't create, as everything is fixed by nature itself. What they can do or have been doing is transform their creative ideas through observations and research on how nature acts and reacts using its resources, and making machines and instruments for the advancement of human civilization from time to time. In this research article, the researcher has focused on nature-based observations, which inspire intelligent observers to carry out research by observing facts and happenings taking place before our eyes, which are apparently visible in and amongst the creations of nature. It concludes that observation is necessary, foundational, and epistemically prior, though not independently sufficient, for the systematic formulation of natural law. This article examines whether observation constitutes the foundational epistemic condition for understanding the Law of Nature in both jurisprudence and scientific discovery.

**Key Words: Research, Research Methods and Methodology, Natural Law, Observation and Research Process.**

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## Introduction

The concept of the Law of Nature has historically occupied a central position in jurisprudence, philosophy, and scientific inquiry. While various methodologies, deductive reasoning, experimentation, hypothesis testing, and statistical analysis have shaped modern research paradigms, this article argues that observation constitutes the primordial and indispensable foundation of all discovery. Before the formulation of hypotheses, before experimentation, and prior even to codified reasoning, observation operates as the first engagement between human intellect and nature. This paper examines the epistemological primacy of observation, its role in the development of natural law theory, and its foundational importance in scientific revolutions. It argues that observation is not merely a research tool but the ontological starting point of all knowledge of natural order.

It has been seen throughout evolution that observation constitutes the primordial epistemic foundation underlying both scientific discovery and natural law jurisprudence. While modern research methodologies emphasize hypothesis formation, experimentation, falsifiability, and statistical verification, it is demonstrated that all such methods presuppose prior observational engagement with nature. Through comparative analysis of classical natural law theorists and major philosophers of science, including Thomas Aquinas, Francis Bacon, David Hume, etc., it has been felt necessary to evaluate whether observation alone can serve as a sufficient research method, or whether it functions as a necessary but incomplete epistemic foundation. The paper concludes that observation is logically prior, methodologically indispensable, and jurisprudentially foundational to any understanding of the Law of Nature.

The Ideas of research are created because of the natural thinking process, the feelings of human hearts, and observations made by human beings in day-to-day life, and facts taking place around them since the time the earth was created and human beings started living. There were lots of problems faced by the human races from time to time in the struggles of their survival to prove their superiority over other animals and to proceed further towards progress and developments in different fields at different times, areas and aspects covered by socio-economic, law, business and commerce, transport and communications including science and technology from the earth – crust to the space, within knowledge and beyond knowledge. The research of different kinds and natures is also being continuously conducted to add something new to what is within knowledge and to discover those which are not within the knowledge, but beyond it and not within the reach of the common man.

There are so many thought provoking areas in the nature, the intelligent rational human beings are under compulsion and easily tempted to feel and think by heart why such things happen or repeated again and again, and observe such facts happened before their eyes, and some conclusions are found out logically satisfying their curiosity, established to be accepted as true till alternative has shown some other solutions or proofs.

The earth, being the gift of Nature, is fixed in its composition and materials and bound by its own natural laws. Not only is the whole Universe uniquely created in such a scientific and very systematic way, but every unit is also closely connected and related and remains bound

by a chain of relations, the very laws the scientists have discovered till now. Many things are still to be made known that are not known yet.

We do believe that man can't create anything absolutely new that is not available on this earth or in the Universe, but only discover what is not discovered till now, or transform or re-create what is already made available in forms and contents, or the materials in hand created by nature. That's why economists call it a gift of nature.<sup>1</sup> What the people do, they feel it well and try to use this gift of Nature for their benefits individually or for the benefits of mankind as a whole, by or through only conversion, which also requires certain specific research to get the output. What is emphasized is that human beings are good observers, and the intelligent observers are the good researchers who are guiding people by offering something new in form or shape in terms of products, goods, or services beneficial to individuals and society.

It is also believed that observation creates new ideas in the relevant fields of research, and based on those ideas, the researchers are prompted to go through some systematic or scientific research methods or to follow a particular methodology to achieve their goals and have the desired output. Observation of nature, facts, and happenings, including the changes taking place before our eyes, constitutes the basics of all research. We first observe and then start a systematic study to draw conclusions and implement the results in practice.

## **Background of the Study**

The Law of Nature has historically occupied a central role in developing both jurisprudence and science. Most of the classical thinkers understood natural law as inherent in the rational structure of reality, nature as originating, and events taking place all around it. Modern science reconceptualized natural law as empirically discoverable regularity. However, despite methodological advances, one feature remains constant throughout this progress, and it is that all discovery begins in observation. For example, as will be seen, before the gravitational synthesis of Isaac Newton, falling bodies were observed. Similarly, before the evolutionary theory by Charles Darwin, biological variation was documented, and before heliocentric challenges by Galileo Galilei, celestial irregularities were noted. Even today, this practice of observing the facts that happened on the earth is very often considered as a foundational method of research in understanding the natural law jurisprudence and scientific discovery. Thus, yet, contemporary methodology is often felt to treat observation as primary to hypothesis and experimentation. This article challenges that hierarchy.

## **Objectives**

The researchers proceed with certain basic objectives, which are:

(1) To make a search about human curiosity to know the unknown based on observation of facts that happened before the eyes, how and why they happen.

(2) To make a study of common natural things that happen due to natural forces and cause-and-effect relationships.

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<sup>1</sup> See generally, Alfred Marshall, *Principles of Economics* (1890)

(3) To make a study about how new ideas may be created for good research if someone properly observes the events taking place before his or her eyes.

(4) To show how observation may form a good and strong base for scientific research by employing other research methods or methodology, including fundamental or applied research.

### **Research Questions**

1. What is the epistemological status of observation in classical natural law theory?
2. How did empiricism redefine observation in modern science?
3. Can observation alone constitute a sufficient research methodology?
4. What is the jurisprudential significance of observational primacy?

### **Basic assumptions**

The present research work is based on the following assumptions:

- (a) Observation leads to knowledge and adds something to the knowledge.
- (b) Human beings are observational and rational by nature in terms of the thinking process.
- (c) All human beings are not researchers in the real sense of the term; only intelligent people are good researchers who have the capacity to observe.
- (d) For observation, the earth is limited; but the Universe is unlimited, and man wants to know beyond the limits, i.e., limited and unlimited both; but bound by limits.
- (e) Observations form the basis for development and link with the thinking process and hence knowledge.

### **Review of Literature**

**(a) Pauline V. Young, *Scientific Social Surveys and Research*, (1939), Prentice-Hall (Englewood Cliffs, New Jersey)**

*Scientific Social Surveys and Research* is one of the classical textbooks in social research methodology. The book has focused on the background, methods, principles, and analysis of social research, especially surveys used in sociology. The author describes research as a systematic and scientific investigation of social problems using objective and organized procedures. It discusses major research techniques such as social surveys, Observation, Interviews, Questionnaires, and Statistical analysis. These methods help researchers collect accurate and reliable data about social life. Moreover, Young considers observation a basic technique in social research. According to her, Observation is the systematic and careful watching of social behaviour and events. She records facts as they occur in real situations. It

helps in studying social interactions, customs, and behaviour directly. She also describes different types of observation, such as: (i) participant observation, wherein the researcher participates in the group being studied, and (ii) non-participant observation, wherein the researcher observes without participating. Thus, observation is important for obtaining first-hand and reliable data about social phenomena.

**(b) William J. Goode, Paul K. Hatt, *Methods in Social Research* (1952), McGraw-Hill, New York**

*Methods in Social Research* is a classic text that explains the scientific procedures used in sociological research. It describes how researchers formulate problems, collect data, analyse information, and present findings. The book discusses several research techniques, including Observation, Interview, Questionnaire, and Statistical analysis. Goode and Hatt define observation as “The systematic observation and recording of behaviour in its natural setting.” According to them, the basic features of observation include: (i) it must be planned and systematic, (ii) the observer must record facts objectively and accurately, (iii) it is useful for studying actual behaviour rather than reported behaviour. For this purpose, they also classify observation into: (a) participant observation, (b) non-participant observation, (c) controlled observation, and (d) uncontrolled observation. Observation is especially useful in studying group behaviour, social interaction, and cultural practices.

**(c) Thomas Aquinas, *Summa Theologica*, I–II, Q. 94 (Benziger Bros., 1947)**

Aquinas’ work basically lays down the classical Natural Law foundations. In *Summa Theologica*, he argues that natural law is derived from rational reflection upon human inclinations. According to him, natural law derives from rational reflection upon observable features of human nature, like self-preservation, reproduction, social organization, and knowledge of truth, and they are all empirically identifiable behavioural constants. Thus, natural law is not speculative metaphysics alone; it rests on structured observation of human nature. These are not abstract deductions, but conclusions drawn from observed human behaviour. For Aquinas, natural law, therefore, begins empirically before it becomes *normative*. However, Aquinas does not develop a formal methodology of observation. His epistemology presumes realism: the mind apprehends objective order.

**(d) Francis Bacon, *Novum Organum* (Cambridge University Press, 2000)**

Through this great work, Bacon emphasizes empiricism and the Primacy of Experience. In *Novum Organum*, Bacon rejects scholastic deduction and proposes systematic empirical observation. Knowledge must begin with sensory data collected methodically. Bacon elevates observation to methodological centrality.

**(e) John Locke, *An Essay Concerning Human Understanding* (Oxford University Press, 1975).**

John Locke, through this work, gives more importance to gaining experiences through individual observation. Locke’s *tabula rasa* theory asserts that all ideas arise from experience. Observation thus becomes the source of knowledge.

**(f)David Hume, An Enquiry Concerning Human Understanding (Oxford University Press, 2007)**

David Hume is also a supporter of the observational method of intensive and scientific study. He radicalizes empiricism by arguing that causation is merely the product of repeated observation. Natural “laws” become habits of expectation formed through experiential regularity. However, in his theoretical approach, one important limitation is found. He undermines metaphysical certainty, introducing scepticism regarding necessary connection.

**(g)Karl Popper, The Logic of Scientific Discovery (Routledge, 2002)**

The Logic of Scientific Discovery by Karl Popper is one of the most influential works in the philosophy of science. First published in German in 1934 as *Logik der Forschung* by Julius Springer, Vienna, the English translation appeared in 1959 and significantly shaped modern scientific methodology. It presents Popper’s central idea that scientific knowledge advances not through verification, but through falsification - the testing and possible refutation of hypotheses.

One of the major themes of the book is Popper’s critique of inductive reasoning, the traditional idea that scientific theories are derived from repeated observations. Influenced by the problem of induction raised by David Hume, Popper argues that no amount of observation can conclusively prove a theory to be true. For example, observing thousands of white swans does not logically prove that all swans are white.

The central concept of this work is falsifiability as the criterion for distinguishing science from non-science. According to Popper, a theory is scientific only if it can, in principle, be proven false by empirical observation. For instance, a scientific statement such as “All metals expand when heated” can be tested experimentally and potentially disproved. If a metal were found that did not expand when heated, the theory would be falsified. By contrast, theories that cannot be tested or refuted, such as vague metaphysical claims, fall outside the domain of empirical science.

The author, thus, favours falsification for scientific inquiry and is a bitter critique of Induction. Popper rejects inductive certainty and proposes falsifiability as the demarcation of science. However, falsification requires empirical observation of counterexamples. Thus, while induction is weakened, observation remains essential.

**(h)Thomas Kuhn, The Structure of Scientific Revolutions (University of Chicago Press, 2012)**

Published in 1962, *The Structure of Scientific Revolutions* fundamentally reshaped the philosophy of science. Thomas Kuhn’s work challenged the traditional view that science progresses cumulatively through steady additions of knowledge. Instead, he proposed that scientific development is episodic and discontinuous, marked by paradigm shifts, radical

transformations in the fundamental framework through which scientists interpret the world. At the heart of Kuhn's thesis lies Paradigm Theory, connecting observation as a method of scientific study, which explains how scientific communities organize knowledge, conduct research, and undergo revolutionary change. Kuhn argues that observation is theory-laden. Scientists observe through paradigmatic lenses. However, in its implication, observation is not neutral, and yet even paradigm shifts originate in observed anomalies. His analysis of paradigms continues to influence philosophy, sociology, and the history of science, offering a powerful lens through which to understand how scientific knowledge evolves, not merely through data accumulation, but through transformative shifts in worldview.

### **(i) Paul Feyerabend, *Against Method* (Verso, 2010)**

Paul Feyerabend's *Against Method* (1975), being the most provocative and controversial work in twentieth-century philosophy of science, subtitled *Outline of an Anarchistic Theory of Knowledge*, the book challenges the assumption that science progresses through a fixed, rational, and universal method. He rejects methodological monism, the idea that there is a single scientific method, and instead proposes "epistemological anarchism," summarized in his famous phrase: "anything goes." In *Against Method*, he rejects universal methodological rules. However, his pluralism presupposes empirical engagement with phenomena.

*Against Method* remains a landmark critique of methodological orthodoxy in science. Feyerabend does not deny the power of science but challenges the myth of a single, rational, universally applicable scientific method. When linked to observation as scientific inquiry, his work reveals that observation is not an unmediated access to reality, but a theory-infused process shaped by historical and conceptual conditions. Ultimately, he transforms observation from the unquestioned foundation of science into a contested, dynamic, and interpretive practice. While his epistemological anarchism may be overstated, his challenge compels a more nuanced understanding of how science actually works, less as a rigid method and more as a complex human enterprise shaped by creativity, conflict, and conceptual change.

### **Research Gap**

It has been found that there is no comprehensive study made so far to integrate natural law jurisprudence and philosophy of science through the singular lens of observational primacy. This article tries to fill that gap.

### **What is Research?**

The term 'Research' has been defined in many ways from time to time by great personalities and researchers. Some people consider research as a movement from the known to the unknown. It is actually a voyage of discovery. When the unknown confronts us, more and more our vital inquisitiveness makes us probe and attain understanding of the unknown, and this is what we call research. Etymologically, the term is derived from a French word 'recherch' meaning 'to search' and a Latin word 'circare' meaning 'to go round in a circle'. It is said that each alphabet constituting the term 'RESEARCH' has its specific meaning: (a) 'R' stands for 'rational way of thinking', (b) 'E' stands for 'expert and exhaustive treatment', (c) 'S' stands for 'search for solution', (d) 'E' stands for 'exactness', (e) 'A' stands for 'analytical

analysis of adequate data’, (f) ‘R’ stands for ‘relationship between facts and theories, (g) ‘C’ stands for (a) constructive attitude; (b) critical observation; (c) condensed and compactly stated generalization; (d) cautious and careful recording ‘; and (h) ‘H’ stands for ‘honesty and hard work in all aspects of the treatment of data’.<sup>2</sup>

According to Webster’s International Dictionary Methodology, research is a careful, critical inquiry or explanation in seeking facts or principles; diligent investigation to ascertain something. According to Encyclopedia Britannica, “Research is an act of searching into a matter closely and carefully, inquiring directly to the discovery of truth and, in particular, the trained scientific investigation of the principles and facts of any subject, based on original and first-hand study of authorities or experiment. Investigation of every kind which has been based on a source of knowledge may be styled research.” Here, emphasis is given on the source of knowledge, indicating observing facts and cause and effect.

In the Encyclopedia of Social Sciences, D. Slesinger and M. Stephenson defined research as “the manipulation of things, concepts, or symbols for the purpose of generalizing to extend, correct, or verify knowledge, whether that knowledge aids in the construction of theory or in the practice of an art.”<sup>3</sup>

For Manheim, research is the careful, diligent, and exhaustive investigation of a specific subject matter, which has as its aim the advancement of mankind’s knowledge. For Redman and Mary, research is a systematized effort to gain knowledge. Cook also says that research is an honest, exhaustive, intelligent search for facts and their meanings or implications with reference to a given problem. Similarly, Clifford Woody defines research as a careful enquiry or examination in seeking facts or principles and diligent investigation to assert something. According to John Best, “Research is to be the more formal, systematic, intensive process of carrying out as the scientific method of analysis. It involves a more systematic structure of its investigation, usually resulting in some sort of formal record of procedures and a report of results or conclusions.” Rusk Whites say that research is a point of view, an attitude of inquiry, or a frame of mind. It asks questions which have hitherto not been asked, and it seeks to answer them following a fairly definite procedure. It is not a mere theorizing but rather an attempt to elicit facts and to face them once they have been assembled.

Craford further says that research is simply a systematic and refined technique of thinking, employing specialized tools, instruments, and procedures to obtain a more adequate solution of a problem that would be possible under ordinary means. It starts with a problem, collects data or facts, analyses them critically, and reaches decisions based on the actual evidence. It involves original work instead of a mere exercise of personal opinion. It involves a genuine desire to know rather than a desire to prove something.

Thus, research is a creative process to initiate something new in terms of knowledge based on facts and observations, and subsequently supported by and includes an inquiry or

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<sup>2</sup> Dr. S.R., Myneni. *Legal Research Methodology* (10<sup>th</sup> Edition, Estern Book Company, 2025).

<sup>3</sup> C.R. Kothari & Gaurav Garg, *Research Methodology: Methods and Practice* (3<sup>rd</sup> ed., New Age International Publishers, 2015) 1.

investigation, then discovery or invention based on experimentation or otherwise to achieve the desired result or goal, and to prove its final product. It is possible through observation of new facts and by the formulation of new thoughts and ideas, giving a concrete shape. These definitions directly or indirectly favor observation as a foundational research method; in other words, every research work starts with observation, which may come from experimentation, as is observed when carried out.

## Observations

Scientific revolutions and legal philosophy share a common starting point: human engagement with observable reality. It has already been mentioned how, before the gravitational synthesis of Isaac Newton, falling bodies were observed, and before evolutionary theory emerged from Charles Darwin, biological variation was documented, and Galileo Galilei noticed. Likewise, classical natural law theory rests upon observation of human tendencies, social structures, and moral inclinations.

Therefore, the question is how Observation serves as the primordial method of research. Every hypothesis arises from prior perception, i.e., observation before hypothesis, as was evident from Newton's formulation and Darwin's proposed natural selection; variation among species was documented. Observation is, therefore, logically before: (a) Deductive reasoning, (b) Experimental manipulation, (c) Mathematical modelling, and (d) Statistical inference. Without initial sensory engagement with natural phenomena, no structured inquiry could begin.

Secondly, observation is sometimes considered as the Birth of Modern Science. It is said that the scientific revolution marked a methodological shift from pure deduction to systematic observation. Francis Bacon argued that knowledge must be derived from empirical observation rather than speculative reasoning.<sup>4</sup> Even in physics, Einstein's theories were responses to observed anomalies in Newtonian mechanics.<sup>5</sup> Thus, revolutionary science did not discard observation; it refined it.

Thirdly, observation also plays a great role in developing legal Jurisprudence. For example, it is said that Natural law theory assumes certain principles that are inherent in human nature. But how is "human nature" known? Through observation of: (a) Human behaviour, (b) Social patterns, (c) Moral intuitions, and (c) Biological tendencies. Aquinas argued that humans naturally seek preservation, reproduction, and social living.<sup>6</sup> These are empirical observations about human conduct. Thus, jurisprudential natural law depends fundamentally on observational insight.

Observation is the most important technique that employs vision to examine and study in depth facts directly striking the brain and making a link with the thinking process. It implies the use of eyes rather than of ears and the voice. It is accurate to watch and note phenomena as they occur in nature, regarding the cause and effect or mutual relations. According to Pauline V. Young, "Observation may be defined as systematic viewing, coupled with consideration of

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<sup>4</sup> Francis Bacon, *Novum Organum* (Cambridge University Press, 2000).

<sup>5</sup> Albert Einstein, "On the Electrodynamics of Moving Bodies" (1905) 17 *Annalen der Physik* 891.

<sup>6</sup> Thomas Aquinas, *Summa Theologica*, I-II, Q. 94, Art. 2.

the seen phenomenon.”<sup>7</sup> It is a deliberate study through the eye, which may be used as one of the methods for scrutinizing collective behavior and complex institutions, as well as separate units composing the totality.

Observation is the most primitive, but also the most modern method or technique of research. It is used not only in research in the humanities but also in the sciences extensively. Goode and Hatt say, “Science begins with observation and must ultimately return to observation for its final validation.”<sup>8</sup> It has been said that the epistemological turn of the Enlightenment intensified the role of observation. John Locke argued that the mind begins as a tabula rasa and knowledge arises from sensory experience.<sup>9</sup> David Hume went further and said that causation itself is nothing, but the mind’s habit formed from repeated observations.<sup>10</sup> Thus, as per their opinion, natural “laws” are descriptive regularities derived from observed patterns.

It has also been said that observation as a method is a logical priority over other research methods and is made before any hypothesis is formed. No hypothesis arises *ex nihilo*. It emerges from perceived irregularities or patterns. Even controlled experimentation presupposes prior identification of a phenomenon worthy of testing. Observation precedes to (a) concept formation, (b) problem identification, (c) Hypothesis generation, and (d) experimental design. Without observation, research has no object. In this connection, it may be mentioned here that Francis Bacon also rejected scholastic speculation and insisted upon systematic empirical observation.<sup>11</sup> His method of induction begins with collected data before theoretical abstraction. This marked a decisive shift from metaphysical deduction to empirical grounding.

Moreover, Karl Popper criticized naive inductivism and argued that science advances through falsifiable hypotheses.<sup>12</sup> However, even falsification requires observational testing, empirical counter-instances, and measurable phenomena. Thus, Popper reduces the epistemic authority of induction but does not eliminate observation. Observation remains the testing ground of theory.

Thomas Kuhn further argued that observation is theory-laden and structured by paradigms.<sup>13</sup> Scientists “see” through conceptual frameworks. This critique challenges the neutrality of observation but does not negate its necessity. Rather, it suggests observation is shaped by intellectual context. Paul Feyerabend also rejected methodological monism and argued that no single method governs scientific progress.<sup>14</sup> Yet even methodological pluralism

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<sup>7</sup> Pauline V. Young, *Scientific Social Surveys and Research*, (1939, Prentice-Hall, Englewood Cliffs, New Jersey)

<sup>8</sup> William J. Goode, Paul K. Hatt, *Methods in Social Research* (1952), McGraw-Hill, New York

<sup>9</sup> John Locke, *An Essay Concerning Human Understanding* (Oxford University Press, 1975).

<sup>10</sup> David Hume, *An Enquiry Concerning Human Understanding* (Oxford University Press, 2007).

<sup>11</sup> Francis Bacon, *Novum Organum* (Cambridge University Press, 2000).

<sup>12</sup> Karl Popper, *The Logic of Scientific Discovery* (Routledge, 2002).

<sup>13</sup> Thomas Kuhn, *The Structure of Scientific Revolutions* (University of Chicago Press, 2012).

<sup>14</sup> Paul Feyerabend, *Against Method* (Verso, 2010).

presupposes experiential engagement with the world. Even rebellion against the method begins in observation.

Even in jurisprudence, particularly Natural law jurisprudence, it assumes that moral norms are rooted in human nature. But “human nature” is not intuited mystically; it is inferred from observable behavioural constants, like (a) universality of family structures, (b) social interdependence, and (c) resistance to arbitrary violence. These recurring patterns form the empirical basis of normative reasoning. Observation, therefore, links descriptive facts to prescriptive norms.

In fact, observation performs a dual function, ontological, which connects mind to reality, and epistemological, which grounds knowledge claims in empirical experience. The Law of Nature, whether in physics or jurisprudence, becomes intelligible only through this foundational engagement.

From the above doctrinal views, it becomes clear that observation proves to be a scientific technique to the extent that : (a) it creates new ideas for all kinds of research, (b) it serves and helps in formulating a research purpose, ( c ) it guides and helps in planning the phenomena systematically, (d) it stimulates systematic recording relating to or draw more general propositions, rather than being presented as a set of interesting phenomena, and ( e ) it is itself made subjected to checks and controls of validity and reliability. The accuracy of observation depends upon the clear formulation of the problem, separate study of each item at a time, relation of observed fact with the problem, selective and objective study of the fact, and the unbiased function of the observed. Observation enables the researcher to understand events affecting nature and its relations with the participants. All belongings to this universe and their relations, including dependence, are participants. It includes happenings and occurrences before the eyes, social life and behaviors not only of human beings, but also of animals, plants, and other inanimate objects. Observation helps in deciding the goal of the research on the subjects or objects observed. It is one of the main sources of the formulation of hypotheses and an important base for research in all sciences. It provides directions for the researchers to choose the required methods of research, qualitative, quantitative, fundamental, applied, experimental, scientific, and doctrinal or non-doctrinal.

### **Justifying Observation as a Research Method**

Research methods may be understood as all those methods/techniques that are used for the conduct of research. Research methods or techniques, thus, refer to the methods the researchers use in performing research operations. In other words, all those methods that are used by the researcher during the course of studying his research problem are termed as research methods.<sup>15</sup> Thus, research methods refer to the behaviour and instruments used in selecting and constructing research techniques.

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<sup>15</sup> C R Kothari, Gaurav Garg, *Research Methodology, Methods and Techniques*, (3<sup>rd</sup> ed. Reprint, 2015), P. 6

**(a) From an Ethics and Historical Point of View**

In the view of the researcher, research is an act of sifting certain facts or events within the thought process till a good, convincing, and acceptable result comes out. It is like a *Manthana*<sup>16</sup> of the ocean of milk or in the modern sense, the ocean water, to derive salt for use to make the cooked food tasty, which, if salt is not used, is not tasted at all. Someone might have thought and observed that seawater contains salt. There might have been certain facts that were observed for quite some time to find out the process to separate salt from water.

When we had studied in the Ramayana, the mythological story of Ravana, the mighty king of Sri Lanka, who was travelling across the Sky in his *Pushpak Viman*, the air-craft, we thought that there was use of high technology in the aviation sector in ancient Sri Lanka and our country in the past, evident from the great epic and Vedas, etc. The *Pushpak*, i.e., the “flowery” Vimana of Ravana, was originally made by Vishwakarma for Brahma, the Hindu God of creation. Later, Brahma gave it to Kubera, the God of Wealth, but it was subsequently stolen along with Lanka by his half-brother, King Ravana. We could not confirm whether there was actually such an aircraft used or not<sup>17</sup>. But we felt that perhaps the people subsequent to that age might have thought of and developed such an aircraft; the inner feelings could not win reality as conceived in Valmiki’s writings. It was under observation<sup>18</sup> till it became a reality in the modern age, in the hands of the Wright Brothers<sup>19</sup>, who observed and experienced in earlier observations and attempts made in the flying of birds in the sky, and wanted to fly like birds. Their observations prompted them to carry out experiments through research. Now in the well-organized society, they became able to decide what crops were to be grown based on their own judgments and self- research process.

**Meditation-based Observation towards Formulation of Religious Doctrine**

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<sup>16</sup> *Samudra Manthana*, the churning of the ocean is one of the best-known episodes in the Hindu philosophy narrated in the *Bhagavata Purana*, the *Mahabharata* and the *Vishnu Purana*. The *Samudra Manthana* explains the origin of *Amrita*, the nectar of immortality and the omnipotent great God, Lord Shiva who drank *Vish*, the poison.

<sup>17</sup> Sri Lankan government launches research to find out ancient aviation technology used by Ravana. The Ministry of Tourism and Aviation has issued a newspaper advertisement asking people to share any documents they have about Ravana in order to help the government conduct ambitious, in-depth research on the mythological king and the lost heritage of island nation’s aviation dominance. The Sri Lankan government believes that Ravana was the first aviator in the world and flew over 5,000 years ago and the country’s Civil Aviation Authority has now launched an initiative to understand the methods used by him to fly in ancient India. Many in Sri Lanka also believe that Ravana was a benevolent king and a great scholar who was also described as a great learned Brahmin {[www.news18.com/news/world/sri-lanka-says-enough-facts-prove-ravana-used-aircraft-to-fly-ask-people-to-help-with-in-depth-research-2723377.html](http://www.news18.com/news/world/sri-lanka-says-enough-facts-prove-ravana-used-aircraft-to-fly-ask-people-to-help-with-in-depth-research-2723377.html) retrieved on 28-09-2020.

<sup>18</sup> Because the dream of flying is as old as mankind itself. However, the concept of the airplane has only been around for two centuries. Before that time, men and women tried to navigate the air by imitating the birds. They built wings to strap into their arm or machines with flapping wings called Ornithopters; [wrightbrothers.org/History-wing/History-of-the-Airplane/History-of-the-Airplane-Intro/History-of-the-Airplane-Intro.htm](http://wrightbrothers.org/History-wing/History-of-the-Airplane/History-of-the-Airplane-Intro/History-of-the-Airplane-Intro.htm) retrieved on 28-09-2020.

<sup>19</sup> The Wright brothers invented and flew the first airplane in 1903, recognized as “the first sustained and controlled heavier-than-air powered flight. Airplanes had a presence in all the major battles of World War- II. The first jet aircraft was the German Heinkel He 178 in 1939; *ibid*.

History says that Gautam Buddha,<sup>20</sup> In his childhood, he saw the sufferings of human beings on this Earth and started thinking about how to get rid of these sufferings. He was very thoughtful. He was a prince and had no wants of earthly means and happiness. But he was unhappy. Leaving his newly married wife behind, he left everything, including the kingdom of his father, to which he was to be the heir after his father's death. He took *Samadhi* for twelve years, i.e., asked his inner feelings, trying to understand his observations and reality of life, and ultimately came to realize that no one can escape death, the reality of life, but get comforted and become happy if people follow certain paths that he ultimately dictated. This was also research on religious discoveries conducted by the great saint to overcome sufferings and pangs of rebirths. He was one of the great researchers, like others associated with religious foundations of different religions, based on observations of reality.

### **A Practical Observation Based on Experience**

In the history of agricultural development, the great change from the nomadic life to social life may be credited to underlying observations made regarding crop growing, which was subsequently cultivated into practices bringing change in human culture and systematic development. Agriculturists, as is observed, are themselves great researchers in regard to their growing crops mechanism, which is to be shown in variation of the seasons depending upon the quality of their respective soils, mainly based on their individual or collective observations. There was no modern technique of research, but individual thought processes and observation worked in finding solutions and implementing them.

### **Finding Connection between Observation and Research**

We do feel that there is a close connection between observation and research. Observation of facts creates great ideas for research, forms the very basis of research, and determines what method of research is to be followed. Suppose we have seen an empty box. The scientist will say that the box is not empty, because it is filled with air. Our first observation, even for the scientist friend before it was proved scientifically, was perhaps, is that the box is assumed to be empty, the basic assumption and then to see or prove whether it is actually empty or not. To show that the box is not empty, our scientist friend would go to his laboratory, conduct a scientific or applied kind of research, light a stick from a matchbox, observe for some time, see it put out, and then would say that the box is not empty, but filled with air. Thus, the observation of the fact that the box is empty creates the idea of examining whether it is as it is seen or something different, with some property to be proved by way of research having a close connection.

We do feel, as is said above, that in all kinds of research, observation plays the first and very important role to set the ball of research in the line of systematic logical thinking, which is possible only for people who have the curiosity to know about the facts under observation. We do strongly believe that even the great scientists like Newton and Archimedes did the same

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<sup>20</sup> Gautama Buddha was a philosopher, mendicant, meditator, spiritual teacher, and religious leader who lived in ancient India. He is revered as the founder of the world religion of Buddhism and worshiped by most Buddhist Schools as the Enlightened one who has transcended Karma and escaped the cycle of birth and rebirth; [en.wikipedia.org/wiki/Gautama-Buddha](https://en.wikipedia.org/wiki/Gautama-Buddha); retrieved on 07/10/2020.

thing before the experiments were made to derive their respective theories. Newton<sup>21</sup> observed the fact of the apple falling to the ground closely, or he would not have thought that the apple, instead of falling the apple on the ground, it had not gone upwards or to the right or left or any other direction; he could not have propounded his theory. He did an intensive study of it, did experiments in various ways, and became able to pronounce his great theory of Gravitational Force, i.e., each particle of this Universe attracts each other and so on. Archimedes might have minutely observed that the tiny needle sinks in water, but the big ship remains floating over it. A small stone sinks, but a huge piece of log keeps on floating. In case of natural floods, thousands of people might have saved their lives with the help of such logs floated over water. He studied his observation very carefully through inquiry and experimentation, and at all times, he was busy with his thoughts to transform them into action or a theory. He became successful in his research. While he was swimming in the pool, he felt an upward pressure from below in the water upon the mass of his body, and he got the answer to his research question based on his first observation, making an inroad to his research.

The feeling of the present researcher towards Archimedes is unique. Archimedes of Syracuse was a great mathematician, physicist, engineer, inventor, and astronomer. He was a good researcher, too, besides being a good observer. Had he not observed the experience of his bathing, definitely we would remain deprived of his great principle, which states that “an object immersed in a fluid is buoyed up by a force equal to the weight of the fluid displaced by the object.” The point to note here is that King Hieron of Syracuse had once asked Archimedes to find out if the royal goldsmith had cheated him by putting silver in his new gold crown, but Archimedes could not melt it down to measure it and establish its density. So, he was forced to search for an alternative solution. While taking his bath one day, he noticed that the level of water in the tub rose as he got in, and he had the sudden inspiration that he could use this effect to determine the volume (and therefore, the density) of the crown. In his excitement, he apparently rushed out of the bath and ran naked through the streets shouting, “Eureka! Eureka! Meaning, “I found it, I found it.”<sup>22</sup> It was his observation on “Eureka!” which led to the formulation of his research idea for getting the desired solution, and he did actually achieve it.

### **A Practical Observation with Modern Reference**

Observation is not actually a research method but a basis of all research, which may result in creating great ideas for any research. It is sometimes more than a research method and sometimes less than it. It depends on how one views it. It is a basic foundation of research, not only of socio-economic or legal research, but of scientific research. Perhaps you have gone

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<sup>21</sup> Newton, the son of a farmer, was born in 1642 near Grantham, England and entered Cambridge University in 1661. Four years later, following an outbreak of the bubonic plague, the school temporarily closed, forcing Newton to move back to his childhood home, Woolsthorpe Manor. It was during this period at Woolsthorpe that he was in the orchard there and witnessed an apple drop from a tree. Newton’s observation caused him to ponder why apples always fall straight to the ground, rather than sideways or upward and helped inspired him to eventually develop his law of universal gravitation, which states that everybody in the universe is attracted to each other body with a force that is directly proportional to the product of their masses and inversely proportional to the square of the distance between them. [History.com/news/did-an-apple-really-fall-on-isaac-newton-head](https://www.history.com/news/did-an-apple-really-fall-on-isaac-newton-head) retrieved on 28-09-2020.

<sup>22</sup> ‘Hellenistic Mathematics’, [Storyofmathematics.com/hellenistic-archimedes.html](https://www.storyofmathematics.com/hellenistic-archimedes.html) retrieved on 07/10/2020.

through the story ‘Alibaba and the Forty Thieves’. There, you have come to know how the door of the cave, where the valuable jewelry and stolen properties were kept hidden, was opened by the leader of the dacoits by uttering magic words, and the door got opened. Only the leader knew those magic words, i.e., he was a more intelligent researcher inventing the technique. This story might have given the idea of getting a door opened by such a technique, and at present, we have such a technique used in opening doors, which we often notice when we visit great corporate houses or buildings. The idea was created by the story writer, epic authors, subsequently observed by someone having a scientific temper or research attitude, got ideas, studied carefully, carried out serious scientific research and experiments based on the facts observed from the story, and then finally came to be true, and a mystery was discovered. And we, human beings, have the benefits of this kind of observation and research even today.

The researchers have doubts whether the Wright Brothers had gone through the great epic of the Hindus, the Ramayana, and came to know about the *Puspak Biman*, i.e., the aircraft of Ravana<sup>23</sup>, the king of Lanka, because they were not Indians. It is rather believed that they might have closely observed the birds flying in the Sky and developed a desire to fly like birds and to do certain new things to help mankind transform their observations into reality by way of an invention. The result was the beginning of airplane flying over our heads.

A common question comes to mind when we visit an ATM center to withdraw money from our bank accounts. The same question may perhaps come to your mind also, if you have noticed and observed the fact very well. We visited ATM centers of both the SBI and PNB, but found a difference in the beginning, till few months ago, while withdrawing money. In the SBI ATM, we have to push the ATM card and pull it back immediately, and then act as per the instructions that appear on the screen of the monitor to complete the withdrawal process. But in the case of the PNB ATM, if and when the card is pushed or placed, it is not released till the withdrawal process is completed. It remains locked inside the place where it is placed. If you try to pull it out without completing the process, there will be damage caused to the Debit card. This seems to be one way in a particular sense that one is more secure than the other while performing transactions. The second one is more convenient and secure, as at the time of push, the process of operation appears, and you do whatever you want as indicated. The card would remain inside till your operation is completed. It is a one-time attempt. If you try to pull it out without the operation being completed, there will be damage caused to your card. But in the former case, trial and error may likely take place. You may be required to push and pull your card more than once if the screen and the required indications do not appear. It is less convenient and less secure. You can interpret it in another way, if you like it too. It also depends on your observation and how you create your idea to link with a particular event or research method, either through scientific experiments or other laboratory work, which we realize to be true. That’s why, our observation to link with such interpretation, might be a little different from what you might put and may be thought provoking, or might even hurt you; because we would put it very naturally, from natural observation, observed from very natural acts and behaviors of natural phenomena like all animals, rational and irrational, mainly their mode of

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<sup>23</sup> ibid

performing sexual acts. The distinctions found between other animals, including rational animals<sup>24</sup> and the dogs, though the initial part of the action seems to be almost similar in behavior among all animals, are found to be very exceptional when you observe the final game played by these naughty, irrational animals, the street dogs, and is considered to be very shameful to human society. And if you properly observe the very nature of this kind of act, you will find the difference and will get the basic idea of how to get your ATM card interlocked until the operation is done safely. We have observed many instances of premature operation or forceful withdrawal due to the influence of external factors or interferences made by some naughty boys to such a couple engaged in this kind of rubbish and shameful act on the public highways, whereby fair and polite ladies are passing through as if not seen or perceived. But observation is observation, and it is not an uncivilized assignment to observe the natural acts and behaviors of those belonging to this earth or the universe to create ideas for great creations or inventions for the benefit of society, though it might not be exact in terms of what we see and observe. It hits our sentiments as we are creators of something new in the God's format or modifiers of what are already found available in God's existing format or among His creation, because the creators are the good researchers and great scientists to create within this universe with the sources and resources what they have as created by the unknown supernatural power fixing its boundaries and limits.

In socio-economic research, too, we may perhaps link observations of facts or behaviors with the principles or theories, the fruit of the research conducted by socio-economic researchers in the respective fields. For instance, the economists might perhaps observe the consumers' behaviors in relation to the purchase of goods and services first, then made an idea in the investigative minds and conducted empirical study to prove his idea logically arrived at and finally set the theory like when the price of certain goods goes up, the quantity demanded falls, remaining other things unchanged in the economy. And we call it a demand theory. If we observe the psychological behavior of a person or a person who is very thirsty, then we could definitely find or observe their reaction in taking the glasses of water to get rid of their thirst. He would seem to be more satisfied with taking the first glass of water than the subsequent glasses, and in the end, he would even refuse to take any glass of water, i.e., his utility would be zero. Observing all these facts commonly applied to a class of such people, the great economist, Marshal, perhaps announced his proposition or theory in economics. There was every possibility that he first observed, then made an empirical study to prove his idea, which was created or based on observation of this kind.

In formulating every principle or theory, it is required to be backed by observations or presumptions. You have to observe economic behaviors of the units as an economist, social behaviors as a sociologist, and psychological behaviors as a psychologist, and so on. No doubt, the observations made by scientists may be a little different if and, in many cases, as we see, they are not directly linked with the natural facts, and in that context, may be guided by the necessity of objects to be achieved in terms of new inventions, and accordingly, they carry out scientific experiments whenever required. Yet observation plays, no matter how hypothetical

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<sup>24</sup> Rational in that sense that some acts of animals are similar to human beings, but they have their own thinking process with communicating feelings

or real observations or assumptions they are, and they may be based on curiosity to know the unknown. Social sciences, in nature, are behavioral sciences and are therefore, most of the research works are based on observations, which create ideas, set objectives and goals to be achieved as findings.

### **Observation from a Scientific Point of View**

The history of scientific discovery reveals a common pattern: observation precedes theory. Whether in the celestial studies of Galileo Galilei, the gravitational insights of Isaac Newton, or the biological reflections of Charles Darwin, it was observation that initiated inquiry. Thus, Galileo's telescopic observations, Newtonian mechanics, Darwinian evolution, and Einstein's response to anomalies illustrate that these discoveries begin in perceptual encounter.

Similarly, in jurisprudence, natural law theorists such as Thomas Aquinas grounded moral principles in observations about human nature and rational order. This article proposes that observation is not simply one research method among many; rather, it is the epistemological foundation upon which all other methods depend.

### **Observation as Scientific Method**

Feyerabend rejects the universal scientific method and connects it to the concept of observation as a fundamental practice in scientific inquiry. He argues that no single methodological rule has consistently governed scientific progress. Drawing heavily on the case of Galileo Galilei, he claims that major scientific breakthroughs often occurred precisely because scientists violated established methodological norms. For Feyerabend, strict adherence to empirical rules would have prevented revolutionary discoveries. Science advances through theoretical pluralism and even methodological inconsistency, and rational reconstruction of science oversimplifies the messy historical reality.

Feyerabend's most radical claim is that methodological rules, when rigidly applied, hinder scientific progress. His slogan "anything goes" is not a literal endorsement of chaos, but a critique of methodological authoritarianism. He advocates for the proliferation of competing theories and the use of counter induction (introducing hypotheses that contradict accepted data). He also advocates for breaking methodological rules when necessary. Science, he argues, is closer to an evolving, culturally embedded practice than a purely rational enterprise.

Linking Feyerabend to Observation as Scientific Inquiry, it has been said that observation is traditionally viewed as the foundation of empirical science - objective, measurable, and repeatable, and as independent of theory. But Feyerabend destabilizes each of these assumptions. Feyerabend demonstrates that observation is conceptually mediated, linguistically structured, and historically situated. For example, when Galileo observed celestial bodies through a telescope, critics argued that the telescope produced illusions. Whether one interpreted the visual data as "mountains on the moon" depended on prior theoretical commitments. Thus, observation did not independently validate heliocentrism; it required reinterpretation within a new framework. This suggests that observation functions within theory, rather than standing outside it.

A central pillar of Feyerabend's argument concerns the theory-ladenness of observation, which implies that observations are not neutral or purely objective; they are shaped by prior assumptions, conceptual frameworks, and expectations. Using Galileo's telescopic observations, Feyerabend argues that what scientists "see" depends on theoretical training, and competing paradigms interpret the same observational data differently. Observation cannot serve as a neutral tribunal between theories. This position aligns in part with the ideas of Thomas Kuhn, especially his concept of paradigm-dependent observation in *The Structure of Scientific Revolutions*.

If observation is theory-laden, then competing theories may generate different observational interpretations. At the same time, suppressing alternative frameworks limits what scientists are able to "see." Methodological pluralism enhances observational richness. From this perspective, Feyerabend transforms observation from passive data collection into an active, interpretive engagement with the world. Observation, then, is not the passive recording of facts but an interpretive act embedded in theoretical, cultural, and historical contexts.

Feyerabend does not deny reality but questions whether observation guarantees objectivity in the way traditional empiricism assumes. Objectivity, in his view, emerges from: (a) critical dialogue among competing perspectives, (b) historical comparison of theories, and (c) Institutional openness. Thus, observation becomes reliable not because it is pure, but because it is subjected to contestation.

### **Conceptual Foundations of Law of Nature**

The term "Law of Nature" historically denotes principles inherent in the structure of reality, discoverable through reason and experience. Classical natural law theory, especially in the works of Aquinas, posits that natural law is derived from rational reflection upon human nature and observable order in the universe.<sup>25</sup> The Enlightenment transformed this idea by grounding natural laws in empirical regularities. John Locke emphasized experience as the source of knowledge.<sup>26</sup> Similarly, David Hume reduced knowledge of causation to patterns observed in repeated events.<sup>27</sup> Thus, even philosophical scepticism relies upon observation as the basis of critique.

Even in astronomical discoveries, it is strongly felt that observations perhaps played a great role in creating original ideas in the great minds of God-gifted intelligent people like Aryabhata, Galileo Galilei, and others. Their observations led them to carry out experiments before they arrived at final predictions. Aryabhata used mathematics and trigonometrical formulas to measure distance, besides pronouncing that the Moon revolves around the Earth. Another important example of observation may be cited here that Science has already proved that a particular thing or an object looks smaller at a far distance and bigger if it is very near to the viewer or to us. There is enough space to think that science has, perhaps, proved it much later by the scientist who first observed it very deeply and had taken the matter seriously, and

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<sup>25</sup> Thomas Aquinas, *Summa Theologica*, I-II, Q. 94 (Fathers of the English Dominican Province trans., Benziger Bros., 1947).

<sup>26</sup> John Locke, *An Essay Concerning Human Understanding* (Oxford University Press, 1975).

<sup>27</sup> David Hume, *An Enquiry Concerning Human Understanding* (Oxford University Press, 2007).

desired to achieve the result which was theorized with proof or experiments. The people on this Earth had no doubt been observing this fact since its existence and at different stages of growth, but none had taken it seriously, and studied in a very systematic way, or theorized, giving a conclusion to it which was generally accepted by all and well convinced, “Yes, it is right. We had not thought of it before.” Thanks to this scientist who had done a great job to prove the common man’s observations; and the common men, who were neither good researchers nor good observers, failed to give such a scientific effect to it. It is, thus, believed that observations form a basic foundation of any research, enabling serious researchers to proceed with the thought-provoking ideas with many questions whose answers are to be searched very systematically to prove it or to disprove it with the help of a Hypothesis or experiments, as we often call them.

Another explanation is given in this context. Not a student of science, but with limited knowledge of it, it can easily be said that so far, scientists have been successful to a great extent in discovering the soil contents, or elements of soil, like Calcium, Magnesium, Iron, and so on. It is asserted that the organic fraction of soil, although usually representing much less than 10% of the soil mass weight, has a great influence on soil chemical properties. Soil organic matter is composed chiefly of carbon, hydrogen, oxygen, nitrogen, and smaller quantities of sulfur and other elements.<sup>28</sup> It is also asserted that exchangeable cations such as calcium, magnesium, and potassium are readily available for plant uptake, and cations absorbed to exchange sites are more resistant to leaching, or downward movement in soils with water.<sup>29</sup> These are, no doubt, good scientific discoveries. But one thing is still left to be made known, which the common men are experiencing, and have faced with the problem of query as regards to their most ordinary observations, which need a satisfactory answer to convince the agricultural fraternity, including scientific cultivators, so that they can grow different varieties of crops of their choice on their soils. The question is: Why do we get different produce or crops of different tests, some tested sweet, some are sour, while some others are bitter, and so on, from the same soil? Or how the seeds of different varieties and of tests are created? Or what are the reasons that the same soil gives us produce of seeds or fruits of such tests or grown upon the same soil, chemically composed of what? And as a common man, I am very much anxious to know why the same soil produces a male papaya tree that bears no fruit and a female papaya tree that bears lots of fruit? We can definitely proceed with such questions based on common people’s observations, which we are all very eager to know the answer. But have we thought of this, or given importance to such common men’s feelings, that they do not actually think of it deeply? It is expected that such observations would definitely tempt us to have innovative research too.<sup>30</sup> The results of such research shall help improve fertility and the nature of soil, our culture, living standards, and economic ability as a whole.

### **Is Observation Sufficient Alone?**

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<sup>28</sup> [organiclifestyles.tamu.edu/soilbasics/soilchemical.html](http://organiclifestyles.tamu.edu/soilbasics/soilchemical.html); retrieved on 07/10/2020.

<sup>29</sup> Ibid.

<sup>30</sup> This question comes to mind when we take fruit dishes comprising of various fruits, some of which are found to be sweet, some are sour and so on. How in the same soil produces such varieties, what is the actual truth in the gifts of Nature? Or the mystery of soil, God has created?

A critical question arises: Can observation alone serve as the sole basis of research? The answer to this question depends upon the strengths of Observation and the researcher involved in the research. Observation provides many benefits as well as guidelines to a true observer and researcher. Observation directs engagement with reality and provides a foundation for inductive reasoning and empirical grounding. It also provides ideas of universality across disciplines and independence from abstract presuppositions. One may argue that disciplined, systematic observation, enhanced by instruments, can itself generate laws without auxiliary methods. For example, Astronomy before advanced mathematics relied heavily on careful celestial observation. However, there is an opposite view put against its sufficiency. It has been said that Observation without conceptual structuring becomes a mere cataloguing. It holds that pure description does not generate predictive models, and cognitive bias often distorts perception. Thus, observation is necessary but not sufficient. Observation may alone, in many cases, serve as one important research method, as is clear from above.

### **Limitations**

However, there are certain limitations, and that is why it is not possible to an academic researcher to wholly depend upon observation as the only basis for such research works. Observation by nature is subjective, theory-based or theory-laden, limited by the instruments at hand, and prone to cognitive bias. As Karl Popper argued, observation without a falsifiable structure risks becoming mere description rather than scientific explanation.<sup>31</sup> However, even falsification presupposes observational testing. Thus, while observation may not be sufficient in isolation for complete scientific validation, it remains a necessary and primary condition for all knowledge formation.

### **Observation as Ontological Encounter**

Observation is not merely a technical method but an ontological event, the meeting of mind and nature. The human intellect recognizes order because order exists. This aligns with classical natural law assumptions that the universe possesses intelligible structure. Therefore, observation is both (a) an epistemological tool and (b) a metaphysical bridge. It connects human rationality with natural order.

### **Recommendations**

Observation constitutes the foundational method in understanding the Law of Nature. While experimentation, deduction, and statistical modelling refine knowledge, they all presuppose prior observation. Before the telescope was invented, before the laboratory was established, before the equation was made, there was only perception. Observation is, therefore, historically primary, logically prior, methodologically indispensable, and jurisprudentially foundational. Therefore, it can be recommended that (1) Observation is logically before all other research methodologies; (2) All scientific revolutions are rooted in prior observational anomalies; (3) Natural law theory depends upon empirical observation of human behaviour;

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<sup>31</sup> Karl Popper, *The Logic of Scientific Discovery* (Routledge, 2002).

(4) Any research can be conducted starting with Observation, if written with strong jurisprudential grounding, philosophy of science support, and methodological clarity.

## Conclusion

Observation, thus, should not be considered as a research method; but is better if the research fraternity regards it as a research process which lays down the basic foundation, and creates ideas for new research and adds something to our thought process for making, improving or innovating completely a new thing created upon facts already observed and formulated in a particular shape in the researcher's mind. So many natural facts and events are taking place before our eyes every day, for which a research vision is only required to give effect to the observed facts into a desired result, a very sweet fruit which can be shared by humanity for its benefits. If you are thinking of churning the ocean, then you first observe it, find the place where to churn, measure its depth using other methods, and get an idea of how to churn it. Now, how the ocean is to be churned is the research, and if you find any nectar out of it, then the nectar is the result of your research. Therefore, observation is just a step, a process towards research and not a research method itself, though a very important part of it. Observation is the primordial and foundational method underlying all scientific discovery, particularly in understanding the Law of Nature, is both defensible and intellectually rich.

The article establishes that observation is logically prior, and all methodologies presuppose observation. Natural law depends upon empirical recognition of human nature. Scientific revolutions also begin with anomalies observed. Thus, observation is the epistemic foundation of understanding the Law of Nature. It is necessary, but not sufficient. Therefore, observation is the necessary epistemic foundation of all research concerning the Law of Nature, though it may require complementary methods for systematic development.

## Bibliography

1. Alfred Marshall, *Principles of Economics*, (1890)
2. C R Kothari, Gaurav Garg, *Research Methodology, Methods and Techniques*, (3<sup>rd</sup> ed. Reprint, 2015)
3. David Hume, *An Enquiry Concerning Human Understanding* (Oxford University Press, 2007)
4. Francis Bacon, *Novum Organum* (Cambridge University Press, 2000)
5. John Locke, *An Essay Concerning Human Understanding* (Oxford University Press, 1975)
6. Myneni, Dr. S.R., *Legal Research Methodology*, (2014)
7. Paul Feyerabend, *Against Method* (Verso, 2010)
8. Pauline V. Young, *Scientific Social Surveys and Research*, (1939), Prentice-Hall (Englewood Cliffs, New Jersey)

9. Popper, Karl. *The Logic of Scientific Discovery*. London: Routledge, 1959 (Original work published 1934)
10. Thomas Aquinas, *Summa Theologica*, I–II, Q. 94 (Benziger Bros., 1947)
11. Thomas Kuhn, *The Structure of Scientific Revolutions* (University of Chicago Press, 2012)
12. William J. Goode, Paul K. Hatt, *Methods in Social Research* (1952), McGraw-Hill, New York