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Law of Causation and Consequences of its Misconception

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ABSTRACT: - The aim of the study is to discover and elucidate the nature of causation. One of the main objectives of the research paper is to show that the knowledge of the Law of Causation has a significant impact on an individual and society. In the first chapter "The Cement of the Universe: Nature and Role of Causation", the paper analyzes causation as a universally valid law which is applicable to the existence of the universe, societies and the life of every human being. The study analyzes the concepts of causation from ancient times till modernity and provides reasons why the Law of Causation can be considered as one of the most fundamental questions to humanity. The paper shows that with help of the science of causation human beings comprehend the objective world extending through space and time as an ordered, systematic and law-governed whole.

Discussion on causation provokes a debate central to human thinking: Does causality imply that this universe functions according to strict deterministic laws and there is no space for the freedom of choice or free will? Are causation and free will compatible or mutually exclusive? In the second chapter, the paper analyzes how causation functions at the level of an individual. It deals with the two aspects of Causation: the Laws of Karma and Destiny. It does not only discuss the relation between causation and free will, but also raises a question of moral and social responsibility of an individual. The paper shows that according to the Law of Causation a man is a master, and not a slave, of his destiny.

In part three "The Misconception of Causation: Superstition", the paper discusses the consequences of an incorrect correlation of cause and effect on life of an individual and society. With help of statistics and analytical data the study shows that superstitious beliefs which emerge as a result of such an improper correlation of cause and effect impede the progress of a society. The paper shows that the layman's notions of good and bad luck are mere superstitions. The paper provides a solution to the social evil of superstition and analyzes the method by which rational causal thinking can be developed and adopted by individuals, communities and societies. The study concludes by saying that the knowledge of Causation and development of rational causal thinking guarantee the progress and prosperity of a society.

I. "THE CEMENT OF THE UNIVERSE"[1]– NATURE AND ROLE OF CAUSATION

The law of cause and effect appears to be one of the most fundamental of all the presuppositions accepted by science and ordinary experience. The universe is an expression of innumerable laws of nature: physical, chemical, biological, psychological and many others. Each one of them is based on cause and effect relationship. Causal laws do not only sustain the objective world, but they also express subjectively in the microcosm forming a base of the human intellect and human activity. In the words of German scientist and philosopher Gottfried W. Leibnitz, in this universe "there is nothing without a reason, or no effect without a cause" (Hulswit, 2002).

Causation can be defined as a logical relationship between an object or event called "cause" and another object or event called "effect" which is the direct consequence or result of the first. A New Dictionary of Sociology defines causation as follows: "To say that one event A is the cause of a second event B may be to assert that the prior occurance of an event of a type A is a necessary condition for the occurance of an event of type B; or that it is a sufficient condition for the occurrence of such an event; or that it is both necessary and sufficient. To formulate a causal law is thus always to formulate a connection between two classes of events, and thereby to furnish a recipe for producing events of the second kind by producing events of the first class" (Mitchel, 1968, 24).

Causes can be classified into various categories. Payne mentions several such categories relevant to social sciences. For instance, proximate causes are those events that immediately precede the effect in time and also have demonstrable copresence. These are often thought the most unproblematic candidates for causation and they are also referred to as "specific" or "efficient" causes. Perpetual causes, on the other hand, refer to enduring traits, regularities, or laws concerning an individual or a social group. Specific physical causes may be

[1] Quoted in: J. Mackie: The Cement of the Universe, p. 2.

internal or external. Internal (to the individual) physical causes might be molecular or chemical while external (again, to the individual) physical causes may be environmental or the direct prepotent influence of physical forces.

Distal causes are more separated from the event by temporal scale. They may be classed into two groups: developmental and evolutionary. Developmental causes concern the history or biography of the singular entity acted upon. For the social sciences, it could be an individual, group, or other collectivity. Evolutionary causes are those that act upon a class of entities, often over a long time scale. For the sociologist, environmental causes involve the manner in which the development of our physical environment shapes events at the mental and socio-cultural levels.

Ontogenic causes are those that appeal to events during the biological development of the organism, whereas phylogenic causes locate the focal causative factor in the heredity of the individual. Psycho-developmental causes are those favored by psychodynamic theorists like Freud, Adler, and Erikson — these concern the lasting effects of an individual's interactions through the life course. Socio-cultural or positional causes are relevant for macrosociology. They refer to "big structures, large processes, huge comparisons" (Payne, ASA 2007).

Historical causes remain to take the long view and the macro-social level. They explain events not only in terms of large structures and processes, but also encompass sweeping time-scales. There is often no reference to individuals and their specific characteristics in this restricted sense of historical explanation (Payne, ASA 2007).

A cause may not always be a singular event or a stimulus causing a particular reaction. A cause is often a very complex entity or even a plurality of causes which produces a particular reaction under unique circumstances. For instance, what is defined statistically as a natural cause of death could be in reality a variety of environmental, physical and psychological causes. Hence, it would be correct to adopt Joseph Leighton's definition of a cause as "a *condition*[2] of a change". Payne writes in "Causation, Emergence, Level and the Importance of Theoretical Viewpoint": "Cause is the generative force. It is productive in that it is responsible for bringing about a new configuration of entities or events (whether that configuration is relatively constructive or destructive of that which came before). Cause asserts that, without this process, the outcome would have been fundamentally otherwise (of course, acknowledging that multiple causation may have resulted in a similar outcome, but through a different path). Identifying causal connections is necessary for generating useful social theories" (Payne, ASA 2007).

Hence, one could conclude that causation always implies change. In fact, in the empirical world there is incessant change. As Leighton states: "Wherever there is change there is causality, and wherever there is causality there must be some sort of activity" (Leighton, 1922, 203). "What we happen to single out as causes and effects, from the rich complex of empirical process, are the critically important events from the standpoint of our specific purposes. But the only sense in which causation and change are continuous is that there is no absolute cessation or beginning in the empirical order; and, therefore, this order consists of the continuous interaction or interdependence of the elements which make up the world. (...) Critical points are the results of the gradual accumulation of small changes, but their actual fruition constitute *creative syntheses* or *novelties*[3]. The discrete occurrences which we call causes, or effects, according to our point of view, are the critical and creative expressions of the qualitative complexity of interaction and result in a world which is constituted by the interplay of a multitude of dynamic individuals" (Leighton, 1922, 203).

The Law of causation is based on empirical evidence and scientific observation of nature and society. When an unfailing relationship between cause and effect is discovered, it is expressed as a scientific law of nature. Correlating cause and effect does not mean simply observing one event following another. There must be a necessary logical connection between them. In many cases one thing can occur regularly before another, and thus appear to be related as cause and effect, but are in fact effects of a common cause, a phenomenon called "spurious causation".

Causation has a direction. For example, warm weather causes people to wear lighter clothing, but wearing lighter clothing does not cause warm weather. This phenomenon is called "asymmetry of causation".

Time sequence is a necessary component of causation. The cause must always come before the effect. Causation seems to stretch indefinitely into the past and future. The cause - effect relationship like that between chicken and egg, tree and seed existed in the past, exists in the present and will exist in the future. Causation appears infinite in its expressions. Spinoza observed this fact: "Every individual, or every thing, that is finite and which has a circumscribed existence, cannot exist nor be determined for action unless it is determined for existence and action by another cause, likewise finite and circumscribed existence. And again this cause also

[2] Italics in the original text.
[3] Italics in the original text.

cannot exist nor be determined for action unless it be determined for existence and action by another cause, which is also finite and has a circumscribed existence. And so ad infinitum" (Brunner, 1968, 180).

The importance of the science of causation was recognized in ancient times. The work of philosophers and scientists seeking to understand causation extends over millennia. However, the analysis of the concept of causation has proved exceedingly difficult. The discussion of the types of causes and the nature of the relationship between cause and effect underwent significant changes in course of time. This discussion was embedded in a particular historical context and interwoven with common presuppositions of a particular era.

In the Eastern philosophical tradition, texts such as the Upanishads, Yoga Vasishta, Bhagavad Gita, Ashtavakra Gita mention causation. Scriptures denote cause and effect, along with time and space, as the inalienable constituents of the perceived world. Causation also plays a role in the explanation of the creation of the objects of the world. Each creation has three causes: material, efficient and instrumental. The law of causation is applicable only to the phenomenal world. Beyond causation lies the Transcendental Reality, which is sometimes referred to as the "uncaused Cause" or the "primal cause" (Bhagavad Gita, 2008, 570).

The Formula of Causal Origin or the so-called Chain of Causation, is one of the most discussed doctrines in Buddhism. The causal formula is applied to the existence of human beings and explains the origin of pain and misery in the mundane world. In Lalita - vistara it is said: "… The Boddhisattva thought: … what is the cause of old age and death? He thought: When birth exists, old age and death arise, for old age and death have birth as their cause" (Thomas, 1963, 59). According to Buddhist doctrine, every human being functions according to this causal chain. Only an enlightened soul rises above causation: "Those who have vanquished delusion and broken through the dense darkness, will wander no more: Causality exists no more for them" (Grimm, 1965, 222).

In Western philosophy, explicit discussion on causation stretches back at least as far as Plato and Aristotle. In Plato we find that "everything that becomes or changes must do so owing to some cause" (Hulswit, 2002). Aristotle discusses the law of causation in his "Posterior Analytics", "Physics" and "Metaphysics". In his "Posterior Analytics" he wrote that knowing a thing involves knowing its cause. (Hulswit, 2002)

Aristotle distinguished between four types of causes: the material cause, or the elements *out of which* an object is created; efficient, or the means *by which* it is created; formal, or the expression of *what* it is; and final, or the purpose *for which* it is created. According to Aristotelian conception, causes are active originators of a change that is brought about for the sake of some purpose. However, only the efficient cause is accepted by modern science.

The first Western philosophers who systematically maintained the idea that every event is necessitated by certain causal conditions were the Stoics. Their definition of causality has come to dominate the concept of causality up to the present. They defined causation as: "Prior events are causes of those following them, and in this manner all things are bound together with one another, and thus nothing happens in the world such that something else is not entirely a consequence of it and attached to it as cause. From everything that happens something else follows depending on it by necessity as cause" (Hulswit, 2002). Stoics rejected the idea that there could be any uncaused events because that would undermine their basic belief in the coherence of the universe, which they regarded as an organism imbued with divine reason.

The discussion of the concept of causation was continued in the Middle Ages, for instance by Aquinas, who made an attempt to provide a proof for the existence of God based on the notion of efficient causality. He argued that an efficient cause is an active maker which brings something new into existence. If something new comes into being, its efficient cause must be some being other than itself. According to Aquinas, there must be a first efficient cause, which brings about effect but is not itself an effect. No matter how many caused causes there are in a series, there must be an uncaused cause that is responsible for the entire chain of causality. To that first efficient cause, which is ultimately the maker of all things other than itself, "everyone gives the name of God" (Stumpf & Abel, 2002, 111).

In modern science and philosophy, causation was debated and conceptualized, for instance, by such thinkers as Descartes, Hume, Locke, Newton, Leibnitz, Spinoza, Hobbes, Kant and Mill. In the modern period a shift in the understanding of causation took place. The Aristotelian conception that causes are active initiators of change was rejected. A new scientific conception of causes as the "inactive nodes in the law-like implication chain" was developed (Hulswit, 2002). Apart from that, modern science has distanced itself from the concept of "final cause" introduced by the ancient philosophers. It might be told that the moon is made in order to give light by night. But scientists would not regard this as a scientific explanation of the origin of the moon. They believe that it is the past and present that determine the future, and not the future the past.

Rationalists like Spinoza, Descartes, Hobbes, and Leibnitz, conceived the relationship between cause and effect as a necessary logical relation. Causal relations were understood as instances of deterministic laws. For instance, Leibnitz made cause a self-evident logical law.

The empiricists, whose main representative was Hume, rejected the rationalist approach to causation and claimed that logic and reason are incapable of providing an explanation for causal relationships. For Hume, the

necessary connection between cause and effect is no more a logical relation which can be discovered in the world but is a projection onto the world by human mind. Causation is a product of observation and a learnable habit of the mind. Hume claimed that human beings observe the regular succession of events. This repetition in the experiences produces a feeling in the mind. This feeling or impression is projected onto the objects revealed by sensation and so human beings mistake a feeling which arises in them for a necessary logical connection of objects with one another. Hence, according to Hume, causation is a contribution of the mind of the observer and is in no way a constituent of the objective situation. The uniformity of nature according to Hume, does in fact exist, but our belief in it is a matter of customary expectation and the mind's associations and, therefore, it can have no foundation in reason.

One of the main opponents of Hume was Kant, who claimed that the principle of causality is valid for all human experiences because the human mind construes experience ineluctably in a causal way. Kant insisted that causal regularity was one of the crucial central concepts ("categories") of the world. Without causation, for instance, there would be no way of ascribing location, size, stability to the objects of the world. Kant has provided six proofs of causality in his book "Metaphysics of Experience".

According to Sowa, up until the 20th century three assumptions described by Max Born in 1949 were dominant in the definition of causality: "1) Causality postulates that there are laws by which the occurrence of an entity B of a certain class depends on the occurrence of an entity A of another class, where the word entity means any physical object, phenomenon, situation, or event. A is called the cause, B the effect. 2) Antecedence postulates that the cause must be prior to, or at least simultaneous with the effect. 3) Contiguity postulates that cause and effect must be in special contact or connected by a chain of intermediate things in contact" (Sowa, 2008.) However, according to Sowa, "relativity and quantum mechanics have forced physicists to abandon these assumptions as exact statements of what happens at the most fundamental levels, but they remain valid at the level of human experience" (Sowa, 2008).

Although some modern scientists and philosophers, for instance, Bertrand Russell and Karl Pearson, have been from time to time questioning the universal validity of the law of causation, the conviction that some kind of uniformity governs the play of events in the natural world has been one of the most influential beliefs of mankind since the beginning of human reflection. Attempts of various kinds were made to base this conviction on self-evident logic and reason. However, this rationalistic view was gradually undermined and abandoned by a considerable number of philosophers and scientists.

Till today there is no uniform, universally accepted answer to the question of the relationship between cause and effect. In the words of John Sowa: "All concepts and theories of causality, even those of modern physics, are only approximations to the still incompletely known principles of causation that govern the universe." (Sowa, 2008) As science progresses and unfolds new perspectives and understandings of the phenomenal world, the conception of causation continues to evolve.

One thing remains clear: we live in a causal world. It is hard to imagine anyone who is not dealing with cause and effect. Various sciences work to discover particular causal relationships and causal laws. In fact, the scientific quest consists in the discovery of causation, finding causal explanations to the social, biological and physical world. Causal explanation is ultimately the type of explanation which is intellectually most satisfying. Scientists look for such explanations either explicitly or implicitly.

Not only the scientific quest, but the entire evolution of mankind is marked by a deeper penetration into the workings of causation. A. Parthasarathy describes in his book the "The Fall of the Human Intellect" four stages of human development: Age of Perception, Age of Superstition, Age of Scientific Enquiry and Age of Contemplation (Parthasarathy, 2007, 15-18). In the Age of Perception, humanity merely gazes upon the world. Organs of perception register the respective sense-objects like sight, sound, smell, taste and touch with hardly any intellectual effort involved. At this stage of development the humanity remains in total ignorance as far as the science of causation is concerned. During the Age of Superstition, the human mind observes certain happenings, but correlates cause and effect without any intellectual discernment. At this stage the intellect is not developed enough to apprehend the laws that govern the world. Since there is no correct and logical cause and effect relationship established, superstition emerges. This stage of the human evolution will be discussed in greater detail in Part III of this paper. During the Age of Scientific Enquiry, people begin to enquire into the science of causation. They investigate the innumerable laws of nature. This enquiry leads to the emergence of science. The scientific penetration into the laws of causation has further significance. It leads one to the very boundary between the terrestrial realm and the Transcendental Reality. A new Age of Contemplation sets in. A deep scientific enquiry of causation shows that the universe has a remarkably complex design. One sees, on both the cosmic level and the individual biological level, things working together in such a remarkably intricate way that it is deemed impossible that all this could have occurred by mere chance; there must be a Designer, Ordainer and Governor, the aforementioned uncaused Cause for the phenomenal world and the law of causation which sustains it. Hence, at this final stage of human evolution, people enquire into the very origin of causation. For instance, a person sees a tree. He or she knows that there must be some explanation as to why it exists. That

a seed was a cause of the tree and the cause of that seed was another tree. One can eventually trace the causal series back to the first trees, to the first organisms on earth, to the formation of the planet and the formation of the universe. However, if everything has a cause, there must be something which has caused the universe. By this process a person engaged in a scientific enquiry tries to penetrate into the very origin of causation.

The development of causal thinking is essential for the entire humanity, not only for philosophers and scientists who have been exploring causal laws in physics and engineering, biology and medicine, law and economics, psychology and sociology. Even practically, on a day-to-day basis, causation matters. On a daily basis people analyze and explain facts and events of life by finding out the cause and effect relationship between them. Does violence on TV cause violence in actual life? Does smoking cigarettes cause lung cancer? Which came first, tree or seed? Chicken or egg? Who was the mankind's first progenitor?

Causation appears to be the very method by which the human intellect reasons and understands. Indeed, human beings cannot but think causally. The human intellect is structured in such a way that when we think about events or try to find explanations to them, we necessarily think about them in terms of cause and effect. In fact, it is impossible for human beings to think about something just happening, without having a cause. German philosopher Constantine Brunner calls causal thinking the "basic need" of every human being (Brunner, 1968, 275). Correct causal thinking allows one to properly fuse one occurrence of life into another thus explaining and interpreting the observed events or facts of life. "To proceed in accordance with causal thought is universally human and necessary; no man can live who, at every moment of his life does not and did not regulate his praxis according to the injunctions of causal thought, or whose praxis was not so regulated for him by others. Communities, mankind cannot live without acting in obedience to causal thought", wrote Brunner (Brunner, 1968, 156). According to Mander, a fact is only then sufficiently explained, when we have understood its causes (Mander, 1938, 149). Hence, to establish a correct cause and effect relationship means to think logically, to reason, to understand and provide valid explanations. In words of Brunner, "to understand means to have (…) an understanding of the workings of causality"(Brunner, 1968, 501).

To sum up, the analysis of the nature of causation shows that it is not only the property of the external reality, but also a necessary conceptual tool through which human beings achieve a satisfactory explanations or understanding of a particular phenomenon. Causation forms the very basis of the human intellect. To think logically means to think causally. Apart from that, an enquiry into the cause and effect is the scientific method, an approach to the reality which brings human intellect to the very border between the terrestrial realm and the Transcendental Reality. As shown above, human evolution and scientific quest are marked by a better application and deeper understanding of the workings of causality.

Investigation into the role of causation shows that it is crucial to our understanding of the world. First of all, causation reveals that the world is in an incessant flux. Secondly, with the help of the science of causation human beings comprehend an objective world extending through space and time as an ordered, systematic and law-governed whole. Sowa, who extensively analyzed causation, suggests that it helps to view the universe as a "law-governed processes" rather than a random accident or a totally predictable determinism (Sowa, 2008). Law of causation can be considered a "cement of the universe" since it binds and interrelates the elements of the perceived universe into a system. With the help of causation human beings decipher the world as a spacial and temporal whole, as a systematic and intelligible totality. To understand causation would mean to view the universe as a "systematical continuity of the whole dynamical system of interrelated elements" (Leighton, 1922, 201). Hence, to understand causality means to understand that the world humans inhabit is a cosmos, not chaos. This makes the question of causation one of the most fundamental questions to humanity.

II. ASPECTS OF CAUSATION: LAWS OF DESTINY AND KARMA

The law of causation functioning in the macrocosm applies equally to the microcosm. The life of every human being is governed by this law. Just as at the physical level every cause necessarily has an effect, so also at the emotional and intellectual levels every action produces a reaction. The aspects of the law of causation, the laws of destiny and karma, which deal with cause and effect relationships at the microcosmic level, are purely scientific. These laws enable one to view life in its entirety providing a purpose, meaning and rhythm of existence: "To understand life without applying the Law of Karma is like seeing a life-size picture with eyes fixed at a distance of a few inches from the canvas. The totality vision is lost and one develops a narrow, constricted view of life" (Chinmaya Lessons, Lesson IV, 6).

There is a continuity of causal laws in the past, present and future. The effects experienced in the present had their causes in the past and causes created in the present shall grow into effects in the future. This causal chain can be applied to the lives of individuals, communities, societies and nations and termed the "Law of Destiny" and "Law of Karma". The law of destiny deals with man's past and present status. Whereas, the law of karma covers one's past, present and future. It covers the law of destiny and goes beyond it, into the future to explain life in its entirety.

The present status of each human being is a cumulative effect of the innumerable causes applied in the past. These causes are one's mental and physical activities such as thoughts and feelings, desires and actions. All these create one's present personality and the experiences one goes through in life. As the Indian philosopher S. Radhakrishnan puts it: "There is nothing uncertain or capricious in the moral world. We reap what we sow. The good seed brings a harvest of good, the evil of evil. Every little action has its effect on character" (Stumpf/Abel, 2002, 331). The cumulative effect of all past causes is called "destiny". Hence, destiny is the result of one's past. Since one's past activities are fait accompli, one has no control over it. One cannot alter past actions. Therefore, one's present destiny can be considered to be fixed.

The discussion on causation provoked a debate central to human thinking: Does causality imply that this universe functions according to strict deterministic laws and there is no space for the freedom of choice or free will? Are causation and free will compatible or mutually exclusive? These questions are crucial not only to philosophers, but to sociologists as well, since "a correlate of freedom to choose is moral and social responsibility" (Stumpf/Abel, 2002, 282). Only an individual endowed with free choice can be morally responsible for his deeds, good or bad ones. Consequently, only an individual who acts freely can be rewarded or punished by the society he lives in.

In philosophy, there are three schools dealing with the question of compatibility between causation and free will: Libertarianism, Determinism and Compatibilism. Libertarians such as William James and Richard Taylor (James 1884; Taylor 1992) do not consider all actions of an individual as predetermined or caused. They regard human beings as free agents, a unique kind of causal entity which has multiple possibilities to choose from at every moment of time. Libertarians base their arguments on two considerations: every human being experiences freedom, i.e. he judges, decides, weighs pros and cons, thinks about various alternatives and also human beings have feelings of guilt or regret which indicate that they are morally responsible for their actions.

Determinists such as John Hospers and B. F. Skinner (Hospers, 1950; Skinner 1972) deny the fact that humans have a freedom of choice. Determinism takes different forms depending on what is taken to be primary factor causing humans to act as they do. There is environmental, genetic, psychological and theological determinism. An argument common to all determinists is that humanity is a part of the natural world which functions meticulously according to the law of cause and effect. Determinists interpret causality as a set of deterministic laws which leave no space for the freedom of choice or free will. Determinists believe that events are in the power of other events and a person's acts cannot alter the course of events. What will happen in the future is already fixed by immutable causal laws. If all our choices are predetermined, it follows that human beings are not responsible for their actions. Just as a person who does social work is driven by unconscious forces over which he has no control and is therefore not responsible for it, so a criminal who commits a heinous crime is not responsible for his action. However, Hospers maintains that punishment is still necessary in order to preserve society (Hospers, 1950).

Compatibilists such as W. T. Stace consider actions as free and caused at the same time. According to Stace, free actions are those caused by the agent's internal states, while unfree actions are caused by external physical forces. Hence, there is no contradiction between causation and free will. Compatibilists consider an individual morally responsible for his actions. Punishment can be legitimately used by the society to correct people's behavior or deter others from committing similar actions. Behavior results from causes. If it did not, there would be no justification for punishment, since it would have no effect on one's future behavior; neither would there be justification for rewards. "Thus we see that moral responsibility is not only consistent with determinism, but requires it. The assumption on which punishment is based is that human behavior is causally determined. If pain could not be a cause of truth-telling, there would be no justification at all for punishing lies. If human actions and volitions were uncaused, it would be useless to either to punish or reward, or indeed to do anything else to correct people's bad behavior" (Stace, 1952).

Indeed, when one carefully examines causation, one realizes that freedom and bondage co-exist in a human being. The complete determination of the present by one's past actions does not exclude the freedom to choose how to act in the present. No doubt, destiny limits one's freedom, but it does not eradicate it completely. "Life is like a game of bridge. The cards in the game are given to us. We do not select them. They are traced to past karma, but we are free to make any call as we see fit and lead any suit. Only we are limited by the rules of the game. We are more free when we start the game than later on when the game has developed and our choices become restricted. But till the very end there is always a choice. … The more skilled a player, the more alternatives does he perceive" (Radhakrishnan, 1971).

Hence, a human being is bound by his own past, while he is free to choose to act as he will in the future. Sometimes people are ignorant of the causes in the past which have created their present destiny. However, such ignorance cannot stop the universal law of causation. From birth to death, there is a perfect relationship of cause and effect existing between one's past actions and present state, regardless of one's knowledge or ignorance of the law.

The law of karma reaches beyond the law of destiny to state that an individual is not only the product of his past but also a producer of his future. Although a man is influenced by his destiny since his present status is caused by his past, at the same time, he is gifted with a capacity to choose his present action which is called "free will" or "self-effort". Free will can be defined as a human ability to choose among alternatives. This freedom is a right of human beings alone. Plants and animals are completely programmed by nature. Their actions are determined by the environment or instincts.

All along his life, a human being has been exercising the power of self-effort and an aggregate of all his past self-efforts has determined his present destiny. The law of karma goes one step ahead of the law of destiny and states that the future lies under the control of a man since he has the capacity to change it by regulating his self-effort from now on. The future, therefore, is a continuity of the past modified in the present. Thus, free will gives one the freedom to modify the past and create a future, either for better or worse. Whatever has been the nature and quality of one's effort in the past, the same will be reflected in one's present destiny. Self-effort is independent of destiny but when applied against the background of one's current destiny, the effect produced by the self-effort becomes modified. However, when one consistently applies the self-effort in a particular direction, in course of time one's destiny changes in accordance with the direction set by one's effort. Hence, the law of karma states that the effects of all deeds actively create one's future experiences, thus making the human being responsible for his own life. With this understanding, karma ceases to be a punishment but is simply an extended expression or consequence of one's own deeds.

The law of cause and effect applied at the level of an individual implies that a human being is a free and moral agent who carries a full moral and social responsibility. Animals, like humans, perform actions that produce certain effects, but they cannot be considered as moral agents since their actions are programmed by nature and they have no free will to act apart from their nature. If human beings had no free choice they would not be morally responsible for what they do and hence society could not either punish or reward them. If a person chooses to commit a crime, he may be legitimately punished by society. If a society praises someone for his acts of charity, it is because the society assumes that a person did these actions by his free will. Law of causation applied at the level of the individual confirms that every human being is what he is because of the good and bad actions that he has performed. Hence, causation helps to view an individual as a creative agent, as a master who bears full responsibility for his deeds, and not a slave of destiny.

III. MISCONCEPTION OF CAUSATION: SUPERSTITION

Superstition develops due to illogical and irrational correlation of cause and effect. It can be defined as an irrational and unscientific causal thinking. Prejudices, groundless beliefs and dogmas as well as ritualistic practices performed mechanically without understanding of their meaning and significance can be classified as superstitions. Brunner referred to superstition as "perverted causality" when people observe certain happenings in life but correlate them without intellectual discernment, reason and logic (Brunner, 1968, 272). For example, a person observes a black cat crossing his path and he believes it will cause his business to fail. However, there is no clear logical connection between the failure of business and the black cat. Hence, superstition emerges when people remain ignorant of the true causes of the effects they observe in life and consequently attribute anticipated or observed effects to imaginary irrational causes. They believe in something in spite of evidence or without any evidence. Hence, the lack of intellectual application is the reason for the emergence of superstitious beliefs. Human beings who did not endeavor to develop the art of thinking and reasoning base their lives on groundless beliefs, absurd superstitions or mere assertions. R. Ingersol wrote: "Man should think; he should use all his senses; he should examine; he should reason. The man who cannot think is less than man; the man who will not think is a traitor to himself; the man who fears to think is a superstition's slave" (Ingersol, 2004, 20).

When reasoning is not applied, people often commit a so-called "post hoc, propter hoc" fallacy which gives rise to superstitions. They observe one particular event following another in time and conclude that the second must be the effect or consequence of the first. The fallacy lies in coming to a conclusion based solely on the order of events rather than a logical connection between them.

Superstition is a social phenomenon that can be created on a purely individual basis. However, in a majority of cases superstitions are a part of one's social inheritance. They are passed down through generations. Many superstitious beliefs have their roots in early childhood since reasoning is not developed in children and they passively take the beliefs of elders for granted. "The chief cause of our errors is to be found in the prejudices of our childhood", wrote the famous scientist Rene Descartes (Gellner, 1992, 8). Modern scientists confirm this observation. Chandrashekhar Damler, head of the Department of Sociology, Nehru Memorial College, found out that "youngsters are scientific only in books, not in the mind. When they repeatedly hear or observe the belief of their elders, they perceive them to be true and make them their own, without analyzing them" ("The Hindu", 2006-05-20). Later on in life such beliefs develop into deep-rooted convictions which seem 'obviously' true. People find it difficult or absurd to even doubt or examine them. "When we find ourselves entertaining an opinion about which there is a feeling that even to enquire into it would be absurd,

unnecessary, undesirable, or wicked – we may know that that opinion is a non-rational one", wrote Trotter (Mander, 1938, 28). Hence, irrational causal beliefs develop when people blindly conform to traditional beliefs or authorities instead of observing, questioning, examining and analyzing the realities of life. Bertrand Russell wrote: "The whole attitude of accepting a belief unquestioningly on a basis of authority is contrary to the scientific spirit, and, if widespread, scarcely compatible with the progress of science" (Russel, 1958, 110).

Researchers have long speculated about the historical origins and functions of superstition. (Frazer, 1922; Jahoda, 1969; Malinowski, 1948; Vyse, 1997). Anthropologists and sociologists confirm that superstitions originated in ancient times, when people lived in a close proximity to nature. At that stage, the humanity lacked the intellectual capacity to bring the sequence of facts, the course of events in relation to each other. The combination and arrangement of things in nature seemed haphazard and chaotic. For them, the world was devoid of natural causes behind the events and full of incomprehensible magic. For example, for many centuries it was believed that eclipses of the sun and moon were prophetic of pestilence and famine, that comets foretold the destruction of nations or the coming of war or plague. Illness was often attributed to sorcery, and failure of crops to angry gods or malignant demons. Human sacrifice was thought to promote victory in war and enhance fertility of the soil.

Polls show that ever since, superstitions remain ingrained in human consciousness (Newport/Strausberg, 2001, Wiseman/Wat, 2004). Even in the modern era of scientific advancement, superstitions remain a part and parcel of life. No doubt, the superstitious beliefs of our ancestors in supernatural powers behind the natural phenomena of the world are gradually decreasing in numbers. As the level of education rises, science progresses and societies become secular, people start linking cause and effect correctly with respect to observed natural phenomena. For instance, no literate person today will attribute the eruption of a volcano to angry gods. However, superstitions in this category have survived in the regions where education is still unavailable. For instance, in rural, tribal areas of India people are prone to believe that witches and sorcerers cause "bad luck", ill health and failure of crops.

Belief in supernatural powers still persists in various religious traditions. Superstitions in this category oftentimes express as beliefs in miracles and spirits, good and bad omens, astrologists, signs and wonders. French philosopher Voltaire compared such superstitions in a religion to the "mad daughter of a wise mother."

There is another type of superstition which prevails until today and forms an even larger group then the above mentioned superstitions. These superstitions can be broadly classified as irrational causal beliefs pertaining to one's individual or collective destiny. A person who is ignorant of the aspects of causation, laws of karma and destiny, misconstrues destiny to be future events which lie beyond his control. Such a person usually associates destiny with so-called "good" and "bad" luck, success and failure that can befall one at any moment without any rhyme and reason. Due to lack of understanding of the aspects of causation, laws of karma and destiny, such a person believes destiny to be unpredictable and uncontrollable, blind and capricious. Hence, destiny is feared. And fear, anxiety, sense of insecurity and need for control are closely linked to the development of superstition as contemporary surveys indicate (Wiseman, 2008; Wiseman/Watt, 2004). The contemporary Superstition Survey conducted by Prof Wiseman in the UK confirms that the level of superstition rises in times of economic or political instability when people develop fear and anxiety about the future (Wiseman, 2008). Prof Wiseman, who analyzed types of superstitions and their effects on population in the UK, also suggested a possible link between superstition and such factors as worry about life and a strong need for control in one's life. According to the survey, people who tend to worry about life are far more superstitious than others. 50 % of worriers are somewhat superstitious, compared to just 24 % of non-worriers. People who have a strong need for control in their lives are far more superstitious than others. 42 % of the people in this category have admitted being superstitious, as compared to just 22 % of the people with low need for control.

Superstitious behavior provides a sense of security when situations go out of control or become unpredictable. People feel secure believing that they can avert risks if they follow certain practices. Superstitious practices create an illusion of control over future events which one does not understand or fears.

Thus ignorance of the law of causation is the soil in which the superstition flourishes. And the seed from which modern superstitions spring is the fear of an unknown, unpredictable, uncontrollable and capricious destiny. A large percentage of people all over the world are caught up in the web of such superstitious beliefs. According to the UK Superstition Survey, 77 % of the British believe in superstitions. Moreover, 25 % of them have scientific background (Wiseman, 2008). Another study indicated that 53 % of the American population was superstitious.

Examples of superstitions in this category are, for instance, the beliefs that spilling salt, breaking a mirror or walking under a ladder bring "bad luck". People avoid starting a journey, marrying or making investments on Friday, the 13th. They believe that a lunar eclipse can cause the stock market to fall. Such beliefs can be classified as "negative" superstitions. To counteract "bad luck" and turn it into "good luck", there is a host of countermeasures such as touching wood, crossing fingers or wearing a lucky charm. People wear amulets and gems to gain success in life. Professional sportsmen use a particular article or piece of clothing which they consider "lucky" to win competitions. Similarly, average people use articles of clothing such as a "lucky tie" or

a "lucky shirt" whenever they are out for a job interview or participate in some other event. Other people blindly rely on astrology to determine the right time to make a particular decision or perform a certain action. Superstitions in this category can be classified as "positive" superstitions.

Apart from that, superstitions drive humanity to perform mechanical and routine rituals erroneously believing these would bring peace and prosperity. For instance, there is a widespread belief in India that the offering of a coconut in a temple determines the result accruing from the religious ceremony. If the coconut breaks perfectly into halves, the outcome of the ceremony would be success and prosperity. If it breaks into uneven parts, the result would be disastrous. The list of such superstitions is endless. All of them are so ingrained in the human consciousness that they have turned habitual.

The negative effects of superstition on the life of an individual and society should not be underestimated. When applied in extremes, irrational causal beliefs can become dangerous and even destructive. Robert Green Ingersoll wrote: "Superstition is a child of ignorance and the mother of misery" (Ingersoll, 2004, 2). Superstition undermines a scientific and rational approach to life. It takes the place of observation, analysis and intellectual effort which alone can guarantee correct and discriminate actions leading to a successful, prosperous and peaceful life.

Without a doubt, superstition is an impediment to social progress and evolution. The research on superstition confirms that bereft of reason and logic, superstitious people act impulsively and irrationally. This oftentimes has detrimental consequences. For instance, the research on superstitious behavior by Karl Peltzer of the University of the North in Sovenga in South Africa and Walter Renner of the University of Klagnefurt in Austria has shown that superstition may be partly to blame for the shocking rate of the fatal road accidents in South Africa, where there are 10 times as many deaths for a given driving distance as in the US. The researches have found out that the more superstitious the driver, the more accidents he had. This means that superstitious beliefs make drivers reason inappropriately to risks (New Scientist magazine, 2009-03-20). Another similar research was done in China. This time the researchers established a link between superstition and suicide intent among Chinese women. A four - page structured interviews were performed to the consecutively sampled serious attempters of suicide hospitalized to emergency rooms immediately after the suicidal act in Dalian areas, China. The study has found out that the higher was the degree of superstition, the stronger was the suicide intent (Zhang, J. & Xu, H, 2007).

Superstitious beliefs are detrimental not only individually, but also collectively since they oftentimes lead to an impulsive herd behavior. "People who are holding ideas, beliefs without having any real grounds for them are people of low critical intelligence, people with hazy and sluggish minds, people who do not really think. Such people simply believe what they have been told. Such people follow the herd blindly and an uneducated herd creates chaos and havoc in society", wrote Mander (Mander, 1938, 36). Indeed, fanatic adherence to blind beliefs causes social chaos and is oftentimes accompanied by outbursts of crime and violence. Newspapers in India report about incidents of such violent herd behavior. For instance, a strong socio-cultural belief in witchcraft causes untold miseries to people in rural and tribal areas. Violent mobs commit gruesome murders or subject innocent victims to severe tortures. In mass hysteria, people endanger their health by drinking or bathing in dirty sewage or river waters, believing them to be holy and healing. Until today due to religious fanaticism based on superstition, people persecute other religions and creeds. Hence, the lack of reason and education on the science of cause and effect results in herd instinct, bitterness, animosity and bloodshed. Parthasarathy points out the detrimental effects of the herd instinct on society in his book "The Fall of the Human Intellect". He describes an incident which took place in Turkey in July 2005 when a single sheep slipped to death off a cliff. Following the herd instinct, nearly 1,500 more sheep leapt to death into the abyss in a bizarre mass suicide (Parthasarathy, 2007, 31). Humanity commits the same error by blindly adhering to irrational beliefs, traditions and authorities.

Another negative effect of superstition is stagnation and incapacity to achieve any long lasting success and prosperity at the individual level. "We work through causes", wrote Mander (Mander, 1938, 149). Indeed, as shown in the previous chapter, since the cause comes first in time, we can control events only by introducing the causes needed to produce the effects we desire, or by removing the cause if we wish to avoid the effect. However, since superstitious persons lack the capacity to observe and examine life, they attribute their fortune or misfortune to wrong and imaginary causes. Hence, they are incapable of eliminating the true causes of their failures or of promoting the causes which ensure success. Superstitious people do not look within. They blame the world, stars and planets for their misfortunes. They thus refuse to take responsibility for their own lives and the life of their society upon themselves. Being ignorant of the impeccable law of cause and effect, they do not realize that they are the architects of their fortune and misfortune. Hence, the superstitious person stagnates. Remaining helplessly at the mercy of false, blind, oftentimes tradition-born beliefs, one fails to progress and prosper.

In order to achieve lasting progress and prosperity, one has to develop the power of reasoning. With a sharp and clear intellect one can penetrate into the functioning and implications of the law of causation and learn the art

and technique of right action. No doubt, only through discriminate actions performed at a right place and time can one achieve success and prosperity. In order to perform such right, discriminate actions, human beings need to develop and strengthen their intellect. Intellect is one's capacity to reason, judge, discriminate, plan and program an action. When the intellect is available, the action is discriminate. When it is absent, as in the case of superstition, the action becomes impulsive or even destructive.

A. Parthasarathy writes about the human intellect: "The faculty to think, to reason is human prerogative. All other beings lack this faculty since they do not possess an *intellect*. The *intellect* renders a human being the chef d'ouevre of creation. But the world is unaware of this unique status. And people do not care to develop this life-saving, life-sustaining, life-surpassing equipment, the *intellect*.[4]

Also you fail to recognize that thinking, reasoning is skilled work. That you need to learn and practice. Like playing the violin or golf. You believe that thinking is a natural process like seeing, hearing or breathing. That you can think clearly, precisely without putting in the necessary effort on your part. You must understand that to develop the faculty of thinking, reasoning you need to devote as much time and effort to it as you would to learning any other art or skill" (Parthasarathy, 2007, 81-82).

First of all, to strengthen one's intellect one has to develop the power of observation and questioning. One should not take anything for granted, but verify the facts one comes across in life: How do we know that? What reason do we have for believing that? On what 'grounds' is the statement based? Only after careful scrutiny, if the facts agree with one's reason, should one accept them as true.

Secondly, the intellect can be developed through liberal education and original thinking. The term liberal education was popularized by Cardinal Newman, who deplored the state of educational institutions of his time in his book "The Idea of a University". He defined liberal education as education without any utility tag, when a student undertakes his studies based on his interests, inclinations or talents. Such liberal education promotes liberal, original thinking. It allows the knowledge to be drawn out of a student instead of being pushed in. Such digested and assimilated knowledge truly becomes one's own. It stands in a clear contrast to merely by hearted ideas or information. Parthasarathy writes following about liberal education and its connection with the development of the intellect: "Liberal knowledge is knowledge which is its own end. Sufficient in itself and apart from every external and ulterior objective. A knowledge impregnated by reason. Reason is the principle of that intrinsic knowledge. Which dispenses with the necessity, for those possessing it, to look abroad for any end to rest upon external to itself. Newman thus endorses the role of the intellect in education: *Liberal education, viewed in itself is simply the cultivation of the intellect, as such, and its object is nothing more or less than intellectual excellence"* (Parthasarathy, 2007, 90).

Thus by developing the intellect, humanity can free itself from the burden of superstition which will help societies to evolve and prosper. With a clear and sharp intellect people can understand the law of causation. This understanding will help them to remove the causes of miseries and create causes for success and prosperity. In fact, the social progress is possible only through the development of the human intellect which alone can penetrate into the impeccable laws of life.

IV. CONCLUSION

Though it is basic to human thought, causality is a difficult and controversial concept. However, mankind cannot do without the concept of causation if it wants to understand and improve the internal aspects of human personality as well as the external environment. The research on the law of causation shows that everything in the perceived world of actions, perceptions, emotions and thoughts is built on cause and effect. The world is an expression of cause and effect. Causation pervades both the macrocosm in which it sustains the innumerable laws of nature and the microcosm where it forms a base for human activities.

The knowledge of the law of causation establishes the awareness of the world as a beautifully orchestrated totality, functioning according to meticulous laws. These laws bind the universe into a harmonious whole, where nothing is a matter of chance or accident. There is a perfect scheme and design for all events and happenings in life. There is an order, regularity and system in the inter-relation of all the facts of the universe.

The understanding and application of the law of cause and effect has a significant impact on individual and society. Knowing what causes produce what effects makes a profound difference to human conduct. By entertaining positive thoughts and feelings and executing right, discriminate actions one creates future success and prosperity. Whereas negative thoughts and feelings, and impulsive, indiscriminate actions bring about stagnation and misfortune. Hence, a study of causation teaches one how to pursue success and prosperity and to avoid failure and misery. The analysis of the aspects of causation, the laws of karma and destiny shows that fortune and misfortune, success and failure are nothing but effects of one's own past actions.

To accept causation as a fundamental principle of human life means to accept the fact that a human being is a master of his destiny; that there is no external power controlling human life. A human being has freewill to

[4] Italics in the original text.

apply in the present any cause he considers right. Knowledge of causation helps to remove the misconception that destiny is predetermined by gods, stars or planets, or that it is a mere chance or accident beyond one's control. Hence, the law of causation establishes on a scientific basis the awareness that every human being is responsible for his own life and for the society he lives in.

The law of causation acts as a solvent for unfounded traditional beliefs and superstitions. It unveils the notions of "good luck" and "bad luck" as mere superstitions. To understand causality means to abandon blind adherence to traditions and authorities; to adopt a modern, scientific world outlook; and to accept reason, judgment and logic as the foundations of human life.

Relying upon reason and evidence rather than upon superstition has significant social consequences. A scientifically oriented modern society progresses faster than a superstitious population full of ignorance and hatred. The research on causation shows that irrational causal beliefs are the enemies of progress, education and scientific enquiry. They degrade society and enslave the individual. Blind adherence to irrational beliefs, rituals, cults and traditions leads humanity into ignorance, herd instinct, fanaticism and violence.

The antidote of these social evils is the development of human intellect through liberal education, original thinking and questioning. A society can achieve success and prosperity only through the development of a logical, rational, scientific thinking. The art of thinking can be learned by every human being.

As mentioned above, the aim of human evolution is to progress from the Age of Superstition to the Age of Scientific Enquiry and Contemplation. The knowledge of the science of causation helps humanity to move one step towards the achievement of this ultimate goal.

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