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Social Laboratory: A Systematic Model to Know the World

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ABSTRACT

A laboratory serves as a scientific yardstick to identify innovation in various sectors, domains, and update knowledge. Scientists are rigorously working in the laboratories because of their interests, inner motivation, and a desire to contribute something meaningful to human society. The scientific laboratories do the experimentation, evidence-based understanding, logical interconnections, reasoning, and ultimately build the knowledge. We have pure and applied sciences; both are important, and have reciprocity to fulfil the needs of the people. Through hard work, with smartness, beyond these two, self-interests, notable inventions have been made by the scientists. For instance, Telescope is associated with Galileo Galilei (1564-1642), an Italian Astronomer, Physicist, and Engineer, with the recognition of *Observational Astronomy*. It is his pioneering work to encourage scientists to go for major subsequent inventions. Sir Isaac Newton (1643-1727) was a British physicist, mathematician, and astronomer who made many inventions and was prominent, and he laid the foundation for classical mechanics. Johannes Kepler (1571-1630), was a German Astronomer, Mathematician, Astrologer, and Natural Philosopher. He was one of the founders and fathers of modern [astronomy](#), and a father of [science fiction](#) as well. Christiaan Huygens (1629-1695), was a Dutch Mathematician, Physicist, Engineer, and Astronomer who invented the pendulum clock. His contributions are optics, mechanics, rings of Saturn, and a mechanical explanation of an unobservable physical phenomenon. Nicolaus Copernicus (1473-1543), was a Polish Astronomer who proposed the theory that the planets rotated around the sun in 1500, when many believed Earth was the centre of the universe. Likewise, many branches of science have been improved, developed, carved out many innovative ideas for the society's progress. When the Science and its methods, which have been developed by Scientists, include models, theories, methods, and techniques, also for future researchers. In this context, this paper highlights that the world is a social laboratory to understand the happenings, what matters to be learned, and how we can adopt the needed dimensions to improve ourselves. For example, rural ambience changed because of improvements in road facilities, telecommunications' contributions, identifying the gap areas which prevail within us, social welfare schemes, poverty reduction schemes in the world, human rights schemes, child welfare, urban development, industrial societies, human development, and many more.

KEYWORDS: Scientific Yardstick, Future Researchers, Road Facilities, Poverty Reduction, Child Welfare

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INTRODUCTION

The literature says that a laboratory means premises with the needed facilities that provide meticulous circumstances in which [scientific](#) and technological research, [experiments](#), and [measurements](#) may be executed. Laboratories can be seen in a diversity of locations, which include schools, colleges, universities, privately owned research institutions, corporate research and testing facilities, government supervisory and forensic examination centres, physicians' offices, clinics, hospitals, regional and national referral centres, and even occasionally personal residences. We are living in the era of a lot of inventions, developments, progress, processes, changes, problems, issues, dimensions, facets, and problem-solving mechanisms. Across the world, many scientific inventions have come up, are ongoing, and numerous are going to take place in the days to come. To quote a few are: Isaac Newton's laws of motion, Albert Einstein's theory of relativity, Marie Curie's ground-breaking investigation on radioactivity, Thomas Edison's practical electric light bulb, Galileo Galilei's telescope, Nikola Tesla's alternating current system, Alexander Graham Bell's telephone, and Alexander Fleming's penicillin. These inventions have helped societies across the world to improve the health sector, knowledge system.

Role of Social Sciences

Beyond, the inventions belong to natural, physical, chemical, biological, agricultural, geological sciences, the social sciences have contributed umpteen models, theories, research findings, and solutions to the problems in different areas. The inventions have come up from the established laboratories, apparatus, chemicals, scales, and instruments. But, social sciences do not have specific laboratories in a particular premises; however, for them, society itself is the laboratory. For instance, the researchers belonging to the Population Science as an interdisciplinary subject have predicted that India would become the most populous nation in the world by using the cohort-component model with reference to fertility, mortality rates, and migration of the

people, trends, and patterns. The demographers have given the prediction, forecasts, and the kind of preparation that should be made by the governance, researchers, academicians, Non-Governmental Organisations, and budding scholars. The Population Scientists used the country's census, vital statistics, and other surveys conducted for various purposes at the micro and macro levels. The expected number of births per woman belong to the reproductive age group has been used for the cohort. According to them, despite India's fertility rate, decreasing continued to be higher than China's for several decades, which has become the key factor. They identified the chief cause for the prediction that India will take the lead over China in April 2023. In the 1970s, China and India had alike high fertility rates; nonetheless, China's *Single Child Policy* led to a sharp and rapid decline in its fertility rate to one of the world's lowest, 1.2 births per woman in 2022. India's fertility decline was more gradual due to different policy approaches and lower human capital investment at the time. Population Science informs us periodically about changes in population size, structure, pyramid, sex ratio, and growth rate.

The role of Sociologists looks into human society

There are several progressive practices in the world, initiated by academicians, scholars, activists, and researchers across the world to bring laurels to the human society. For instance, **August Comte** (1798-1857), a French mathematician of France, coined the term 'Sociology' in 1839 to scientifically study human society; now the discipline is being taught throughout the world with several branches that throw light on rural, urban, industry, health, development, movements, and many more. As an academic, research, policy, and outreach-oriented subject, it has innumerable theories, methods, and forecasting capabilities due to subsequent studies conducted worldwide. Subsequently, **Émile Durkheim** (1858-1917) focused his attention on social facts, division of labour, suicide and integration; Karl Marx analysed class conflict, and Max Weber explored rationalisation and bureaucracy. **Charles Horton Cooley** (1864-1929) is noted for his empirical and observational approach. Although he respected the use of statistics for his analysis of the data, his preference is for the case studies and close observation to learn the human society in-depth (Wood, Arthur Evans, 1930). His school of thought is symbolic interactionism; the term symbolic interactionism was coined by Herbert Blumer in 1937. He also encouraged Sociologists to use the method of *sympathetic introspection* when attempting to understand the consciousness of an individual. Cooley thought that the only practical method is to study the actual situation *closely* and *kindly* with other people involved. **Patricia Hill Collins**, known for her work on *intersectionality*. **Herbert Spencer** has applied Darwinian ideas to society, coining the phrase *survival of the fittest* and developing theories of social evolution. **Max Weber** contributed to the understanding of bureaucracy, rationalisation, and the role of religion in economic development with his work *The Protestant Ethic and the Spirit of Capitalism*. **Georg Simmel** has focused his attention on micro-level interactions and urban life, analysing social conflict, money, and individual identity in large cities. **Talcott Parsons** has formalised the theory of structural functionalism, viewing society as a system with interconnected parts working to maintain stability. **Goffman** is well-known for his dramaturgical methodology to understand social life, and he has used a hammy comparison to analyse how individuals present themselves in everyday life. **W.E.B. Du Bois** is considered the first African-American Sociologist, who discovered race, dissimilarity, and the experience of Black Americans in *The Souls of Black Folk*. These are some of the Sociologists who have carved out different aspects of methods, approaches, techniques, conceptual framework, and theoretical perspectives as pioneering ideas.

The concept of human development was introduced by Pakistani economist Mahbub-ul-Haq, who argued for a shift from focusing solely on economic growth to prioritising people's well-being and choices. He collaborated with Nobel Laureate **Amartya Sen** and others to develop the **Human Development Index (HDI)** in 1990, which was then used by the United Nations Development Programme (UNDP) to publish the first Human Development Report, now this is an annual report was devised and had the *clear determination to shift the focus of development economics from national income accounting to people-centered policies*. According to Haq this is a simple compound quantity of human development was needed to convince the public, academics and politicians that they can, and should, assess beyond merely the economic dimension, but also the cumulative improvements in social dimensions of human well-being. According to the founder of the Human Development Index, Haq, *people are the real wealth of a nation*, and the crystal clear objective of human development is to make an empowering environment for people to relish long, healthy and inspired lives. The UNO has formally recognised the report and declared it is an *independent intellectual exercise*, and an *important tool for raising awareness about human development around the world*. Now it is translated into numerous languages and launched in more than 100 countries annually. The report helps the policy makers, researchers, academics, bureaucrats, and students to learn the various measures taken by the various stakeholders, the yardsticks still needed, and the sectors that need to be concentrated.

The Indices help to understand the world and the countries concerned where we are standing: **Climate Change Performance Index**, done by German Watch, New Climate Institute, and Climate Action Network International, tracks the progress of the world's largest emitters in terms of Global Greenhouse Gas Emissions, Renewable Energy, Energy Use, and Climate Policy. Now, it estimates for sixty-three countries and the European Union. The work of **Quacquarelli Symonds**, which is a *higher education analyst* and a services provider, headquartered in *London* with offices in Europe, Asia, and the USA, estimates the World Future Skills Index, which uses four indicators to measure a country's preparedness, like Skills Fit, Academic Readiness, Economic Transformation, and Future of Work. It is an important assessment of work, since work is perishable, and it cannot be stored, as well as art, science and profession. As per Anthropological visualisation, work is an expenditure of energy to gain income, and keep the people enthusiastic, to create new ideas, become industrious persons, and organised personalities. **The Henley Passport Index** was created in 2006 by **Henley and Partners**, a London-based advisory organisation, and it was renamed as the **Henley Passport Index** in January 2018. and is based on data from the *International Air Transport Association*. The Henley Passport Index is a global ranking of countries according to the travel freedom allowed by those countries' normal *passports* for their citizens. The index yearly ranks 199 passports of the world by the number of nations that their holders can travel to without a visa. The number of countries that a precise passport can admission becomes its visa-free score. This data process is one of the learning methods to understand the modalities, information, scientific analysis, and update the knowledge without any obstacles. Another important measurement is the **Air Quality Life Index** of the Energy Policy Institute at the University of Chicago. It examines the association between long-term human experience of air pollution, life expectancy, and demonstrates how air pollution policies can increase life expectancy when they meet the WHO's strategies. In connection with the social laboratory

model of education next one is the **Global Terrorism Index**, which is published by the **Institute for Economics and Peace**, an independent, non-profit entity that has a lens on the entire globe to understand peace as an optimistic and attainable extent of human welfare. It is headquartered in Sydney, Australia, with offices in various places in the world. It develops new charters and offers metrics for calculating peace, researches the relationship between peace, business, and affluence, and publishes influential reports like the [Global Peace Index](#). The Institute is to promote peace as a measurable and tangible aspect of human progress by providing data-based understandings. The **Global Innovation Index** is published by the **World Intellectual Property Organisation**, which is one of the fifteen exclusive agencies of the UNO. It is located in [Geneva](#), Switzerland. This does not depend profoundly on assessed or voluntary contributions from 194 member nations, and an overwhelming proportion (95.00%) of the budget is received from the global services. [Palestine](#) has permanent observer status (WIPO, 2011). The Global Hunger Index, published by Concern Worldwide and Welthungerhilfe are two worldwide caring and development organizations that are best known for jointly publishing the annual Global Hunger Index, a report that measures and tracks hunger globally. Both organisations are involved in the removal of hunger and poverty through numerous research projects, and their report are considered as the indicators of malnutrition, child stunting, child wasting, and child mortality to increase attention about the issue and offer data for the time-demanding solutions. Welthungerhilfe is a German Non-Governmental Organisation working towards multi-faceted human [development, extending cooperation](#) and providing [humanitarian help](#). Since its establishment in 1962, it has used 5.42 billion euros to carry out more than twelve thousand projects in seventy nations in Africa, Latin America and Asia (Diekmann, Florian; Sayami, Hanz Omar, 2014). The **World Competitiveness Index**, published by the **International Institute for Management Development**, provides the rankings of countries based on how they manage their competencies to generate long-term value creation. **Global Peace Index**, published by the **Institute for Economics and Peace**, which is taking the responsibilities of quantifying the state of peace across three fields of Societal safety and security, Ongoing domestic and international conflict, and Militarisation. **World Press Freedom Index**, which is published by **Reporters without Borders**. It matches the level of independence relished by journalists and media amongst the nations.

Discussions and Analysis:

Learning about the world is important for individuals, communities, societies, academicians, and policymakers in connection with updating their knowledge. Science rules all the disciplines through its methods, and it does not develop in a narrow line. Father of Sociology, Auguste Comte, as a Mathematician, had visualised long ago in 1939 that a hierarchy of sciences is to be the important concept in the subsequent years, that growing complexity and lessening generality, with each science dependent on one another, for instance, Mathematics is the base for many subjects which need logic, and magnitude, subsequently, Astronomy has applied mathematics formula, then, Physics, Chemistry, Today's Life Sciences too fall on the similar line. However, Sociology, which has emerged as an academic discipline to understand the changes taking place in the social institutions, social stratification, social inequality, social change, and social control, is both formal and informal in nature. The reason behind the development of Sociology in the nineteenth century, when compared to Mathematics, is the complexity of human life in the succeeding years, decades, and centuries to be studied carefully to help the bureaucrats who have to work along with the governments for making policies, planning, and programs. Still, poverty prevails across the world. Social Scientists measure it, and they divide the absolute poverty, subjective poverty, relative poverty, rural poverty, and urban poverty. Human Development Index helps to calculate the ranks for the countries in which poverty is one of the variables, now it is termed as Multi Poverty Development Index. Abraham Maslow categorised human needs on the basis of hierarchy in his motivational hierarchy into a five-tier classic, which looks like a pyramid. The physiological, safety, love and belonging, esteem, and self-actualisation are the components of that model, and in this regard, the individuals must achieve the needs at lower levels before they are motivated to placate higher-level needs.

Conclusion

The Social Laboratory model of learning for people in all walks of life to understand human societies across the world, in general, and the researchers and policy-making bodies in particular. For instance, the man's life journey starts from childhood, and Sociologists consider child rearing to be a Herculean Task, since during the formation periods, the family uses the innocence of the child to impart the norms, values, customs, and social control mechanisms with the help of the socialisation process. As a lifelong process starts from the mother, and she is considered the initiator, then the entire family takes the responsibility to prepare the children to face the world when they become adults. Meanwhile role of educational institutions comes into the picture, as a secondary group which encourages the children to institutes higher learning. The Chinese proverb calls childhood ***Ruling the Nation is Easier than Bringing up the Children*** because when the Convention on the Rights of the Child (CRC) was initiated by the UNICEF in 1989, most of the nations that signed the treaty realised the importance of the child and treat the Child First. Many aspects of children alone are important aspects of the family, governments, and other agencies, because children are working while attending school as child workers, another kind of children purely working, neglecting their studies, sharing the economic burden of the family, and even ignoring a happy childhood as child labourers. For many children, families have become nightmares due to the illicit relationships that prevail in the family. According to UNICEF the child malnutrition is an ***invisible hunger*** since mothers are not aware of the healthy food items. Takes the example of the once Indian Joint Family System was good when the agricultural operations were predominant, and the harvest was shared between the members. But today, the families have become tiny units, small in size, some of the functions transferred to child care centres, old age homes, and not given up. The paper highlights that the SOCIAL LABORATORY is learning the facts, figures, trends, institutes, and funding resources to bring to the classroom to help the students understand more.

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