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AN APPLICATION OF THOMAS KUHN'S *STRUCTURE OF SCIENTIFIC REVOLUTIONS* TO THE FIELD OF SOCIAL DEVELOPMENT: A REVIEW OF LITERATURE

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Abstract
This paper reviews the literature on the history of science and the field of social development, showing the nexus between Thomas Samuel Kuhn's seminal work, The *Structure of Scientific Revolutions* and the three paradigms of social development, namely the Dominant (Modernisation), Dependency, and Participatory (Another Development). In the history of science, Kuhn 1970 argues in his landmark work that science passes through four phases. In the first phase, scientists operate without a paradigm, and during this period, they experience all sorts of problems. The second phase sees the birth of a paradigm, and scientists begin to operate within it. In the third stage, weaknesses or flaws of the new paradigm begin to emerge. They may be explained away if they are not serious; however, if they prove otherwise, the paradigm is overturned, ushering in the fourth phase (scientific revolution). The successor follows the route followed by the predecessor; thus, the paradigm shift becomes a life cycle. The paper argues that the field of social development commenced with the Dominant Paradigm that, over the years, began to face overwhelming problems that finally overthrew it. It was replaced by the Dependency Paradigm, which suffered the same fate and was ousted by Participatory Development. This Article, a synthesis of recent literature, demonstrates that Kuhn's paradigmatic stages apply to the field of social development. The work proves intriguing and useful to the broad and interdisciplinary field of social science.

Key terms: Dependency paradigm, dominant paradigm, participatory paradigm, social development, structure of scientific revolutions.

INTRODUCTION

In the *Structure of Scientific Revolutions*, Thomas S. Kuhn elucidates the life cycle of a paradigm (worldview or grand theory): before it is born, once it comes into being, and what happens when it becomes moribund. The term 'paradigm', credited to the American physicist-cum-philosopher Thomas Samuel Kuhn, has today gained wide currency. According to the *Collins Dictionary (Paperback ed.)*, a paradigm means "an overall concept accepted by most people in an intellectual community, as those in one of the natural sciences, because of its effectiveness in explaining a complex process, idea, set of data." The process of social development, social transformation, or simply social change is complex; a lens or a theory to use to observe it or to think about it to understand it better, therefore, becomes a necessity. The term 'paradigm', according to the *Online Etymological Dictionary*, originates from the Greek word 'paradeigma', which means a model or a representation. In simple terms, the word means a grand (umbrella) theory. Within a grand theory, there are usually several other theories, mainly empirical ones. For Kuhn (1970), however, a paradigm is a body of not only concepts and theories but also methods and standards used by science practitioners to validate contributions in their disciplines to describe the structure in which normal science thrives to solve problems. Generally, a theory is simply an explanation of an occurrence (happening). For instance, if some people are leading appalling lives, a theory is formulated to attempt to explain why that is happening and then attempts to shed light on what can be done to ameliorate the situation.

The Structure of Scientific Revolutions

Until Kuhn emerged with *The Structure of Scientific Revolution*s, science scholars were under the impression that the history of science was linear, i.e. not circular. Then, he came up with a ground-breaking work in which he claimed that the development of scientific discovery is cyclical (circular) and punctuated by revolutions that indicate significant changes in the comprehension of science. His views were in marked contrast to the traditional view of Karl Raimund Popper, another giant of the philosophy of science, who had claimed in his book (*The Logic of Scientific Discovery)* that the progress of science was gradual and cumulative (Kachin Research, 2018). According to Kuhn (1970), a paradigm – a scientist's guide – is a map that explains the complexity of science. He formulated four stages that science goes through – Pre-paradigm science, Normal science, Crisis science, and Scientific revolution (as the following diagram shows).

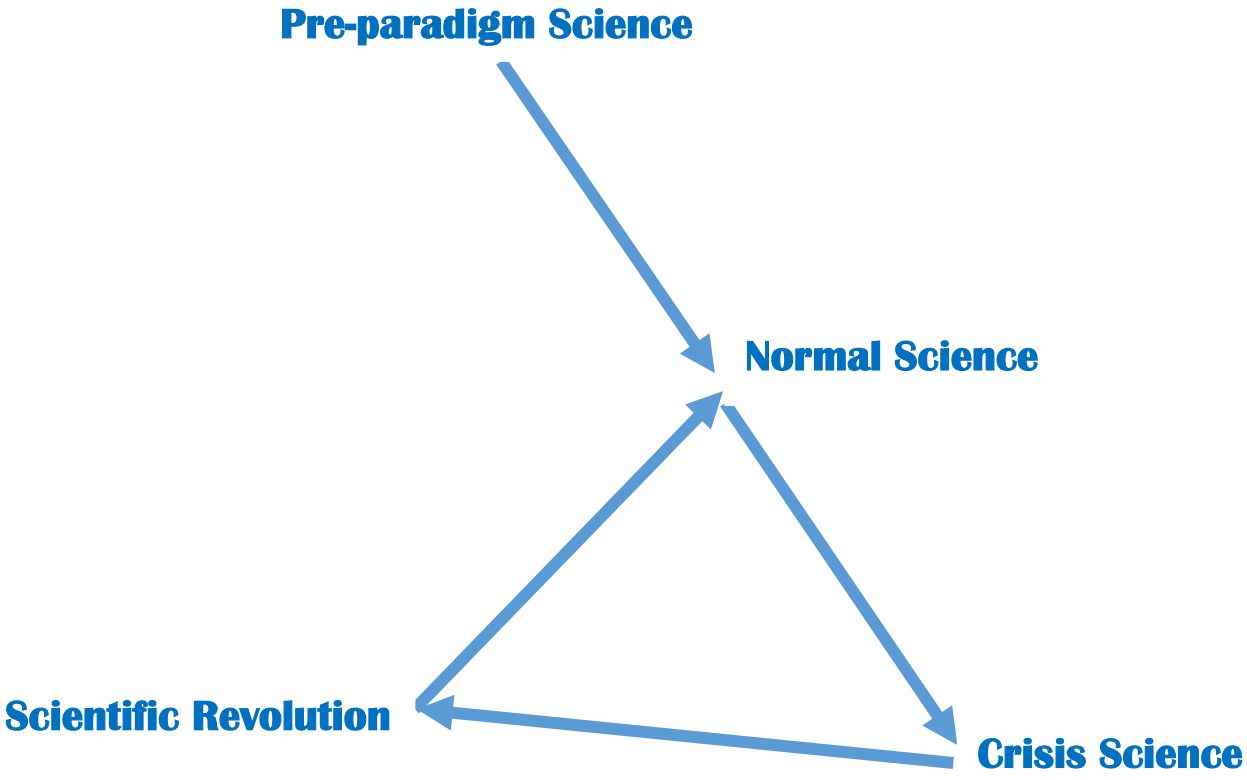

Figure 1: Stages of Science
Source: Pharaoh Ochichi

Pre-Paradigm Phase (Period before the Birth of a Paradigm)
The pre-paradigm science, the first stage of science, is the period that precedes the birth of a paradigm (as the name suggests). This is when there is no paradigm, and scientists are bereft of something to guide them. In their practice of science, they lack shared vocabularies, concepts, theories, and methods – they are like people groping through the darkness. Because nothing is available to unify them, scientists are doing different things, with each understanding only what he or she does and becoming quite incoherent to others. Similarly, others understand only what they are doing and fail to comprehend what others are doing. They face a situation akin to that of migrants at Shinar when they wanted to build the Tower of Babel (Genesis 11:1-9). In the process, the cumulative effect of science suffers since scientists are unable to build on to each other's efforts for lack of understanding; yet, science requires the four COs: cooperation, collaboration, comprehension, and consensus.

Normal Science Phase
At this stage, according to Panda (2021), a paradigm is in existence, and scientists can work together to sort out scientific problems. As Kuhn puts it, this phase is a platform on which practitioners collaborate to solve puzzles. Problems such as difficulties in comprehension that bedevilled science in the earlier phase disappear. Scientists are unified by the new paradigm and enjoy a common understanding. Things, however, do not remain smooth and stable forever; history shows that after some time, anomalies do arise

in scientific theory. Usually, these inconsistencies are wished away. Kuhn (1970) observes that if they persist and finally become endemic, they are bound to impact how scientists view the paradigm. Scientists begin to doubt the efficacy of the paradigm. However, the faulty paradigm is not discarded immediately after flaws are detected, not even when there is an accumulation of anomalies; it weathers the storm: it remains in place until a new one comes into being.

Crisis Phase (Time of Confusion or Time of Great Disagreement)

The problems that set in at the normal science phase and failed to be solved become insuperable here. The usefulness of the paradigm is being seriously questioned. Scientists begin to think outside it because the problems besetting it appear gigantic and insoluble, rendering it dispensable. It now seems a probability rather than a possibility that the paradigm is not going to survive. But if it somehow continues to exist (especially because there is no alternative), it will be a shadow of its former self because of the battering by the critics. Kuhn (1970) opines:

> "All crises begin with the blurring of a paradigm and the consequent loosening of the rules for normal research. In this respect, research during a crisis very much resembles research during the pre-paradigm period, except that in the former, the locus of difference is both smaller and more clearly defined (p. 84)".

The Phase of the Scientific Revolution

The paradigm has succumbed: The anomaly has occasioned extraordinary science, leading to a revolution. Another paradigm has now emerged to take the place of the earlier one – now dethroned. A complete change of perspective has occurred; a new paradigm with its concepts, theories and methods has emerged. A paradigm shift has, therefore, taken place. If scientists agree that the new paradigm is better than its predecessor, then they begin to apply it, and what they do revolves around it. But the beginning of the reign of one paradigm marks the beginning of the journey to replace it. Over time, its flaws become apparent, and its fate is sealed, i.e. it is overthrown by another. Is there something that the new paradigm shares with the old paradigm? Kuhn (1970) observes:

> Since new paradigms are born from old ones, they ordinarily incorporate much vocabulary and apparatus, both conceptual and manipulative, that the traditional paradigm had previously employed. Within the new paradigm, old terms, concepts, and experiments fall into new relationships (p.148).

How do Kuhn's ideas apply to a fairly young field of social development? For the short time it has been in existence, social development has had three paradigms; Modernisation, Dependency, and Participatory Development. Modernisation came first, followed by Dependency, and finally Participatory Development.

Foundation of Social Development

Following the speedy social changes that occurred in Europe between the 18th and 19th centuries, the question of social change (how society advanced) disturbed early social science theorists: August Comte (1798-1857), Karl Marx (1818-1883), Max Weber (1864-1920), Emile Durkheim (1858-1917), and Ferdinand Tonnies (1855-1936). Other scholars unsettled by the changes were, among others, Talcott Parsons and Sociologist Marion Levy. These theorists outdid one another in formulating theories to explain the social

transformation: The Agrarian Revolution (Early 18th C), The Industrial Revolution (18th C), and The Information Revolution (19th C). During the Agrarian Revolution, fundamental changes occurred in the agricultural sector in England; for instance, crop rotation was introduced, and farmers embraced scientific methods. The Industrial Revolution, as the name suggests, placed a high premium on industry. Another major development was the information and communication explosion. People were in dire need of information, thus high production and distribution of books, newspapers and magazines. The advent of more advanced ICTs (and the internet today) made communication and information-seeking easy (Amin, 2017).

The aforementioned shaped the thinking of social scientists and ultimately resulted in the grand theory that came to be commonly referred to as Modernisation. August Comte, often regarded as the father of sociology, observed that intellectual effort was the result of changes witnessed in Western society, saying the changes improved the standards of living of the people of Europe. According to Ifunanya (2020), Karl Marx, on his part, opined that Western society went through the stages of slavery, feudalism, capitalism, socialism, and communism, resulting in economic material and class conflict; for Max Weber, social development created industries by society developing from traditional to modern. The industries created social organisations that were predicated on rationalism that replaced traditional customs. Traditional customs were believed to undermine social development (Tribe, 2022).

According to Malik & Malik (2020), advancing earlier ideas about how societies modernised, Emile Durkheim theorised that societies moved from the state of mechanical (rural) to organic (modern). Mechanical societies, he said, were traditional, and people were preoccupied with simple agrarian. These societies, which were rural and characterised by the spirit of unity and cooperation and personal relationships, reduced individual privacy, informal social controls, intolerant deviant behaviour, and ascribed statuses. Modern societies, according to Durkheim (1858-1917), as cited by Malik & Malik (2022), were urban, industrialised, dominated by self-interest, tolerant of deviant behaviour, and achieved status.

Industrial Revolution

The idea of modernisation began to take shape during the Enlightenment and the Industrial Revolution periods (Wilde, 2020). The Enlightenment era is referred to as the Age of Reason. This was the time (1685 – 1815) when Philosophy, Science, Communication, and European politics were revolutionised. It was the time when great thinkers such as Francis Bacon, Thomas Hopes, Rene Descartes, Galileo Galilei, Voltaire, Rousseau, and Montesquieu became quite active, churning out intellectual works of high standards.

Wilde (2020) observes that the Industrial Revolution is the monumental social, economic, cultural, and technological changes that swept across Britain and North America, with information communication, trade, politics, science and technology transformed. For instance, there was more intellectual freedom that increased the printing of books and newspapers. Governments also encouraged trade and the opening of shops with a wide range of goods; countries enjoyed political stability brought about by political liberty. Because censorship of scientific ideas ceased, people began to rely on science and not religion, and there were breakthroughs in science and technology, which gave Britain and North America greater leverage in terms of material and military. In agriculture, mechanisation, land consolidation (because people moved to towns), crop rotation, new crops, new fertiliser, and the use of science raised production remarkably,

motivating more people to become farmers. Inexhaustible sea coal provided the much-needed energy that powered machines to ease production. Social development had, therefore, taken place; however, it had occurred only in a few parts of the world. Many felt it ought to have spread to all the parts of the world.

The Emergence of the Modernisation Paradigm

Modernisation means the process of moving from a traditional life to a more sophisticated way of life that is technologically more advanced. It can also be defined as a quickly changing style of life. This is seen as the ideal way of life equated to Europeanisation, Christianisation, or Westernisation. A simple life that is technologically less advanced and not fast-changing is considered traditionally backward or primitive; this is a way of life that is not desirable. It is held that for Third World countries to modernise, they have to acquire the characteristics of the Western world – industrialisation, urbanisation, high per capita incomes, mass media penetration, citizen involvement in socio-economic and political activities, social and geographical movement of citizens, capitalism, and democracy. According to Friedrich (2008), democracy means rule by the people and has a wide meaning; it incorporates the rule of law, which means that a person should only be punished for breaking the law of the land; no person is above the law; and the law of a country is interpreted only by the judiciary. It also incorporates the principles of good governance: public participation, integrity, accountability, and transparency.

APA Online Dictionary of Psychology (dictionary.apa.org) says the following about societies that are modernised:

> . . . are typically conceived as those societies that tend toward the secular and urbanised and that place a high value on science and technology, education, social mobility, acquired wealth, democratic government, and the rule of law. Modernisation is anchored to notions of social and economic progress. It is often contrasted with the traditionalism of undeveloped or underdeveloped societies, which are often identified as religious and rural, with limited technology, low social mobility, weak political structures, and so forth.

The Cold War between the then Soviet Union and the United States (both modern countries) forced the latter to find a way of enticing other countries away from the former, thus fuelling the process of modernisation. The United States, consequently, marshalled its anthropologists, political scientists, demographers, economists, sociologists, psychologists, and communicators and asked them to study Third World countries. The objective of the undertaking was to find out how the countries could be helped to change the living standards of their citizens. According to Klinger (2017), the following distinguished scholars, among others, went to work: Daniel Lerner, Wilbur Schramm, Marion Levy, David McClelland, Neil Smelser, Alex Inkeles, Samuel Eisenstadt, Seymour Lipset, Gabriel Almond, Everett Rogers, and WW Rostow. The process of formulating the Modernisation Paradigm, a multidisciplinary undertaking, thus commenced with the publication of researched scholarly works.

The scholars, according to So (1990), influenced by the works of Ferdinand Tonnies and Emile Durkheim, Talcott Parsons differentiated between modern and traditional societies. Seymour Lipset linked political democracy to economic development, noting that people in democratic countries were wealthy, urbanite, and educated. He advised that the Third World people needed to emulate the people of the Western

World. Daniel Lerner and Wilbur Schramm articulated the role of mass communication in development. While Marion Levy categorised societies as modern and non-modern, providing the features of each. Alex Inkeles – after carrying out studies in Argentina, Chile, India, Israel, Nigeria, and Pakistan, interviewing 6000 young men – compared the modern man to the traditional man. David Clarence McClelland developed the theory of need for achievement (n-achievement theory), explicating the sources of achievement motivation. He indicated that the people of the Third World lacked achievement motivation.

Everett Rogers (1931-2004) conducted research in three Third World countries (Nigeria in Africa, Colombia in Latin America and India in Asia) to establish why the people in these places were poor. The findings of his study, *The Peasant Culture,* were interesting. According to Melkote (2018), the study revealed that the Third World people first believed good things in life were limited (i.e. if one person got, that meant that the other person lost or missed); second, were unable to defer gratification (consumed the whole of whatever they got straight away, without putting aside something for the future); third, lacked motivation for achievement; fourth, distrusted others (yet humans had to work with other humans to succeed in life). The study further disclosed that people in the Third World were obsessed with family matters, had a limited worldview, felt their destiny was determined (it was pointless to work hard), lacked innovative minds and empathy (privileged members of society could not understand the feelings and experiences of the underprivileged). Finally, Rogers' work showed that the Third World people were hostile to their governments (yet these governments had a role to play in the improvement of the people's living standards). All these issues the study raised, according to Rogers, were detrimental to modernisation.

To a large extent, Nyasani (2010) concurs with Rogers, saying that the people of the Third World remain poor because of the following factors:

- They lack behavior control (i.e. are undisciplined);
- Are inefficient and incompetent;
- Give unfair advantage to their families (i.e. they practice nepotism);
- Are lethargical (i.e. they do not want to work);
- Over-indulge in diversionary amusement;
- Lack an appreciation and comprehension of the imperative of time;
- Are over-preoccupied with extended family systems;
- Fear taking risks.

What was regarded as the most important work was the five stages of economic development developed by W. W. Rostow (1916-2003). The stages were labelled as follows: traditional society, establishing pre-conditions for take-off, take-off, drive to maturity, and high mass consumption (Jegede, 2018). He stated that most Third World countries were at the lowest stage (traditional society). At this stage, the people were living in the most deplorable conditions. Rostow (1964) recommended that the Third World countries required more resources to move them to the next level (establishing pre-conditions for take-off) and even to the third level of take-off. Many believed Rostow had found a real way of modernising the Third World. It is now apparent to all and sundry that the process of social change is not as straightforward and as clear-cut as conceptualised by Rostow.

As the work of the social scientists was going on (and much had been achieved), President Harry S. Truman's 1949 inaugural address, commonly referred to as *The Four Points Programme*, launched modernisation in earnest for the rest of the world:

> We must embark on a bold new program to make the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas. More than half the people of the world are living in conditions approaching misery. Their food is inadequate. They are victims of the disease. Their economic life is primitive and stagnant. Their poverty is a handicap to both them and more prosperous areas (Jegede, 2018).

Having used the Marshall Plan (1948-1951) to help European countries reconstruct after World War II, President Truman felt other countries, especially in the Third World, were also susceptible to communism ideology, thus the launching of modernisation for other countries of the world.

Failure of the Modernisation Paradigm

As Kuhn says in *The Structure of Scientific Revolutions (1970)*, a paradigm usually faces problems. If the problems become serious, they cripple the paradigm. The Modernisation Paradigm was equally plagued with anomalies. According to Jegede (2018), the living standards of the people in Third World countries deteriorated. Modernisation thus proved abstract and theoretical. It not only destroyed the ways of life of the people in the Third World, for it spread false ideas and beliefs about the people's culture but also turned out to be irrelevant to the Third World. Nwabueze and Okonkwo (2018) observe that early studies had indicated that the media were like a magic bullet—i.e. when media messages reached audiences, audiences had no option but to act according to what the messages demanded. Later, other studies showed that the media were not all that powerful. The discovery was a major blow to the paradigm, for it weakened it a great deal. Before the emergence of a new paradigm that was occasioned by a radical rethink, the problems that afflicted Modernisation multiplied and became more serious, throwing the field of social development into confusion. Attempts to salvage the paradigm proved futile.

The Emergence of Dependency Paradigm

With the emergence of a new paradigm, scientists breathed a sigh of relief because they had what they felt was a guide, and the crisis was behind them. The Dependency Paradigm was a response to the failure of modernisation. It is the debacle of Modernisation in South America that led to the birth of the Dependency Paradigm in the 1960s. Whereas Modernisation viewed development from the perspective of the West, Dependency examined development from the Third World point of view. Modernisation provided internal explanations, such as traditional culture, to the problems of the Third World, but Dependency provided external explanations, e.g. colonialism and neo-colonialism. According to Dependency paradigm, the colonial masters plundered the wealth of the Third World countries (Kiely, 2017). For instance, the British transported raw materials from its colonies to Britain for British industries. Contrary to the beliefs of the proponents of Modernisation, underdevelopment was not a result of a lack of capital but exploitation of the market by the West.

In the 1970s, UNESCO financed debates, which climaxed with a conference on media coverage of the Third World countries to identify failures of information flow because the imbalance that existed then affected these countries economically, educationally, socially, etc. The West used communication technology, which only they owned, to promote their own culture and to marginalise and manipulate poor countries. A report titled *Many Voices, One World: Towards a New, more just and more efficient World Information and Communication Order*, aimed at fostering mass communication in the Third World, emerged from the debates. But because it did not promote the interests of the Western powers, it was nipped in the bud. The envisaged New Information Communication Order (NWICO) failed to be realised (Jegede, 2018).

At the time when the Dependency Paradigm was vulnerable, appearing to offer no solution to the problems of the Third World and sliding slowly into Kuhn's crisis phase, World Systems Theory by Immanuel Wallerstein (1930-2019) came in handy (Kiely, 2017). The theory fortified the paradigm, giving it a lifeline. Otherwise, it would have ended up as dead wood because it was being attacked from all sides for offering no solution to development issues in the Third World.

According to Wallerstein (2004), the world is divided into core countries, periphery countries, and semi-periphery countries. The three are interdependent and are sustained by their economic divide – their existence is dependent on inequality. The periphery supplies the core with labour and raw materials at a very low cost – the cost determined by the core (buyer). As the economy of the core countries expands, the gap between them and the periphery widens. The semi-periphery countries, which have the features of the core and periphery countries, act as middlemen to diffuse the tension between the core and the periphery (Christofis, 2019; Drew, 2021).

The Dependency Paradigm, like its predecessor Modernisation, failed as the situation of poor countries deteriorated countries (Kiely, 2017). The concepts and theories of the paradigm became unrealistic and thus inapplicable. First, it laid an over-emphasis on external factors as the causes of underdevelopment in the Third World. Second, it ignored social inequality, corruption, and internal problems. Third, it (like Modernisation) focused more on economic development.

According to Kiely (2017), the World Systems Theory had only served to postpone the imminent demise of Dependency Theory. The key question: Why can't the periphery gang up and overthrow the core? There are reasons why that cannot happen: The core has the military power, and the semi-periphery supports the core. Because the Dependency Paradigm was proving to be more or less a liability than an asset, social scientists received Another Development Paradigm with open arms: something to rely on had finally surfaced.

Another Development Paradigm

This is the paradigm currently guiding scholars in the field of development. It assumes several names: Participatory Development (PD), Multiplicity in One World, People-centred Development, and Bottom-up Development. The new paradigm, which has (by and large) become orthodoxy, broadens the definition of development, incorporating the physical, social, spiritual, mental, and cultural needs of a person, emphasising the people's active participation in interventions benefitting them. Matthew (2018) and Castillo (2017) point out that, besides the people's traditions and culture, the active participation of the

people in their development activities is emphasised by the paradigm. In any case, nobody can deliver development for a people; the people themselves have to deliver development for themselves.

Quoting Everett Rogers (1931-2004), Jegede (2018) says:

> Development is a widely participatory process of social change in society, intended to bring about social and material advancement (including greater equality, freedom, and other valued qualities) for the majority of the people through their gaining control over their environment. Rogers stressed the endogenous dimension of development. It must be through people's participation, exploiting their environment to improve their situation rather than expecting development to "fall from heaven", as it were.

Alternative Development, the grand theory of social development that emerged in the 1970s, enables people to define their development. It also emphasises the following: protection of the environment, equal distribution of the benefits of development, basic (survival) needs, the role of women in development, self-reliance, development from within (endogeny) and sustainable development. Sustainable development, which has become a household term in contemporary social development discourse, is the most important component of Another Development (Chassagne, 2018). Although it has varied definitions, the common one is provided by Brundtland: "...development that meets the needs of the present without compromising the ability of the future generation to meet their own need." (Mensah, 2019). The United Nations has boosted the aspect of sustainable development by coming up with Millennium Development Goals (MDGs) that expired in 2015 and Sustainable Development Goals (SDGs) whose time will run out in 2030. Mensah (2019), citing Hylton (2019), provides an abridged version of the objectives of the SDGs:

- "Eradicate poverty and hunger, guaranteeing a healthy life
- Universalise access to basic services such as water, sanitation and sustainable energy
- Support the generation of development opportunities through inclusive education and decent work
- Foster innovation and resilient infrastructure, creating communities and cities able to produce and consume sustainably
- Reduce inequality in the world, especially gender inequality
- Care for environmental integrity through combatting climate change and protecting the oceans and land ecosystems
- Promote collaboration between different social agents to create an environment of peace and ensure responsible consumption and production".

CONCLUSION

In conclusion, *The Structure of the Scientific Revolution* is applicable to the field of Social Development. The history of the field of social development has revolutionised, as Kuhn stated in his seminal work. The field has passed through periods of confusion, anxiety, and uncertainty: Pre-paradigm Science, Normal Science, Crisis Science, and finally, Scientific Revolution. Time will tell how long the Alternative Development Paradigm will take before it follows the route taken by its predecessors (Modernisations and Dependency).

REFERENCES

1. Amin, S. (2017). The Agrarian Question a Century after October 1917: Capitalist Agriculture and Agricultures in Capitalism. https://doi.org/10.1177/2277976017731842, *SAGE Publications Agrarian South: Journal of Political Economy*, *6*(2), 149–174.
2. APA Online Dictionary of Psychology. dictionary.apa.org.
3. Castillo, O. L. (2017). *Alternative Development is no Longer an Alternative – Post–development could be.* https://www.researchgate.net/publication/355758755
4. Chassagne, N. (2018). Sustaining the 'Good Life': Buen Vivir as an alternative to sustainable development, *Oxford University Press and Community Development Journal*. https://doi: 10. 1093/cdj/bsx/062
5. Christofis, N. (2019). *World-Systems Theory*. In: Romaniuk, S., Thapa, M., Marton, P. (eds) The Palgrave Encyclopedia of Global Security Studies. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-74336-3_372-1
6. Drew, C. (2021). *World Systems Theory – Definition, Examples, Critiques*. Helpful Professor. https://helpfulprofessor.com/world-systems-theory/
7. Friedrich, E. S. (2008). *What is Democracy?* https:/library.fes.de<bueros>madagascar
8. Ifunanya, D. A. (2020). Exploring Karl Marx Dialectic Materialism in the Context of Nigeria State, *Journal of Advances in Humanities and Social Sciences, 6*(5), 156-163.
9. Jegede, E. (2018). From Modernization to Alternative Paradigm: Development in History and Ideological Implications of Unequal Relations for the Periphery, LWATI: *A Journal of Contemporary Research*, *15*(1), 226–252.
10. Kachin Research. (2018). *A Comparative Study of Thomas S. Kuhn and Karl Popper,* https://kachinlandrc.org/2018/01/30/a-comparative-study-of-thomas-s-kuhn-and-karl-popper
11. Kiely, R. (2017). Dependency and World-Systems Perspectives on Development. *International Studies Association and Oxford University Press*. https://doi.org/10.193/acrefore/9780190846626.013.142
12. Klinger, J. (2017). A Sympathetic Appraisal of Cold War Modernisation Theory. *The International History Review*, *39*(4), 691–712. https://doi:10.1080/07075332.2016.1236742
13. Kuhn, T. S. (1970). *The Structure of Scientific Revolutions. (2nd Ed Enlarged)*. The University of Chicago Press.
14. Malik, H. A., & Malik, F. A. (2020). Emile Durkheim Contributions to Sociology, *International Journal of Academic Multidisciplinary Research (IJAMR)*, *6*(2).
15. Matthew, S. (2018). *Alternative Development in Africa*. https://www.researchgate.net/publication/323341228
16. Melkote, S. R. (2018). Communication for development and social change: an introduction, *Journal of Multicultural Discourses*, *13*(2), 77–86. https://doi: 10.1080/17447143.2018.1491585
17. Mensah, J. (2019). Sustainable Development: Meaning, History, Principles, Pillars, and Implications for Human Action: Literature Review. Cogent Social Sciences, 5. https://doi.org/10.1080/23311886.2019.1653531
18. Online Etymological Dictionary. (2023). https://www.etymonline.com

19. Nwabueze, C., & Okonkwo, E. (2018). Rethinking the Bullet Theory in the Digital Age. *International Journal of Media, Journalism and Mass Communication (IJMJMC),* 4(2), 1-10. https://dx.doi.org/10.20431/2454-9479.0402001
20. Nyasani, J. M. (2010). *Philosophy of Development: An African Perspective*. Chonsolata Institute of Philosophy.
21. Panda, V. (2021). *Scientific Paradigms Changes and Effects on Worldviews Research Paper*. https://ivypanda.com/essays/scientific-paradigms-changes-and-effects-on-worldviews/
22. Rostow, W. W. (1990). *Stages of Economic Growth: A Non-Communist Manifesto (First Edition)*. Cambridge University Press.
23. So, A. Y. (1990). *Social Change and Development: Modernisation, Dependency and World-System Theories*. Sage Publications.
24. Tribe, K. (2022). How I found my way to Max Weber. *Journal of Cultural Economy, 15*(6). https://doi:10.1080/17530350.2022.2120057
25. Wallerstein, I. (2004). *World-System Analysis: An Introduction Paperback*. Amazon.com
26. Wilde, R. (2020). *A Beginner's Guide to the Industrial Revolution*. https://www.thoughtco.com/guide-to-the-industrial-revolution-1221914