A METAPHYSICAL APPROACH TO ENVIRONMENTAL SUSTAINABILITY: ALFRED NORTH WHITEHEAD'S PROCESS PHILOSOPHY

By

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DECLARATION

I declare that this research project is my original work and has not been presented for examination in any other university.

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This research project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

To the late Professor Joseph Nyasani, in whose sense of duty I will ever remain, for his acerbic academic discernment, resolute inspiration and unflagging demonstration of the most philosophical audacity, charity and bounteousness in the face of great hardship.

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ABSTRACT

This project looks at the various moral guiding principles and responses have been developed as an attempt to respond to existing environmental concerns. As a starting point it examines anthropocentrism, biocentrism and Ecocentrism. It avers that part of the reason why we experience environmental challenges is because of the divisions between humans and nonhumans created through anthropocentrism and between living and nonliving brought about by biocentrism. The project further observes that while ecocentrism has attempted to resolve the problem through the numerous ecocentric philosophies such as deep ecology, ecological models, eco-psychology, elemental philosophy, non-disjunctive approach, ecofeminism, transpersonal ecology and ecopsychology; there is still more that needs to be done in unifying this ecocentric theoretical approaches as an attempt to offer a theoretical solution to environmental sustainability. The objectives of the study are: to make a critical examination of Whitehead's Metaphysics; to demonstrate the implications of Whitehead's Metaphysics on environmentalism; and make inferences on how process philosophy may be applied to environmentalism. Due to the human impact on the environment through: carbon dioxide emissions, both industrial and agricultural, water vapor, overgrazing, and thermal pollution, diversion of fresh waters into oceans, affecting its salinity and freezing point, deforestation; the need to have further study on the justifications for environmental sustainability cannot be overemphasized. Humans are negatively changing both their environment and climate. This study departs from the point that despite the existing ecophilosophical approaches none of them on its own really achieves what ecocentrism set out to achieve which is having a sustainable environment. The study therefore seeks a whole inclusive metaphysical approach in addressing environmental sustainability efforts. In other words a metaphysical approach to environmental sustainability which is a postulation from Whitehead's process philosophy is an attempt by this study to find a unity of purpose by all ecological theories on environmentalism. In its findings therefore this study holds that in and through process philosophy, the study institutes a unity among equal beings that are unified by the elements that contribute into their make up in a metaphysical unity explained by the principles well demonstrated by process philosophy. A critical examination and study of Whitehead's process philosophy is therefore demonstrated as necessary in order to establish justification for the paradigm in which we will have a nature centered approach to the environment and hence achieving its sustainability.

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CHAPTER ONE

GENERAL INTRODUCTION

1.1 Background to the Study

Today, climatic changes have brought to the fore the reality of the environmental crisis which is partly as a result of man's activity on the natural environment. There is growing empirical evidence that the Earth's climate is worsening and humanity has to deal with the resulting adverse effects.[1] With the many technological developments today, natural resources are being exploited to the extent of depletion and pollution of the environment. The result of this is negative climatic effects being witnessed today which arise out of the ruin of commonly owned resources similar to the increase and over-use of the communal farm in Garrett Hardin's thesis The Tragedy of the Commons.[2]

The changes in the environment being addressed by scientists and the environmentalists, include: global warming, pollutions, soil erosion, deforestation, climate change, ozone depletion, resource depletion, and land degradation all of which lead to environmental unsustainability. Humans do not have existence outside the environment, but rather they are part and parcel of it. Our concern in addressing environmental issues therefore should not be only for the flourishing of humanity, but also for other species, inorganic objects, the whole eco-system and the metaphysical reality. It is a common problem because it affects the whole earth and it is a human responsibility because it is human activities which bring about this degradation.

According to Sarkar environmental issues are philosophical due to the following reasons: the dualistic approach to nature has been discussed since the time of Plato; environmental crisis has become widespread making it is important to have a long term and

[1]Bornberg, K.E, Hansson, S.O. (2011), Five Areas of Value Judgment in Local Adaptation to Climate Change". In Local Government Studies, pp.376 and 671.

[2] Goudie A., *The Human Impact on the Natural Environment,* (UK: Basil Blackwell Ltd, 1987), p. 249.

sustainable system which can lead to environmental sustainability; the whole web of live and non-existence is challenged due to current unsustainable human action on nature; and human actions are guided and governed by believes and convictions that people have.[3] Environmental Sustainability therefore being a philosophical issue can be addressed from a metaphysical perspective since this is a study on being *qua* being.

Warwick Fox decided uses the term ecophilosophy or ecosophy rather than environmental philosophy or environmental ethics. According to him the term 'environment' refers to the external condition or surroundings; on the other hand, ecophilosophy attempts to abolish the distinctions we make between ourselves and the environment by fostering an awareness of manifold and intimate relationship in the ecosystem.[4]

Whitehead's process philosophy creates a comprehensive metaphysical system for understanding science, society, and self,[5] by stressing on the functioning of the universe in each of its concrete constituents. This is how the philosophy of organism becomes the science of 'wholeness'[6] that aims at a holistic conception of reality, particularly the ecosystem or environment. Researchers identify three major broad approaches to environmental ethics depending on how people think about and interact with their environment which are anthropocentrism, biocentrism, and ecocentrism.[7] An adequate metaphysics, then, must apply in general terms to the whole of reality, including all human subjective experiences. Whitehead's metaphysics is especially constructed with reference to the emerging objective scientific worldview, but not to the neglect of subjective human

[3]Sahotra Sarkar, *Environmental Philosophy: From Theory to Practice:* (UK: John Wiley & Sons, Inc., 2012), pp 6-7
[4]Warwick Fox, *Towards A Transpersonal Ecology: Developing New Foundations for Environmentalism* (Boston and London: Shambhala, 1990), P. 10
[5] This system is expounded in several of Whitehead's works
[6]Warwick Fox , *Op. Cit.* P. 8
[7] E. Enger, B. Smith. *Environmental Science: A study of interrelationship*. (London: McGraw-Hill Higher Education, 2006), p. 34.

experience. Indeed, the metaphysics is such that the normal uses of the terms subjective and objective no longer apply. "Nothing must be omitted," writes Whitehead, "experience drunk and experience sober"[8].

While Whitehead's metaphysics is arguably more wholesome and more compatible with recent scientific insights than all the other leading brands, it also has some problems, to which I will now turn. Why, for instance, should we assume that the earth's environment, as presently constituted, is somehow worthy of preservation? Note that this is not just Whitehead's problem, but very much a problem of any contemporary ethics and metaphysics based on modern science. Wilson loves nature, that is clear, but he can offer nothing more than utilitarian justifications for why we should love and preserve natural kinds, as they happen to be at this moment in evolution.[9] Environmental issues have been previously addressed through anthropocentrism and ecocentrism. Anthropocentrism holds that ethical principles apply to humans only and those human needs and interests have the highest and exclusive value of importance compared to other beings.[10] Anthropocentricism is further subdivided into strong and weak anthropocentricism whereby strong antropocenticists such as Aquinas, Descartes, Kant, and McGee hold that nonhumans have value only to the extent that they satisfy any fulfillable human desire[11]; while weak anthropocentrism is the affirmation that nonhumans are useful to hu8mans in fulfilling unreflective human needs.[12] The anthropocentric approach to environmental issues can be opposed on grounds that a moral system restricted to humans is arbitrary, unjust and illogical.[13] Ecocentrism on the other hand

[8] Whitehead, Alfred North, *Adventures of Ideas*, (USA: Free Press, 1967) p. 226.

[9] Edward O. Wilson, Biophillia: The Human Bond with Other Species (Cambridge, MA: Harvard University Press, 1984). p. 43.

[10] J. Donald Hughes, *Ecology in Ancient Civilization,* (Mexico: University of Mexico, 1975), p. 14

[11] Susan J. Amstrong & Richard G. Botzler, *Environmental Ethics: Divergence and Commerce,* (New York: McGraw-Hill Inc., 1993), p. 276

[12] Ibid., p.277

[13] Bernard E. Rollin, *Animal Rights and Human Morality,* (New York: Prometheus Books, 1981), p. 17

hold that the community in which humans belong includes other beings such as soils, waters, plants, animals and other objects, consequently changing the role of Homo sapiens from conqueror to a plain member among other beings.[14]

We are part and parcel of the world and belong to it as one among the many species within the earth. We are inescapably earthlings sharing the resources of the earth with other millions of Species.[15] Although ecocentrism through the various subdivisions such as deep ecology, ecological models, eco-phenomenology, elemental philosophy, non-disjunctive approach, ecofeminism, transpersonal ecology and ecopsychology; the study does an analysis on Whitehead's process philosophy to find insights that will better enhance the ecological approach to environmentalism.[16]

1.2 Statement of the Research Problem

As has been demonstrated in the background, various moral guiding principles and responses have been developed as an attempt to respond to existing environmental concerns. Some of these include Anthropocentrism, biocentrism and Ecocentrism. Part of the reason why this problem persists is due to the implicit or explicit division created between humans and nonhumans by anthropocentrism and between living and nonliving by biocentrism. While ecocentrism has attempted to resolve the problem through the numerous ecocentric philosophies such as deep ecology, ecological models, eco-psychology, elemental philosophy, non-disjunctive approach, ecofeminism, transpersonal ecology and ecopsychology; there is still more that needs to be done in unifying this ecocentric theoretical approaches as an attempt to offer a theoretical solution to environmental sustainability. This therefore clearly

[14] Lous P. Pojman, *Environmental Ethics: Readings in Theory and Application*, (London: Jones and Bartlett Publishers, 1994)P. 85

[15] Jorge Luis Nobo, *Whitehead 's Metaphysics of Extension and Solidarity* (Albany: State University of New York Press, 1986), p. xiv.

[16] Warwick Fox, *Towards A Transpersonal Ecology: Developing New Foundations for Environmentalism* (Boston & London: Shambhala 1990), p. 8.

demonstrates the existing knowledge gap occasioned by lack of adequate whole inclusive unifying ecophilosophical approach on environmentalism. The study establishes a unity among equal beings that are unified by the elements that contribute into their make up in a metaphysical unity explained by the principles well demonstrated by process philosophy. A critical examination and study of Whitehead's philosophy of organism is therefore necessary in order to establish justification for the paradigm in which we will have a nature centered approach to the environment and hence achieving its sustainability.

1.3 Objectives of the Study

The objectives of the study are:

a) to make a critical examination of Whitehead's Metaphysics;
b) to demonstrate the implications of Whitehead's Metaphysics on environmentalism;
c) and make inferences on how process philosophy may be applied to environmentalism.

1.4 Justification of the Study

Today, human activity has impacted on the environment through: carbon dioxide emissions, both industrial and agricultural, water vapor, overgrazing, and thermal pollution, diversion of fresh waters into oceans, affecting its salinity and freezing point, deforestation, among others. Humans are negatively changing both their environment and climate.[17] This study is justified due to the fact that despite the existing approaches such as anthropocentricism, biocentrism and ecocentrism, we still continue to experience environmental unsustainability. The study therefore seeks a whole inclusive metaphysical approach in addressing environmental sustainability efforts.

1.5 Scope and Limitations of the Study

This research recognizes the interdisciplinary nature of the study area which is on

[17] Becker, C., Brown, D., *Introduction to the Special Section: Integrating Development Ethics and Climate Change*. "In Ethics, Policy and Environment", (2013) p. 38.

Environmental sustainability. Human activities on the environment owe it to those who suffer adverse climatic effects now and in the future. These are the issues within the scope of this study and which the study addresses. However, the study is limited within the review and study of philosophical texts on environmental philosophy with the sole aim of coming up with a metaphysical approach on environmental sustainability. In other words, the study handles environmental issues which are interdisciplinary from a philosophical point of view.

1.6 Definition of Key Terms

Ecopsychology: is a study of the relationship between humans and the natural world.

Environmental Sustainability: promotion, preservation, restoration and/or improvement of the natural environment; is also viewed as a movement seeking a worldview.

Extrinsic Value: the importance that that thing has in as far as it is beneficial to humans.

God: Supreme Being from whom all reality both physical and metaphysical owe their essence.

Holism: refers to the whole of reality in totality without exception.

Intrinsic Value: the importance that that thing has in itself without having to necessarily benefit humans.

Process philosophy: is also known as ontology of becoming, processism or philosophy of organism; is a perspective of looking at the universe which differs from the theory of "a bit of matter" of scientific materialism and which tries to look at things from the perspective of organism, process and interrelatedness.

Teleology: is description or classification of things in terms of their apparent purpose, directive principle, or goal.

Universalism: is an approach to the environment that emphasizes the importance of

the whole and the interdependence of its parts rather than analysis or separation into parts; it also foresees respect for nature, sustainable use of natural resources, and amicable co-existence of all beings on earth.

1.7 Literature Review

A lot has been written about the environment, its degradation, and the corresponding solutions for restoring it. Many new theories, systems and movements were initiated and promoted by philosophers. These philosophical theories can be identified as worldviews, because all these represent a philosophy of life and a conception of the world. Some of those philosophical worldviews such as Deep ecology, Ecological models, Phenomenology, Eco-phenomenology, Elemental philosophy, New cosmology, Non-disjunctive approach, Eco-feminism, Transpersonal ecology, and Eco-psychology are mentioned below in the view of orienting the thesis towards a comprehensive ecophilosophical worldview.

1.7.1. Deep Ecology

The term 'deep ecology' was coined by Arne Naess in 1973. It was a movement in 1970s. Arne was a Norwegian philosophy professor, well known for his social activism. Arne replaced the "shallow" ecology movement with a powerful and "deep" ecology movement. He explains the deep ecology movement in seven points namely (i) a metaphysical inter - relatedness, (ii) an ethos of bio-spherical egalitarianism, (iii) the value of diversity and symbiosis, an anti-class posture, (v) Opposition to pollution and resource depletion, (vi) the value of complexity, and (vii) An emphasis on local autonomy and decentralization.[18] One can find all these seven points in Whitehead's philosophy of organism. Deep ecology declares that the identity of each individual is the function of the relations of the individual in question with other individuals. Here reality is viewed as fundamentally relational rather than aggregative.

[18] Freya Mathews Deep Ecology," in Dale Jamieson ed., *A Companion to Environmental Philosophy* (Massachusetts USA: Blackwell Publishers, 2001), p. 218.

There is a bio-spherical egalitarianism which says that there is equality among all living beings. This paves way for egalitarian ethics which strives to enhance opportunities for all beings to live and blossom. We speak of egalitarianism because we respect the diversity in the biosphere When we promote egalitarianism for the whole biosphere, then we should not encourage various forms of differences and consequently the domination of one species over another If the biosphere is egalitarian, it follows that we should fight against all that harms the harmony of bio and ecosystem We need to appreciate the complexity of life and the ontological interrelationship adverted by the first principle, namely God. Finally, the author invokes the principle of decentralization because there are thousands of forms of life which are vulnerable and they have no voice for self-preservation Therefore, decentralization must be invoked so as to protect the vulnerable beings however small and insignificant they may be. Ultimately the principles of decentralization affirm that human being is not the Centre. Therefore all rights responsibilities and life-resources must be shared according to the nature of each being. Deep ecology Movement is basically an ecological theory, contrary to the "shallow" ecology which is also fighting against environmental degradation solely in the interest of the developed countries: "shallow" ecological movement focuses on the technical aspects of environmental problems, and is disinterested in the more crucial, non-technical, and lifestyle-related environmental issues. Arne Naess relates the terms such as, "egalitarianism," "homocentrism," "anthropocentrism," and "human chauvinism" with "shallow" ecological movement. It is a good move by Arne Naess to have applied the metaphysics of being into ecological science.[19]

However, a set of ecological principles was set by Arne Naess and George Sessions in the book called *Deep Ecology: Living as if Nature Mattered*, co-authored by Bill Devall. In this

[19] Arne Naess, "*The Deep Ecological Movement: Some Philosophical Aspects*," in George Sessions, ed., Deep for the 21st century, (Boston & London: Shambhala, 1995), P. 75

book, the authors mentioned some eight points for deep ecology; among these, four of them are based on whitehead's philosophy of organism. They are as follows:

I. All forms of life have an intrinsic and an inherent value. Some would say that the value nonhuman lives depend upon their usefulness for human life. This conception is entirely wrong and triggered by utilitarianism of which much has been said by both Kant and Marcel.

2. Individuality, multiplicity and biodiversity contribute much to the realization of these values in each individual form of life.

3. Humans have no right to take away or deny this richness in nonhuman lives.

4. Changing our ideology from quantitative life to qualitative one, more specially appreciation of inherent and intrinsic values of being.[20]

Among various movements in the late 20th century, deep ecology attracted many thinkers from various worldview, cultures, religions, and nationalities. The mere factor that it consists of people with diverse religious, philosophical, cultural, and personal orientations testifies that deep ecology as philosophy is more comprehensive than other ecological movements and environmental philosophies. The depth of deep ecology is in the advocacy of the inherent worth of living beings, the reconstruction of modem societies, interrelationships between beings, and, legal rights of living environment. However deep 'deep ecology' may be, when it is compared to *philosophy* of organism, deep ecology is still shallow. Philosophy of organism deals with the fundamental facts which final and ultimate realities of the universe.

1.7.2. Ecological Models

Sahotra Sarkar speaks of three types of ecological models: *Population Models, Community and Ecosystem Models.* In the first types of models, what the author means by

[20] Freya Mathews, "*Deep Ecology*," in Dale Jamieson, ed., A Companion to Environmental Philosophy, op. cit., P.222

population is potentially interacting individuals of a particular species. In this model, the rise of one population leads to the fall of another population. The flourishing of human life and cultures should in compatible with a substantially smaller human population; the flourishing of non-human life requires a smaller, human population 2. Present human interference with the non-human world is excessive, and the situation is rapidly worsening; 3. Polices must be changed. These polices affect economic, technological, and ideological structures; 4- Thosewho subscribe to the foregoing points have an obligation directly or indirectly to try to implement.

He divides the animal species into two populations: predictor population and prey population. As prey population increases, the predictor population also increases, because of the rise of the increased availability of food resources and of course, when the predator population increases, the prey population has to decrease, because predator population hunts the prey population for their survival.[21] Secondly, *Community models* consist of interacting species forming an ecological community, in which 'each species is treated as a unit. Community means not a mere geographical association of species, but a higher degree of structure in the interactions with other species. These types of community models are analogous to that of the organism. In these interactions, the relevant species can increase or decrease or even get extinct. In the community models, it is indispensable that there should be diversity — diversity in species, because diversity begets stability. Diversity affirms the interaction between species, which results in their stability. But the idea that diversity begets stability," is just an assumption; it may be or may not be true. But diversity species, though it is assumed to be "richness." may sometimes lead to the extinction of biosphere. The theory of natural selection suits this model. Many think wrongly that natural selection will bring

[21] Sarkar, *Biodiversity and Environmental philosophy An Introduction* (Cambridge: Cambridge University Press, 20lO), pp.109-114.

equilibrium and they interpret that it is actually the transition to equilibrium. On the other hand, natural selection excludes the less-fit and gives rise to only the strong.[22] Finally, Ecosystem Model was suggested by A. G. Tansley and was explained by him as "the system (in the sense of physics) including not only the organism complex (that is, the community), but also a complexity of physical factors forming, what we call, the environment of the biome habitat factors in the widest sense."[23] Therefore, ecosystem models contain the basic units of nature on the earth. Ecosystem models helped to shift the move from population with interacting individuals to more larger and inclusive eco-systems. The fact that eco-system model is much larger and more inclusive brings this model closer to Whitehead's holistic philosophy of organism, for it appreciates complexity in nature and depreciates the possibility of reducing wholes into parts. Whitehead's philosophy of organism appreciates the unity of parts; for, he argues that the term 'many' conveys the notion of 'disjunctive diversity, and the term 'conveys the notion of conjunctive unity.[24] It means that the 'many,' which are the universe disjunctively become the one actual entity, which is the universe conjunctively through creativity. Though Whitehead's philosophy analyzes actual entity into parts, it insists on the unity of existence or on the indivisibility of the actual entity.

1.7.3. Eco-phenomenology

Eco -phenomenology is an important branch in the history of Eco philosophy which studies our experience and our relationship with nature in itself In the introduction to the book, *Eco-phenomenology: Back to the Earth itself,* Charles S. Brown and Tea Toadvine affirm that phenomenology starts with the slogan, "return to the "things" or "matters" themselves," that is, the return to the world itself, because they pinpoint that Edmund Husserl

[22] Sahotra Sarkar, *Biodiversity and Environmental philosophy: An Introduction*, op. cit., pp. 114-123
[23] A. G.Tans1ey, "*The Use and Abuse of Vegetation Concepts and Terms*," in Ecology No.16 (July 1935), pp. 284 - 307
[24] Alfred North Whitehead, Process and Reality: An Essay in cosmology, op. cit., p. 21

always referred to the themselves.[25] These authors do assert that phenomenology starts 'with experience. This conception already adds flavor to the convergence between phenomenological method and environmental concerns. Brown and Toadvine gives three reasons to use phenomenological methods in the environmental studies. First, phenomenological anthology namely, "return to the things themselves" and the criticism of phenornenology over scientific realism which forgets in experience lead phenomenology towards environmental thoughts.

Second, Menology tries to offer us some alternatives to our wrong tendencies such as, the obsession objectivity, anthropocentric conception of value, and other forms of Cartesian dualism. Phenomenology opens up a horizon for all types of our experiences with nature enhancing our philosophical thinking and initiating apt responses to environmental experiences.[26] There is possibility of development of an axiological rationality in Husserl's theory of intentionality. This axiological rationality leads to the articulation of goodness and value within non – human nature. Erazim Kohak would argue that Husserl's phenomenology is necessary for two reasons: ,"first, to fulfill the European dream of a commitment to reason as the arbiter of .and evil; and second, to provide a vision of the world and our place in it that makes our long range sustainable coexistence with the community of life." Bruce, Foltz confirms that modern man conceives nature as a second-order exteriority or faceless surface or superficiality. To the modern world, nature has become an externality without raving the internality (inner side).

As externality *(res extensa),* it stands out as a pure object, to be known by the knower *(res cogitans).* Contrary to this idea of exteriority, Bruce ascribes interiority to nature The nature we see, observe, and experience has another side which is not visible to our naked eye

[25] Charles S. Brown and Ted Toadvine*, Eco-Phenomenology: Back to the Earth itself* (Albany: State University of fork Press, 2003), p. xi

[26] Char1es S. Brown and Ted Toadviné, Eco-Phenomenology: Back to the Earth itself, op. cit., p. 24

and which contains a lot that makes it what it is Bruce writes, What faces us has an inside and what has an inside is alive." One should have an aesthetic appreciation of the inner life and the inner voice of nature. Nature has a face which expresses its inner life Bruce affirms that one should have a sense of a unified life of nature and a sensibility, for a second side or another side or a third dimension of nature. What Bruce asserts is that we need to see nature as whole with both the inner and the outer sides, that is, interiority and exteriority. From this conception of nature as whole, he affirms that one can understand nature as *givenness,* a *bestowal* or in myth-poetic and aesthetic-theological word, *creation*. The other side of the nature gives us more elaborate or a wide picture. It makes the nature more than what we think it is. Normally we do not see the other side but we can sense it. Modernity externality, but according to Bruce Foltz, there are poets, such as Thoreau, Muir, r; Berry, Dillard, and Lopez who see both the other side, as well as the outer side of the nature and out of this experience they refuse to externalize nature and they become communion with its interiority.

Bruce asserts that Husserlian Phenomenology tries to articulate the *givenness* of phenomena and the prerequisites for encountering both the phenomena in their *givenness* and in the process of *givenness* itself In this approach, we are moving from the conception of modernity about 'nature as *self-subsistence* to that of *emergence* and *givenness* This phenomenology of nature's *givenness* will make us preserve the nature, the one which is whole and holy which has an inside and outside, and which is valuable and venerable.[27] Eco-phenomenology avoids classical Cartesian dualism so as to enable us find an adequate relationship with nature — a relationship which cannot be reduced either to the causality meaningless matter in motion nor to the meaning posed by the human subject. Secondly, Eco-phenomenology would recognize nature's axiological qualities as both inherent and intrinsic.

[27] Bruce V. Foltz, "*Nature's Other Side: The Demise of Nature and the Phenomenology of Givenness," in Bruce V. Foltz and Frocieman Robert, Re1hinkng Nature: Essays on Environmental Philosophy* (Bloomington and ;. Indianapolis: Indiana University Press, 2004), p. 333.

Eco-Phenomenology offers a methodological bridge between the world in itself and the world as conceived. Finally, Eco-Phenomenology transcends all academic disciplinary boundaries All these characteristics of eco-phenomenology also characterize whitehead's philosophy of organism. In addition to these characteristics, there are two other aspects of phenomenology which can also be found in Whitehead's philosophy.

The first aspect is that phenomenology is also an *object-oriented-ontology,* which explains the quantum aspect of whitehead's philosophy of organism. The second aspect is the realistic nature of eco-phenomenology, which clarifies his reformed realism. The third eco-phenomenological aspect, exp1icates that living experiences are the foundations for knowledge and understanding of world, is the starting point in Whitehead's philosophy of organism. Finally, the fifth aspect, which is the inter-dependent web of life, is the core of the philosophy of organism.[28]

1.7.4. Elemental Philosophy

There is another ecophilosophy which is called *elemental philosophy* proposed by David Macauley. He wrote a book entitled, *Elemental Philosophy: Earth, Air, Fire, and Water as Environmental Ideas,* in the year 2009. He wrote it out of his own childhood experience drawing inspiration from semi domesticated wild nature and *its* forays, and from the reading of pre – Socratic meditations on earth, air, fire, and water. He accuses philosophers and other thinkers from other disciplines to have forgotten the perennial elements (he means by perennial elements *(stoicheia)* the four elements: earth, air, fire, and water), for often times the disasters come from this elements. He insists that philosophy must also be concerned with meteorological entities as well. Though David Macauley treats all these four elements individually, he always stresses their unity and interconnectivity without

[28]Bruce V. Foltz and Frodeman Robert, Rethinking Nature: Essay on Environmental Philosophy, op. cit., pp. 337-338

reducing their plurality and individuality. He adds to the objective unity of the ultimate elements, the fact of profound interdependence between and the elements.[29] He questions whether anyone minds about elemental entities, such as elemental places, forces, of the surrounding world as well.

The whole purpose of the elemental philosophy the author says, is to insist on the elemental composition of these elements, and try to reinstate or restore the order. For this the author suggests that we should go back to the ancient. Whitehead insists on of the hugeness of the elements as he inscribes in *The Concept of Nature*, "Earth, water, air, fire and finally ether bear witness to the undying vitality of Greek philosophy in its search for ultimate entities which are the factors of the fact disclosed in sense-awareness." The elements Macauley mentions in his philosophy are still gigantic when we compare them with atomic particles of Modern science. Whitehead's philosophy of organism is an elemental phycology like that of David Macauley, because it deals with organisms which are actually final realities of the universe, and which cannot be disclosed in human sense-awareness. Macauley gives four reasons why he has chosen the elements (earth, air, fire, and water) for investigation. The first reason is that the elements are more concrete and less abstract than the notion of "nature." They serve as a platform for sense experience, and from there one can easily move to an intellectual investigation. Secondly, the elements are part of our daily life, for the elements of modern chemistry are not the elements of our immediate, cultural, and imaginative experiences. Thirdly, Macauley says that we need to historicize the elements of nature and our relation of them for the restoration of the environment; for, it is true of the intellectual history there was appearance of these elements in the beginning, then disappearance and then again reappearance of them with the much influenced idea of the new element ether *(aether)* in the

[29] David Macauley, *Elemental Philosophy: Earth, Air, Fire Water as Environmental Ideas* (Albany: State University of New, York press, 2010), pp. xi-xii.

twentieth century. His theory surveys the four or five elements as they are given, interpreted or illustrated in pre-Socratic literature, classical Greek philosophy, nature writings, phenomenology and continental theory and to some extent, literature and art, and not as given by the modern science, because modern science compartmentalizes them. Finally, by going to back to the history of the ideas of these elements, we bring forth hindsight for our future thinking of environmental ideas.[30]Whitehead's philosophy of organism is deeper and more ontological than elemental philosophy. Elemental philosophy as such has a bearing with the philosophy of organism because of the subject of its philosophy, its atomicity, its general metaphysical ideas such as, Interrelatedness between elements, principle of creativity, elements as final realities, and principle of unity and multiplicity. Appreciating the elemental philosophy can be a preliminary condition for comprehending Whitehead's philosophy of organism.

1.6.5. New Cosmology

There is a revolution in our cosmological stories which began in the beginning of the 20th century. Amidst the various religious and cultural stones about the origin, structure and nature of universe, there became a new story, a scientific story of the universe which was called by *then new cosmology* or *scientific cosmology.* In the year 1781, Friedrich William Herschel found one new planet called *Uranus* with two of its major moons, *Titania* and *Oberon* in the year 1787 and also another two moons of *Saturn, Enceladus and Mimas* in 1789 with the help of the largest reflective telescope. In 1924 an American astronomer named Edwin Hubble discovered some cloud of gas (indistinct actual galaxies) far outside the Milky Way. Later in 1929 Hubble discovered that the distant galaxies are moving away from ours. The farther they are the faster they move away. Actually he discovered the expansion of the

[30] David Macauley, *Elemental Philosophy Earth, Air, Fire and Water as Environmental Ideas, op. cit.., pp* 3-5.

universe.[31] Our universe is very vast what we have found is only one percent of the whole universe. Our galaxy the Milky is only way is only the *Local Group* of galaxies holding ours and *Andromeda* galaxy and other fifty small satellite galaxies. Other than the local group, there is the *Local Superciuster* of galaxies which spread out for about a hundred million light years across and is still expanding.

The list goes on and on. Now the question is: how can we as human beings fit into this vast universe? We are the only intelligent beings so far, and we are the ones giving meaning to this universe it. That is why Nancy Ellen Abrams and Joel R. Primack ask us to take a *cosmic perspective* in all our endevours because they insist that the future of all animals and other species of organisms depend on us, the human beings. They propose this system of *cosmic perspective,* because still most people live in an obsolete cosmology. They live in an illusion of a universe and not in the real new and scientific universe. Their universe is cultural and religious which is mostly a magical one. The consequence of this ignorance among the people is the destruction of the environment. New or scientific cosmology should inspire people how to fit themselves into this universe and embrace a cosmic perspective in their relationship with the world. Nancy Ellen Abrams and Joel R. Primack mention three challenges: we have to break through and see the new cosmos as a shared home; we use this new knowledge to develop a long-range and a large scale vision which is based on the scientific understanding of both the universe and our behavior and their interplay for our reality. We seek to understand nature in order to harmonize our behavior with nature.[32] According to these thinkers, the cosmic perspective is also destined to create a cosmic society. For, science is the only discipline which can form a larger society; other institutions, such as

[31] Nancy Ellen Abrains and Joel R. Primack, *The New Universe and the Human Future: How a Shared Cosmology Lould Transform the World* (New Haven & London: Yale University Press, 2011), p. xiii.
[32] Nancy Ellen Abrams and Joel R. Primack, *The New Universe and the Human Future: How a Shared Cosmology could Transform the World, **op.** cit., p.* 117.

religion and culture can never do that because they are relative d to some extent, they are sources of division. Since science's results are verified by experiments, they serve as foundations. When the new and scientific cosmology becomes a shared story it gives us new knowledge about our dynamic and organic planet endowed with the richness of life, the planet which needs an enormous future, it expresses the need to stop our increasing interference with the earth's natural systems and create a sustainable relation with our home planet.[33] Though new cosmology is based on the Modern scientific celestial inventions, it is not simply knowledge. It is more than knowledge. It is a discipline, a philosophy, and a worldview (scientific worldview). It is also a wish of some scientists that it becomes a way of life. Due to of this worldview it has got all these characteristics It also includes that this worldview is also universal or cosmic, scientifically verifiable, and pragmatically applicable. It is of these characteristics that this worldview becomes more relevant to the people of our time in general and to those who believe in science than in any other social, cultural and institutions such as, religion.

1.7.6. Non-disjunctive Approach

Non-disjunctive approach was projected by Bruce Wilshire together with Ron Cooper. There is an intimate relationship between nature and nurture; it is nature which nurtured all the species, especially humans. But humans have a tendency to view nature and nurture or nature and human disjunctively always in sportive mentality, that is why, there are nature-based and human based ecologies. Within this disjunctive worldview, there is no possibility to understand ourselves as body-selves originating and thriving within the web of natural connections and develop an ecological attitude accordingly. If there is to be a possibility of integrated wholeness, then according to Bruce Wilshire, we are supposed to embrace his *Non-*

[33] Nancy Ellen Abrams and Joel R. Primack, *The New Universe and the Human Future: How a Shared Cosmology could Transform the World, **op.** cit., pp.* 144-145.

disjunctive Approach. By disintegrating ourselves we actually separate not only our "selves," but also our "bodies," which are being nurtured by nature for millions of years. We are alienated from the very sources of our nurturing.[34] There is a wide-spread *dysthymia* (unhappiness) among people in the contemporary world. This is the kind of feeling of "not being at home;" as Heidegger puts it, it is *uncanniness.* We never feel as beings of this world. There is no "nature in itself' and there is no humanity in itself" The world is not composed of independent, atomistic individuals, but rather everything is related to everything in some way. Everything exists as organisms nurtured by the nature over millions of years.'[35]

By creating a dichotomy between nature and nurture, we have created dichotomy between our "selves," and our "bodies," and between "nature" and our 'bodies." The dichotomy between 'self' and 'body' leads to the dichotomy between 'self and 'nature' For David Abram writes, "Our bodies have formed themselves in delicate reciprocity with the manifold textures, sounds, and shapes of an animate earth - our eyes have evolved in subtle interaction with other eyes, as our ears are attuned by their very structure to the howling of wolves and honking of geese."[36] The creature's sounds, sights, and movements are built into the sounds, sights and movements of our bodies; it is interwoven into our bodies through our musculature and nervous system over millions of years by evolution that constitutes the identity of each thing. Bruce Wilshire instead of scientism proposes the concept of "Local Experience," whereby we experience inter-corporeality and kinship with other species. He also adds that the body, self -human experience, nature, and nurture are not things for dualisms, but .they are constitutive conceptions our lives and interconnections of our natural

[34]Bruce Wilshire, and Ron Cooper, "Nature and Nurture A Non-disjunctive Approach," in Bruce V. Foltz and Robert Frodeman, eds., Rethinking Nature: Essays in Environmental Philosophy, op. cit., pp. 302-303
[35] Bruce Wilshire, and Ron Cooper, "Nature and Nurture A Non-disjunctive Approach," in Bruce V. Foltz and Robert Frodeman, eds., Rethinking Nature: Essays in Environmental Philosophy, op. cit., p. 304
[36] David Abram, "The Ecology of Magic," *Orion* (summer 1991); p. 38.

nurturing.[37] In non-disjunctive conception of reality, one can testify that there is "interrelatedness" between creatures. This is an aspect of the philosophy of organism which Whitehead used to stress in his philosophy. Interrelatedness is a constitutive aspect of environmental philosophy without which there cannot be a strong ecophilosophy.

1.7.7. Ecofeminism

The term is believed to have been coined by the French writer, Francoise d'Eaubonne in her *book, Le Feminisme ou la Mort* (Feminism or Death) published in l974.[38] Ecofeminism means a movement or a philosophy which tries to link feminism with ecology.[39] Ecofeminism expresses the connection between the oppression and domination of women with that of the environment, the environment like women is said to be dominated and devastated by western patriarchal society,[40] In other words, we can also say that ecofeminism tries to connect sexism and abuse of nature. Thus domination of women presupposes the domination of nature. Eco-feminist make a connection between feminism and environment on various grounds, such as historical, conceptual, empirical, epistemological, ethical and political grounds.[41]

According to Carolyn Merchant, the starting point of women oppression began with the Copernican revolution. The shift from an *earth-centered* to a *sun-centered* universe meant for her the view of replacing a *women-centered* universe with that which is *male-centered.* We understand this revolution from the background of the traditional practice of associating the sun with 'manliness' and earth with 'femaleness.' In addition to that, she also takes into

[37] Bruce Wilshire, and Ron Cooper*, op. cit.,* p. 312.
[38] Carolyn Merchant, *Radical Ecology: The Search for a Livable world* (New York: Rutledge, 1992), p. 184; see Charlene Spretnak, "Critical and Constructive Contributions of Ecofeminism," in Mary Evelyn Tucker & John Grim, eds., *Worldviews and Ecology: Religion. Philosophy and the Environment* (Maryknoll, New \ork: Orb is oks, l994),p. 181.
[39] Sherilyn MacGregor, *Beyond Mothering Earth: Ecological Citizenship and the Politics of Care* (Vancouver: UBC Press, 2006), p. 286.
[40] Charlene Spretnak, "Critical and Constructive Contributions of Ecofeminism," in Mary Evelyn Tucker & John A. *worldviews and Ecology: Religion, Philosophy and the Environment, op. cit.,* p. 181.
[41] Davion, "Ecoferninism," in Dale Jamieson, ed., *A Companion Environmental Philosophy* (Malden, Sachusetts USA: Blackwell Publishing Ltd, 2001), p. 233.

account the Aristotelian association, that is, the association of 'activity' with masculinity and 'passivity' with femininity. Therefore she says that this change brings fear and break down in nature's order. This is a male desire to control nature, that is, to control the wild and violent feminine nature. Hence the view of nature like a mother nurturing all living organisms becomes irrelevant.[42]

Merchant continues to explain how the twin dominations of women and nature have been intertwined historically and conceptually in her subsequent writings. Charlene Spretnak confirms that Ecofeminists reject the rationalist conception of self and instrumental view of nature that dominate in the field of environmental ethics, because this conception of instrumental value to the environment does not ascribe intrinsic values to nature rather it assigns only an instrumental value. Ecofeminism challenge the Eurocentric concept of rights as a basis for the philosophical framework of environmental ethics.[43] Val Plum wood holds the point that there exists a dualism of reason/nature which underlies the conceptual framework of western patriarchal cultures. This dualism leads to a series of dualities, in that whatever is identified with reason is considered to be superior to whatever is associated With nature There are five features which underlie the dualism of reason/nature: *(i)* creating dependency of the oppressed, the oppressed is always nature; (ii) constructing supposed radical differences between the oppressed and oppressor in order to subordinate the oppressed; (iii) highlighting morally irrelevant feature in the oppressed; (iv) branding the oppressed as morally inferior and lacking moral interests; and. (v) denying .the differences between those on the underside of dualized pairs. Many Ecofeminists say that in order to solve

[42] Carolyne Merchant, *The Death of Nature: Women, Ecology, and the scientific Revolution* (New York: Harper Wall, 1983), p. 7.

[43] Charlene Spretnak, "Critical and Constructive Contributions of Ecofeminism," in Mary Evelyn Tucker & John A. . eds., *Worldviews and Ecology: Religion, Philosophy and the Environment, op.* ***Cit.,*** p. 182.

environmental we problems we need to celebrate the femininity and feminine values, first of all, within the and later in our families and societies.

If women's lived experience were recognized as meaningful and were given legitimatization in our culture, it would provide an immediate "living" social basis for alternative consciousness which the deep ecologist is trying to formulate and introduce as an abstract ethical construct. Women already, to borrow Devall's turn of phrase, "flow =I the system of nature."[44] According to Salleh, there is no need of any other ethical value system than the behaviors or characteristics of our women to help us create good relationship with nature. All together Ecofeminists challenges environmental philosophy to disown the domination of male sex and right-fixations (ascribing rights only to masculine and rejecting it to femininity nature) and to uphold that the human relationships between the self and the rest of the world cognitive. There are four important aspects which are worthy-mentioning here. First, ecofeminism is a comparative and descriptive style of environmentalism. Second, the oppression of the natural World is interpreted in such a way that it is similar and causally connected to the oppression of women. The question is: Is that the only type of oppression which can be compared to environmental crisis? There are some other types of human oppression which can be compared oppression of the natural world. For example, the oppression of children, mentally and retarded and vulnerable people can also be compared with the oppression of some plants and animals which are not useful to human development. Thirdly, the intersection of the oppression 'natural world and of women necessitates liberation of both women and nature. It implies that any solution to environmental crisis has to involve in the liberation of women too. Sometimes, it becomes the requirement that first one has to solve the problems that women face in our society before solving any environmental problem.

[44] Ariel Kay Salleh, "Deeper than Deep Ecology: The Ecofeminist Connection," in *Environmental Ethics* 6, no. 1. P. 24O.

Finally, in ecofeminism, mostly with some exceptional men, who are Ecofeminists, are involved in fighting against the oppression of nature. Even among women, not all, but only those who are Ecofeminists who involve in restoring the environment. In this sense, ecofeminism has not really reached all people.

1.7.8. Transpersonal Ecology

Transpersonal Ecology is largely associated with Warwick Fox. He has written a book called *Transpersonal Ecology* in 1990. He gets inspiration from deep ecology of Arne Naess. He acknowledges this fact in the 7th chapter of his book: Naess' philosophical sense of deep, ecology refers to this-worldly realization of as expansive a sense of self as possible in a world in which selves and things-in-the-world are conceived as processes. Since this approach is one that involves the realization of a sense of self that extends beyond (or that is *trans-)* one's egoistic, biographical, or personal sense of self, the clearest, most accurate, and most informative term for this sense of deep ecology is, in my view, *transpersonal ecology.*[45]

This is a psychologically based approach as opposed to an axiological one which is value-based. The first thing that we need to understand in transpersonal ecology is that the prefix, *trans* does not mean 'across' rather it means 'beyond' (inter alia) as in 'transform,' 'transfigure,' or 'transubstantiation,' meaning 'changing thoroughly,' and 'transcending.'[46] That means by using prefix, *trans,* the proponents of transpersonal ecology mean that transpersonal ecology is an ecological consideration beyond one's egoistic, biographical, or personal sense of self[47] We can also mean as 'beyond individuality,' and towards something

[45] Warwick Fox, *Toward A Transpersonal Ecology: Developing New Foundations for Environmentalism* (Boston, : London: Shambhala, 1990), p. 197.
[46] Taken from Collins English Dictionary; as given by Warwick Fox, *Toward A Transpersonal Ecology: Developing :;New Foundations for Environmentalism, op. cit.,* p. 198
[47] Warwick Fox, *Toward A Transpersonal Ecology: Developing New Foundations for Environmentalism, op. cit, p. 11*

which is more inclusive than the human person.[48] Transpersonal ecology is a call given to all to bring awareness to each one that he/she has a wider, ecological, and big self— a wider circle of identification of one's self with whole of the universe and to realize this big self in their relationship (approach) with nature. Arne Naess compares this big self with the atman of Hindu philosophy meaning that a comprehensive self-embraces all the life forms on the earth.[49] The second thing with regard to transpersonal ecology is that there is a relation between transpersonal ecology and transpersonal psychology, in that, transpersonal ecology has a twofold task of 'ecologizing' transpersonal psychology, and 'psychologizing' our approaches of ecophilosophical issues. To promote transpersonal ecology one has to become transpersonal in his/her behavior and behave from his/her ecological self.

Charles Darwin's biological evolution by natural selection and the divinization of the Darwinian biological evolution by Teilhard de Chardin are all anthropocentric as they have given importance to human evolution within the cosmic evolution. Transpersonal ecologists reject this view of evolution which says that the evolution is completed in and through human evolution. Transpersonal ecology is against anthropocentricism and has taken direction towards naturalism transcendental direction. Transpersonal ecology promotes relationships based on Kant's view on relationship, that is, a relationship based on 'ends' rather than 'means. Transpersonal ecology is interested in the "more-and-more-inclusive-self," which is more of non-anthropocentric, naturalistic, and ecologic-cosmological.[50] Finally, Francis Vaughan says that conceptualizing the self as tiny ecosystem within the larger ecosystem of the world will foster the shift from the conception of the self as independent and separate

[48] Abraham Maslow, *Towards a Psychology of Being,* 2" ed. (Princeton: D. Van Nostrand, 1968) quoted by Anthony *J.* Sutich, "The Emergence of a Transpersonal Orientation: A Personal Account," in *The Journal of Transpersonal Psychology,* vol. 8 (1976), p.16.

[49] Arne Naess, "The Deep Ecological Movement: Some Philosophical Aspects," in George Sessions, ed., *Deep Ecology 21's century, op. cit.,* p. 80.

[50]Warwick Fox, *Toward A Transpersonal Ecology: Developing New Foundations for Environmentalism, op.* Cit pp199-202.

entity to the recognition of the self as dependent one.[51] Transpersonal ecology endorses cosmological or transpersonal identification with nature, non-anthropocentric ecology, respect and concern, and intrinsic worth of non-human world. This type of ecology upholds the realization of a self which is ecological. Transpersonal ecology is just an aspect of many implications that can be derived from the philosophy of organism. Whitehead's theory of organism is a transpersonal ecophilosophy whereby it studies the ultimate final realities which are 'selves' in the subtlest meaning of the term, 'self;' for, they involve in the activity of, Self-constitution or self-becoming.

1.7.9. Ecopsychology

Ecopsychology studies the relationship between human beings and the natural world with the *help* of combined principles both from ecology and psychology. Traditional behavioral system has developed much environmentally damaging behavior in the consciousness of man. These behaviours distort the harmonious relationship between individual human beings and nature resulting in environmental degradation. *Ecopsychology* seeks more understanding to expand the emotional connection between individuals and the natural world and encourages individuals to lifestyle and to eliminate alienation from nature. The term, *Ecopsychology* was, coined by Theodore Roszak in, *The Voice of the Earth: An 'Exploration of Ecopsychology,* which he wrote in l992.[52] He later developed this concept in *Ecopsychology: Restoring the Earth Healing the Mind* written in 1995 with Mary Gomes and Allen Kanner who joined him as co-editors.[53]

According to Theodore Roszak, the purpose of *Ecopsychology* is to bridge the gap between ecology and psychology by ensuring that the needs of the planet, earth and of human

[51] Francis Yaughan, "Discovering Transpersonal Identity," in *Journal of Humanistic Psychology,* vol. *25* (1985), p. 38

[52] Theodore Roszak, *The Voice of the Earth: An Exploration of Ecopsychology* (Grand Rapids, USA: Phanes Press, 1992), *p:* 13.

[53]Theodore Roszak, M.E. Gomes, AD. Kanner, eds., *Ecopsychology: Restoring the Earth Healing the Mind* (San Francisco: Sierra Club Books, 1995), *pp.* xii-xvi, 101-135.

persons are fulfilled. In the beginning, there was no difference between human psychology and Ecopsychology. When both were together, traditional healing Method was holistic both mind and nature, and psychotherapies were considered to be cosmically connected. The whole world was in the human self and human self was in the world. However, this view was distorted by psychiatry of the modern Western society. In the past, the human mind was shaped by its environment, because human being was closely related the human mind is formed by modem scientific and technological world. The interaction with nature is diminished, and the environmental consciousness vanishes from human mind. Ecopsychology declares that our growth, suffering, sickness and healing are inseparable from our relationship with nature. In addition to that, the sources of environmental problems is in our psyche, behaviuor in the image that we have about our 'selves' and nature. Therefore it fosters lifestyle that is both ecologically and psychologically healthy.

Wilber agrees that *Ecopsychology* is fruitful in as far as it brings *coconsciousness* to human beings. He affirms that some natural sceneries such as, brooks, streams, meadows and backwoods help humans relax their egoistic selves and seek mental health and transformation.[54] He asserts that deep experiences of nature serve as paradigms for mystical experience and help to cultivate extraordinarily human development. As we are looking into *Ecopsychology,* it is important to notice Wilber's distinction between nature and Nature. The former with the small letters refers to the physical world in its original appearance and the latter with the capital letters refers to the entirety of existence of nature including its physical, psychological, cultural, and spiritual dimensions.

Understanding nature in its limited sense is always dangerous. That is why Wilber contends, "Nature worshipers are the destroyers of Nature."[55] Another important thing in

[54] Ken Wlber, A Brief History of Everything (Boston: Shambhala, 1996), p.291
[55] Ibid., P. 81.

Ecopsychology is the awareness of the non-dualism between nature and psyche. The union between nature and psyche cannot be the unification of each other not even idealization and divinization of one against the other. This union is complementary; thus according to Warwick nature becomes both 'self' and 'home' for humans. The nature becomes our 'selves' and home. Warwick identifies three aspects of self: *desiring-impulsive aspect, rationalizing-deciding aspect,* and *normative-judgmental aspect. Rationalizing deciding self* is said to represent the rational and the realistic aspects of our self in contrast to *desiring -impulsive* and *normative-judgmental self* which are unrealistic and irrational. Therefore, *rationalizing-deciding self* is connected with resource-based approach, unlike *desiring - impulsive self* which is of exploitation and expansion approach and *imperative judgmental self* which is intrinsic value approach.[86] *Imperative-judgmental self* can lead to anthropocentricism and *desiring-impulsive self* to exploitation of nature. Therefore, *rationalizing - deciding self is* more ecological, because it aims at 'maximum sustainable yield.' Warwick goes on expanding the doctrine of formation of self in nature.

Coming back to the doctrine of fundamental non-duality between nature and self, Deborah Winter explains that in order to remain in this non-duality, we have to accept that the conception of our "selves' as separate autonomous entities is incomplete and inaccurate. This conception will require a shift in consciousness, that is, a shift from the smaller, autonomous, ego-centered self to a wider, deeper ecological self.[56] For Wilber, *Eco psychology seems* to lead us to nature mysticism, in that a person may dissolve his/her individual self in nature and become a nature mystic. Dualism between nature and self is really a central problem which is both Psychological and environmental. It has led people to dominate, exploit, and destroy nature. Ecopsychology tries to unify nature and self-abolish dichotomy between them. *Ecopsychology* is merely a psychological approach to environment. It explicates how human

[56] Ken Wlber, *op. cit.* p. 204-210

'self' is formed by nature, how humans have separated themselves from nature, and how to come back to nature by adapting an ecological 'self' This is just one aspect of environmental psychology. For example, the concept of God has no place in *Ecopsychology.* It is purely a relationship between nature and human psychology like that of nature/nurture relationship.

1.8 Theoretical Framework

The theory of process philosophy behind which this project is anchored can be subdivided into the following main sections: spiritual or sacred approach; ethical approach; psychological or beheavioural approach; historical approach; and epistemological approach. All these five categories or approaches are divided according to the different ways through which human beings relate with the environment.

Ethics comes to play a major role in this relationship between the self and others reciprocate relationships, values, responsibilities, and purposes. In Whitehead's philosophy of organism, existence is bipolar: subjective and objective existence. This bipolarity of existence abolishes the wrong understanding of environmental ethics as subjective existent the concrescing actuality utilizes other objective existents as data for its own creation. The conception of interrelatedness or immanence which exists between past, present and future implies that the contemporary world is the result of past and the future of the world is already inherent in the present world. Jorge Luis Nobo, in the preface of his book, *Whitehead's Metaphysics of Extension and Solidarity,* mentions how solidarity becomes the fundamental project of the philosophy of organism.

There are three proposals which can be derived from Whitehead's philosophy of organism for the psychological or the beheavioural approach to environment: the ecological self, transpersonal ecology, and non-anthropocentrism. The self is always being disassociated with the rest of the nature in dualistic philosophies. The main reason for this

disassociation is the distinction between the lower and higher levels of beings rooted in the substance-quality or subject-object categories. Whitehead established equality among the actual entities by coming up with a primary and fundamental activity of all actual entities which is the act of 'feeling.'[57] According to him, the primary other primitive, mode of perception devoid of consciousness[58] or prehension is feeling. Both sensory experience and consciousness are derivative of the primitive experience which is perception.[59] Perception is the mode of awareness of the casual connections between actual entities.

Consciousness is arrived at latter in the concretion, especially in the higher forms of concrescence or in other words it arises in the supplemental stage[60] and the function of consciousness is to illuminate the higher phase from which it arises and also earlier phases, derivatively. Consciousness cannot totally illuminate the initial phase of the experience.[61] The deference between human beings and other entities of the world is marginal. In human beings, the subjective form is consciousness; whereas, in other entities, the subjective form of experience is feeling which even human beings possess. Should higher types of values be ascribed to humans or nonhumans? Each type does better in its own area or field.[62] Whitehead says that humans are only one species of existence among many other species and they are not the centre. "Again, human beings are merely one species in the throng of existences. There are the animals, the vegetables, the microbes, the living cells, the inorganic physical activities."[63] He widens the concept of nature to include human

[57] David Ray Griffin; *Whitehead 's Radically Different Postmodern Philosophy: An Argument for its Contemporary Relevance, op. cit.,* p. 79
[58] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* p. 236
[59] David Ray Griffin, *Whitehead's Radically Different Postmodern Philosophy.' An Argument for its Contemporary: Relevance, op. cit*., p. 79.
[60] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* pp. 165, 214.
[61] *Ibid*. pp. 162.
[62] Warwick Fox, *Towards a Transcendental Ecology, op. cit.*, pp**.** 14-15.
[63] Alfred North Whitehead, *Modes of Thought, op. cit.*, p.112.

experience and changes the basis of human identity, so that it cannot be identified only with mind, but also with body or matter.

In the historical approach, what is important is the actual entities within time and space. The fact that each occupies space at a particular time brings about the historicity of actual entity. It means that historical approach involves the physical prehension and the second the process of transition in which the subject after finishing its process becomes the object for further processes. The main focus in the historical approach is the continuation of environmental history. Historical approach explains how the environmental history is being carried out from one generation to the next. Normally the process of actual entity is recognized as a genetic process rather than temporal one because of the task of the actual entity to create itself genetically. There is no nature apart from transition and there is no transition apart from temporal duration.[64] This is so because all movements involve all three aspects of time: past, present and future. Both *concrescence* and *transition* are essential for the continuity of the environment. New creations should continue to flow whereby the world will continue to survive until the end. Time in the historical process is important and it is in virtue of time involved in both types of process: momentary process, such as the individual constitution of actual entities; and transitional Process such as the enduring entities that there is continuity of environmental history. There cannot be history without change since it is the process or change that creates history. Change involves time and therefore, history involves time. Nanda explains the relation between time and nature as: "…there is time because there are happenings, and apart from happenings there is nothing."[65]

[64] North Whitehead, *Modes of Thoughts op. cit*., p. 152.
[65] Ruth Nanda Anshen, *Alfred North Whitehead. His Reflections on Man and Nature* (New York: Harper& Brothers Publishers, 1961), p. 90.

Organic epistemology which is implicitly found in Whitehead can become a solution or a model for approaching environmentalism. Whitehead gives a notable difference between ancients and moderns. He says that the ancients were interested in what they were able to know, that is, they were interested in the object of knowledge. Moderns questioned whether human beings could know something distinctly and clearly, in other words they were interested in the 'subject.'[66] It means that modems were interested in their capacity to know. This can be understood as a division between subjectivists and objectivists. Whitehead's epistemology unifies both the subjectivist approach and the objectivistic approach through organic epistemology which is is twofold: presentational immediacy and causal efficacy.[67] Kant tries to compromise these two sensory impressions and intellectual concepts by introducing the category of understanding. By perceiving others, we incorporate them into the constitution of ourselves. Presentational immediacy in the organic epistemology is the conscious awareness of what is happening at the level of causal value, namely that everything is intimately related to its past world. With regard to the nonhuman world, its experience is only causal value, but for human beings our day to day experience is both. How then does the nonhuman world know through causal value? Our common sense argues that every experience includes mind.

The question arises about whether the nonhuman world has a mind? Whitehead establishes that one cannot validly maintain the dichotomy between the mind and body because one cannot really tell where the body ends and the mind starts. Therefore, since every entity has experience as its primary mode of perception, which is precisely the causal value and experience is nothing but the act of self-origination,[68] there is necessary

[66] Alfred North Whitehead, *Adventures of Ideas, op. cit.*, p. 224.
[67] Alfred North Whitehead, Symbolism: It's Meaning and Effect, pp. 3-59; see also, Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.*, pp. 168-183.
[68] Alfred North Whitehead, *Adventures of Ideas, op. cit*. p. 225.

connection between epistemology and self-creation of each entity in the world. In this way, Whitehead's organic epistemology leaves no dichotomy between subject/object and self/nature. With no dichotomy left thus the care for the environment becomes necessary for all species.

1.9 Research Hypothesis

A metaphysical approach to environmental sustainability will uniquely bring out the possible influence of metaphysical conceptions of reality, aiding in the environmentalism process towards achieving a sustainable environment.

1.10 Methodology

This research was a library-based research in which various texts were studied. Critical and logical analysis of the texts has been done in order to arrive at the findings herein. Various literature materials are used in critically analyzing the above and coming up with a new approach in handling issues related to the environment in order to achieve environmental sustainability.

CHAPTER TWO

ENVIRONMENTAL CRISIS AND PHILOSOPHY

2.0 Introduction

The term 'Environmentalism' was coined in 1923 to refer to the idea that human behaviour is largely a product of the social and physical 'conditions in which a person lives and develops.[69] This view originated against the view that human behavior is determined by the biological development. The concept of 'nurture' refers to the development of a person form his/her association with the family and the society at large. It means that a person is nurtured by external entities. Bruce Wilshire together with Ron Cooper raises a question, "Are not parents and the members of the 'society themselves mammalian organisms, products of millions of years of evolution in nature?"[70] If we say 'yes' to this question, then we have to accept the fact that we all are nurtured by nature. Therefore, the term 'environment' should include social, physical and biological conditions that surround a person. In the beginning of 20thcentury, because of a wider awareness of environmental problems, environmentalists were concerned mainly about protecting nature. Often environmentalists use 'nature' and 'environment' interchangeably.

The term 'nature's' (in Latin '*natura*') meaning, and significance are as old as philosophy. The Oxford English Dictionary gives us a broader understanding of the term, 'environment' it says that an 'environment' is an object or a region surrounding anything. It also traces its origin to an old French term '*environner*' meaning to 'encircle.'[71]This term is meaningful and useful for this project. Though there was a rudimentary beginning of ecological problems in the 17thcentury with over-enthusiastic hunting and domesticating

[69] Dale Jamieson, *Ethics and the Environment: An Introduction* (Cambridge, New York: Cambridge University Press, 2008), p. 1.

[70] Bruce Wilshire, & Ron Cooper, "Nature and Nurture: A Non-disjunctive Approach," in Bruce V. Foltz and Robert Frodeman, *Rethinking Nature: Essays in Environmental Philosophy*, *op. cit.*, p. 302.

[71] Dale Jamieson, Ethics and the Environment: An Introduction, *op. cit*., p. 2.

animals, ecological disasters as such started to take place in the early second half of the twentieth century with the Baconian scientific knowledge and technological power over nature.[72] Though environmental problems came to the surface in the twentieth century, the abuse of nature began in the era of the green revolution and industrialization.

Deforestation, pollution of air, water and the earth, and the extinction of some animals, birds and insects are the first negative results of the abuse of science and technology. Loss of biodiversity, fragile and vital eco-systems like tropical rainforests, accumulation of pollutants in the world's oceans, ozone depletion, global warming, melting of the glaciers, and potential threat of nuclear energy waste-disposal are the main dangers that face the earth in our age. There was a radical shift from human and animals/livestock to machine based economy in the 18th and 19th centuries. Gradually mechanization has overpowered all areas of human life.

2.1 Environmental Crises

Though environmental crises are many, it is good to restrict their numbers within the spectrum of elements such as earth, air, water, and fire which are affected by environmental pollutions. The decisions to just deal with elements only is based on Whitehead's philosophy of organism; in his philosophy the elements are the constituents of the self-formation of the actual entities. Normally 'element' is something which is fundamental, most basic or elemental or elementary. Plato was the first person to use this term in reference to earth, air, fire, and water in Time*ous.* Elements in modern science represent the four states of mater solid, liquid gas, and plasma.[73]

From Aristotle's point of view an element is the primary component inherent in a

[72]Lynne White, "*The historical Roots of our Ecologic Crisis*," in R. J. Berry, ed., *The Care of Creation: Focusing 'concern and Action* (England Inter-Varsity Press, 2000), pp. 32-33 and 46.

[73] Jose Tito Mendonca, and Hugo Tercas*, Physics of Ultra-Cold Matter* (New York: Springer Science-Business Media, 2013), p. 277.

thing, and conjoined in kind into other types.[74] Elements have two sets of properties: primary immanence, and indivisibility; and smallness, simplicity and university. In Contemporary science, especially in the Standard Model of quantum mechanics, the elements stand for elementary subatomic particles, such as electrons, protons, and neutrons. The protons and neutrons are composite particles which are made up of further particles. Johnson mentions seventeen types of subatomic particles including the recent discovery of Higgs Boson.[75] Aristotle indicates that the elements are constituents of bodies and the bodies are analyzed in terms of their constitutive elements; this is because everything we see is a combination of these elements.

Elements devise beings and make them interconnect since the elements are the equivalent in all things. When we talk of 'environment,' what comes to our mind are the gross things such as plants, trees, birds, river, and mountains and so on. We rarely think of the fundamental elements such as earth, air, water and fire. It does not strike our minds that everything we observe and experience is the combination of fundamental elements. All forms of adulterations are either directly or indirectly and closely connected to the elements. It is not only human beings that are affected by the polluted air, but also the plants and animals. Plants take in Carbon dioxide from the atmosphere and give off Oxygen. When plants take in polluted substances they are intoxicated, animals that feed on this vegetation also get contaminated from poisoning within the food web.[76]

Human meddling at various points in the normal course of natural process of water-cycle has resulted in: flooding, hurricanes drought and irregular whether patterns. The effect of polluted waters mixing with earth's waters leads to among others death of creatures of

[74] Aristotle, Metaphysics, 1014 a26-27; as given in David Macauley, *Elemental Philosophy: Earth, Air, Fire, and Water as Environmental Ideas*, *op. cit*., p. 182.
[75] Rebecca L. Johnson, *Atomic Structure* (Minneapolis, USA: Twenty-First Century Books, 2008), pp. 6 1-65.
[76]Allan Race & Roger Williamson, *True to this Earth. Global challenges and Transforming Faith,* (Oxford: One world, 1995), p. 19.

the seas, rivers and lakes; which water bodies themselves are increasingly becoming extinct.[77] Environmental affect all the aspect of human life and the life of the nonhuman world. Extinction of rain forests, global warming and climatic change, ozone depletion, climate refugees, and food and resource depletion are mentioned here as some of these consequences.

2.2 Philosophical Worldviews and Environmental Crisis

Worldview can be termed as a less coherent frame of reference through which one sees the world or a subjective attempt to provide unity and consistency to the totality of that which is. Worldview therefore can be described as a particular way of life or a particular conception of the world. Hendrik Vroom divides worldviews into two major types, secular and religious worldviews. He further divides the later into two religious worldview with God-concept and religious worldview without God-concept or any divinity. Worldviews can be categorized into four types for the better understanding and appropriate application to this study. The four are: philosophical worldviews, Cultural worldviews, religious worldviews, and scientific and technological worldviews. The purpose of philosophy is actually to help individuals to build a worldview which, as James Christian say should not be naive, but rather should be internally consistent, pragmatically realistic and personally fulfilling philosophy, so that it can give guidelines and provide materials towards achieving the goal. First of all, philosophy serves as foundation for any kind of worldview except the primitive one.

Without philosophy one cannot form any worldview, for, without capacity for abstract reflection from experience, no one can rise from egocentrism and construct a worldview. Philosophy itself can be a worldview. For example, the first philosophical

[77] Sean McDonagh, *To Care for the Earth: A Call to a New Theology* (London: Geoffrey Chapman, 1986), pp. 52-57.

worldview was properly created by Plato, and later inherited by Aristotle.' Plato's philosophical idea of anthropology was the first comprehensive and coherent worldview man had ever made. Every new particular clear, and distinct philosophy can be called a worldview. In this sense, Aristotle's cosmology, Copernicus' heliocentric, Albert Camus' absurdity, Leibniz's monads, and Shankar Maya (theory of illusion) are some of the philosophical worldviews. In this section of the chapter, we shall discuss the defects of the philosophical worldviews. Thomas Berry was disappointed with religious and philosophical anthropocentrism because he believed that it was anthropocentrism that caused environmental disaster and tried to propose the opposite: non-anthropocentrism.[78] Likewise, the aim of criticizing some of the philosophical worldviews is to propose Whitehead's metaphysics of organism as a holistic environmental worldview among fragmented and environmentally harmful philosophical worldviews.

Philosophy is one of the root causes of environmental degradation. Many may not agree with this statements but it is true to some extent. For instance, let us take philosophical abstraction. Philosophical abstraction as such is an objectification of an entity.[79] This act of objectification is actually an opportunity for our own advantage over other things and beings, because by objectifying we actually intend to use other things and beings for our welfare. Francis Bacon's new language proposed a kind of experience which considered nature as dead and wild and justified human conquest and subordination over it. From modern natural science, we have come to know that nature is something more than its aggregates and abstraction.

In 17th century, Baruch Spinoza developed a non-anthropocentric philosophy against

[78] Bruce V. Foltz and Robert Frodeman, "Introduction: The Nature of Environmental Philosophy," in Bruce and Robert Frodeman, eds., *Rethinking Nature: Essays in Environmental Philosophy, op. cit*., p. 2.
[79] Rene Descartes, "Meditation on the First Philosophy," in The Philosophical Writings of Descartes, Vol. 2, Trans. John Cottingham, Robert Stoothoff, and Dugald Murdoch (Cambridge: Cambridge University Press, 1984), pp. 12-17.

Rene Descartes, Francis Bacon, and Wilhelm Leibniz. The doctrines of Descartes, Bacon, and Leibniz are still human-centered, and their conception of universe likewise human-centered "In Descartes and in Leibniz, one gets an impression of a universe in which human beings on this earth are the privileged and a center around which everything is arranged.[80] Coming back to Spinoza, he followed ancient Jewish pantheistic tradition to form his monistic and pantheistic philosophy. He identified God with nature and he said that 'Being' was one and all the rest were modes of that 'Being.' Unlike Descartes, Spinoza originates the mind (mental-attribute) throughout nature, because there is no dichotomy between mind and body, since he believed in one ultimate reality. He also maintained process metaphysics instead of static- substance metaphysics. All his ideas are good, but George Sessions, Schopenhauer, Arne Naess, and other philosophers blamed him of being anthropocentric by pointing out that he held typically the seventeenth century European view of wild nature, including the utilitarian view of man over other animals.[81] Schopenhauer also accused him of having anomalous attitude towards animals. Spinoza considered animals as mere things for human use having no ethical rights. His philosophy did not eliminate the 17th century anthropocentrism and the dream of conquest over nature. Whitehead too says that Modem philosophy is tinged with subjectivism, as against the objective attitude of ancients.82 Non-human world was not part of the subject matter of philosophy. All the examples we have seen above tell us clearly that philosophy played a role in the environmental destruction. The following philosophical worldviews will be discussed in order to examine how they may cause environmental degradation: Materialism, Gnosticism, Cartesian dualism, Immanuel Kant's Distinction between noumena and phenomena, Edmund Husserl's distinction between noema and noetic Anthropocentrism are

[80] Stuart Hampshire, Spinoza (London: Faber and Faber, 1951), pp. 160-161.
[81] Alfred North Whitehead, Science anti the Modern World, *op. cit.,* p. 140.
[82] *Ibid*. p.141.

briefly discussed.

2.2.1 Materialism and Environmental Crisis

Materialism is a philosophical position which views matter as the only reality. It is opposed to spiritually which upholds that spirit as distinct from matter is the only reality.[83] Materialism believes in an upward movement which starts from inorganic matter, moves to organic then to life, and then finally to consciousness. This is the whole complexity of the universe in which everything is explained in terms of matter and its hierarchical process.[84] Materialism is opposite to idealism which sustains that matter cannot have existence independent of the mind only spirit can have existence independent of the mind and intelligence precedes the existence of matter. Materialism advocates the primacy of matter and idealism the primacy of intelligence.[85]

Allen Michael Green remarks when he talks of materialism: "If there is no God things are permissible," and he continues to stress that materialism perceives the universe as opportunity and upholds the individual freedom to do anything one likes because it believes that there is no any enforcement of moral law from anywhere.[86] There is no higher authority that one must answer to, and therefore everything is permitted. Materialism permits the instrumental use of the world; for, it deems the material world as object for human advancement. As a recognized and established philosophical school of materialism it was called the school of 'Charvakas.' 'Charvaka' means 'one who eats,' which means the philosophy of 'Charvaka' is to eat up whatever is given in perception.'[87] Materialism is detrimental to nature or nonhuman world. It leads to subjugating, dominating and exploiting

[83] H. Meyer, "*Materialism" in New Catholic Encyclopedia, 2"' edition, Vol. 9* (USA: Thomson Gale, 2003), p. 318.
[84] Allen Michael Green, *Idealism Vs. Materialism: A Philosophical Defense of Christianity* (Bloomington: Author House, 2008), p. 1.
[85] Ibid., p. 3.
[86] Ibid., p. 4.
[87] Richard King, Indian Philosophy: An Introduction to Hindu and Buddhist Thought (Edinburg: Edinburg E University Press, 1999), p. 17.

mentality, and nature becomes an object for sensual pleasure. The denial of spiritual realities will lead to meaninglessness of life, and the world which is so pessimistic will take us to state of indifference, lack of sympathy, concern, and interest towards others and the world.

Atomism is the other aspect of materialism which states that matter consists of small, indivisible material parts which are invincible to the eye.[88]Integration and disintegration of atoms explains the multiplicity and diversity of the species in the world because all things are combination of the atomic particles. In the 1st century, the idea of atomicity was first proposed by John Dalton meaning that ordinary matter was conceived as atomic.[89]The dawn of atomism was the quest of Greek thinkers whose search was about the ultimate principles and elements. Among those atomistic Greek thinkers Leucippus and Democritus who came after Milesian school and the first Pythagoreans were noteworthy. The very fact that Leucippus existed before Democritus testifies that Leucippus was the father of the atomic theory. The aim of this theory was to solve the problem of Pre-Socratic philosophers about how a thing comes into being and how change takes place.[90]The generation of things and of the world in atomism is explained in terms of either 'chance' or 'necessity.[91] Therefore there is no life, no responsibility, no decision, and no dynamism which are aspects of dynamic and organic nature of a being. What we see in this materialistic, mechanistic, and atomistic conception of the world is that the world lifeless and soulless matter. Secondly, the world is governed by materialistic, physical, naturalistic and mechanical laws without any intervention of any spiritual or divine force.

[88] Jean-Paul Reding, *Comparative Essay in Early Greek and Chinese Rational Thinking* (England & Burlington in USA: Ashgate Publishing Company, 2004), p. 93.
[89] Alfred North Whitehead, *Science and the Modern World*, *op. cit*., P. 99.
[90] Bernard Pullman, *The Atom in the History of Human Thought* (Oxford, New York: Oxford University press, 2001), pp. 30-31.
[91] *Ibid*., pp. 33-34.

2.2.1 Gnosticism and Environmental Crisis

Gnosticism is derived from the Greek term *gnosis* which is usually translated as knowledge, and *gnostic* means the person who Seeks salvation through knowledge.[92] This system of thought and practice is found in Pre-Christian religions such as Manichaeism, Zoroastrianism, and some other Asian religions, such as Hinduism, Mahayana Buddhism, and Jainism. Even in early Christian thoughts of the Church fathers we find Gnostic ideas.

The philosophy of Gnosticism is dualistic and anti-cosmic. It teaches a separation between God and the world and between man and the world. It has a dichotomist view of reality. It divides the reality into opposites: One is a spiritual world where divine beings are, and the other is a material and physical world where humans and other temporal and finite creatures live. God, according to Gnosticism, is absolutely trans-mundane. The nature of God or the divine world is totally opposite to that of the material world. The same dualism was also maintained by Hegel. In Hegelian terms, this visible universe is anti-thesis and the divine world is the thesis. But for Hegel, at least there was a synthesis possible as a result of the interaction between theses and anti-thesis. In 'Hegel, there was interaction between thesis and anti-thesis: between God and the world; but in Gnosticism, this universe is always kept in opposition to the divine world.

The body (matter) was considered inferior to soul and it was evil that it could never assist in redeeming the soul from the evil. As Gabriel Marcel says, the body we have is not an object, but rather a subject which has value for and in itself, our body is not something we have rather it is our own being. My body is my body, just in so far as, I do not do not put a gap between myself and it. Today, abortion, sexual violence against women and children, test-tube babies, cloning, poverty and gluttony are different types of violence done

[92]Stephan A. Hoeller, Gnosticism: New Light on the Ancient Tradition of inner Knowing Wheaton, Illinois: Quest Books, 2002), p. 2.

against the body. After reading all these, are we not tempted to say that Gnostic dualistic philosophy is very much active in our society? Gnosticism is evil, rigid, fatal, inimical, devoid of meaning, and alien to the purpose of man and to his inner essence. It devastates the Cosmic Order and empties the world of its metaphysical meaning.[93]

According to Gnosticism, in respect to their origin, humans are unknown or alien to this material world. For, humans as such do not belong to this world; they belong to the other world which is often identified as spiritual world; in some sense, it is also identified as heaven. Since they do not belong to this material world, humans become incomprehensible to the creatures of this world. Since humans possess an excellence especially in the intellectual capacity which is a source of power, they are in a higher position in the ladder of beings. There is a kind of superiority in their relationship with nature because of the superior position in the hierarchy of beings, and that makes impossible the need to form a holistic approach to nature. This type of Gnostic concept of alienation actually brings a dichotomy between human and nonhuman world.

The human spirit experiences pain and suffering in this world, and it realizes that this world is not its native place. Its original world is full of happiness and bliss, and there is no such suffering. Therefore, the spirit feels homesick and then finds a way to escape this world and to reach its homeland. Ancient eastern religions practice asceticism in order to flee this world of suffering and pain. Ascetic practices to some extent help to fasten its journey from this world to the next. It is escapism on the part of the human soul. The spirit feels the vanity (uselessness) of its coming to this world. In other words, it feels emptiness in its worldly life. After its enlightenment the soul remains passive for the rest of its life (the knowledge of emptiness of life and of its divine origin) and then being released from this

[93] Hans Jonas, *The Gnostic Religion: The Message of the Alien God and the Beginnings of Christianity, 2nd ed.* (Boston: Beacon Press, 1970), p. 250.

material world it escapes to the other world which is its homeland. Sometimes some souls harm their bodies so as to release themselves quickly from the slavery of the body. This escapism as found in Gnostic philosophy is destructive to the environmental concern. It is not a constructive attitude to the dying nature, because it creates a kind of aversion, heatedness, and indifference towards material world. Human spirit has to involve in the on-going activity of the materi1 world. He has to know that the visible world is real and other creatures including other human beings are fellow dwellers. They are not strangers staying in the same 'inn' or 'lodge' (world).[94]

2.2.3 Cartesian Dualism and Environmental Crisis

Greek philosophy in the beginning from Thales to Atomists had never known any dualistic idea dividing the reality into two or more. Greek philosophy searched for unifying principle in the infinitely multiplicity of things of this world and it fashioned the concept of cosmic matter, a world substance which experiences all kinds of change and transformations.[95] As far as classical Greek philosophy is concerned, there was no valid reason for any kind of distinction between matter. This unified conception of the ultimate reality did not last long. Plato with his story of 'prisoners in cave'[96] begun to stress that the truth did not lie in the material world as perceived by our senses. Until 15thcentury, this is the philosophy which dominated in the western philosophical history.

In 16thCentury, a new trend of philosophy came up in which philosophers like Descartes tried to establish a completely new ground for philosophical system which starts from doubt and reaches to the certainty of existence of one mind. His distinction between "res cogitans" (mind) and "res extensa" (mater) created a big gap between "I" and the

[94] Hans Jonas, *The Gnostic Religion: The Message of the Alien God and the Beginnings of Christianity*, *op. cit.*, pp. 55-56.
[95] Werner Heisenberg, 'Physics and Philosophy.'The Revolution in Modern Science (New York: Harper & Brothers, 1967) p. 147.
[96] Plato, *Republic* Trans., C. D. C. Reeve (USA: Hackett Publishing Company mc, 2004), p. 208.

"world." According to him, the knowledge about his mind is more certain than what he knows about outer world.

In Descartes' philosophy, God is separated from both the world and the "I" is separated from both God and the "world," and finally the "world" is separated from both God and the "I." While Greeks were trying to find some order in the infinite variety of things in the world by trying to find some unifying principles, Descartes tries to establish order by fundamental division. The order is not in the division but in the union of these three. Descartes' division is substantial and not mere methodological or epistemological.[97] This is why there was dichotomy between philosophy and science.[98] Science that studied the mind (*res cogitans*) remained philosophy and the science that studied nature (*res extensa*) evolved as natural science.[99] The distinction between "res Cogitans" and "res extensa" led to consider animals as "res extensa. In this sense of segregation, animals and plants are equated to machines, and they are not essentially different from machines; for, according to Descartes they do not have souls. All other creatures except humans are bodies, and animals have no sentience (mental life).[100] This dichotomy between mind and body existed for almost three centuries.[101]

The construction of physics started after Descartes' model of dualistic thinking and it proved that one could think about the natural world even without speaking about God and the "I." For Descartes, minds and bodies exist in such a way as to stand in need of nothing beyond themselves. It is an act of isolating matter from the rest of the world so as to open the access for abstraction, objectification, manipulation and subjugation of matter. He gap

[97]Werner Heisenberg, *Physics and Philosophy. The Revolution in Modern Science*, *op. cit.*, p. 78.
[98]Gonzaio Rodriguez-Pereyra, "Descartes' Substance Dualism and His Independence Conception of Substance," *Journal of the History of Philosophy*, vol. 46, no. 1 (2008), p. 69.
[99] Werner Heisenberg, physics and philosophy. The Revolution in Modern Science, *op. cit.,* p. 79
[100]George Sessions, "Egocentrism and the Anthropocentric Detour," Deep Ecology for the 21st century *op. cit.*, p. 161.
[101] Werner Heisenberg, *Physics and Philosophy: The Revolution in Modern Science*, Op. Cit., p. 80.

created a gap between matter and spirit which can never be reduced.

Philosophical separations of mind and matter, body and soul, civilization and nature lies about being deceived. Witness Descartes' dream. He plays the evil genius, persuading his reader that the world of the senses is not to be trusted, and recalling the recurring Platonic dream that the entities among which we find ourselves are illusory.[102]First Descartes started the division and then later Hobbes, Berkeley, and others maintained the flow, and never established any genuine relationship between philosophy and natural science. Immanuel Kant made another distinction between noumena (things in 'themselves') and phenomena (objects as perceived by senses). Kant reduced the system of nature to mere appearance leaving no possibility for the knowledge of real world. According to him, we are far from the real world and we have no access to it. This is another form of dualism which cannot be reconciled.

Edmund Husserl's phenomenological distinction noena and noetic, is another ideological instrument to segregate the material world and brand it as object or the known. His Philosophy insists on the superiority of the knower or the subject, that is, normally the human beings. His philosophy maintained Descartes' dualism between spirit and body, and between nature and human. Jurgen Moltmann would say that the dualistic approach is actually a tendency in human beings to spiritualize the subject which is the soul and instrumentalize the object, the body or the matter.[103] The objectification and instrumentalization of the material world are negative sides of the dualistic philosophies which triggered negative exploitation of nature.

2.3 Cultural Worldviews and Environmental Crisis

Almost all the cultures before the arrival of scientific technology were more

[102] Trish Glazebrook "Ecologic An Erotic of Nature," in *Rethinking Nature: Essays in Environmental Philosophy*, p. 97.
[103]Jurgen Moltmann, *God in Creation: An Ecological Doctrine of Creation,* (London: SCM Press, 1985), p. 250.

naturalistic in all their aspects of life. Nature was so friendly to the people to the extent that some of the geographical places, such as mountains, rivers, seas and thick forests and some animals, such as Cows, peacocks, snakes, and doves became sacred, and thunders, lightening, and hurricanes turned to be wraths of God. Victor Ferkiss contents that in ancient culture, nature was worshipped; its manifestations were looked upon with awe; animals after being killed for food were paid tribute; and the earth which gave fruit for the labor of man was considered mother and sacred.[104]

In cultural worldviews, things are not all good. Amidst many good values, customs and practices there are principles, practices, beliefs, and rituals which are harmful to nature. One cannot say that all cultures possess these types of principles, practices, beliefs and rituals Therefore, different cultures of different times are grouped into five major types: patriarchal cultures, Agricultural and technological cultures, Frontiersmen, Civilization, and Democratization and Industrialization. These major types are global cultures. They do not belong to any particular culture; at the same time they signify all those cultures which have imbibed the values or the characteristics of any one these five global cultures. There may be many other global cultures which can be included in this group, but these are the five which are found more harmful to nature as they are explained below.

2.3.1 Patriarchal Cultures and Environmental Crisis

Contemporary feminist theories clarify that the oppression of the women indirectly claimed the oppression of nature. Patriarchal societies uphold male-domination and create a radical separation of male and female. Patriarchy is always male-centered (androcentric) society where females are dominated and oppressed, and it is fully permeated by male-centeredness (androcentric). Male-centeredness and women's oppression have become the

[104] Victor C. Ferkiss, Nature, *Technology, and Society: The Cultural Roots of the Current Environmental Crisis,* (New York & London: New York University Press, 1993), p. 1.

two aspects of patriarchal cultural worldview. Andrew Brennan avers that patriarchy ascribes superior and dominating characteristics to males and fragile and inferior characteristics to females.[105]

The fact that patriarchy ascribes animal bodies, such as Peacock and fish bodies to women clearly shows that women are lower clearly shows that women are lower than men. Sometimes even the bodies of dragons are ascribed to women. For example, masculine control of nature and the oppression of the women were there already in Mesopotamian culture. Nature was considered by Mesopotamian mythology as "Monstrous Chaos." Though it is source of 'nurture,' it was conceived as object to human ends.[106] Since nature and the women were considered in the same level by Mesopotamians. Since nature and the women were considered in the same level by Mesopotamians, women were also considered as objects for the purpose of men.[107]

Feminism affirms that the male-dominating characteristics of the patriarchal society have effects on the relationship between itself and nature. According to Andrew Brennan, patriarchy leads to anthropocentrism and anthropocentrism leads to the mastery of the world or the exploitation of the world. These are some important conclusions which are the results of patriarchy, and they are note- worthy here in this context. The oppression of women is parallel to the oppression of nature. In patriarchy, the non-human world is dominated and exploited. It enforces an oppressive dualism between man and woman and between man and nature, which facilitates different forms of exploitation of nature.[108] In this dualism, only one side (male side) gets privileges and the other (female side) is ignored; the interests of one side (male side) is counted and the interests of the ride is ignored. Therefore, the

[105] Andrew Brannan, and Y. S. Lo, *Understanding Environmental Philosophy, op. cit.*, p. 166.
[106] *Ibid.,* p.3.
[107] Andrew Brannan, and Y. S. Lo, Understanding Environmental Philosophy*, op. cit.,* p.167.
[108] *Ibid*., pp. 175-176.

exploitation of animals and of nature is easily permitted in. This 'one-side dominated society Patriarchal society or culture is dualistic which is always oppressive.

2.3.2 Civilization and Environmental Crisis

William Thompson gives an account on the relationship between the lifestyle of a society and environmental pollutions. There is a link between the lifestyle of a society and the environmental pollutions. The type of pollution a particular community or society experiences depends upon the lifestyle of that community in question. When a life-style is harmful to nature, then that particular life-style is identified here as evil. Therefore, Thompson says that this relationship between evil and pollution (between a particular lifestyle and the corresponding pollution is normally not visible to the people living in that particular type of culture or civilization. Therefore, he asks people to study the unconscious life-style of their own civilization and connect to the corresponding pollutions in order to know the diverse forms of their civilization commits unconsciously.

After knowing their evil life-style, the people in that Particular civilization can change their life-style from being harmful to beneficial to nature. He advocates a paradigm--shift that is according to him, Pacific Shift to a new science of compassion, which is nothing but a shift from illusion to enlightenment. Instead of living in illusions thinking that nothing would happen even if we destroy nature and which lead to care-free mentality that convinces people that nature will heal itself, we ought to be enlightened and know that our actions may result in corresponding environmental degradation.[109]

2.3.3 Democratization and Industrialization

Lewis Moncrieff attributes the environmental crisis to another two dominant cultural forces: Democratization and Industrialization. Democratization began after the French

[109] William Irwin Thompson,''Pacific Shift,' 'in J. 'Baird Callicott and Roger T. Ames eds., *Nature: In Asian Traditions of Thought* (Albany: State University of New York Press, 1989), pp. 34-36.

Revolution (1789-l799). Before French Revolution, land was largely owned by the Church and the loyal landlords. Much of the land was protected as royal property. After the French Revolution, land became vested in the hands of the individuals. With the Industrial Revolution (1750-1850), there was a radical shift from manual labor to machine-based labor. Machine-based development in various fields such as, agriculture, transport, technology and industries produced pollutions in the environmental consequently the *shift* to democratization and industrialization in the Western culture were also starting points for environmental degradation.[110]

Instead of scientific materialism there must be an alternative way which depicts the ultimate fact in its fullness. Therefore, the alternative method for purifying our mentality would be the direct, immediate, present experience of nature in order to get the true nature of ultimate things.[111] Science arguably takes nature fore granted; thus it does not regard the knowing subject and known objects together as one unit intimately united in one single experience, and it does not consider each entire as a whole together with its nature, intentions, emotions, feelings, needs and purposes. It considers the ultimate fact as static and lifeless material and it does disregard the process which constitutes the very actual entity.[112] The concept used in science is 'abstraction' of subjectivity of and the observed. In scientific materialism the observed never has subjectivity and everything is quantified rather than qualified. Science never asks what and why a thing *is*, but it is always preoccupied with how a thing *functions* which actually requires the study of laws and conditions in nature. In fact, science conceived as resting on mere sense perception, with no other source of observation, is bankrupt, so far as concerns its claim to self-sufficiency.

Science can find no individual enjoyment in nature; science can find no aim in

[110] *Daniel D. Chiras, Environmental Science* (Burlington: Jones & Bartlett Learning, 2010), p. 36.
[111] Alfred North Whitehead, *Science and the Modern World, op. cit.*, p. 18.
[112] Alfred North Whitehead, *The Concept of Nature, op. cit.*, p. 29.

nature; science can find no creativity in nature, it finds mere rules of succession. The reason for this blindness of physical science lies in the fact that such science only deals with half the evidence provided by human experience.[113] Science is bankrupt solely with the sense perception and is solipsistic with its self-sufficiency. There is no self-enjoyment, aim, and creativity in nature; for, these characteristics need a subject in order to be active. Since science does not conceive a subject in nature, these characteristics are denied to nature.

2.4 The Relevance of Philosophy in Environmentalism

Though some of the philosophical worldviews are found detrimental to the environment as already mentioned in this chapter, philosophy as such has been and continues to be a relevant instrument for dealing the environmental crisis effectively. The roots for environmentally oriented philosophical thoughts can be traced both in Eastern and Western antiquity, especially in Greek mythology and philosophy, and in ancient Eastern scriptures and religious literatures. Indeed, historians Lynn White and J. Donald Hughes, and political scientist John Rodman, all look into Greek mythology and philosophy - pagan naturalism. (a sacred nature), Milesian hylozoism (a living earth), Heraclitus (a process ontology), Pythagoras (human-animal kinship) for environmentally useful Ideas.[114] Bruce Foltz and Robert Frodeman prove that for two thousand years Western philosophy maintained a contemplative interest in nature.

In all these two thousand years, metaphysical reflection dealt with nature substantively, materially, descriptively, contemplatively and poetically. Until the triumph of modern science and the arrival of philosophers, such as Bacon, Descartes, Galileo, and Newton, philosophy considered nature as something more than an aggregate of some type of material substances. These philosophical of proponents of modern natural science

[113] Alfred North Whitehead, *Modes of Thought* (New York: The Free Press, 1968), p. 154 and 108.
[114] J. Donald Hughes, "Ecology in Ancient Greece," in *Inquiry* No. 18(1975), pp. 115-125.

conceived the world devoid of life and purpose (teleology).[115] From the Greek philosophy, that which has survived all the Western historical, cultural, and intellectual changes is atomism the atomism of Leucippus and Democritus. In the Modern period, this atomism paved way to all scientific and technological developments; in other words, it creates the paradigm of atomistic-mechanism.

Though environmental awareness was widespread in 1960s, it was in 1970s that environmental philosophy as such emerged as a major social movement.[116] In 1970s, environmental philosophy was taught almost on every school and college in North America, Britain, and Australia. But now environmental philosophy is taught in almost all the schools and colleges around the world including in the University of Nairobi. Environmental philosophy is a systematic branch of philosophy having many other sub-branches, such as eco-phenomenology, ecoethics, ecopsychology, elemental philosophy, ecofeminim, and transpersonal ecology. In this line of thought, Whitehead's philosophy of organism is an important sub-discipline of ecophilosophy. Though environmental philosophy as such became popular in the late 20th century, many philosophers from Continental Europe, East, and Americas contributed indirectly to the environmental concerns even before.[117]

The fact that American commentators took effort to show that Continental thought surely had pertinence for theorizing and guiding environmentalism,[118] is itself the evidence that philosophy started contributing to environmentalism even before such a philosophical discipline came to be. Many environmental activities were influenced by the Continental

[115] Bruce V. Foltz and Robert Frodeman, "Introduction: The Nature of Environmental Philosophy," in Bruce V. Foltz and Robert Frodeman, eds., *Rethinking Nature: Essays in Environmental Philosophy, op. cit.,* p. 2.
[116] Dale Jamieson, ed., *A Companion to Environmental Philosophy,* Op. Cit., p. xv; see also, Eugene C. Hangrove, "Fareword," in John Baird Callicott and Roger T. Ames, eds., *Nature in Asian Traditions of Thought: Essays in Environmental Philosophy* (Albany: State University of New York Press, 1987), p. xiii.
[117] Michael E. Zimmerman, "What Can Continental Philosophy Contribute to Environmentalism?" in Bruce V. Foltz and Robert Frodeman, eds., *Rethinking Nature: Essay in Environmental Philosophy* (Bloomington and Indianapolis: Indiana University Press, 2004), p. 208.
[118] Martin Heidegger, "On the Essence of Truth," in David F. Krell, ed. and trans., *Basic Writings* (New York: Harper & Row, 1977), p. 125; quoted by Michael E. Zimmerman, *op. cit*., p. 209.

philosophers, such as Karl Marx, Nietzsche, eau-Merleau-Ponty, and Heidegger.

Post-modern environmental philosophers including Whitehead accept that there is hierarchy in nature. For example, at least a cell is more complex than an atom; an organism is more complex than a cell. Philosophers, such as Erich Jantsch, Ken Wilber, and even Whitehead propose a hierarchy stating from simple and lower sphere to more complex physiosphere (simple physical realities), biosphere (all living things), noosphere (sentient and rational beings), and ere theosphere (God and other spiritual beings). For them, it is a legitimate hierarchy not dominator hierarchy. Many Continental and non-Continental philosophers resolutely reaffirmed that the hierarchical position of man or the anthropocentrism was the one which justified the human domination of non-human world. Anthropocentrism resulted in reckless destruction of nature, violence against non-human organisms, their habitat, and the whole ecosystem. Though continental philosophy conceived nature as 'other,' post-modem philosophy influenced by Marx and Hegel could not consider the nature as independent entity. Post-modem environmental philosophy including Whitehead's philosophy affirmed that nature and human history are not two different entities but one and the same entity, because both humans and non-humans make: the world.

English-speaking philosophers especially Anglo-Americans, such as Whitehead took consideration of neither metaphysics nor material thinking for the formulation of environmental ideas instead, they derived such ideas from purely formal reflections which were authenticated by the speculative and critical thinking. In America, environmental philosophy emerged as investigations of our moral obligations towards non-human world.[119] On the other hand; the French philosopher Merleau Ponty offers a

[119] Bruce V. Foltz and Robert Frodeman, "Introduction: The Nature of Environmental Philosophy," in Bruce V. Foltz and Robert Frodeman, eds., *Rethinking Nature. Essays in Environmental Philosophy, op. cit*., p. 3.

phenomenological solution to the environmental crisis He advocates a phenomenological understanding of our relationship with nature. Merleau asserts that human beings are world thinking itself.[120]

The mind in its most subtle form as bodily sensation is there in the carnal or material world. This is the most primitive understanding of our body whereby the human transcendence is said to be. In1960s, environmental awareness spread even in non-Continental and non-American, British and American countries, especially in the East. Roderick Nash testifies that as early as eighth century B.C., the Indian philosophy of Jainism proposed that man should not kill or harm any living creature, and early Buddhists and Hindus professed a pledge of compassion and a vow of ethical conduct towards all the living creatures. He also argues that in China and Tibet, environmental philosophies are there to honor life. In those philosophies, man is understood part of nature. Philosophy or ecophilosophy or environmental philosophy is a systematic, rational, metaphysical ontological enquiry into the phenomenon of climate or the environment. Ruth Irwin and other philosophers say that ultimately environmental crisis is anthropogenic and more particularly it is dragenic and amerigenic.[121] But if one observes the history of environmental crisis, one can understand how human mental scrutiny become part and parcel of environmental problems therefore, is appropriate to call environmental crisis ultimately a problem of noesis.

It is 10,000 years of intellectual history or intellectual scrutiny that caused all our environmental problems. Ian Simmons calls these millennia as the era of humans-in-society (humans- in society means that humans have made impact upon the natural world; it can

[120] David Abram, *"Merleau-Ponty and the Voice of the Earth,"* in Max Oelschlaeger, ed., Postmodern Modern Environmental Ethics (Albany: State University of New York Press, 1995), p. 62.
[121]Ruth Irwin Ed., *Climate Change and Philosophy: Transformational Possibilities* (London: Continuum International Publishing Group, 2010), p. 22.

even mean the society whereby intellect has dominated and shaped the society or the history) which connects the upper Paleolithic to our own day.[122] In this era of 10,000 years, humanity started its civilization as hunter-gatherer society, later became solar-based agriculturalist society, again in pre-industrial period turned out to be human labour-based machinery society, in the industrial period developed into fossil-fuel-based industrial society, and in the post-industrial period grew to be an electronic-based and information-rich society.

The key element, as Ian Simmons says is that of energy,' and there are two things that happened in these 10,000 years: resources were gained in terms of energy; and the environments were altered. A noetic or an intellectual solution would do better than practical, temporary, and tangible ns. Solutions Educating people about the environmental crisis, minimum informational and technological focus, global environmental policy making, global politics of environmental preservation and all other material solutions are good as long as they have roots in intellectual theories Simple information about the environmental crisis and some practical solutions cannot bring about a transformative change either in tackling the environmental crisis or in people's mentality, behaviour', and approach towards the environment. Ruth Irwin challenges that all these peripheral activities fail to do more than passive reproduction of knowledge.[123]

Now the question is what decision or step can be more constructive and long-lasting for the change of worldview or mentality of the people towards the environment? Formulating a systematic environmental philosophy, as already mentioned in the introduction, and harboring all the material solutions on that philosophy will be an appropriate step at this juncture. It has already been done by philosophy, but according to

[122] Ian Sirnmons, "History," in Dale Jamieson, ed., *A Companion to Environmental Philosophy, op. cit.,* p. 291.
[123]Ruth Irwin, Ed., *Climate Change and Philosophy: Transformational Possibilities, op. cit.,* p. 14.

this projects' concern, it is not enough. It is the task of the philosophy a holistic ecophilosophical worldview in order that it helps to change people's mentality environment and bring them to the oneness of the reality. It has been already discussed how some of the philosophical worldviews became the cause of environmental crisis. Creighton Peden points out that the humanity faces the environmental crisis due to the philosophy of individualism, such as pluralistic democracy and free market economy, and he gives examples of the philosophies of Hobbes and Locke which influenced the Western industria1 societies. He also proposes the way-forward, that is, a shift in philosophy from individualism to universalism.[124]Therefore, the solution for the environmental crisis should be both noetic and universal, and it is for these two reasons, an endeavor has been undertaken to find a metaphysical solution for environmental crisis, especially in Whitehead's theory of Organism.

Conclusion

In the early Western philosophical history, we see that in the beginning Greek philosophical thoughts of Pre-Socratics were *ecocentric*, while Classical Athenians were anthropocentric in their thoughts. Aristotle embraced anthropocentric system of philosophy emphasizing on the centrality of human existence over s animal and plants. He created a hierarchy of beings placing humans at the top of the hierarchy all other creatures at the service of the humans. Later Christianity embraced Aristotelian system of philosophy, especially the anthropocentric worldview and the hierarchical ladder of beings which starts from God, Angels, humans, animal plants, and minerals. Finally 1970s, Lynn White criticized the Anthropocentrism of Christianity.

Though Copernicus abolished anthropocentrism, in 16th and 17thcentury again

[124]Creighton Peden, "FE. Abbot and the Environmental Crisis," in Odera Oruka, *Philosophy, Humanity and Ecology: Philosophy of Nature and Environmental Ethics,*(Collingdale, USA: Diane Publishing Co., 1996), p. 285.

anthropocentrism dominated in the western thought. Then scientific revolution rejected the old organic view of the world and clink to the mechanistic image of the world considering the world as a machine. During and after French revolution, technology along with neo-scientific atomism grew hand in hand. We are now in the Technological nuclear and atomic age. In all these, we see the trace of environmental degradation mainly caused by anthropocentrism, though there are other reasons which also played roles in the environmental ruins. There have been lots of movements some of which we have seen in the first have been so many philosophies and philosophical worldviews working hard to preserve environment and the world at large.

The above mentioned historical development has been divided into four major parts which are identified as worldviews and discussed elaborately in this chapter. With the evidences we have got we come to understand that these worldviews directly or indirectly played key roles for the environmental deterioration. The chapter ends with preliminary proposal of Whitehead's metaphysics as an alternative for solving the environmental problems. In the forth coming chapters, Whitehead's metaphysics (organismic worldview) will be exposed and suggested as solution for environmental restoration and preservation.

CHAPTER THREE

WHITEHEAD'S PROCESS PHILOSOPHY

3.0. Introduction

What we appreciate in Whitehead, is his systematic explanation of the ultimate reality contained in his process philosophy. He gave only a metaphysical explanation to the atomistic conclusions drawn by the natural and atomic modern science. Frank Collingwood holds that for an authentic philosophy one has his/her investigation from where others concluded. So that, one cannot only see his/her reasoning on the subject matter, but also understand the developments on the subject matter.[125] Whitehead's speculative philosophy is itself a new contribution as method in philosophy and his philosophy organism or the organismic cosmology is his new contribution to the history of philosophy.

The metaphysics of organism is an endeavor to go beyond static conceptions of objects, values, and fact of scientific materialism. His philosophy of organism is actually against scientific model of the universe which is composed of material objects and relations of those objects (the relation mentioned here is not of organic relation as we find in Whitehead, but of locomotion which is found in physics).[126] His philosophy of organism cannot be duly dealt without reference to the process.[127] The process is the metaphysical principle or feature or characteristic of all ultimate facts (actual entities); therefore, it is essential that we discuss about process before going to the study of the philosophy of organism. In this chapter, the biography of Whitehead, his method of doing philosophy, his philosophy and some of the important characteristics of his process philosophy are

[125] Frank J. Collingwood, "Is "Physical Knowledge" Limited by its Quantitative Approach to Reality?" in L. W. Friedrich, ed., *The Nature of Physical Knowledge* (Bloomington & Milwaukee: Indiana University Press & Marquette University press, 1960), p. *2.*

[126] Michael Halewood, "Fact, Values, Individuals, and Others: Towards a Metaphysics of Value," in Roland Faber, G. Henning, and Clinton Combs, *Beyond Metaphysics: Explorations in Alfred North Whitehead's Late: thought,* (Amsterdam — New York, NY: Rodopi, 2010), p. 226.

[127] Dorothy Mary Emmet, *Whitehead's Philosophy of Organism* (St. Martin's Street, London: Macmillan and Co., Limited, 1932), p. 79. This book was reprinted by Forgotten Books in 2012

explicated.

3.1 Process Philosophy

The process philosophy has extensive history starting from Heraclitus to Whitehead and even beyond Whitehead. Though it has a root in classical antiquity, it is Whitehead who gave life to process philosophy in the 20th century. Though it has been revived in America, it has spread throughout the world for its relevance to various other sciences, such as environmental philosophy. Whitehead had a process approach to his metaphysics the metaphysics of organism. His philosophy is generally identified as "speculative philosophy," which accounts for a set of concepts and principles which can be devised as a metaphysical system for descriptive and explanatory account of our knowledge or experience. When we look at the world and its wonders, we say, 'wow' meaning that everything in the world it is amazing; we never stop to wonder. We go further in investigating the secret of this wonder and in our further reflection, we find that this world is a complex of manifold things interwoven and interlinked. Coupled with this idea of interrelatedness we also realize or come across the factor -of 'change.' Everything in the world is constantly on the move including history, human development, human thoughts, human psychology, nature, and even animals. Even mathematics has reference to process. For example, the mathematical modes of fusion, such as "addition," multiplication," and "serial form" are construed as forms of process by Whitehead.[346] We cannot imagine a world void of change or process. Even if we imagine so, that world would be a world without a future because the future includes possibilities; and possibilities presuppose process. The world without change would be with static substances which are stripped of feelings, thoughts, experiences, relations and causal connections.

Aristotle's reconciliation between 'being' and 'becoming,' 'permanence' and 'change,' and actuality' and 'potentiality,' was not effective because philosophers over the

years have been disagreeing with each other on the issue of the supremacy between these polarities. By and large West has imbibed the idea of 'permanence' and the East 'change,' of course, with some important exceptions.[128] Religion such as Christianity and philosophers like Plato, and Descartes are the examples for embracing 'permanence' in the West and Religions such as Buddhism and philosophers like Shankar some of the examples for proposing 'change' in the East. For example Buddhism holds that everything is a process which persists by virtue of the theory which speaks about some kind of universal energy flowing in and through the world. Unlike Whitehead's process, in Buddhism an individual does not exist *per se;* they are just a drop in this this universal energy flow.[129] Process philosophy gives priority to the first members and subordinates the second members of the following pairs: actuality/substance, process/product, change/persistence, and novelty/continuity. Process philosophy never is discards pennanence, independence, and being, but rather it asserts that they are reducible to Robert Mesle wrote a book on *Process Relational Philosophy.* In his book, at one point instead s of process relational' as it appears in the cover page, he uses as 'relational process.'[130]He may have some home other reason for that change, but there is another sense in which Robert Mesle have might meant the centrality or the primacy of the process itself What is then process philosophy? These are very many explanations for this question.

Nicholas Rescher envisions process as a coordinated group of changes in the complexion of reality. Process is a structural succession of states of affairs which accordingly form a unified overall complex of terms that are connected.[131] There are three factors which are very important in process philosophy (Process is complex reality); this

[128] C. Robert Mesle, *Process Relational Philosophy: An Introduction to Alfred North Whitehead, op. cit*., pp. 8-9.
[129] Harold J. Morowitz, "Biology as a Cosmological Science," in *Main Currents in Modern Thought,* Vol. 28 (1972), pp. 1-157.
[130] C. Robert Mesle, *Process Relational Philosophy: An Introduction to Alfred North Whitehead* (West Conshohocken, Pennsylvania: Templeton Foundation Press, 2008), p. 8.
[131] Nicholas Rescher, *Process Philosophical Deliberations* (Lancaster: Ontos Verlag, 2006), p.2.

complex reality has temporal coherence and unity: and Process has a structure, that is, it has a shape, direction and format.[132]

These three factors depict that process is not mere succession of states of affairs or mere aggregation of things but they are organically and systematically united, unified and assembled through causal and functional laws and order. Though everything is explained in terms of process, process can be divided into two major types: conceptual (epistemological) and metaphysical (ontological)[133] or we can even say, methodological and substantial. As conceptual or epistemological or methodological, process is mere instrument to understand the world in terms of process and as metaphysical or ontological, or substantial, it is a basic characteristic and fundamental feature of the reality. It means that in substantial level, everything is process and there is nothing outside process. The former is accentual reductionism meaning every explanation of a thing necessarily has recourse to process physical process and the latter is called ontological reductionism meaning that everything is reduced to physical process.

Two things are basically predicated to process: one is that things cannot do without process since even substances change and the second is that process is fundamental things since things emerge in and through process. We understand the world better in terms of and in terms of modes of change, interrelatedness and dynamism than in terms of being dependent and static substances in the Postmodern philosophy, 'process' was the term often used to identify Whitehead's philosophy. But process philosophy as such is a philosophical position or a system which had been there even before Whitehead. What concerns us is that for Whitehead, the term 'process' or process philosophy became a hot issue in the circle of philosophy, especially in metaphysics and became known widely among Postmodernists.

[132] *Nicholas Rescher, Process Philosophical Deliberations, op. cit.,* p. 2.
[133] Nicholas Rescher, *Process Metaphysics: An introduction to Process Philosophy, op. cit*., p. 27.

Although the traces of process philosophy go back.to pre-Socratic period, it looks new because it was forgotten during medieval and modern method and was again revived by Whitehead.[134] Throughout the history of philosophy, there were philosophers who were proponents of process philosophy.

3.1.1 Whitehead's Process Philosophy

The task of metaphysics is, to provide a cogent and plausible account of the nature of reality at the broadcast, most synoptic and comprehensive level.[135] According to this view of metaphysics, Whitehead's process philosophy clarifies, defines, and characterizes nature by using the most general, logical, coherent and necessary common features of reality. According to Whitehead, process is most general, logical, coherent and necessary common metaphysical feature of reality. He emphasizes in *Modes of* thought that if a process was to be fundamental to actuality, then each ultimate individual fact must be a process.[136] Whitehead describes each occasion of experience (actual entity) as a process. Each of this process is constituted by the reception of objects. The objects which the present process receives become features of its nature.[137] An actual entity either constructs itself or after construction, that is, after satisfaction perishes, enters into other self-creating process as objective datum, and objectively involves in creating other new process explains the nature of the actual entity, it is a basic and fundamental notion in the philosophy of organism. Whitehead's principle of 'subject-superject,' doctrine on becoming' and 'perishing' of actual entity, theory of 'creative advance' into constant novelty, I and theory of interrelatedness, all presuppose process in ultimate reality. He quotes from Heraclitus in *Process and Reality* to affirm that everything is process: "no one crosses the same river

[134] *Nicholas Rescher, An Introduction to Process Philosophy, op. cit.,* p. 28.
[135] *Ibid.*, p. 1.
[136] Alfred North Whitehead, *Modes of Thought, op. cit*., p. 88.
[137] Alfred North Whitehead, *Modes of Thought, op. cit*., p. 179.

twice"[138] and again he cites in another place, "All things flow."[139]

Whitehead confirms that whatever is in process is always in a process of becoming and perishing and never really is."[140] He believed in the flux of things and around this ultimate generalization he constructs his philosophical system. He did not ascribe to the doctrine of static morphological universe, static organism, static stuff and static God. If the existence of the actual entity involves process, then all the other senses of existence should involve process or have reference to process, because the other senses of existence are derivative from actual existence, that is, actual entity.[141] This means that all beings and things in the world essentially undergo process. Ontologically the mere conception of 'process' implies its existence if we admit. admit 'process,' then we have to also accept the truth that 'process' cannot have separate existence apart from that of actual entity, for, there is no other existence except the existence of actual entity; therefore 'process should be derivative from the existence of actual entity.

3.1.2 Two Types of Processes

There are two types of process according to Whitehead: process as 'becoming' or 'concrescence' and process as 'transition.' The former is known as subjective immediacy and the later as reparation. The distinction between these two processes can also be called as internal (process of becoming) and external process (process of transition). Process of becoming can be identified as internal process while process of transition is about the origin and continuation of things of the external world. These two microscopic processes, that is, in the level of ultimate fact are the two sides of one and the same process in the macroscopic level, that is, in the level of microorganisms.

[138] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit*., p. 29.
[139] *Alfred North Whitehead, Process and Reality: An Essay in Cosmology, op. cit.,* pp. 208-309.
[140] *Ibid.* p. 82.
[141] *Ibid*., pp.309.

The process of becoming or the internal constitution of actual entity is what identified by the term concrescence.[142] The 'process as becoming' means 'coming to be' or 'coming into being.' whitehead describes process of concrescence as, "That *how* an actual entity *becomes* constitutes what that actual entity *is;* its 'being' is constituted by its 'becoming.' This is the principle of process."[143] What is this 'becoming' then? It is, as Whitehead explains, "the transformation of incoherence into coherence and each particular instance ceases with this attainment."[144]

The process as 'becoming into being' is nothing but self-creation of actual entities. This 'becoming' is always becoming a creative advance into novelty. Therefore, 'process' in its primary sense is the 'process of becoming' which constitutes the actual entity and its existence. The process of concrescence is to do final causation whereby the process is concerned with the teleological self-determination. This is the originative phase in the process. The process of concrescence is the formal functioning of actual entities whereby determinate definiteness of actual entities is achieved. This process is qualitative because it creates the individual essence of the actual entity.[145]Process of concrescence is also marked by the reception of eternal objects by the actual entities amidst the reception of already achieved actual entities. "The process is constituted by the influx of eternal objects into a novel determinateness of feeling which absorbs the actual world into a novel actuality."[146]

Becoming is a generic metaphysical feature of actuality and this is 'process of becoming' and not 'continuity of becoming' or 'continuous process.' For Whitehead as follows: Finally, the extensive continuity of physical universe has usually been construed to mean: that there is a continuity of becoming. There is a becoming of continuity, but no

[142] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit*., p. 210
[143]*Ibid.,* p. 23
[144] *Ibid.* p. 23
[145] Jorge Luis Nobo, *Whitehead s Metaphysics of Extension and Solidarity, op. cit.,* p. 31.
[146] Alfred North Whitehead, *Process and Reality: 'An Essay n Cosmology,' op. cit.,* p. 45.

continuity of becoming. The actual occasions are the creatures which become, and they 'constitute a continuously extensive world. In other words, extensiveness becomes, but 'becoming' is not itself extensive.[147]Continuity of becoming' would mean that the actual entity is continuously 'becoming.' This is impossible; no actual entity is continuously 'becoming.' Each of them terminates its process by becoming finished product, that is, a finished process or an epochal unit of process or becoming or objectified or satisfied actuality and in each of which the process of becoming is completed.

Transition' entails a passage from one particular actual entity to another particular actual entity. In this fashion, process of transition actually connects past, present, and future actual entities. "Whitehead mentions the meaning given by Locke. Locke recognizes that transition is the act of perpetuality perishing' of an actual entity and again, he adds that it is the origination of the present in conformity with the 'power' of the past.[148] The other kind is the fluency whereby the perishing of the process, on the completion of the particular existent, constitutes that existent as an original element in the constitutions of other particular existents elicited by repetitions of process. This kind I have called 'transition.[149]

Transition is understood in very many ways: first of all, it is from without to within. It means the already settled actual entities and eternal objects are *outside* a particular concrescence and now because of the process of transition they are brought to be *within* the concrescence for synthesis secondly, the 'transition' is from the objectivity of the data of the past to the :subjectivity of the actual entity of the present; thirdly, it is from the indetermination of the actual world to a determinate individual entity;' Fourthly, it is from the past to present and present to future; and finally, it is from the settled actual world to the

[147]*Alfred North Whitehead, Process and Reality: An Essay in Cosmology, op. cit.,* p.35.
[148] Ibid., p. 210.
[149]*Ibid*., p.210.

novel actual entities, i.e., from actuality to actuality.[150] Since 'transition' creates new occasions and objectifies in them the superjets which are already in existence, repeatability which is important for the continuity of the history *is* maintained in the process of 'transition,' so that, each new occasion does not create a break away from the old or from the universe whence it emerges to be. Transition also supports the principle of creativity and by virtue of which the universe is involved in its on-going.

Finally, the process of transition is relational because it connects past, present and future. The vast physical universe which according to Big Bang, is expanding infinitely, and which is still involving with millions of new species coming to life, can be explained by the second type of process of Whitehead. In this sense, the second process is known as an extension in space and time, that is, an *extensive continuum.* 'Extensive Continuum' is the term which is used to mean space-time in Whitehead. Avoids the term "space-time," because the old term can give us the connotation that space-time is an independent entity having existence independent of actual occasion"[151] explains the process in terms of space and time in which every 'epochal unit of becoming' is succeeding or being succeeded by other such epochal units. This is not the continuity of becoming as it has already been discussed, but the continuity here is constituted by the succession of distinct and completed units of becoming.[152]

Ivor Leclerc records that the continuously extensive world is not actual entity, but it is constituted by the succession of actual entities. And also continuous extensiveness is not a metaphysical feature of actual entities.[153] Whitehead inscribes avers that in a becoming, something becomes an entity; and that every act of becoming is divisible into earlier and

[150] *Alfred North Whitehead, Process and Reality: An Essay in Cosmology, op. cit.,* pp. 150-210.
[151] John B. Cobb, *Whitehead Word Book: A Glossary with Alphabetical Index to Technical Terms in Process and Reality* (Claremont, CA: P & F Press, 2008), p. 76.
[152] Ivor Leclerc, *Whitehead's Metaphysics: An Introductory Exposition* (London: George Allen and Unwin Ltd & New York: The Macmillan Company, 1958), p. 74.
[153] *Ibid.* p. 75.

later sections which are themselves acts of becoming.[154] According to these lines, it is apparent that *the extensive continuum* means the transition from one actuality to another in spatio-temporal relations. *The extensive continuum* is further clarified in the Lowe's explanation of human experience. He explains the procession aspect of nature of the composition of the world by taking into Consideration our ordinary human experience as an example. Our present experience, though we may not consciously separate from that which precedes and that which comes after, still has a unity of its own.

Our present experience which is synthesizing all that happens to us is actually, when it is completed, going to be a drop of experience in the whole history of mankind and an unreliable context of the future of our existence and of our neighbor.[155] This is an example of how each unit of processes becomes a context for the future of the world. This is context is nothing but the environment that is presented to us as data for our present experience and this context also means the future environment with the addition of whatever we are contributing to it for the creation of the future generation. As our every experience is creative, experience *per se*, that is, the actual entity is self-creative, that is, it creates itself from the past and present environment, and by creating itself indirectly creates the future of other experiences.[156]

3.2 Key Principles in Whitehead's Process Philosophy

Besides God as Ultimate principle of process, there are seven other vital principles which define the philosophy of organism. These principles are indispensable and fundamental for the right understanding of Whitehead's philosophy and these principles are invoked to explain some fundamental features of the actual entities like mutual relationship, continuity of the environmental history, creativity in nature, organic nature and complex

[154]Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* p. 68.
[155]*Victor Lowe, Understanding Whitehead, op. cit.,* pp.18-19.
[156]*Ibid*. p. 20.

unity of actual entity, biodiversity and other important aspects of the nature. The seven principles are as follows: principle of relativity, potentiality, causation, ontological principle, creativity, interrelatedness, and solidarity. In this section, all these seven principles are expounded.

3.2.1 Principle of Relativity in Process Philosophy

Principle of relativity generally means the repeatability of all entities such as all particulars and universals. Repeatability means that the earlier actual entities are repeated in the later actual entities by way of objectification (by former actual entities becoming data for current or later usual entities' self-constitution). When Whitehead explains the 'principle of relativity,' he entities. That the potentiality for being an element in a real concrescence of many entities into one actuality is the general metaphysical character attaching to all entities, actual and non-actual; and that every item in its universe is involved in each concrescence. In other worlds, it belongs to the nature of 'being' that it is a potential for every 'becoming.' This is the 'principle of relativity.'[157] Once the individual process of becoming is over, each subject becomes a 'superject' and when it is objectified by the future process the 'superject' or the finished actual occasion becomes an object or a possibility for future concretion.

Now this is the reality which Whitehead calls as the principle of relativity. "This principle says that it belongs to the nature of a 'being' that it is a potential for every 'becoming.[158] It means that an actual entity becomes constitutive element for another actual entity. The principle of relativity first used in Physics in the field of electromagnetism including waves of light, and then later Einstein showed its relevance in: gravitation.[159] The

[157]Alfred North Whitehead, *The Principle of Relativity* (Fetter Lane, London: Cambridge University Press, 1922), p. 22.
[158]*Ibid.* p. 166.
[159]Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.* p. 127.

principle of relativity also includes the relativistic view of time, for as Whitehead explains that time is nothing but a instantaneous and simultaneous spread of the events of the universe.[160] In this sense time and actual entities are intimately related, thus they presuppose each other; they cannot be separated; and they do not exist in isolation. The flow of time is the succession of moments of occasions.

The subjectivist principle, the ontological principle, the causal objectification of the earlier occasions in later occasions, the mutual immanence of actual occasions, and even the category of the ultimate ('creativity,' 'one,' and 'many' are the ultimate notions and these are the notions explained under the category of ultimate)[161] all these theories presuppose the repetition of the objectified concrete actual occasions.[162]The 'principle of relativity' according to John Lango is important because it expresses the universal relatedness of entities and prefigures the universal relations of synonimity.[163] The principle posits that each actuality is related to each other and even to the whole universe. Whitehead's treatise on 'society' is an example of how the universal principle of relativity is relevant to the interrelations of all actualities. Whitehead's aim of elucidating the principle of relativity in his system is to solve the problem between particulars and universals,'[164] to criticize traditional understanding of substance which is isolated and static principle,[165] and to justify that there is both organic pluralism and organic unity.[166]

3.2.2 Principle of Potentiality in Process Philosophy

Potentiality' or 'possibility' is the term used in Whitehead's philosophy of organism to refer to reality that there is unmeasured or unfathomable possibility existing for the

[160]*I Alfred North Whitehead, Process and Reality: An Essay in Cosmology, op. cit..,* p.7.
[161]*Ibid.,* p. 21.
[162]Jorge Luis Nobo, *Whitehead's Metaphysics of Existence on and Solidarity, op. cit*., p. 63.
[163] Alfred North Whitehead, *Modes of Thought, op. cit.,* p. 99.
[164]*Ibid.,* p.70.
[165] Alfred North Whitehead, *Process and Reality: An Essay Cosmology, op. cit.,* p. 65.
[166]*Ibid.* pp. 44, 133.

actuality to select, prehend, limit itself according to its value, and arise as subject out of the togetherness of its selected components. Potentiality is an important notion in process philosophy, for, without potentiality there is no process because without potentiality there is nothing to be processed or synthesized or concretized, if the universe is dynamic in our conception of it and if you want to avoid static understanding of it, then the notion of potentiality is inevitable. If we remove the Principle of potentiality from any cosmological system, things in that cosmological system are going to be static. The world, as we experience now, is the outcome of the realization of its past potentialities and the world, as it is now, will be the potentiality for the realization or actualization of the future world.

Whitehead's treatise on the principle of potentiality takes us back to Aristotle's metaphysics on act' and 'potency.' According to Aristotle, the actual and potential are the two forms of existence. They require each other because the actuality is the exemplification of the potentiality and potentiality is the characterization of the actuality.[167] In Whitehead's metaphysics of actual entities, it is necessary that his philosophy cannot be completed without speaking of 'potentiality' and inserting potentiality as a constitutive element in the actual entity. Actuality and potentiality presuppose each other and both of them have reciprocal roles in the constitution of a concrete being. We have to consider the two types of meaning of potentiality: the first is the general type of potentiality.

Potentialities are given to the actual entities to be concretized. Without 'potentiality' and 'givenness,' there can be no nexus of actual entities in the process and supersession of novel entities. According to the ontological principle which says that everything should be somewhere and in some mode, especially in an actual entity, all potentialities are sheltered

[167] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* pp. 45-46.

in God, the temporal actual entity.[168]For, nothing comes from nowhere, unless it is given as an unrealized potentiality. This will take us to the distinction between 'pure' potentiality and potentiality, properly assigned' for the actual entity in question. 'Pure' potentials are .conceived in the primordial nature of God and they are conceptually prehended by Him; whereas the other type of potentiality is the potentiality given to actualities in order to exist. It is given as 'data' or objects' for the particular actual entities. The 'givenness' of the potentiality implies that they have ingression into some or other actualities. Their ingression is not their decision but it is the decision of actualities, for, only actuality can decide not the eternal object. It is by decision or in other words, it is by limiting the possibilities that an actuality becomes 'this' rather than 'that.' Limitation is essential for an actuality in order to be something at all; and therefore decision constitutes the essential nature of actuality which is in concrescence. In this way, an actuality is a decision amid potentiality.[169]According to the ontological principle, every 'being' is a potential or a becoming.[170]

3.2.3 Principle of Causation in Process Philosophy

Hume and Kant denied the objectivity of the causal connections, Hume found no ground in the sense-data for causal connections; therefore he appealed to some functions of the mind, such as memory, association, repetition, and habit. On the other hand, Kant relied heavily on the pattern or structure of the human mind for causal connections. According to Whitehead, there are two distinct modes of perceptions: presentational immediacy and causal efficacy.[171]Presentational immediacy is concerned with the perceptions of sensual elements such as, colour, size, and shape. Presentational immediacy is the term used by Whitehead to refer to the immediate perception of contemporary external world through our

[168] Alfred North Whitehead, *Process arid Reality: An Essay in Cosmology,* p. 174; see also the interpretations of Laurence Bright and Thomas E. Hosinski Laurence Bright, *Whitehead 's Philosophy of Physics* (London and New York: Sheed and Ward, 1958), p. 16

[169]North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* pp. 61-65, 123-127 & 171-173.

[170] *Ibid.* pp. 58, 64, 116, and 168-183.

[171] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* p. 175.

senses, and causal efficacy gives a picture of things as affecting us or in other words, it gives us a general sense of our existence. What we understand vaguely in the causal efficacy is that we are in casual connection with antecedent occasions of our body and with our surrounding environment. As human beings we have experiences of casual efficacy and live midst these experiences. Even inorganic matter feels in the mode of casual efficacy.

The interconnection between beings is explained in terms of causal connections. The interrelatedness is a real union between actual entities which is causally connected. This union is the metaphysical and ontological relation between beings. This twofold mode of perception taken as whole gives us a total sense experience. If we restrict our attention to only presentational immediacy and say there is no causal efficacy in the percepts, then like Hume and Kant, we have to ascribe causal efficacy to the mental state rather than to the data of perception. Taking only Presentational immediacy into consideration, we perceive nothing in the present moment without reference to past, present and future. Whitehead refutes the argument of Hume and Kant especially their theory which says that causal connections are due to conscious thought on the part of higher organism. Whitehead explains that even lower organisms have self-preservation which is basically drawn from causal relationship. Each lower organism has one or other type of defensive mechanism to defend itself from its offender, and this is an instance for the existence of causal relations in the lower organisms.[172] He affirms that the causal relationship is there throughout the actual world. Causal experience is really a primitive one in all the levels of nature.[173]

Whitehead invites us to drop our old way of conceiving things in long range, that means, we need to drop perceiving things in macrocosmic level or in other words, in its gross level or the mentality of trying to find remote causes rather than restricting ourselves

[172]Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* pp. 177-179
[173]Laurence Bright, *Whitehead's Philosophy of Physics, op. cit.,* p. 18.

to the very short periods of time and 'observe how actual occasions live for a fraction of second and immediately become elements for the present and future occasions.[174]This insight certifies that causation is a relationship inherent in the physical data themselves and not in the structure of the senses. In this way, Whitehead supports the principle of causation in the being itself, therefore the theory of causation is an ontological principle. Causation, when it is grounded on ontological or metaphysical realm, it gives us strong faith on the order of the universe and the causal structure of interrelatedness among beings.

Aristotle's conception of nature was teleological, whereas Newton saw nature not as teleological but as an entity full of only material bodies subject to efficient cause (the efficient cause is human being). Newton found no final cause in the material bodies. Without final cause, modern science avails material things to be appropriated to human Whitehead's theory of evolution of organisms, of nexus, of society, of transition and all other theories will never be disengaged from the theory of causation. All his theories are based on the fundamental theory of causation. The unification of efficient and final causes is dealt in this work. The efficient cause is the objectified actual entities and the final cause is the subjective aim. Both are intermingled in genetic constitution of an actual entity. It has also been notified that the final cause which is the subject, after its annihilation as subject, becomes the efficient cause which is the object.

3.2.4 Ontological Principle in Process Philosophy

The ontological principle is the feature of experience which can be defined as causal agency which means a process a process of self-creation or self-causation. In this sense, it is internal property to the actual occasion which means that the actual entity itself is the ontological principle. Professor Sherburne explains this factor as follows:

[174] Trish Glazebrook, "Eco-logic: An Erotic of Nature," in *Rethinking Nature: Essays in Environmental Philosophy, op. cit.,* p. 104.

An actual occasion is not to be abstracted into something apart from, behind or containing its agency. It is its agency, or process, and its very being is constituted by its process, of becoming. No process, no existence; and apart from actual entities there is no process. This is the ontological principle.[175]There is causality in nature and this causality is in the self-creative process of the actual entity.

The category of explanation is termed the 'ontological explanation.' It could also be termed the 'principle of efficient and final causation.' The ontological principle means that actual entities are the only reasons so that to search for a reason is to search for one or more actual entities.[176] Whitehead's definition of 'Ontological Principle' consists in or summarized as: "No actual entity, •then no reason."[177] An actual entity is always 'togetherness,' and therefore any togetherness,' that is, any actual entity can only be 'togetherness' in the formal constitution of an actual entity otherwise they are not there. Whitehead also refers to the ontological principle as 'general principle.' This general principle is based on the argument that apart from things that are actual there is nothing either in fact or in efficacy. It means that there is non-entity outside actual entity or as Whitehead stated, outside actual entity there is mere silence. There is nothing in the actual world coming from nowhere; everything has to have a reference point to some actual entity; and every entity is either from the objectified past or from the present occasions. The subjective aim is the horizon for the ontological principle beyond which there is nothing.[178]

Even Leibniz believes in certain type of simple ideas, axioms, and postulates or Primary principles which cannot be proved and moreover they do not need our proofs. These are identical as propositions and the opposite will not survive except with self-

[175] D. W. Sherburne, *A Whiteheadean Aesthetics* (New Haven: Yale University Press, 1961), p. 9.
[176]Alfred North Whitehead, *Process and Reality. An Essay in Cosmology, op. cit.,* p.24
[177]*Ibid.* p.19.
[178]Alfred North Whitehead, *Process and Reality. An Essay in Cosmology, op. cit.,* p.244.

contradiction.[179] It is by the ontological principle that everything in the universe is positively somewhere in actual entity either as actuality or as potentiality.[180] When it is said that everything is actual entity, it is almost misleading us towards monism.' It is for this reason that Whitehead introduced the principle of relativity in order to rescue the ontological principle from issuing to 'Monism. Principle of relativity affirms that there is really a multitude of components constituting the individual actual entity and the individual actual entity is a unit of manifold entities. The actual entity is divisible into infinite number of components and each of its components is an individual, definite, and particular entity. In this way, Whitehead could avoid monism and adapted justified pluralism.

3.2.5 Principle of Creativity in Process Philosophy

The term 'creativity' refers to the ultimate function of the actual entity. It is an activity inherent in the actual entity constituting the actual entity. The initial situation of every actual entity includes a creative activity. The process of individual constitution of an actual entity is what we say creativity, and each actual entity is a particular instance of the generic activity of process 'which is creativity. It draws material from 'stubborn facts' which are from the past objectified. World of occasions and tries to make something concrete, that is, new actual occasion out of the given data (stubborn facts or past actual entities). The creativity is the actualization of potentiality and the process of actualization is an occasion of experience.[181] This is an ontological principle that justifies the inner motion of occasions and the creative advancement of the World.[182]

[179] G. H. R. Parkinson, ed., *Leibniz: Philosophical Writings, op. cit.,* p. 184.
[180] Alfred North Whitehead, *Process and Reality. An Essay in Cosmology, op. cit.,* p. 40
[181] Alfred North Whitehead, *Adventures of Ideas, op. cit.,* p. 179.
[182] Thomas E. Hosinski, *Stubborn Fact and creative Advance: An Introduction to the Metaphysics of Alfred North Whitehead*, *op. cit.,* p. 24.

Luis Nobo mentions the key sentence which explains better the principle of creativity: "The many become one, and are increased by one."[183] The 'one' represents here an actual entity which is the world conjunctively and the 'many' signifies the actual world considered disjunctively which contains the multitude of actual entities. Whitehead argues that among the notions of 'one' and 'many,' the notion of creativity is also the ultimate notion.[184] He explains the principle of creativity as follows: In all philosophic theory there is an ultimate which is actual in virtue of its accidents. It is only then capable of characterization through its accidental embodiments, and apart from these accidents is devoid of actuality. In the philosophy of organism this ultimate is termed 'creativity'; and God is its primordial, non-temporal accident.[185]

Whitehead connects the ultimate with the principle of creativity basing his argument on the hypothesis that the ultimate is actual in virtue of its accidents. By keeping this foundation he was b1e to explain the creativity which is the constituting activity for actual entity. Creativity is the universal of universals which characterizes the actual entity. It is this principle of creativity which brings the many, which is the universe disjunctively into one actual occasion which is the universe conjunctively.[186] This is nothing but the fact that the whole universe is in actual occasion and the actual occasion is in the whole universe. Creativity is also the principle of novelty.[187] It is novelty because it introduces a novel dimensions, patterns, and characteristic into actual entity which is in concrescence. If the new occasion is not diverse from the rest of the occasion, then all occasions past present and future will become identical; that becomes absurdity of Whitehead's philosophical system. Creativity has a transcendental character. When the current concrescence is terminated and

[183]Jorge Luis Nobo, *Whitehead's Metaphysics of Extension and Solidarity, op. cit.,* p. 33.
[184] Alfred North Whitehead, *Process and Reality: An Essay* in *Cosmology, op. cit.,* pp. 20-22
[185]*Ibid.,* p. 7.
[186]*Ibid.,*p. 21.
[187]*Ibid.,* p. 22.

the satisfaction' (new entity) is produced, on completing the antecedent entity, creativity transcend form the current concrescence to upcoming one to begin a new concrescence of other actual entities.[188] Even God, like eve other actual entity, is a product of creativity which is the process by which He undergoes a transformation from primordial to consequent nature.[189] Finally in creativity, there is union of its double characteristics, namely the union of efficient and final causations.

3.2.6. Principle of Interrelatedness in Process Philosophy

Whitehead underscores that interconnectedness cannot be understood apart from the relation to other entities. The problem of philosophy therefore must be conceived as the understanding of the interconnections of things, each understandable, apart from reference to anything else. Each entity is related to universe of other entities. This relation depends on the view (perspective) according to which the entity in question prehends the universe. An actual entity prehends the universe either as potentiality or as accomplished.[190]

The disjunctive relationship of subjects is the basis for the account of conjunctive relations of the subjects. The relatedness of nature is the ground of uniformity in nature.[191] The principle of interrelatedness depends on the principle of 'one' and the 'many.' The 'many' means the universe or the various data for concretion. The 'one' presupposes the 'many,' and the many' 'one,' that is, 'many' is 'one' and 'one' is many.[192] This principle of one and many explains how things are interrelated in nature. Basically all actualities are internally related. Internal relations depend upon the ontological principle which says "everything must depend upon everything else," and "eve4hing must be somewhere and in

[188]Alfred North Whitehead, *Process and Reality: An Essay* in *Cosmology, op. cit.,* p. 85.
[189]*Alfred North Whitehead, Process and Reality: An Essay in Cosmology, op. cit.,* p. 88.
[190]*Ibid.,* p. 66.
[191] Ruth Nanda Anshen, ed., *Alfred North Whitehead. His Reflections on man and nature* (New York: Harper& Brothers Publishers 1961), pp. 44 and 47
[192] Alfred North Whitehead, *Science and the Modern World, op. cit*., p. 163.

some mode." Internal relations also constitute the notion of 'one.'[193] Internal relation of the events is something to do with the individual constitution of an actual entity and the individual constitution is nothing but the activity of synthesizing the 'many' into 'one' the many actual entities into one synthetic unity of feelings.

There are two types of interrelations internal and external relations Eternal object is externally related because it ingresses itself into the constitution of an individual actuality from being an outside reality. The relation between an eternal object *A* and an actual entity a is external as far as the eternal object *A* is concerned At the same time, the relation between an eternal object *A and* an actual entity a is internal as far as the actual entity a is concerned. All the eternal objects belong to a 'realm' of eternal objects because they are in a systematic complex of mutual relatedness.[194] Interrelatedness is the outcome of the analysis of the two factors: the first is the activity which is going on in the concrescence, that is, the process itself which is synthesizing the complex aspects which are identified as the actual entities from the past world, and the second is the complex of aspects, that is to say, the complex of relatedness which are components of the process. This is an activity of unifying the 'parts' into 'one' of 'whole.' The 'whole' is the constitutive of the 'part,' and the 'part' is the constituent of the 'whole.'[195]The interrelatedness is manifold. First we look at the threefold relation and then later go to other types of interrelatedness. The basic threefold relation are the relation between past and present actualities, relation between present actual entities, and relation between present and future actual entities.

The general principle which guides this immanence (interrelatedness) is subject-object relation,[196] that is, the past which is immanent in the present is always object and the

[193] A. S. Graham, *The Doctrine of Universal Relativity in Whiteheads Metaphysics* (A doctoral thesis submitted to University of Ottawa, Canada in the year 1976), p. 56.
[194] Alfred North Whitehead, *Science and the Modern World, op. cit.,* pp. 160-161.
[195] *Ibid., p*. 123.
[196] Alfred North Whitehead, *Adventures of Ideas, op. cit*., p. 188.

present in which the past is immanent is always subject. When we talk of immanence in the philosophy of organism, Whitehead says that we have to always confine ourselves to minimum time-span, i.e., a second or even a fraction of second and not a distant past or a distant future.[197] For, the immanence is always immediate in the philosophy of organism. This threefold relation or immanence can be interpreted in terms of space and time. The first two phases of relationship between past and present and between present and future are temporal a relationship or immanence that takes place in lapse of time or that involves time between past, present and future. And the third phase of relationship between contemporary actualities is spatial simply because each actuality occupies a particular space. Actual entities involve each other by the reason of their prehension of each other.[198] Prehension is one of the aspects in which actual entities prehend each other and by prehending each other they are mutually immanent in each other.

3.2.7. The Principle of Solidarity in Process Philosophy

The term 'solidarity' is actually borrowed by Whitehead from Professor Wildon Carr's Presidential addresses to the Aristotelian Society given in 1917 to 1918.[199] Whitehead describes universe as solidarity of many actual entities. The solidarity of the apparent universe is ana1ogous1y explained in the solidarity of each actual occasion. Each actual occasion is itself a Society of many actual entities. When an actual occasion synthesizes he many data which are already -made actual entities and unifies them into its subject, it experiences the solidarity of other actual entities.[200]

Conclusion

Like Copernicus, Whitehead changed the entire course of philosophy from

[197] *Alfred North Whitehead, Adventures of Ideas, op. cit.,* p. 192.
[198] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* p. 20.
[199] The information of borrowing the term from Wildon Carr is given by Whitehead himself in his book, *Process and reality* on the page 40 and in the footnote number 3.
[200] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* p. 40.

philosophy of substance or 'bit of matter; to philosophy of process. He liberated philosophy from the domination of scientific materialism. For, scientific Materialism, according to him, cannot account for experience and feeling; for experience and feeling are fundamental expressions of actual entities and they are dynamic and process. Scientific materialism studies the reality partially unlike the process philosophy. Whitehead's process philosophy is substantial or metaphysical or ontological and methodological, and epistemological. His process metaphysics is also against Greek atomism which admitted only the type of process that is the motion of atoms or their change of position.

The process of Greek atomism is continuous process which is peripheral and a mere succession devoid of spatiality, substantiality dynamism, life, and interrelatedness. All that there *is*, is the arrangement of less lifeless atoms and therefore the condition of the world is the same forever. There is no normal process that we normally understand namely, origin, progress, development and annihilation -in short, the teleology.[201] This is a material, static, and process. Whitehead's process is holistic which depicts the reality holistically and explains it as one organic unit. This is an essential aspect for the further explanation of his philosophy of organism and for the implications for environmental crisis.

Process philosophy rejects the traditional conception of substance and contends a philosophy of actual entities or organisms which involve process, interrelatedness, causality, creativity, teleology, and other important characteristics. His importance to Platonism is very much visible in the way he insists on the significance and the function of the eternal objects his theory. The ultimate facts which are actual entities are basically moments of experience. Since he identifies actual entities as experiences, his philosophy is

[201] Nicholas Rescher, *Process Metaphysics: An Introduction to Process Philosophy,* p. 34.

recognized as experientialism.[202] Whitehead's philosophy is panpsychist whereby the primary mode of exception, that is, prehension is correlated with actual entities. It is by prehension that an actual they constitute itself. Through prehension, the mental pole is asserted in every actual entity. The feeling' is an empirical feature of consciousness of an actual entity.

This is a cerebral event such is a qualitative feature of an actual entity. This is why we say his philosophy is physiology. However, it is self-evident that whitehead ascribed mentality to all actual entities, and this is why an actual entity is called a bit experience; otherwise it is a 'bit of mater' as we find in scientific materialism.[203] 'A bit of a matter is a 'vacuous actuality' which is devoid of subjective immediacy. The ultimate fact as 'a bit of matter' lacks dynamism, organism, interrelatedness, and process, intrinsic and inherent values other characteristics of an actual entity. Some other important characteristics of Whitehead' s process philosophy such as beyond dogmatism, atomic aspect of process, reformed realism, reformed subjectivism, and theistic process are enumerated below. Some other important characteristics are also dealt in the following subsections such as beyond dogmatism, atomic aspect of process, reformed realism, reformed subjectivism, and theistic process, holistic process, becoming over being, and space/time.

[202] David Ray Griffin, *Whitehead's Radically Deferent Postmodern Philosophy,* (Albany: State University of New York Press, 2007), pp. 58-61.
[203]Roy Wood Sellars, "Philosophical Organism and Physical Realism," in Paul Arthur Schilpp, ed., *The Philosophy of Alfred North Whitehead, op. cit.,* p. 428.

CHAPTER FOUR

PROCESS PHILOSOPHY AND ENVIRONMENTAL SUSTAINABILITY

4.0 Introduction

Having looked at the environmental crisis and philosophy in general and assessing the extent beyond which philosophy may have contributed to the current crisis; and Process philosophy's in particular , we now turn to the specific attributes that may be applied in environmentalism in order to achieve a sustainable environment. In other words, in this chapter we look at the specifics of process philosophy and make a postulation on the extent to which its metaphysical learnings can be used in developing a unifying theory in environmentalism. In this chapter therefore we examine specific aspects drawn from process philosophy and their applicability in an effort to achieve environmental sustainability. Some of the specific learnings from whitehead's process philosophy that can be used to generate moral guiding principles on environmentalism and which are discussed in this chapter include atomism, reformed realism, reformed subjectivism, theism, holism, becoming over being, space and time.

4.1 Quantum Aspect of Process (Atomism) and Environmental Sustainability

Atoms became the subject-matter of metaphysics of the pre-Socratic period. Atom was a paradigm for the metaphysics of substance, Modern science has revived atomism and has tried to explain atoms as the fundamental building blocks of the universe. Process philosophers, like whitehead observed and studied the universal process as exemplified in the individual organisms and envisioned small or .tiny processes which are called quantum processes in the quantum phenomena the ultimate facts (the actual entities) which scientific materialism identifies with atoms. The world and all its Organisms are bigger processes amidst the quantum processes which a few realized and recognized in the actual entities. The

laws of nature originate from these tiny or quantum processes; and they are manifested in the macro-processes of the universe. There is an inward procession of these laws of nature from micro-processes to macro-processes. This means that God is not the one, who imposes the laws from above, but rather the laws of nature evolve from within the universe; they are derived from the nature of the micro-processes. According to this quantum aspect of process, space/time is also quantified; it is no more an absolute 'receptacle' of Plato, but a derivative metaphysical principle from individual processes which explains the process considering actual entity as a duration.[204] Whitehead's philosophy of organism is of quantum processes, because it is influenced by Postmodern Quantum physics.[205]

4.2 Reformed Realism and Environmental Sustainability

Realism has two aspects of meaning: the first aspect is the view of what exists, that is, the view of reality from the perspective of common sense and science, and the second aspect is the view he of the nature of what exists : independent of the mind or independent of human conceptual schemes.[206] Whitehead's process philosophy is recognized as reformed, critical or neo-realism. Whitehead's critical realism is a view of the ultimate fact independent of the human mind and conceptual scheme. Whitehead writes, Nature is there conceived as for itself, with its own mutual reactions. Under the recent influence of relativity, there has been a tendency towards subjectivist formulations. But apart from this recent exception, nature, in scientific thought, has had its laws formulated without any reference to dependence individual observers.[207] Like the Greek atomists, Leucippus and Democritus, Whitehead's ontological search is geared towards the science of first principles. He names these first principles as actual entities and these actual entities are nothing but the atoms in the 19th and 20th

[204] Nicholas Rescher, *Process Metaphysics: An Introduction to Process Philosophy, op. cit., pp.* 97-99.
[205] Ian J. Thompson, *Philosophy of Nature and Quantum Reality, op. cit.,* p. 40.
[206] Michael Devitt, *Realism and Truth* (Princeton, New Jersey: Princeton University Press, 997), p. 5.
[207] Alfred North Whitehead, *Science rnd1he Mode,: World, op. cii., pp.* 141-142,

centuries' atomic science. The actual entities are themselves organisms. There are two types of organisms: smaller organisms, which are simpler individuals or the most elementary units of nature, such as quarks or even simpler units which belong to Physics and bigger organisms which belong to Biology. Whitehead studies the smaller organisms which are atomic, and the principles which explain the nature and the function of smaller organisms are the general metaphysical principles which in turn have to be implicated in the bigger organisms. Actual entities involve each other by reason of their apprehensions of each other. There are thus real individual facts of the togetherness of actual entities, which are real, and particular, in the same sense in which actual entities and the apprehensions are real, individual, and particular. Any such particular fact of togetherness among actual entities is called a 'nexus.' The ultimate facts of immediate actual experience are actual entities, prehensions, and nexus. All else is, for our experience, derivative abstraction.[208] The ultimate facts of immediate experience are called actual entities, prehensions, and nexus, the elementary facts are actual entities and they are primarily prehensions, because their primary essence is prehending or feeling. Though more about prehension will be discussed in the next chapter, it is advisable to know a bit; otherwise it is difficult to know what actual entity is. It is through prehension that each actual entity comes to know other actual entities and appropriate them into its self-constitution, and it is by the reason of prehension that actual entities are together. Prehension and self-creation are simultaneous events in actual entity. 'To prehend' is an epistemological activity and the 'self-creation' is a fundamental ontological activity, therefore Whitehead places both epistemology and ontology together and at the same level. In fact are two aspects of one and the same activity of the actual entity. The way Whitehead unites both ontology and epistemology looks as though both cannot be separated from each other. Prehension is the primitive mode of perception and it is by this perception of prehending an actuality creates

[208] A1fred North Whitehead, *Process and Reality: An Essay* in *Cosmology, op.* cit., *p.* 20.

what it is. This is the primary mode of perception which is the mode of causal efficacy is that at the very act of prehension, an actual entity objectifies that particular entity which it prehends to be a component of its own constitution. The stress on spatio -tempora1ization is a turning point in his neo or critical or reformed realism.[209] The theory of objectivity is the principle of causal reproduction of actual entities.408 Besides the fundamental immediate experiences, actual entities, prehensions, and nexus, Whitehead' s reformed realism identifies other aspects of nature of the ultimate facts, such as interrelatedness, subjective and objective existences, objective immortality, and spatio-temporality. He rejects physical realism, because it proposes monadism without windows, but the philosophy of organism is again monadism with windows, that is, the philosophy of occasions which expresses a creative function which is active in the actual occasions controlled and guided by God.[210] He holds critical realism which is opposed to naïve realism. The difference between naïve and critical realism is elucidated by Wood Sellars. Naïve realism takes us back to the conception of matter as billiard ball; whereas critical realism insists on the value-judgment which is trade by each actual entity on the data given to it for its self-constitution in the light of categories such as structure, behavior and substance. In critical realism, there is active participation of the actual entity and there are interrelatedness, organization, and constitution.[211] This is why Whitehead's philosophy is identified with critical realism.

4.3 Reformed subjectivism and Environmental Sustainability

Whitehead is not a subjectivist, nor a sensationalist, nor a realist, and nor an idealist, but a reformed subjectivist. "The reformed subjectivist principle adopted by the philosophy of organism is merely an alternative statement of the principle of relativity. This principle states

[209] Roy wood Sellars, "Philosophical Organism and Physical Realism," in Paul Arthur Schilpp, ed., *The Philosophy of Alfred North Whitehead, op. cit., p.* 420.
[210] Ibid. p. 423.
[211] Roy Wood Sellars, "Philosophical Organism and Physical Realism," in Paul Arthur Schilpp, ed., *The Philosophy of Alfred North Whitehead, op. cit.,* p. 426.

that it belongs to the nature of a 'being' that it is a potential for every 'becoming."[212] Whitehead s denies obviously both subjectivist and sensationalist principles in *Process and Reality:* "Hume's doctrine of 'impressions of sensation' is twofold. I will call one part of his doctrine. The subjectivist principle' and other part 'The sensationalist principle.' it is usual to combine the two under the heading of the 'sensationalist doctrine'; the philosophy of organism denies both of these doctrines."[213] He rejects both naturalism and supernaturalism, for, he does not hold *that* things can be explained in terms of only natural causes and laws, neither does he cling totally to supernatural powers to account for all that happens in nature. Since his is the metaphysics of actual entity which is fluent, he rejects even substantive metaphysics. Whitehead is against Cartesian dualism.[214] He certifies that in Descartes significance is given to the subject which experiences; his subject is recognized as the first person; and that person is always Descartes.[215] Wood sellers confirms that he is a reformed subjectivist: "Thus he avowedly takes the path of reformed subjectivism, in which there is a realistic overlapping of prehended occasions and substantive self, in preference to the path which physical realism takes, which recognize a substantive self and is a reformation representative realism.[216] His philosophy is reformed subjectivism, because of the wide-range of categories which are more of objective types as opposed to subjective categories proposed by Kant, and because of his insistence on the process, prehensions, teleology, and the components which are involved in concrescence. All these put forth an organic self, which is subjective.[217] It is a subject that creates itself out of many objective data provided by the actual world unlike in Kant whereby the subject creates the object the objective world. The

[212] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* p. 166.
[213] Ibid. p. 157.
[214] Ibid. P. 159
[215] Alfred North Whitehead, *Science and the Modern World, op. cit.,* p. 141.
[216] Roy Wood Sellars, "Philosophical Organism and Physical Realism," in Paul Arthur Schilpp, *The Philosophy* Alfred *North Whitehead, op. cit.,* p. 417.
[217] A1fred North Whitehead, Process *and Reality: An Essay in Cosmology, op. cit.,* p. 190.

gist of a reformed subjectivist principle is in the doctrine of objectification of an actual entity in the experience of another actual entity.

The theory of judgment is described in the philosophy of organism as 'correspondence theory' or coherence theory.' Correspondence theory is nothing but the theory speaks about the subjective conformity or non-conformity of a proposition or an objectified actual entity. In that sense judgment is prehension. This prehension is two types: positive and negative prehensions. Both are at work in the judgment: positive prehension is an act of conforming and positively obtaining the objective data, and negative prehension is an act of negating and negatively appropriating the objective data. The important thing here is that judgment is the feeling of the adding subject which is in the process of making itself. Every judgment adds value to the subject and its satisfaction. It is the future actual entity that arises out of the present actual entity. Which can judge the truth and falsity of the judgment of the actual entity in question.[218] The thing that is involved in the judgment is the universe (the actual world) which is composed of objectified actual entities and the eternal objects. The actual world is the datum for the self-constitution of the actual entities. The agent for judging is the subject, the actual entity and the object which is judged is the objectified actual entity. It is one and the same actual entity which is involved in two modes of participation (two modes of participation are subjective and objective existence) in becoming a subject. Therefore, Whitehead's process philosophy is not purely subjectivism, since it also gives importance to objectivistic principle, that is, the objective existence and functioning of actual entities in the self-constitution of actual entities.

4.4 Theism and Environmental Sustainability

Whitehead's process is theistic. In the first place, he adapts theistic perspective to

[218] Alfred North Whitehead, *Process and Reality: .4n.Esay.in Cosmology, op. cit., p.* 191.

explain the multitude features of the world; otherwise many of the features of the complex world remain inexplicable. He avoids any form of dualism in the conception of reality, the ultimate fact. This is why he asserts that God is actual (non-temporal) like other entities which are actual. He locates God within the spectrum of naturalism. As he explains God in naturalistic terms, he avoids any attributes that can endorse a transcendental God. There is interdependence between the world and God.[219] There is no entity, not even God, "which requires nothing but itself in order to exist."[220] Each actual entity requires other actual entities in order to constitute itself. In sense, God is an unavoidable foundation for the world, and in the same way God also needs the world for His existence. God provides for the world which is composed of actual entities all that are essential *for* its creation (subjective aim and eternal objects). Whitehead, conceives of two natures of God: primordial and consequent.[221] Though in His primordial nature, God is the unlimited realization of all possibilities, in his consequent nature He becomes the principle of limitation for the world and the principle of condition for creative action. "There is some consistency in creative action, because it is conditioned by His immanence"[222] The purpose of God, according to Whitehead, is the attainment of value in the temporal world. The value of the world is achieved by the limitation he provides for the world process God provides and guides the world process which always results in novelty.

God is an active participant in the affairs of the world. He is deeply involved in the world process holding responsibility for the world-order, intelligibility, its creative dynamism, and its teleological purpose.[223] God does not impose anything on the world or God does not impoverish the freedom of the world. He is the principle of concretion and not the concretion itself He creates lure for the process to feel its components and to reach its satisfaction, that is,

[219] Alfred North Whitehead, *Religion in the Making,* op. cit., *p. 74.*
[220] Ibid *p. 94.*
[221] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit., pp.* 342-351.
[222] Alfred North Whitehead, *Religion in the Making, op. cit., p.* 86.
[223] Nicho1as Rescher, *Process Metaphysics: An Introduction to Process Philosophy, op. cit., p. 57*

the end of the process. He is a non-temporal actual entity in whom the synthesis of the whole universe is presupposed.[224] Secondly, the' theistic aspect of process philosophy does respect some of the religious beliefs, such as the immortality of the soul. His philosophy affirms the idea of immortality by establishing the objective immortality of the actual entities. "The doctrine of objectification is an endeavor to express how what is settled in actuality *is* repeated under limitations so as to be 'given' for immediacy." It is in this meaning of objective immortality whitehead perpetuated the repeatability of actual entities. It implies the immorality of the soul in the Christian context. Whitehead creates God in order to account for the order in the universe.[225]

4.5 Holism and Environmental Sustainability

According to the explanation given in Oxford Dictionary, the word, 'holistic' means an idea of something characterized by comprehension of its parts as intimately interconnected and explicable only by reference to the whole. According to this explanation, Whitehead's philosophy is holistic because though his philosophy is about the individual organisms, the 'individual organisms in his philosophy are never understood or considered in their isolation or solitariness but rather always regarded in relation to all other organisms in fact, he says, with the whole universe. As we have seen above, Whitehead's philosophy is not an absolute philosophy. Philosophy can never be absolute. Victor Lowe indicates that although Whitehead's emphatic ways of expressing an idea and the habit of looking at a problem from a larger perspective led *him* constructions such as "a complete solution," but he was never found with such character.[226] 'Completeness' is not absoluteness; 'completeness' can include mistakes. For example, this dissertation is a complete work, but it is not an absolute work; it may have mistaken and carry limitations. Neither his philosophy of organism nor its

[224] Alfred North Whitehead, *Religion in the Making, op. cit., p.* 85.
[225] Victor Lowe, *Understanding Whitehead,* op. cit., p. 60.
[226] *Victor Lowe, understanding Whitehead, op.* cit., *p.* 220.

implications or solutions we are going to derive from philosophy on environmental problems are absolute. The concern is only whether his Philosophy can be a comprehensive one and be able to give a comprehensive solution for environmental crisis. Lowe witnesses that Whitehead was actually seeking an all-inclusive speculative system and he also 'felt the need for a metaphysics which should synthesize mind nature and value with fact. For, Whitehead says that the motive of philosophy is "the attainment of some unifying concept which will set in assigned relationships within itself all that there is for knowledge, for feeling, and for emotion."[227] Whitehead himself wanted that philosophy should work out a well-grounded metaphysics in order that we have a consistent worldview.[228] 'Holistic' or 'holism' emphasizes the importance of the whole and the interdependence of its parts. According to this emphasis, Whitehead's philosophy of organism centers both the importance of the whole and the interdependence of the parts. William Ernest Hocking was a colleague and worked in Harvard University with Whitehead. He writes, it seems to me particularly important for our confused era to recognize that Whitehead himself was in some sense a union of opposites."[229] Though there are many examples one can give from the writing of Whitehead for the defense of his holistic philosophy, only six arguments are given below in order to make readers to understand that Whitehead's philosophy is truly holistic. The first argument is about the synthesis Whitehead's philosophy makes between fact and value. The distinction between fact and value is actually embedded in Hume's distinction between

Matter of facts and relation of ideas. Hume said that *ought* cannot be derived from *is.* His statement on *ought* and *is* later is converted into fact/value dichotomy. Fact/value dichotomy is also rooted in analytical and synthetic dichotomy. It was obviously visible in

[227] A1fred North Whitehead, *The Concept of Nature: The Tamer Lectures Delivered in Trinity College. November 19I9* (Cambridge: Cambridge University Press, 1964), p. 2.
[228] Thomas E. Hosinski, *Stubborn Fact and Creative Advance: An Introduction to the Metaphysics of Alfred North rr11tehead of. cit., p. 5.*
[229] William Ernest Hocking; "Whitehead as I Know Him," in George L. Kline, ed., *Alfred North Whitehead: Essays on his Philosophy op. cit., p. 16.*

logical positivist's search for a satisfactory differentiation of factual judgments which consequently led to /synthetic distinction.[230] For example, the statement, "All roses are red" is synthetic; the statement is verified, the truthfulness of the statement cannot be clearly established; this statement does not contain any a priori content; and therefore, this statement is totally factual verification, one has to go to the sense experience. The statement, "All bachelors are unmarried" is not factual statement; it is empty of factual content and it is analytical and a priori; and therefore, this statement is value-statement which needs no experimental data for verifications. This is a dichotomy between value-judgments and factual statements. Now Whitehead's statement "All actual entities are experiences" is both analytic and synthetic, both *ought* and *is,* and both fact and value judgment or statement. The actual entity is a fact — the fact ultimate that *is* and the 'experience' (of actual entity) is always value-experience that *ought to be i*n Whitehead there is an entanglement of fact and value and the fact/value dichotomy collapsed analogous to that of the collapse of analytic/synthetic dichotomy in the history.

Secondly, there is a passage in *Adventures of Ideas* which explains about Whitehead's search for holism in his system of metaphysics. He writes, "Thus if we endeavor to conceive a complete instance of the existence of the physical thing in question, we cannot confine ourselves to one part of space or to one moment of time."[231] What is essential here is that Whitehead took an endeavor to conceive the complete reality of a particular thing. Again he indicates in the same Page "The final problem is to conceive a complete fact. We can only form such a conception in terms of fundamental notions concerning the nature of reality."[232] It is better to remember that his aim of speculative philosophy is to frame a logical, coherent and

[230] Hilary Putnam, *The Collapse of the Fact/value Dichotomy: And Other Essays* (USA: Harvard University press, *5J2), pp.* 28-29.
[231] Alfred North Whitehead, *Adventures of Ideas* (New York: The Free Press, 1967), *p. 158.*
[232] Ibid., p. 158.

necessary system of general metaphysical scheme of ideas to explore the complete perception of reality.[233]And this aim makes his metaphysics; the speculative philosophy a method of complete or holistic knowledge. Thirdly, body-mind problem is a traditional, age-old, and perennial problem unsolved in the history of philosophy. Descartes' philosophy seemingly is based on the dichotomy between body and mind which are two different substances in casual association. His dualistic view of substance is based on his definition of substance which says, "That it can exist through itself without the aid of any other substances."[234] Whitehead transforms the entire problem - by giving a different explanation for the union of body and mind in his conception of the 'ultimate fact. Whitehead's metaphysics deals with reality in its totality considering it as one, simple, individual, particular and unit, namely the actual entity. But his actual entity is bipolar: physical and mental. These two are essentially related for the reasons of novelty, purposiveness, and valuation in actual entities. He notes the integration of the physical and mental side into a unity of experience is a self-formation which is a process of concrescence and which b' the principle of objective immortality characterizes the creativity which transcends it.[235] Though mental and physical poles are there in the constitution of an actuality, they are not two different real activities, but two aspects of one and the same concrescing activity. The actual entity is a single unity of experience. Whitehead says that in the case of inorganic occasions Mentality seems to be missing.[236] In the case of human and animal species, by transforming both body and mind, from being a problem in philosophy to the complementary roles in the self-constitution of the actual entities in the philosophy of organism, Whitehead constructs a holistic metaphysics. Fourthly, there is convergence between *phenomena* and *noumena* which are the components of Kant's

[233] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* p. 3.
[234] Janet Broughton, and John Carriero, eds., *A Companion to Descartes* (UK: Wiley-Blackwell, 2011), pp. 259-260.
[235] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* p. 108.
[236] Alfred North Whitehead, *Religion in the Making, op. cit., p. 96.*

metaphysical distinction.[237] According to Kant, human knowledge can only be applicable to phenomena and not to *noumena.* Whitehead's philosophy of organism tries to fuse these two realms by considering the reality as one unit and by formulating a common metaphysical scheme to both the realms of reality *(phenomena* and *noumena).* This convergence is again another example for Whitehead's holistic view. Whitehead's conception of *phenomena* and *noumena* slightly differs from that of Kant. He conceives a type of divergence between 'appearance' and reality' in his philosophy of organism. First of all, in Whitehead 'reality' (noumena) refers to the objective content (the antecedent world) given to an actual occasion in the initial phase of its concrescence or process. 'Appearance' (phenomenon) represents the integration of physical and mental poles in the later phase of the concrescence. 'Appearance' is the effect of the function of mental poles (conceptual prehensions or eternal objects about which everything will be explained in the next chapter) whereby the qualities and co-ordinations of the given physical world undergo change.[238] This distinction between 'appearance' and 'reality' is always identified in connection with the self-formation of each individual occasion. In fact, they are successive stages of one and same constitution of an actual entity. There is an interfusion of these two different functions. In the same act of becoming or self-constitution of an actual entity. The fusion of these two on depend on the fusion of subject-object divergence in the concrescence. Both subject and object divided in the process; the subject which is the compressing actual entity is actively existing in the process and the object which is the actual world given to the subject in the initial stage of its concrescence is passively or objectively existing in the process.

Whitehead says that this distinction is not metaphysically obvious because the

[237] Here I am employing Kant's distinction between *phenomena* and *noumena* as substantive and metaphysical ISt1flction; it can be methodological or epistemological distinction. It is not our concern as far as the context in which his idea of distinction is used here.

[238] Alfred North Whitehead, *Adventures of Ideas, op. ci!.,* pp. 210-211

dichotomy either points out the objective content of an actual occasion and omits subjective form of the immediate occasion or the vice versa. There cannot be any general metaphysical principles which can really portray the difference between 'appearance' and 'reality.' Secondly, this distinction can be only fund in the higher phase of experience or constitution, especially when mental prehensions are achieved; otherwise in the lower phases of the concretion, we do not find any such as this.[239] When the higher functioning of the mental activity are well established in an actual occasion, appearance' merges in the 'reality' which is the actual world.[240] There is fusion of appearance' and 'reality' throughout nature because this fusion is an essential mode through which novelty enters into the functioning of the world. In this sense, novelty permeates the whole nature and secondly, mentality is also attributed to the whole nature by Whitehead, and therefore the fusion is there everywhere. The fusion is more visible in the higher forms of life, such as animals and humans. Fifthly, Dale Jamieson asserts, "Dualists are those who see the world as embodying deep Distinctions between, for example, humans and animals, the natural and unnatural, the wild and Domestic male and female, and reason and emotion."[241] It is very difficult to see someone to have written a work without invoking any form of dualism. But it is not that all those who used dualistic terms are to be considered dualistic. It is not matter whether a philosopher used dualism or not but it really matters that what type of dualism he/she has used. Dale Jamieson says that, since it is very rare to find an *ecophilosophy* without some kind of dualism, to detect whether an *ecophilosophy* is dualistic or not, we need to scrutinize the ways and the modalities, when and to *what extent* the dualistic ideas are used.[446] Furthermore, it is also advisable to discern whether the matter in which this or that dualistic principle is used reflects substantial, methodological or epistemological. In the case of Whitehead, dualities of different kinds such

[239] Alfred North Whitehead, *Adventures of ideas, op. cit., p.* 209.
[240] Ibid. p. 212
[241] Dale Jamieson, Ethics and the Environment: *An Introduction, op. cit., p.* 3.

as actual entity/eternal object, positive negative prehension, subject/object, and mental/physical pole are used in his metaphysics of organism,[447] but Whitehead differs radically from other philosophers who highlighted substantial dualism , like that of Descartes' dichotomy between mind and body. Whitehead, since he was a physicist, was able to accurately state that mind was situated in nature and was able to eliminate the divergence between mind and body. The effect of physiology was to put mind back into nature. The neurologist traces first the effect of stimuli along the bodily nerves, the integration at nerve centers, and finally the rise of a projective reference beyond the body with a resulting motor efficacy in renewed nervous excitement.'[242]

And therefore, mind cannot be separated from nature and thus it cannot have different source except nature. Finally, many any accuse him of being pluralistic in terms of the number of substances and the constitutive elements of an actual entity he introduces into his system of metaphysics. His pluralism in is not like the pluralism of other philosophers such as Descartes and Spinoza. His pluralism is a qualified one which in return qualifies the organic unity of reality. Whitehead uses the theory of 'one' and 'many' in his system. By 'one' he means the one subject which is undergoing the concrescence and by 'many' he means the many constitutive elements which are objectified by the actual entity for its own constitution or becoming. "The term 'many' presupposes the term 'one' and the term 'one' presupposes the term 'many."[243] The novel entity is which the actual occasion in Whitehead's terminology unifies the 'many' which is the universe disjunctively. Various sorts of entities are together in any one actual occasion. According to whitehead, the purpose of ultimate metaphysical principle is to advance from disjunction to Conjunction. The Novel entity is at once the togetherness of the 'many' which it finds, and also it is one among the disjunctive 'many'

[242] Alfred North Whitehead, *Science and the Modern World, op. cit., p.* 148.
[243] Alfred North Whitehead, *Process and Reality*, *op. cit., p.* 21.

which it leaves; it is a novel entity, disjunctively among the many entities which it synthesizes. The many become one, and are increased by one.[244] Whitehead maintained the reality as 'one,' he would have remained a monist insisting on Absolutism, rigidity, determinism, stability, uniformity, monotony, and invariability. Finally he would have become an absolutist. And if he maintained reality as 'many,' he would not have walked of organic unity of reality. And his theory would become self-contradictory. In the Quotation above, we see that the 'many' *is* not simply 'one' but they *become or form* 'one.' That means 'one' is not an aggregation of 'many,' but the constitution or interrelation of many entities. This interrelation of prior entities which are constitutive to the given entity is internal to the given entity.'[245] More about interrelation we will discussed in the last chapter. The doctrine of one 'and 'many' here has a 'novel organisms. The relationship between them is not complementary, but rather constitutive, that is why Hartshorne calls it 'novel organisms.' Convergence between 'one' and 'many' is another aspect which says that Whitehead's philosophy of organism is a holistic metaphysics.

4.6 Becoming over Being and Environmental Sustainability

Since Whitehead's philosophy is a process philosophy, many may misunderstand that it does not address about 'being' because normally 'being' means something that endures or something that a permanent and static. Whitehead actually has two meanings for the term 'actuality': the actuality which is in process and the actuality which is already attained. "An actuality is self, realizing and whatever is self-realizing is an actuality. An actual entity is at once the subject of self -realization, and the superject of self-realized."[246] In Whitehead's view the 'being' is created by becoming,' therefore 'becoming' precedes 'being.' It is only by

[244] Ibid.p2l
[245] Charles Hartshorne, "Whitehead' s Novel Intuition," in George L. Kline, ed., *Alfred North Whitehead: Essays on sPh2losophy, op. cit.,* P
[246] Jorge Luis Nobo, *Whitehead's Metaphysics of Extension and Solidarity, op. cit., p.* 34.

reason of the categories of subjective unity, and of subjective harmony, that the process constitutes the character of the product, and that conversely the analysis of the product discloses the process.[247]

From the analysis of the above mentioned passage, we understand that it is process which is becoming constitutes the being which is significantly stated by the term, 'character of the product ' His whole idea of the principle of process is, "its 'being' ('being' of actual entity) is ted constituted by its 'becoming.'" (Within brackets is mine)[248] Whitehead refers his actual entity with these two intertwined meanings as 'subject-superject.'[249] In addition to that, Whitehead argues, "That how an actual entity *becomes* creates *what* that actual entity is."[250] This statement also emphasizes the importance of 'becoming' over 'being,' at though at times, as Jorge Nobo puts it 'being' and 'becoming' are kept together in an equal status[458]Actually the superject or the 'being' is determined by the 'becoming' or the process establishes that an occasion or a being can be actual only as process. If we say that an actual *entity* is subject, it always refers to its becoming not its being. From this sense, we can always understand that in the philosophy of organism 'becoming' has primacy over 'being'.

4.7 Space-Time and Environmental Sustainability

Whitehead prefers the term, "extensive continuum," rather than "space-time" for the reason that the term "space-time" connotes its independent existence. There are two types of conception of space-time: one as a 'Receptacle' theory of space-time; and as actual complex or state of process. The former conception of space-time which belongs to Newtonian cosmology emphasizes the independent processes. In other words, the Former can be called 'absolute space-time.' And this 'absolute space-time' cannot be applied to process; in other

[247] Alfre4 North Whitehead, *Process and Reality: An Essay in Cosmology, op. cit.,* p. 255.
[248] Alfred North Whitehead, Process *and Reality: An Essay in Cosmology, op. cit., p.* 23.
[249] Ibid. p. 28.
[250] Ibid. p. 23.

words, process is impossible in the 'absolute space-time.' In absolute space- Time an entity is simply located in a particular time and space. This is what Whitehead calls fallacy of 'simple location. To say that a bit of matter has simple location means that, in expressing its spatiotemporal relations, it is adequate to state that it is where it is. He holds that by a process of constructive abstraction we can arrive at abstractions which are simple located bits of material, and at other abstractions which are the minds included in the scientific scheme.[251] The conception of actual entity as 'stuff' or 'matter' or 'material' is the result of the appropriation of the property of *simple location* to actual entities.' This is materialistic and mechanistic explanation of the process based upon abstract and logical concrete facts. Thus, in absolute space/time an actual entity never moves; it remains static.[252] In the later conception of space-time, we see that it is an aspect of natural process. In this conception of space-time, the interrelatedness of each entity is explained in term of continuity and interrelatedness of space-time. For, if simple location of configurations of matter throughout a stretch of time there is no inherent reference to any other times, past or future, it immediately follows that nature within any period does not refer to nature at any other period. There is nothing in the present fact which inherently refers either to the past or to the future. It looks, therefore, as though memory, as well as induction, would fail to find any justification within nature itself.[253]

In the 'simple location,' there is no possibility for a continuous pure process; process is just mere succession of instantaneous configurations of matter. For pure process, the continuity of time is necessary. There should be interrelatedness of past, present and future. Process philosophy is in line with second type or relativistic conception of space-time. Space-time is conceived in process philosophy as law-structure of the process which is not again like

[251] Alfred North Whitehead, *Science and the Modern World, op. cit., p.* 58.
[252] Ibid. P. 49
[253] Alfred North Whitehead, *Science and the Modern World, op. cit.,* p. *51.*

matrix which guides from outside, but as *telos* (as internalized part of the process) which guides from within.[254] We cannot separate space-time and the process. Nicholas Rescher would call space-time as mode of process (Modus Operandi)[255] which means space-time is the manner according to which the process takes place in the universe. Natural processes are interlinked or interrelated to each other by patterns of causal connections and these patterns of causal connections are actually derived from the manifold patterns of time space& Space-time does not exist as independent existents. Therefore the patterns here mentioned depend on the dynamic characteristics of the process. This is why it is said that the ultimate character of space-time is process not of independence, but of constitution. The ultimate characteristics of space-time is process which is of constitution because space-time depends upon process or in other words, space-time is derivative from process which is self-constitution of actual entity. Therefore, the patterns of space-time depend on the patterns and dynamics of actual entities. Whitehead recalls the phrase which Samuel Alexander used in his philosophy: *Space, Time, and* Deity. According to Samuel Alexander, time represents the transition of process, space signifies the necessity of each form of interwoven existence, and Deity expresses the lure for the ideal which is potentiality beyond immediate fact.[256] This phrase and what it corresponds go hand in hand with Whitehead's process philosophy of space-time. Especially the first two terms, space and time characterize the process and interrelatedness; time stands for process and space represents the interrelatedness between actual entities within a particular entity. Therefore from what Alexander certifies about space and time we understand that space and time are deeply related with process.

We cannot study one without the other; they are mysteriously interrelated; there is no process without time and' space; and there is no space-time without process implied in it.

[254] Nicholas Rescher, *Process Metaphysics: An Introduction to Process Philosophy, op. cit., p. 95.*
[255] Nicholas Rescher, *Process Philosophical Deliberations, op. cit., p.* 1.
[256] Alfred North Whitehead, *Modes of Thought, op. cit., p.* 101.

Apart from time there is no meaning for purpose, hope, fear, energy. If there be no historic process, then everything is what it is, a mere fact. Life and motion are lost. Apart *2* from space, there is no consummation. Space expresses the halt for attainment. It symbolizes the complexity of immediate realization. It is the fact of accomplishment. Time and space express the universe as including the essence of transition and the success of achievement. The transition is real, and the achievement is real. Finally, process is always a process of modification because it increases both qualitatively and quantitatively.[257] Qualitative increase in the process means the aspect of time and quantitative increase in the process signifies the aspect of space.

Conclusion

Like Copernicus, Whitehead's Process Philosophy changed the entire course of philosophy from philosophy of substance or 'bit of matter; to philosophy of process. He liberated philosophy from the domination of scientific materialism. For, scientific Materialism, according to him, cannot account for experience and feeling; for experience and feeling are fundamental expressions of actual entities and they are dynamic and process. Scientific materialism studies the reality partially unlike the process philosophy. Whitehead's process philosophy is substantial or metaphysical or ontological and methodological, and epistemological. His process metaphysics is also against Greek atomism which admitted only the type of process that is the motion of atoms or their change of position. The process of Greek atomism is continuous process which is peripheral and a mere succession devoid of spatiality, substantiality dynamism, life, and interrelatedness. All that there *is,* is the arrangement of less lifeless atoms and therefore the condition of the world is the same forever. There is no normal process that we normally understand namely, origin, progress,

[257] Alfred North Whitehead, *Modes of Thought, op. cit.,* 167.

development and annihilation — in short, the teleology.[258] This is a material, static, and process. Whitehead's process is holistic which depicts the reality holistically and explains it as one organic unit. This is an essential aspect for the further explanation of his philosophy of organism and for the implications for environmental crisis.

The activity of appropriation of the elements into the constitution of an individual actual entity is called prehension. The activity of prehension is identified as experiencing and 'feeling.' The things which are appropriated are already constituted actual entities and the eternal objects. These are the two types of materials which are being appropriated. The former is also identified as physical feelings or realities or poles and the latter is identified as mental feelings and the whole of his hypothesis is marked by the ultimate activity which is termed by Whitehead as Creativity. It was almost going to be cyclic or circular argument repeating and rotating itself in a circle, but Whitehead did not allow his theory to be circular. He changed the course of his argument by bringing in the eternal objects in the prehension of the actual entities. Each eternal object is unique, and there is no repetition in them. Thus actual entities are able to be creative and novel because of their mental prehension. The world is always creative and anew; therefore there is no instant at which the universe is stagnant or repeating itself or static. It is constantly and creatively moving ahead towards its final goal which is its teleology.

Whitehead's cosmology is the philosophy of organism. His view of the universe or the cosmos is organic and the organizing principle is the actual entity which is ultimately a feeling. Therefore his philosophy is the philosophy of feeling as we have seen above. To consider everything in terms of feeling is something new in the philosophical history. Stripped off feeling, an actual entity will simply be a stuff which is abstract, material,

[258] Nicho1as Rescher, *Process Metaphysics: An Introduction to Process Philosophy, p.* 34.
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inorganic and mechanical. This conception of reality will reduce the universe into a mere lifeless entity. Whiteheads philosophy of organism involves some important and fundamental features without which the universe is inorganic and lifeless. The features are: Interrelatedness, Process, Feelings, Natural Order, Teleology, and God. God through his consequent nature becomes the foundation of the physical world by being aboriginal beginning in the on-going creation of the world. And world also becomes part of the divine nature by being constituents of God's consequent nature.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Philosophy's primary task is to draw a coherent and complete approach and to interpret every experience in terms of this complete and general approach. This work employs the deductive method for implying Whitehead's metaphysical ideas of organism in environmental science. Deduction is the central method of Whitehead's philosophy and he uses it for testing adequacy of the generalization he made out of various special sciences.[259] In implications, the work may not have derived exactly what Whitehead meant but rather an interpretation of his philosophical analysis. Implication is the conclusion which is drawn from something although it is not explicitly stated in it.

Victor Lowe argues that to Synthesize mind with nature and value with fact, is one of the aims for Whitehead's speculative philosophy.[260] By the solidarity of the universe, Whitehead understands the holistic functioning of the universe in each of its concrete facts.[261] His metaphysics is the metaphysics of the holistic conception of reality and this holistic conception of reality is what is postulated to aid the achievement of a sustainable environment.

Whitehead talks of favorable environment for all species on the earth. In the study of the history of the individual living beings, he comes across two important aspects: in the first place, he indicates that there is propagation of species from members of the same species, and in the second place, he affirms that there is provision of favourable environment for the sustainability of the family, race, and species.[262] Here Whitehead

[259] Alfred North Whitehead, *Process and Reality. An Essay in Cosmology, op. cit.,* p. 3.
[260] *Ibid.,* p. 90.
[261] Victor Lowe, *Understanding Whitehead,* op. cit., p. 220.
[262] Alfred North Whitehead, *Science and the Modern World,* op. cit., p. iii.

implies that the species of living and non-living things provide each other a favourable environment in the ecosystem. Apart from the relationship in the same type of species, whitehead also mentions about the relationship in the associated species of living things which offer each other favourable environment.[263]

5.2 Conclusions

Some fundamental challenges that threaten the contemporary include population growth, economic development, and consumer lifestyle. Having faced these challenges each country takes its own measure to cope up with them. Instead of changing or moderating the rising trend of people with regard to their lifestyle and development, most countries aim at fulfilling all these challenges by destroying the nature. Fulfillment of these challenges result in water shortages, shrinking habitats, loss of biodiversity, desertification, and increasing deforestation.

Though there are practical and theoretical reasons for the environmental crisis, the study mostly focused on the theoretical reasons, especially on the various ideologies or the diverse worldviews Such as Deep ecology, ecological models, eco-phenomenology, elemental philosophy, new cosmology, non-disjunctive approach, eco-feminism, transpersonal ecology, and Eco psychology.

This project demystifies the questions: Why can we not have an eco-metaphysical worldview? Why should we conceive metaphysics as something very rigid or tied itself to rigid principles which ignore daily tangible experiences? And should metaphysics necessarily seek certainty in each of its endeavours? The solution being put forward by this study is that metaphysics is not only a mental activity but also an activity of the heart.

The ultimate fact (the actual entity or the actual occasion) is the subject-matter of the philosophy of the organism. All that is applicable to the actual entity is also applicable to

[263]Alfred North Whitehead, *Science and the Modern World,* op. cit., p. 26.

the macroscopic things and beings. In this sense, Whitehead proposes some metaphysical principles which characterize nature, formation, and life of the actual entities. If these metaphysical principles are applied to the realities at the macroscopic level, the rising environmental problems can be solved. In other words the metaphysical approach and which logically arises from the interpretation of Whitehead's philosophy is the solution that will help resolve the current environmental crisis.

Modern and contemporary science has brought the world so close to us, we have known the earth and it's functioning more than any other generation. We have a global understanding about the earth. Thinkers and philosophers really seek the integrity of the earth and they propose various theories which can bring about the aspired integrity. Whitehead testifies that both scientists and philosophers can complement each other. According to the ontological principle, Whitehead's ecophilosophical worldview is personal, because his cosmology is about the ultimate actual entity which is individual, personal, because the actual entity creates itself and by doing so, it creates the whole world. According to the metaphysical principles of causality, relativity and interrelatedness, acting locally and even individually for preserving the environment can have global effects.

We understand from Whitehead's philosophy of organism that the future viability of the earth depends upon the principle of the 'part and whole,' that is, the responsibility of part and whole individual responsibility and the collective responsibility (a personal and global responsibility), for, the viability of the planet is the viability of individual and collective viability of the things both animate and inanimate of the total planet. We get inspiration for collective responsibility from what Whitehead contends in Science and the Modern World.

5.3 Recommendations

If organisms are to survive, they must work together. Accordingly, the key to the mechanism of evolution is the necessity for the evolution of a favourable environment, conjointly with the evolution of any specific type of enduring organisms. By collective responsibility aiming at the common welfare of the planet, we actually intend the welfare of the individual entity and safety of total planet. Therefore, the study suggests a change from consumeristic worldview to Whitehead's holistic and organic ecophilosophical worldview which has been explained here as a metaphysical approach to environmental sustainability.

The implications of the Whitehead's philosophy of organism do not remain only on the level of environmental theories, but also extend to the practical solutions whereby one can derive useful ideas to apply in fight against environmental crisis and in the joint collaboration create a sustainable environment. Some areas in which Whitehead's Metaphysics can be applied include genetic engineering, favourable environment, organic farming, and preservation of biodiversity.

In genetic engineering, it can be applied in the environment where the microorganisms are artificially changed to create conducive environment for other living forms; and in the agriculture, it is normally used to make plants resilient to pests and diseases. This though should be exercised with caution since genetically modified crops sometimes have negative impact on the ecosystem, contamination of organic seeds, and other environmental problems. Asira Enya Asira and Jonathan Chimakonam Okeke from the Department of Philosophy University of Calabar, Nigeria conclude that genetic technology in agriculture can create possible health risks, creation of super weeds from the effects of super herbicides, possibility of superbugs and genetic pollution of the

environment,[264] termination of traditional seeds, and sterilization of genetically modified seeds.[265]

There are two types of environment: the *given* environment and the *created* environment. The former is the type of environment which is already given which every organism adapts to.[266] From this distinction between the *given* and *created* environment an organism can change its environment according to its own convenience. This is very much true of human beings. It is therefore sustainable if humans can take actions that will lead to environmental sustainability.

Whatever we see, such as rain, air, and all other living things including animals and human beings are all enduring things. The world survives because of the endurance of the individual things. If things do not have the proper 'endurance,' can we imagine of anything to survive over a period of time or can we say that something exists? The concept of 'endurance' is essential to the survival of an environment and at large to the survival of the world. The enduring patterns in the individual organisms are provided by the various elements of the enduring environment. To create an enduring favourable environment for ourselves and for other life-forms is our responsibility, because we are contaminated in the universe earth, and we are the only beings who possess consciousness and reason.

Organic farming avoids the use of manufactured, chemical-based, and synthetic fertilizers and pesticides. The total aim of organic farming is to achieve a sustainable farming in order to maintain the health of the soil, to protect the ecosystem, to sustain the diversity in organisms, because organic farming protects thousands of life forms, bacteria

[264]Asira Enya Asira and Jonathan Chimakonam Okeke, "Genetic Engineering and the False Claim to Feed the World," in *Journal of Biology, Agriculture and healthcare,* Vol. 2, No.8 (2012), pp. 40.
[265]*Ibid.* p. 42.
[266] Alfred North Whitehead, *Science and the Modern World, op. cit.,* p. 111.

and fungus, and to increase the quality of the food. Though organic farming does well in many ways as mentioned above, it also protects the natural process of 'Internal Nutrient Cycling which is an essential feature in the ecosystems.

Whitehead's philosophized organism in nature is to insist on the natural process in the constitution of 'whatever that is' When it is applied in the macrocosmic world, it is applicable to all forms of living and nonliving natural entities. Likewise, as we harmonize with natural patterns, we are able to return to abundance."[267]Inspired by Whitehead's philosophy of procession organism, we ought to do organic farming by patterning biological systems, including nitrogen-fixing, increasing NPP, and maximizing the natural water function. Turning towards organic cultivation is to respect the beneficial elements within the overall design of the natural process.

The human life depends upon the biological diversity. Biodiversity has two types of functions: first, it regulates the stability of climate, water regime, soil fertility and quality of air and the health of the life supportive systems on earth; second, biodiversity also gives humanity food, fodder, fuel, fiber, shelter, medicine and raw material for multiple needs and industrial goods. What compels us to this according to Whitehead is that we have the obligation to do so because we are either enriched or hurt by the conditions of the environment, for, it is in and through which we live.

Lack of protection of the environment will jeopardize resilience and destabilize the ecosystem, and bring hazardous consequences in the environment. In order to protect biodiversity one has to save the environment from its hazardous situation. The preservation of biodiversity is encouraged by the value of the principle of propensity or potentiality of Whitehead's philosophy of organism. More diversity in the species creates more quality of

[267] Dale Allen Pfeiffer, *Eating Fossil Fuels: Oil, Food and the Coming Crisis in Agriculture, op. cit.,* p. xiv.

life and less diversity causes less qualitative life because the quality of life depends on the proportion of the biotic diversity.[268]

Finally, every fact or every individual creature is itself a value since every actual entity is a value-experience. Since every actual entity is a value-experience, every organism, has value; therefore, every being and every species must be protected by the very fact that each living being has an intrinsic value. Whitehead' metaphysics fosters pluralism and diversity by the fact that it involves in the multiplicity of actual entities and fosters the differences in their forms (eternal objects). A holistic worldview should have an inclusive character. It means that it should cover almost all the approaches through which the problems of environment in today's world are confronted. Therefore this project deals with possible approaches with which philosophers, environmentalists, politicians and Non-governmental Organizations attempt to find solutions for in order to abet a sustainable environment.

[268] Solomon S. et. Al., eds., IPCC (Intergovernmental Panel on Climate Change) (Cambridge, UK: Cambridge University Press, 2007), p.132.

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