# AN ASSESSMENT OF HEIDEGGER'S CONCEPT OF TECHNOLOGY AND ITS IMPLICATIONS FOR NATIONAL DEVELOPMENT

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## ABSTRACT

*This paper, "An Assessment of Heidegger's Concept of Technology and its Implication for Nationals Development", is a critique of Heidegger's critique of technology. The problem which led to the research was Heidegger's replacement of science and technology with arts and craftsmanship as tools for national development. The problem here is that arts alone in the absence of science and technology can hardly tackle contemporary problem. This is because of the multi-faceted nature of all contemporary human questions. This being the case, the chief purpose of this work was to defend science and technology against Heidegger's critique. Our major argument was that science and technology as human realities, contrary to Heidegger's thinking, are neutral and harmless to society. The problem which Heidegger fails to see is not science and technology per se but the human person who misapplies and abuses science and technology for selfish ends. Consequently, the work was significant in attempting to correct the likes of Heidegger whose erroneous analysis of science and technology as instruments for National development have led to a rejection of science and technology as tools for national development.*

**Key Words;** Heidegger, Human Technology, National Development

## Introduction and General Overview of Heidegger's Concept of Human Technology and His Idea of National Development

It is one thing to raise critical questions, just like Heidegger as well as several others and the authors of this research paper have done, namely, about the dangers of unlimited growth of science and technology and while pointing out, indeed, the consequences which

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such a phenomenon has brought upon the growth of national development. It is another thing to conceptualize and agree that planetary safety and the dimensions of civilization both of which the human population continues to be nervous are too clear as endemic problems of science and technology to warrant or justify Heidegger's rejection of science. It has therefore become expedient to undertake a critical assessment of the impact of these and the challenges of the above mentioned realities on certain things in society such as the direction of our human  progress and the quality of development in any given society. In the midst of these seemingly many-sided analysis of science and technology and Heidegger's anger and rejection of  them, one thing that cannot fail to be highlighted is, how, in our not so distant past in the 20th century era, have  all three realities, namely, science and technology, the progress  of national development (as seen from one country to another), and the reality of our human civilization; etc found their true resonances in the works of Martin Heidegger which is currently under review in this paper.

According to S. W. Sahakain *Outline History of Philosophy* (156), [1] Martin Heidegger is to be seen as one of the leading existentialist  philosophers. Although Heidegger was a philosopher, he took out time from mainstream philosophy to engage in some of the most contentious issues of his day and time. One such issues of interest was the global debate of his day *for* or *against* the precarious relationship existing among technology, civilization and the safety of man on planet earth. The problem which led Heidegger to this debate was not so much that of the positive impact of science and technology but the negative undertones of science and technology on every human, infrastructural, psychological, spiritual, and material development of every society. The negative undertones of those phenomena of science  and technology, have in the view of Heidegger, resulted in one of most devastating problem of the century, namely, *'uncontrolled development' by science and technology* or what Heidegger himself constantly  referred to as the *'enframing'* of man and society by the forces of science  and technology. According to Heidegger. *The Question Concerning Technology* (287), [2] the reason we must rise ups and challenge the ills of science and technology lies in the fact that;

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[1] Sahakain conceived Heidegger as a Philosophers with a critical mind for issues. One of Heidegger's a tool was combination of Phenomenology of his master and predecessor and the  other was his existentialism.

[2] Heidegger in his "Question Concerning Technology" was as translated in 1977 by W. Lowitt, was convinced that science and technology could be separated dfrom man who applies as Lowitt sees it, namely, the idea that science could be faulted. The contrary view of Lowitt was that science and technology could not befaluted in the absence of man who applies them.

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> We can [shall] never be in a position to] experience [any good] relationship
> with [science and] technology so long as we merely………. [get satisfied and
> feel comfortable to either] put up with or to evade [the dangers of science and
> technology for the simple fact that we are always locked in and turned on by
> these realities]. Everywhere [as Heidegger sees it] we remain unfree and
> chained to [them thereby depending completely on them] whether we
> passionately affirm of them or we deny them[their adverse effects on man
> and society].

In this way, Heidegger and his critique of technology is to be said to represent not only the vocal nature of philosophy as an academic discipline in speaking out, most especially, Heidegger's criticism of science  and technology represents the boldness of existentialist philosophy in confronting issues of life. One of such issues is the global debates on the status of science and technology instead of paying lips-services as other disciplines outside-philosophy and existentialism often chose to do. By not being a passive observer to issues specially, issues as central to society as the precarious impact of science and technology  on national development, Existentialism confront issues directly as they affect our civilization and the processes of development. This non-existentialists and non-philosophy disciplines which sometimes shy away from the truth tended to spur Heidegger to his critique because no matter what, someone must speak up. Therefore, from the foregoing, one thing has become clear from Heidegger's critique of technology, namely, the remedial power or the savivic  function of Hedegger's Existentialist philosophy  a remedy which philosophy offers society at every time, in every age, and in any place up to this day. This is because, by making a bold critique of science and technology,  Heidegger has done so with a view to preserving society against forms of uncontrolled development or as Heidegger himself sees it, the '*enframement*' of man and society by science and technology. Heidegger is in this way to be seen as acting as a true philosopher, more so, a true representative of the overall spirit of existentialism whose major concern remains that of our *human condition* on planet earth. This universal concern for our human condition on planet earth is a major factor which motivated Heidegger unto his critique of science and technology in the 20th century and beyond this concern, a search for the good life which the philosophy of Socrates promises to all men.

By focusing, like every other existentialist philosopher does, on the *concrete* rather than the *abstract* questions of life, and by raising the deepest, the widest and the most

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fundamental questions bordering on the implications of science and technology on national development, Heidegger has been able to set up, by means of his *existential analysis* of society, a new and global framework by means of which contemporary civilization, science and technology, must proceed so that they do not only avert obstacles to National development but become a genuine tools for national development as aspects of our human condition on planet earth.

This paper, "*An Assessment of Heidegger's Concept of Technology And its Implication For National Development*" has been written to consist the following points,

1.  That while there exists both the positive and the negative impacts of science and technology on society, no human society, despite the weakness of science and technology, has been able to ignore the one truth that cannot be denied, namely, the truth that science is so central that there is hardly any contemporary issue relating to national development that does not involve science and technology.

2.  That Heidegger was only right in speaking of our *'over-dependence'* on science and technology but was altogether *mistaken in his monolithic replacement of science* with art and craftsmanship.

3.  That the reason for debunking Heidegger's position in this paper is because, national development just like all human questions, is a multi-dimensional reality, requiring the cooperation of elements involving both science and technology, arts and philosophy

4.  Against Heidegger's thinking, this paper contends that the actual person to be blamed for the woes of science and technology, is not science and technology *per se* as Heidegger tends to think but the human person who has continued to under-develop himself and his nation and society through his inappropriate application of science and technology in his attempt to solves his problems.

5.  Therefore, in place of Heidegger's monolithic drive for arts, this research has suggested an *eccelectic or multi-disciplinary approach* which would combine both science and technology in raising a new and contemporary framework for national, infrastructural, human and material development of society. An *ecclectic approach* to National development considers a little bit of this and a little bit of that but does not ignore anything. It believes that when things become critical for a nation, anything can help. This is precisely what Heidegger failed to realize therefore this paper is

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brining to bear upon his academic novelty the present critique which this paper duly represents.

## Technology In Its Essential and Broad Sense As Heidegger Sees it

The task of looking at Man, Technology and Development Debate,; is one which Heidegger, while speaking generally of technology saw it as a mode of unveiling or a mode of manifestation of newness in the world by means of human creativity. Heidegger gave this general meaning of science and technology in the first chapter of one of his masterpieces: *The Question Concerning Technology* (7)*,[3]*. Here, Heidegger subsequently presents his two-pronged understanding of technology, first its instrumental, adaptive, and everyday meaning etc, and technology in its second sense as having an objective, anthropological, and essential meaning. His chief argument is that we can only deal constructively with technology if we understand what it is. Thus after raising the question, *how then are we to proceed in our understanding of technology?* Heidegger, came to a conclusion in which he recommends that in order to get to the root of the matter a concrete, yet, phenomenological analysis of Aristotle's 'Four Causes- The Formal, the Material, the Efficient and the Final Cause. He reached a conclusion from this analysis that art is better placed as a new method of understanding, not only technology, but the relationship between civilization and development. Heidegger duly maintains that although the traditional understanding of the four causes has been that each of these cause be seen as an isolated cause of created things, yet for him [Heidegger], to say that a thing has come into existence or that a thing has been created or that a thing has been brought forth, by science and technology (being contrary to our everyday and instrumental processes of technology), is to allege a combination of the four causes as operating in a simultaneous single act of unveiling. In this way, Heidegger equates his first meaning of technology, namely his universal, objective and essential understanding of technology, with the Greek word, *aitia* which means not creation or causation but a *bringing forth* or the *occasioning* of that which was never there. The Greek word for technology in this broadest sense therefore overturns our everyday meaning of technology as an anthropological tool for our human adaptation. In his rejection of technology an this everyday understanding of it, Heidegger had this to say;

> In the every mode of occasioning or bringing forth into reality or emergence
> of things into existence ,things not previously there, what happens is that]the

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four causes are at play within [every process of]the bringing forth. Though the bringing forth [processes] every growing thing of nature as well as whatsoever in life is completed through the craft and art of man, comes into appearances [or emerges into being by whatever means] only comes [into reality] through a concurrence of the Fours Causes [and this runs contrary to contemporary operation of Science and Technology]. This means that by

Heidegger's choice of the Greek  *aitia* and its equivalence in English *occasioning* of what is previously not in existence, Heidegger was apt to make arts and craftsmanship the most appropriate substitutes for technology as both these, technology and arts, seem to have their common roots in the Greek word '*techne'*, which is originally intended to be an equivalence of contemporary meaning of *technology*  it is this contemporary everyday usage of the word *techne* which in Heidegger's pedagogy has failed to meet up  an appropriate from of National development or with Heidegger's objective and essential meaning as *aitia* or the bringing forth or the very idea of causation. This *bringing forth* for Heidegger, like every other process of art or creativity, is to be further seen in the Greek sense of *aletheia* or the *unveiling of truth'* a concept which Heidegger interprests in German as *enthergen;* and according to Ted Beckmann in his works, Martin *Heidegger and Environmental Ethics* (28)[4] the word entherbergen meant the same as *'revealing' and unveiling of something'*. In this way, for Heidegger, technology in its true and essential or objective meaning consisted in the *word revealing by means of creative art or skilled craftsmanship and nothing more*.

With this, we are back to our starting point in which Heidegger does (In The Question About Technology p. 11)[5] speak in a nutshell about technology as one among the many modes of 'unveiling' in which we as human beings and as *efficient causes* of reality, are to be seen as true creators of scientific problems being mere agents, midwives a mediators  of creative things, are not their actual causes or creators. This is said, contrary to our everyday instrumental and adaptive understanding of technology which makes man to be seen as responsible for the maladies of science and technology as well as the woes of development and civilization. Heidegger taught that as human beings we are merely involved in the creation of science only within the framework that could be likeable to the cooperation of the causes in which man is but a part, namely one who comes in only as an agent or a midwife;

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[4] Ibid

[5] Ted Beckmann in "Martin Heidegger & Environmental Ethics" Went all out to retrospective consideration of the Greek planning of technology in furtherance of his rejection of technology without ethics as found in our everyday understanding of it

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one who merely assists or facilitates rather than commence the creation of created things. Since the four cause in Heidegger's pedagogy are all of them required for every creative process to be actualized from potency, them contrary to traditional account of causation, man alone as the efficient cause of the development or civilization of every nation, cannot be said to be the controller of science and technology. Technology, for Heidegger (ibid, 28), remains an autonomous and self-regulating reality rather than a docile and passive reality which man can control. Although these claims by Heidegger are subject to argument. Heidegger relies strongly on his believes in technology as a self regulatory, self sustaining abs self-controlling enterprise, to relief man of blames of misusing and misapplying science. But contrary to Heidegger this paper has made a case for man. Contrary to Heidegger's teaching, it is man not science, that is to be blamed for the maladies of science and technology. Science itself cannot be faulted. It only becomes destructive to the extent to which man applies it to life as a tool for destruction. And it is a remedy it man uses it positively. Science and Teaching can not be faulted.

**Instrumental and Essential Meaning of Technology In Heidegger's Pedagogy**

What has been described up to this stage of our research is Heidegger's conception of technology in its essential or true meaning. Heidegger, in his masterpiece. *The Question Concerning Technology (288),*[6] comprehensively posits that, although the case should have been the case, namely, as it has been analyzed above, but for our everyday understanding of technology.  It is therefore not surprising  for Heidegger that we and the entire human society have by our everyday meaning of tech slumped into a kind of forgetfulness of technology in its objective true and essential meaning.  This true and essential means is what gives value and autonomy to science and technology since it is in the nature of things to be forgotten. By the word, *'essential'* in 'essential meaning of technology, Heidegger does not mean 'essential' as it translates into something 'important or as a 'relevant' aspect of technology. According to Ted Beckman's works, *Martin Heidegger and Environmental Ethics (36),* [7]Heidegger does not mean some 'abstract metaphysics' but  a concrete reality which lies at the heart of technology. *In the thinking of Heidegger, technology is in many ways a living, active and dynamic reality that is always seeking to catch-hold on man.* Quite often, science and technology duly succeed in meting out their autonomous control over man since man in the thinking Heidegger, has in his ignorance decided to abandon his conception of technology in

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[6] Lowitt W. (1977) as already quoted in the study
[7] Ibid

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its essential meaning and embraced his understanding of technology in the everyday instrumental and adaptive meaning. The consequences of this, for Heidegger, is that our forgetfulness of technology is what has eventually led to forms of *'enframing '* of man and society by the forces of science and technology or what Heidegger referred to in German language as *Gestell.*

It is in this way that we recall having mentioned earlier that than it was the need to clarify our understanding of technology in its two broad senses that led Heidegger to posit the question(ibid, 288), w*hat do we generally understand by technology*? In the end, Heidegger comes up with two distinct answers representing technology in its two distinct senses;-as an everyday activity being technology in its adaptive or instrumental sense and as a human activity being technology in its true, universal and essential meaning. Therefore, according to Iroegbu and Echekwube in their *Kpim of Morality* (343),[8]

> He [Heidegger]conceded that this definition[distinction between the two senses of technology] is correct and that it describes technology accurately..... but it does not go far enough for Heidegger's own purpose *per* se....[that is. Heidegger's attempt to reverse the existing order of things by empowering man to] maintaining control over technology; master things by empowering man to ] maintaining control over technology it, master it; so that it does not destroy man[ as all of these weaknesses] informed by our instrumental [adaptive and everyday conception of technology.

In other words, as Heidegger observes in *The Question Concerning Technology (289).* it is clear that from our everyday adaptive or instrumental understanding of technology, *'the will to mastery by man becomes an inevitable recommendation as a new attitude for our age and time.* By this will to power and the tendency to dominate, Heidegger teaches that as technology keeps threatening its desire to perpetuate its escape from human control man must rise and do something, it nothing at all, to change his view of science from an event into an activity. But the question for Heidegger is whether science and technology has truly escape our human control or seems to do so? The answer is certainly no but Heidegger dos not set things this way Heidegger believes that for us to fully understand technology, we need to critically reconsider attempts to control science. This can only come for Heidegger from moving from everyday to the true of technology. Heidegger takes the literal meaning of the

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[8] Ted Beckmann as already quoted

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word 'instrument' thereby maintaining that whatever is an instrument is not an end in itself but a means to an end. Yet, this, for Heidegger, has not been the case with our attitude as human beings since our everyday instrumental understanding of technology leads us to see contemporary processes of science and technology as ends in themselves rather than some a means to an end. Although Heidegger ends up confusing us the more. All this explanations Heidegger have been rendered comprehensive in the first chapter of his works, *"The Question Concerning Technology(4)*[9] where he argues exhaustively that the real problem is that we are misled by the predominance and prevalence of science into focusing attention on technology in its everyday sense; and by ignoring an understanding of technology in its essential meaning, we have further created a problem of attitude whereby, it no longer matters to us whether we '*embrace'* or we '*condemn'* any form of technology, whether it be *dangerous* or *safe* for human existence, etc, so long as our choice of action satisfies our selfish desires and subservience to science.

### *Enframing* or The Killing Instinet Of Technology In Heidegger's Teaching

Here, the Heideggerean use of the word *'enframing '* tends to chime with his earlier use of the term *'developmentalism '* or as it has subsequently been called, *'uncontrolled development'* by science and technology. Thus, in the first chapter of *The Question Concerning Technology*[7] where he sets out the outline for his critique of technology, Heidegger makes it clear that our nonchalant attitude of sitting on the fence in respect of whether to 'affirm' or to 'condemn' negative forms of technology, tends to leave man and his civilization in the willing hands of their control thereby leading to what Heidegger calls *'enframing'* of man by the forces of science and technology. Here again, Heidegger strongly defends the autonomy of science to enable him blame science rather than man for the atrocities such as the rise in above warfare and other things directly connected with the negative advancement in science and technology. According to the explanation in this extract by Heidegger(The Question, 28), Heidegger himself speaks of *'enframing '* as the process of *'putting into the mould of science and technology' the potentialities of the world by the so-called 'age of science and technology'*. If *enframing* had targeted other things, the story could possibly have been different. But with the current reality the dangers of science and technology' more so those of negative technologies are to be blamed for the negative developments created not by man not science and technology. Iroegbu and Echekwube in *"kpin of Morality"* (p. 343) unlike Beckmann, are

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[9] Iroegbu ands Echekwube in "Kpan of Morality" p. 343 Onlike Beckmann are obviously sympathetic in favour of Heidegger's position.

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obviously sympathetic and supportive in favor of Heidegger's position. For both Echekwube and Iroegbu, *'enframing'* have become most destructive as both man, nature, and the entire eco-system is, in Heidegger's pedagogy, continually *'enframed' society.* They all see science and technology as the uncontrollable determinants of the direction of life. The point made is the question of industrialization which for them have only made man a puppet in the hands of science and technology. Heidegger renders explicit in this excerpt, how both of these, technology and the rise of industrialization have been *enframed* to queue up behind the uncontrollable and the unconscionable advancement of what he sees as the atrocities of science and technology. As Heidegger sees it further in his on-going analysis(ibid,) where *enframing* reigns(being the representation of the *imminient* danger of science and technology in Heidegger's pedagogy) there is an indication that technology reigns supreme. Yet, so long as *enframing* remains a contemporary nightmare in Heidegger's consideration, the reason for Heidegger, is that it restricts man's freedom and promotes violence against environmental safety in the same way as science and technology manipulates and exploits our human realities through an ever-growing spirit of *technologism.* It must hence be mentioned that although Heidegger speaks of *'enframing'* as a kind of 'unveiling of truth'; a kind of *aletheia,* it is also true that it represents a kind of unveiling which commences an open-ended, endless, and uncontrollable form of development among nations. In this way, Heidegger's account of *enframing* tends to chime with his earlier concept *of developmentalism* as earlier stated in this work. The question, therefore, is this, if science and technology which are currently revered, by all have in Heidegger's thinking, failed the test of development or civilization, where then, do we go for an appropriate instrument for national development. To answer this question, Heidegger has in his works, *The Question Concerning* Technology(4), 'opined that art is all we need to carry on life in an age like ours which has been endangered by the ills of science and technology', especially, through what Heidegger refers to as *enfraiming*

**Heidegger's Rejection of Science and his Preference for Art**

As a way forward, Heidegger proceeds to commence a rejection of science and technology in favour of art and craftsmanship by beginning with a distinction among four sets of realities relating to his analysis. These realities were for Heidegger, creative art or fine art, craftsmanship, living art, and technology. As Heidegger sees it in his work, *The Question Concerning Technology(l4), [10]*. It is out of this list of four elements that craftsmanship and

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[10] Heidegger in "The Question Concerning Technology was able indisputably that ignoring certain of technology, especially, its destructive philosophy was something detrimental to National Development

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living art both qualify to be called authentic forms of technology by their common roots in the Greek *aitia.* The Greek *aita* stands for the true and essential meaning of technology. This, for Heidegger, truly belongs to an orderly mode of unveiling or manifestation of that which was previously non-existent. Heidegger goes on to speak of fine art as art *per se* meaning that whenever the concept of art is mentioned, anywhere, living art should readily come to mind. The explanation Heidegger gives in the on-going passage is that each of these four aforementioned elements performs a separate function. Heidegger argues that while living art and craftsmanship are to be seen as operating consistent with the Greek *aitia* for technology both of these, living art and craftsmanship can sufficiently replace science and technology as they both perform the function of *bringing forth* in harmony that which lies uncovered. As for the remaining three of the four elements, Heidegger argues that the second element, 'creative or fine art', is like the third and the fourth elements, namely, science and technology by its function. The three, creative or fine art, science and technology; all agree with the Greek meaning of *techne* indicating their synchronicity with technology in our everyday instrumental and adaptive understanding of it. Hence, these three fine art  science and technology, are too constituted for Heidegger to be seen as obstacles to [national development and human civilization]. They, constitute three forms of violence against man and his global environment. But this has not always been the case, particularly, because reproductive technology, information technology, and transportation technology, etc, have aided rather than abated development. Heidegger sees it differently, such that his argument would be consistent with saying that WCT, Modern Transportation, and Nuclear Technology, are all of them destructive. But in reality, can we not distinguish between nuclear negative technology and positive e development in ICT? Heidegger argues in the on-going passage that 'in the past, creative or fine art, science and technology, which now exist in their *encapsulating* forms as Greek *techne,* all served as genuine forms of human intervention before the current era which now speaks of their defiance to human control. Hence, in contemporary times science, technology and creative art or fine art, have, contrary to the past, acquired a new culture of resistance to human control, thereby, holding out violence against man and his universe that he[Heidegger] would hold no reservation calling for the replacement of technology with art and craftsmanship. Heidegger is of the opinion that this would be justified since as a mode of *revealing*, science and technology would be seen in their instrumental forms as Greek *techne.* This in the thrusting of Heidegger can only prove to be a challenge to be confronted rather than an interventionary process for human upliftment.

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Now, pushing forth his argument to a logical conclusion Heidegger strengthens his previously statement of argument by arguing in *The Question Concerning Technology(ibid, 26)*[11] that although every epoch of human evolution harbors' within itself an imminent danger of some kind, however, the epoch of contemporary technology seems to possess the gravest danger for man and society being an age in which technology now conducts man out of his own scheme of essence. Within this analysis and conception of society by Heidegger one can possibly begin to understand reasons with Heidegger's replacement of science with art. In Heidegger's thinking, true art or living art, does not only make the turning away from science and technology possible; it remains a form of *'unveiling'* by which man can be conducted out of every scheme of *enframing* or forms of developmentalism and awkward civilization by science and technology. Yet, the primary question for us is to ask ourselves the basic question; what did Heidegger truly meant by the word 'art'? Ted Beckmann, while responding to this question, has in his work, *Martin Heidegger And Environmental Ethics(46),* gives us the impression that while Heidegger never meant 'art' in the sense of 'creative or fine art', what Heidegger meant by 'art' may be interpreted as 'living art' or 'the art of living', and according to this:

> It is well[that is, most appropriate,] to begin by observing that what Heidegger referred to as 'art' is not the same as what we generally understand as art today[namely, creative or fine art]. Heidegger's identification of arts [as a living phenomenon]... ..is therefore not to be seen or read as a recommendation [or reference to exhibition by]contemporary artists.
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> Although the extract here quoted is short; the choice of emotional words shows Heidegger's vehement rejection of fine and applied art while his condemnation of stage artists shows Heidegger's denial of creative art as representing the true meaning of art in his works. Thus, to unveil what Heidegger meant by art or more precisely living art or the art of living,

Heidegger in *The Question Concerning Technology(l4\* equated art with what he called *'living art*[m] or the 'art of living', and this, together with its neighboring concept of craftsmanship were in Heidegger's pedagogy represented as a form of art which can adequately replace science and technology without running the world and our human civilization into further problems than the presents a problem which Heidegger blames on

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[11] Ibid

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atrocities of science and technology. But this research thinks that Heidegger's replacement of science with art is an over-simplified solution that does not seem true in practice. It is to say for short that the implication of Heidegger's rejection of science and technology requires both a historical and theoretical exegesis. This theoretical exposition should be committed to the impact of science and technology on infrastructural and national development is known to man. The impact of art on development is something which Heidegger needed to process as a fact. In the absence of this, Heidegger's replacement of science with art still remains a solution but one which lacks justification. In particular, to say that arts means thae art of living in harmony with the world, this raises a further question. What would truly constitute the art of living in harmony with the world?

## National Development; Meaning and Characterization

The concept of national development is sometimes taken to mean something in rhyme with Heidegger's idea, not his idea oftechnological development in our everyday meaning of technology as reflected in what www.answers.yahoo.com refers to as infrastructural development of the state but something in rhyme with Heidegger's idea of technological development as reflected in what *www.ask.com* refers to as the *overall improvement of the welfare of the people* of the nation beyond mere provision of infrastructural development made possible by science and technology. In all these cases, irrespective of differences, every process of national development implies in many ways the involvement of science and technology. It is in this sense that *ww\v.ask.com* as already quoted herein has explained that this being the case, national development is to be seen in two distinct senses;- in the specific sense as infrastructural development and in the general sense as the overall upliftment of the welfare of the people of the nation or state. It is within this second sense of national development as the *welfarean* upliftment of man, his political state or nation, and his environmental composition, etc, that Heidegger is bound to see science and technology as important and supportive of development and not in the first sense as technological development without concern for the welfare of mother earth.

While Heidegger could only have implied the application of *welfarean* forms of technologies to national development processes, the reality, for the online article titled, *The National Development Strategy, www.nds@solution2000.net*, posted Jan 3rd, 2014, is that the kinds of problems which Heidegger and the majority of commentators have criticized are automatically created amidst science and technology. Whenever a state or nation chooses the wrong aims and objective for national development, what Heidegger fears about science is

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bound to happen. Thus, according to this commentary the scenario can be corrected by adopting the fact that *"in every society there exists four (4) basic objectives of national development which include the following*, namely, economic growth, poverty alleviation, provision of basic amenities, and the sustainability of democratic institutions"(ibid). The article goes on to argue among other things that the right synonym for development is 'growth', explaining consequently that, while national development cannot be achieved without the growth of local and national institutions etc, a nation cannot be said to have grown where there is no considerable infrastructural, human, technological and metaphysical growth, and to the extent that all of them be geared towards total development of man and his universe. This explains why Buhari Bello Mohammed Jega has in his *Commentary* in the "Sahara News," www.saharareperter.com , (of Jan 4th, 2014,) given us the clear indication that the benefits and the woes of national development are to be found in the respective forms that our civilizations take. Whether these forms are in the form of infrastructural, human, technological or material development, etc, determines how every process of national development  is bound to have an interplay between the human person and his human environment, and whether this interplay shall be life-giving on one hand or destructive on the other hand? Again, it is within this context of consequences resulting from a nation's choice of interplay between science and technology and in their application to environment that Heidegger's critique bears a further implication for national development. Even Heidegger himself was apt to acknowledge this point where he argues that(The Question, 28), 'where technology [*enframing*] abounds there will the ills of technology [development] also abound. But Heidegger is an extremist and he makes it such that in every society the negative consequences of science in this interplay out-weighs the positive contributions of science to development that there seem to be no need to appreciate or praise science. The question, however, is this; to what extent is Heidegger's analysis accurate? This therefore becomes our next task in our subsequent sub-heading.

**Critical Comment**

Our starting point to this analysis, is that, with technology man has been empowered by means of human imagination and creative spirit to improve civilize and develop his immediate environment. Thanks to many inventions and discoveries. The world over, it is to be said that the benefits of science and technology cannot be over-emphasized the following being some of them. In the areas of agriculture, one sees the emergence of modern dams for irrigation purposes as a positive contribution made by science and technology to national

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development. In the area of transportation, we have modem automobiles continuing to spring up. In health and hygiene, diseases which were previously taught to be demonic attacks are now being treated through the knowledge of science and technology. In communication, the invention of internet and satellite technologies, have both turned the world into a global village. This is not all. It is to say for short that the positive contributions of science and technology to national development are numerous and uncountable. The *problem, however,* is that for most people, the problem is that of *misapplication and abuse,* yet, for Heidegger, what amounted to abuse is not the misuse of technology by man but the manipulation of man by technology. If we may pause and ask; does technology actually manipulate man? The answer is like Heidegger taught! YES. But science and technology only manipulate man in a manner similar to that of a child on the mother; but does not take the mother's control over from her mother as her baby. This at least, is the attitude which Heidegger failed to see and which this critique brings to bear in this research. Heidegger's position here stated is in total disagreement with this paper since contrary to Heidegger's teaching, technologies are first of all invented by man and not beasts. Yet, most importantly, after invention, technologies cannot apply themselves to human problems nor pose a threat to our human safety unless made to do so by man. Or was it not the human person who conducted the Hiroshima bombing in 1945? This is the point at which contrary to Heidegger's pedagogy, the human person must be made to take his full responsibility for atrocities committed by science and technology. Away from criticism, one account which seems to have captured the heart of this argument for science and technology to development remains that of the following account given by J, A. Aigbodioh. According to Aigbodioh in his book, *"Philosophy of Science; Issues And Problems(170)* [12] as he renders the following as some of the most insightful impacts of technology to national development:

> It is the benefit of science and technology that today we are in our homes and offices, saved from harsh weather conditions and the drudgery of mental labour. This is due, for example, to the prevalence of modern architecture, the invention of electricity, fans, air conditioners and such labour-saving devices as vacuum cleaners.

But despite having many apparent positive contributions to infrastructural, *welfarean,* material and spiritual development of any one nation, there exists several bad elements which

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[12] Ibid

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have been pointed out relating to the impact of science and technology on the civilization and developmental processes of every nation or political state. Most of these negative implications have come under the guise of the ethical implications raised by *the continuous and uncontrollable growth and advancement of science and technology on planet earth*. It is therefore clear from the foregoing that the contemporary questions relating to the positive and negative impacts of science and technology on our national development would cover a variety of issues ranging from the discovery of steam engine to the invention of airplanes, starting from the discovery of fire by the primitive man to the invention of gun powder in the Iron Age and from the Modern discoveries of the technology of kidney transplant to cloning technology, a fit has been recorded for science. The question which now remains unanswered is this; now that science assures us of endless growth and other impossibilities of life; how many conscientious thinkers have really cared about the danger which awaits the world if in no time the glories of science begins to re-bounce? It is within this context that we must also consider side-by- side the negative impact of science and technology on man's civilization or national development?.

**Negative Impact of Technology on National Development Implications for Heidegger's**

The negative or the ethical impact of science and technology on national development, just like its positive impact, are so vast and numerous; what www.yahoo. answers has done is proceed to classify the tragic consequences of technology into ten viable categories; and according to its article, *Ten Disadvantages Of Technology to Man,* the following have been listed in accordance with the view of most people in society;- induction of human violence, over dependence, induction of laziness, death of written art, loss of jobs, threat of new diseases like cancer, scourge of pollution, nuclear threat, genetic complication and the horrors of technology transfer. From this *list of ten disadvantages of technology to national development,* most people in the African continent would be inclined to pick interest in cloning technology and in the deep issues raised by technology transfer given the closeness of these realities to them beginning with the question of technology transfer as stated here with www.answers.yahoo.com.>home>all.

> It is widely known that the USA is responsible for giving technology for war use to Israel and other countries in [their] times of crises, but what is not well known is that the Talibans were a guerilla group armed and trained by the US [given a kind of training]that was meant to drive Communist Russia out of

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Afghanistan in the 80(s)....the people so trained formed a terrorist group [the Taliban] that was responsible for the 9/11 attack on the US.[13]

In this way it is to say as Heidegger envisages, namely, that technology was originally meant to empower and to civilize or develop the processes of nations through human creativity and imagination. Many thanks for numerous inventions and discoveries. The world over, the inner secretes behind technology transfer, human cloning, pollution, loss of written art, threat of nuclear war, the rise of technology related cancer, growing laziness by man, uncontrolled development and over dependence on technology, etc, duly reveal that with Heidegger's critique of technology, while science and technology can better be appreciated in terms of their contributions to national development, the need now exists, for the global community to aspire for new and better means of national development which would adequately deal with the ethical questions relating to science and technology. This new means as this paper thinks, cannot consist in Heidegger's over-simplified replacement of technology with arts as an instrument of civilization, but in a multi-disciplinary formula which shall show equal respect for science and technology as some of the most powerful weapons of the  age and time.

**Discussions and Relevant Projections for National Development**

The whole point of this research rests on the first question which directly confronts us at this stage of our discussion, namely, the question of what should constitute, what Heidegger thinks,  should  constitute a safe and life-giving relationship between science, technology, development and the safety of planet earth[14] To this first question it is clear to Heidegger and other thinkers who have cast aspersion on science and technology, that the present relation of scientific domination, rather than that of mutual exchange, does not represent the ideals for which science and technology were invented. Heidegger was therefore right in calling attention to the point that science and technology were originally created to serve as intervention in human problems rather than domination and must be returned back to that state. However, the problem with Heidegger is that the means by which Heidegger suggests our return to the developmental processes which will reflect this ideal, namely, the  dumping of science in favour of art, is altogether misleading. Science is too

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[13] Living Arts for Heidegger is what is today called creative arts. It involves, sculpturing, poetry stony tilling etc. All of these, have no injury Factor on either the environment or on development as Nuclear technology ans other developmental arts have.

[14] J. A., Aigbodioh (1977:170) duly agreed on all four sides with Heidegger that technology is understood from it's quest for achievement is a real problem. In particular, it has solved problems of information and communication but created problems of dependeney and ignorance of its dangers to development.

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central to be ignored because as we can see from experience, every process of our human endeavour tends to imply science and technology .Cutting them off means stifling the course of advancement and progress of the world. Living Arts, which Heidegger suggests is what is today called *creative arts*. It involves weaving, sculpturing, poetry story-telling etc. All of these, for Heidegger, have no injury factor on either the environment or on development in the same way as Nuclear technology and other Developmental Science have on the civilization of the world.  Simply put, this research does not agree with Heidegger's principle of throwing away both the baby and the dirty water but in deconstructing science to suit our new idea of development. This first question relating to what should constitute the right content rather than the right method, or the actual nature of science rather than its faults, especially in its relation to development, is one which holds all men. We cannot truly relate with science and technology unless we understand it. But an account given us by Heidegger is clearly misleading.

As a separate question of content, this first question for consideration in this research has led us directly into the second and higher question of what should constitute the right method of science in the midst of the polemic rejection of science by Heidegger? This second question which also confronts us as it also confronted Heidegger and several other thinkers who have attempted an in depth analysis of the relationship between science, development, and planetary safety, etc, is the question of whether science or art or humanities or social sciences is to be adopted as a better tool for national development in contemporary times. To this question, Heidegger's drive for art is an isolating solution which holds great danger for the civilization of every nation, then, the promises which Heidegger gives us. This is because development, science, technology and planetary safety, like all human questions are multi-dimensional; hence, they can adequately be settled through a multi-disciplinary method involving both art and science. Most contemporary problems now seek multi-disciplinary solutions, and this research believes that the world having moved beyond Heidegger, must adjust his conclusions and proceed by adjusting the implications of Heidegger's theory for national development to meet new findings.

The third question confronting us in this research is that of whether the present hierarchy which either puts science on the pedestal as the world does or that which puts art on the pedestal as Heidegger approves in his critique of technology or that in which it no longer matters to people whether science is condemned or affirmed, is  to be chosen as the right paradigm for  contemporary society?According to Gile S, Doris in his article, *The*

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*relationship Between Science, Technology And The Economy of Developed Countries(The* Sage Journal, 201);

> This note-finding call for a reassessment of the developmental policies[of any one nation in any age and time is one which is altogether]based on the hierarchical relationship between science. technology- and development[or civilization]

This third question by Gile Doris, like our first question, duly links us up with our fourth question or the ethical question as it has been called in this research. This ethical question is a question which for the most part, formed the basis for Heidegger's condemnation of science as a tool for national development. Here, our feeling in this research is that Heidegger was right in rejecting the ills of science and technology in his critique. The research also feels that, independent of Heidegger's condemnation, most authors who have condemned science, have based their judgments on the ethical question of science or more precisely the question of the scope and the limits of science beyond this limit  would be encroaching into our human welfare. Like Heidegger, this research believes that the current threat of nuclear warfare by science and technology is ethically wrong. Yet despite making a good analysis of science and technology this paper argues that Heidegger's leap from the ethical problems of science to a total rejection of science is largely misinforming. In particular, any uncritical acceptance of Heidegger's views would kill one's likeness form science and technology

With this we come to the fifth and final question, namely, the question of whether Heidegger's replacement of technology with living art is a well-adjusted solution that is required for our time and situation? For those who, like Heidegger, lived through the horror of science during two World Wars of the 20th century era, and hence, fear the repeat of atrocities of science during these wars, there is a likeliness of seeing Heidegger's replacement of science with art as a new tool for national development. But the truth is that authors who, unlike Heidegger, did not have a first-hand experience of the scale of destruction by science during World War l&ll, are most likely to conclude something different from Heidegger's account. The point here is that even when Heidegger cannot completely be said to be wrong, it is clear that his conclusions concerning the status of science and development require a second thought.

**Evaluation, Recommendation and Conclusion**

By now it must have become clear that contrary to what it may have seemed to us at first sight, Heidegger was not against every aspect of science and technology, nor was he

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against the positive but the negative impact of science and technology on civilization. From his choice of words, Heidegger duly acknowledged that despite many apparent manifestations of what may be called *'destructive science'* or more precisely so-called *'the threats of nuclear bombs'* which incidentally got popularized in the two World Wars of the 20th century. Incidentally Heidegger himself lived to witness the world wars of the century. He still acknowledged that science and technology could, however, play an important role in the development or civilization of society. The problem, however, was that for Heidegger, science must be rejected because it could use one day to destroy what it has built in One Hundred years. A typical example, being the atrocity of the Hiroshima and the Nagasaki bombing. The point here is that anyone who lived through the sporadic atrocities of the World Wars of the 20th century just like Heidegger did, could, most likely have rejected science and technology in like manner as Heidegger did. But this cannot be said in the case with thinkers who have written about science and technology beyond the war such as Iroegbu and Echekwube. While this second set of thinkers are bound to give an inaccurate account of what should constitute the true relationship between science and development. Those, like Heidegger who wrote from the point of view of war victims of science and technology, are not likely to do better as their report shall be laden with sentiments and unnecessary emotions. This is why this research recommends that the implication of Heidegger's concept of technology is to call for an independently objective, more philosophical, yet, existentially concrete approach to the relationship between science and development which would both combine the good elements of science and technology towards a kind of speedy development of nations in a way that shall be environmentally friendly and respectful of man's safety on planet earth.

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