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HIS LINEAGE PUBLISHING HOUSE
9, Alli Gbadebo Street, Mokola Ibadan
GSM: 0803 3596 818
E-mail: awemakin@gmail.com

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DO THE INFORMATION AND COMMUNICATION TECHNOLOGY (INTERNET AND PHONES) MAKE EARTH TO SHRINK?

Oladapo, Oludare Samuel
School of Secondary Education
Arts and Social Sciences Programmes
Oyo State College of Education, Lanlate
Email: oladapooludaresamuel@gmail.com

Oladipo, Michael Olukayode
Department of Geography
School of Secondary Education
Arts and Social Sciences Programmes
Oyo State College of Education, Lanlate
Email: larrykayab@gmail.com

Abstract
Owing to apparent demise of real world interaction; scholars' opinions were varied about Earth's shrinkage. Aptly, this paper explored perspectives of Earth's shrinkage. In doing this, Earth's description, shrinkage, expansiveness, theories of shrinkage, concept of time-space compression, implications of internet and phones on communication and accomplishment of tasks were examined. It was revealed that no established scientific proofs indicating that the Earth is expanding, internet and phones made physical connection simpler, faster, reduced physical, social, economic, psychological distances and increased demise of real world interaction. Finally, Earth seems shrinking due to annihilation and compression of space by time. The study recommended that phone calls should be made among developing countries, local internet content developers should be trained to upload local information resources; governments in developing countries should add local information resources on the internet to reap the benefits of annihilation of space by time.

Keywords: *Earth, Information and Communication Technology, Internet, Phones, Shrinkage, Space Annihilation by Time*

Introduction

Information and Communication Technology (ICT) tremendously support the interaction of persons with one and other over the Earth's surface. It allow people to get informed, share their views, ideas, fashions, thoughts, expressions, opinions and even form social groups with people living in all the continents of the world. ICT has also increasingly assisted in the growth and development of the world economy, it has considerably improved the standard of living of human beings world over, reduced poverty. In a nutshell, ICT has transformed world economy and society reducing costs of overcoming geographical, social, psychological, sociological and economical distances. ICT unceasingly provide collaborative models for humane capital development methods and noticeably in education.

Given the benefits of ICT, particularly as regards the reduction in distances separating individuals, it is necessary to examine whether the Earth is actually shrinking especially with ease of communicating with persons staying several thousand of kilometres away. In attempt at finding out this, it is pertinent to pose this question. Do the information and communication technology (internet and phones) make Earth to shrink? Among other things, this conceptual paper would attempt to provide answers to this question. However, this question may not be answered directly. Great scholars were apparently divided in their opinions; some differ in their assessments of the 'size" (shrinking or expanding) of the Earth itself. Some writers were of the opinion that with the history of events all over the world, ease of communication could be traced to advancement in transportation, globalization and more recently in the advent of the internet and Global System Mobile (GSM) phones.

As regards the organization of this write up, this paper started by presenting a brief description of the Earth, in order to allow readers to appreciate its' physical size, this was followed by looking at whether the Earth is either shrinking or expanding from perspectives of scientists. Then relevant concepts and theories relating to Earth's shrinkage were discussed. The concept of time-space compression was revisited, the paper then carefully highlighted the implications of internet and phones on social integration, connection, communication and accomplishment of daily tasks. This was followed by the conclusion and useful recommendations were therein made.

Description of the Earth

Geography as a discipline clearly taught us that the Earth is the only planet that supports and sustains life (life in terms of man, plant and animal). Scientists often believe that the Earth was formed at roughly the same time as the sun and other planets some 4.6 billion years ago. Earth is in the third position from the sun. The average distance of the Earth from the sun is 92,956,050 miles (149,598,262 km). While its equatorial diameter is 7,926 miles (12,755 km) and a polar diameter of 7,900 miles (12,714 km). It is the 5^{th} largest planet, larger than Mercury, Mars and Venus but smaller than Jupiter, Saturn, Uranus and Neptune. Apart from receiving moderate energy from the sun, the two life defining features: water and oxygen are also available abundantly in the planet. Only 3% of Earth's water is fresh and 97% of it is salty. The atmosphere of Earth also consists of 77% nitrogen, 21% oxygen, traces of argon, carbon monoxide and water. The carbon dioxide is very important especially for plants' survival.

Earth makes a complete rotation (rotating on its own axis) in every 24 hours; making 12 hours of daytime and 12 hours of night. It also makes a complete revolution (moving round the sun) in every $365^{1}/4$ days; the ¼ day is added up every fourth year to make a leap year comprising 366 days. It has moon as its only satellite. The atmosphere of Earth is divided into 6 layers; these are troposphere, stratosphere, mesosphere, thermosphere, exosphere and ionosphere. There is no known scientific name for Earth, the words "Globe, World, Space and Universe" are often used interchangeably to refer to Earth. Earth is not perfectly spherical or cyclical in shape; it is true shape is called "Geoid". Earth is truly unique among the planets of the Solar System. It is also very beautiful, with white clouds, blue oceans and brown lands that shine against the black backdrop of our Solar System. With all these facts and figures about the Earth, it would be pertinent to find out if the earth is becoming smaller (contracting, shrinking) or expanding.

Is the Earth shrinking or expanding?

This question does not necessarily require a straight forward answer. In the literature, there were diverse opinions. Several scholars greatly differ in their assessments of the 'size" (shrinking or expanding) of the earth. This could be attributed to history of events all over the world.

Events herein could be advancement in transportation, globalization and more recently in the advent and use of ICT especially the Internet and Global System Mobile (GSM) phones.

Some scholars opined that that the Earth's gaseous gifts to space, our planet or, to be specific, the atmosphere is shrinking, this was corroborated by the Shrinking Earth theory that predicted that mountain ranges would appear randomly all over the Earth's surface. It also predicted that mountains would constantly grow higher. Another part of the theory stated that volcanoes and Earthquakes would occur at random, all over the surface of the Earth. This is just as Anonymous (2007) noted that the world is smaller than we think, new measurements could force other researchers to rejig their calculations. Results of an international project show the Earth is roughly 5 millimetres smaller than the last measurement made five years ago, though some scientists argued that there is no evidence that the Earth itself is shrinking.

Some scientists were also of the opinion that the Earth could be shrinking or expanding. For instance, Anonymous (2011) noted that since Charles Darwin's time, scientists have speculated that the solid Earth might be expanding or shrinking. That was the prevailing belief, until scientists developed the theory of plate tectonics, which explained the large-scale motions of Earth's lithosphere. Even with the acceptance of plate tectonics half a century ago, some Earth and space scientists have continued to speculate on Earth's possible expansion or contraction on various scientific grounds. Knowing how the Earth expands or contracts provides a frame of reference for scientists to extrapolate from and removes uncertainty. But measuring changes in Earth's size has not exactly been easy for scientists to quite literally "get their arms around." After all, they cannot just wrap a giant tape measure around Earth's belly to get a definitive reading. Fortunately, the field of high-precision space geodesy gives scientists tools they can use to estimate changes in Earth's radius. Although it was suggested historically, since the recognition of plate tectonics during the 1970s, scientific consensus has rejected the idea of any significant expansion or contraction of Earth. It was then indicated that if the earth becomes more compact that indicates that the gravitational force on the test mass will increase and hence the acceleration due to gravity will also change.

Another group of scientists declared that Marx and Engels seemed to be suggesting that the world was getting smaller to the extent that old and local ways of doing things were giving way to more globalized processes….the world seems smaller because with all of this global integration there is a sameness or familiarity no matter where you are Postan (2020). The deployment of internet, phones and advances in data, goods and services can be seamlessly and easily transferred around the world. With the technological capabilities we have today, people in faraway lands do not have to wait days or weeks to communicate with each other and exchange items. These sorts of global transactions can occur instantly, in real time. The scholar added one can also make a compelling argument that the forces of technology made the world to become an enormous and inviting landscape for exploration and engagement. If there are means to do so, peoples can communicate and associate with themselves from foreign cultures and locales and we can pursue new opportunities for professional or even personal growth.

Relevant Concepts and Theories of Earth's Shrinkage

In this segment of the write up, relevant concepts and theories of Earth's shrinkage were unequivocally discussed. In Geography, Sociology and other related disciplines, notable scholars developed useful concepts and theories to explain and simplify the notion of the Earth becoming smaller (shrinking) which were considered relevant to this discussion. For instance, depending on the perspective one looks at it Immanuel Wallerstein (1976) wrote about the division of countries in economic terms and for the core countries, the world seemed to shrink more and more, for the periphery that had almost no chance to make any impact they seemed further away from having any contribution as the world grew. Another scholar, Lerman (2019) saw "The Big Bang Theory" came up in conversation. What a small world, few scientists agreed when they learned of these connections and should not have been surprised. As network scientists who study complex systems composed of many interconnected parts, some scholars noted that social networks connecting the world (peoples) through kinship and friendship are often small, in the sense that any two people within the network are connected by unexpectedly short chains (distance) made

up of social links. It could then be concluded that the distance between us is shrinking.

From the foregoing, social interactions have migrated online in recent years. Facebook and other platforms make it easy to keep in touch with friends both near and far. As a result, social networks have gotten smaller. Decreasing social distance to other people in the world may also facilitate the spread of misinformation and fake news, especially when it captures peoples' emotions or imaginations. But, it also rewards societies with serendipitous (lucky, fortunate) discoveries of connectedness.

The world is becoming smaller due to the advances in technology and transport. Many natural barriers divided the world before advances in transport were made; these include seas, mountains, deserts, forests and jungles. The first advance in transport was the taming of horses, closely followed camels that were used to cross the desert barrier and people met new cultures and traded their goods. The water barriers between countries were overcome by the invention of the boat. Steam was used in industry to power machinery as well as in boats and trains. The gasoline engine invention completely changed transportation. Gasoline travel led to the airplane. In 1964 the bullet train was invented; it was the start of high speed land travel. Boeing 747 built in the 60's and updated in 2010 carries over 500 passengers at once. To conclude, transport has connected the world by making natural features such as seas and deserts seem like paths instead of barriers. World travel is now fast, reliable and relatively cheap; people worldwide can travel easily and therefore have become more culturally aware.

People from a range of cultures diffuse into others making countries more diverse. This was as supported by (Massey, 2010) who argued that, space does not count for much at all.... since all parts of space can be reached in the same time-span (that is, 'no-time'), no part of space is privileged, and none has a special value". The scholar also argued that space "counts", and it does so because space is more than physical distance of miles or kilometres. If time is the dimension of change and succession, then space is the dimension of simultaneity co-existence; it has also the dimension of multiplicity. While air travel emails and cyberspace may certainly though differentially reduce the costs and effects of physical distance; these do not in any way abolish

multiplicity. A telephone call may be instantaneous, the distance between citizens may be for a while reduced, but they are not merged into one entity. Space is all about the distances to be crossed, how long it might that take and at what cost. In the thesis of the shrinking world, because everybody own mobile phones and use the internet at the same time it is necessary to understand the depth of variation cultural, economic, political distances between the multiple stories whose contemporaneous coexistence makes up our spatially differentiated "now"'. If space is about the simultaneity (concurrence) of difference, then it cannot be annihilated by time. Quite the opposite; it poses a challenge: the full recognition of the contemporaneous (synchronous) existence of others. In that, there is still much work to be done.

This is the curious irony of the "death of geography" thesis. For in fact it is time (travel time, communication time and their costs) that is being reduced, not space. On the contrary, there is more "space" in our lives; the reach of our connectivity and interactions, the geographies of the dependencies and effects even of the most routine aspects of our lives (so that no longer can people equate the everyday with the scale of the local), have expanded dramatically. The really serious questions that are raised by speed-up, by "the communications revolution" and by cyberspace are not whether space will be annihilated (it would not) but what kinds of new spatial configurations are being constructed and whether people can face up to the real challenge of space: the encounter with difference. But why the world is about to get a whole lot smaller is a hopeful work about how the Earth could benefit socially, personally, economically and otherwise from this new reality.

Another scholar, Forgeard (2022) noted that there are no boundaries when it comes to communication, people connect with anyone, anywhere in the world and at any time, with technology becoming more advanced and social media becoming more popular. Persons communicate quickly and across the world without physical borders. The world has become a global village through the World Wide Web revolution. It has made it possible to connect peoples regardless of their geographical locations. The global village is not limited to just one technology but also includes social media. Social media allows connection with other people regardless of their geographical location. It would not be long before persons feel that people in other parts of

the world feel that they are our neighbours. The scholar added that the digital world of the 21st century offers a wealth of data and opportunities, whose experience could not be exhausted. The scholar listed advantages of the global village to include: interconnectedness, togetherness, job opportunities, business opportunities, diversity, cultural awareness, shared knowledge, progress, access and global support, while its disadvantages include: isolation, stress, lifestyle, lack of privacy, tourism, greed, misinformation, competitiveness for job seekers, competitiveness for companies and reduction of awareness.

Concept of Time-Space Compression revisited

Time-space compression is a geographical spatial concept. Spatial concepts help us to understand our relationships with places or objects. Examples include distance, location, scale and distribution. The expansion of the railway network, accompanied by the advent of the telegraph, the growth of steam shipping and the building of the Suez Canal in Egypt, the beginnings of radio communication, bicycle and automobile travel at the end of the century, all changed the sense of time and space in radical ways. As a result of globalization, our world is becoming more interconnected. With the increase of flows of capital, goods and people, as well as the advancements in technology and transport, our world is seemingly shrinking. The world is not physically getting smaller. However, with the rise of jet planes, internet communication and cheaper travel, it has become easier (and faster) to be connected with faraway places. This compression of space and time is the pillar of globalization.

Karl Marx once referred to this shrinking of space by time as the annihilation (extinction, destruction) of space by time. This was reshaped by other prominent theorists, such as Harvey (1989) stated that capitalism has compressed the world, affecting human lives, speeding up the pace of life and reducing the significance of place. There are criticisms of this theory; Massey (1991) states that the concept is too Eurocentric and that experiences of time-space compression are not unified. Time-space compression is experienced in different ways. Although similar, time-space convergence refers directly to the shrinking of travel time as a result of improvements in transport and communication. Time-space compression is an important

geographical theory, as it helps to understand the non-static processes of the world.

Harvey's idea was rooted in Karl Marx's theory of the "annihilation of time and space". A similar idea was proposed by Elmar Alvater in 1987. Time-space compression often occurs as a result of technological innovations that condense or ignore spatial and temporal distances, including technologies of communication (telegraph, telephones, fax machines, Internet), travel (rail, cars, trains, jets) and economics (the need to overcome spatial barriers, open up new markets, speed up production cycles and reduce the turnover time of capital).Time-space compression is an essential facet of contemporary life: "Today we are entering a space which is speed-space. This new other time is that of electronic transmission of high-tech machines and therefore, man is present in this sort of time, not via his physical presence, but via programming

Implications of Internet and Phones on Social Integration, Connection, Communication and accomplishment of Daily Tasks

The implications of Internet and phones on social integration, connection, communication and accomplishment of daily tasks are numerous. For example, Internet and phones have far reaching effects on how we communicate and increased global integration. ICT has made physical connection simpler and faster, thereby reducing physical, social, economic spaces and increasingly slowed down the demise of real world interaction. This is just as Delta 2020 (2018) saw the way technology revolutionised how we now communicate and its global implications. The speed of global integration has increased greatly over recent decades. This has not just reduced our social space but expedited the slow demise of real world interaction. Technical innovations have made the world appear smaller as we now have everything at the touch of a button. Technology is revolutionising the world we live in but at the same time making it more insular (private) and increasing the loss of simple physical connections. The world is not becoming smaller it is all just an abstract idea. However, as technology continues to connect even the remotest parts more of physical connection and interactions would be far-fetched.

In another stance, Brown (2014) described how that wired telephone communications turned wireless and transformed into smartphone has had an incredible heritage and now doubles as a data communication device. It has completely changed the way we communicate with each other and how we organize work. Many 'knowledge' workers today are separated from their teams by miles if not continents. Technology has also made our world smaller.

Finally, Staff Writer (2020) wrote on how ICT developed the cell phone. The scholar noted Internet and its innovative ways to which we accomplish our daily tasks. The scholar noted that the Internet and Phones through advancement has contributed immensely to ways by which daily tasks are accomplished and thus creating new opportunities in specialized fields. The music and entertainment, publishing and communication industries have been changed positively. Take the example of the publishing industry. Bookstores were shutting down their doors and newspapers are putting a higher priority on Web content than their print media. This shift has cost writers and editors their jobs. On the other side of the pendulum are the jobs created by demand. Web-savvy writers, programmers, artists and editors are needed to manage the supply of information to cell phones and laptops worldwide.

Conclusion

In the past, most people did not travel around the Earth very much. It was too difficult and too expensive. The world seemed a very big place to transverse. Most people stayed in one area and most of their foods and belongings came from that area. Most people did not know very much about other countries. Globalisation is the way ideas, cultures (traditions and way of life), goods and people are traveling more easily around the world. As travel is getting faster and more efficient it appears that the world is getting smaller. This could be traveling to another country on holiday, buying some clothes that were made in another country. Many things in recent years were invented, which accelerated globalization. Most of the products bought were transported by containership. This means a large amount of capital, goods and people can be transported on one boat, making it cheaper to deliver. As the world becomes more globalised nations are becoming

more inter-dependent, especially when it comes to trade, culture, transport and communication.

As a result of globalization, the world is becoming more interconnected. With the increase of flows of capital, commodities, and people, as well as the advancements in internet and phones and transport, the world is seemingly shrinking. The world is not physically getting smaller. However, with the rise of jet planes, internet and mobile phone communication as well as cheaper travel, it has become much easier (and faster) to be connected with faraway places. This compression of space and time is the pillar of globalization.

This conceptual paper concluded that there are no established scientific measures and proofs indicating that the Earth is expanding. However, they are many opinions showing that the Earth could be shrinking. The shrinkage could be linked to easy and fast connections with places within countries and between continents as well as in locations that were far away. This connectivity and exchange of goods and ideas were aided by transportation, globalization and more recently the ICT; especially by the internet and GSM phones. The internet and phone to a greater extent made it more possible for peoples all over the Earth to interact with one and another worldwide at any given point not minding the physical, social, economic and psychological distances separating them. The webs and the phones give people clues to news, data, information, idea and resources that they might not have been able to access before. This could be attributed to interactive media and communication making the Earth shrinking.The internet and phones drastically changed the way we communicate with each other and how we organize work. It has reduced the need for certain jobs while creating new opportunities in specialized fields. Many knowledge workers today are separated from their teams by miles if not continents. Technology has also made our world smaller.

Recommendations

From the foregoing, this study puts forward the following recommendations in the hope that developing countries, Nigeria inclusive would benefit socially, politically, economically and otherwise from this new reality.

Phone calls and interactions on social media and platforms should be deliberately made to be constant among the developing countries, such that the advantages offered by globalization and ICT could be reaped.
More local Internet content developers and Web designers in the developing countries, Nigeria inclusive, should be trained and encouraged to upload their local information sources on the WWW.
As developed (core) countries gained more in this era of shrinking World; these countries are at privileged positions in terms of easier and quicker exchange of data, information, goods, expertise, specialisations and resources available on the Internet. These resources are overwhelmingly dominated by them, as they originated from these economically advanced countries, it also favoured them. Governments of Countries of the South (periphery) should wake up from their slumber and add their useful local information sources and resources on the Internet such that they could reap the benefits offered by advancement in transport, globalization and the annihilation of space by time as coordinated by advancements in Internet and the GSM.

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