REVIEW ARTICLE

Rupturing the Frontiers between Indigenous and Western Knowledge

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Abstract

The focal points in the study of cultural knowledge are both indigenous and western knowledge. Indigenous knowledge serves to raise the conscious of local people of the global south while the western knowledge aims at cementing epistemic salience in a given society of the north. The twin knowledge systems have to be treated as fluid mixture of experiences, values, contextual information, and insights. These knowledge systems provide a framework for constantly evaluating and incorporating the newly emerging epistemological stances. Both systems of knowledge are embedded not only in documents but also in social routines, processes, practices, and norms in order to guide societies on a daily basis. The objective of this paper is to show the importance of bridging and how to bond the boundaries between Indigenous and Western knowledge. Using qualitative approach, the paper used secondary data which has been derived from primary data that had been collected through survey, filed note and interview from the members of the Ethiopian Community in Toronto. This paper proposes that indigenous people and the western society can – and indeed, must –learn from each other as there is no isolated system of knowledge in the world since all knowledge are constantly evolving due to the newly emerging social realities. Denying indigenous people, the benefits of exposure to the western knowledge is unwise. Also, retaining their cultural knowledge for certain aspects of emotional refuelling is mandatory.

Keywords/Phrases: Culture/Indigenous knowledge/Rationality/Science/ /Spirituality/Tradition/ Western knowledge/

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1. Introduction

All knowledge systems are the products of human endeavours (Logino, 2002). Societies have always striven to acquire knowledge by mastering the secrets of their surroundings in culturally appropriate manner (Moser, 1989).[2] Both indigenous and the western societies have traversed the thorny path of knowledge acquisition from a limited grasp of their environment to the deeper and comprehensive awareness of the natural and social world. Countless norms of social systems have been discovered, and the development of social knowledge has gone hand in hand with the evolution of humanity. Human minds rarely inquire into the laws of nature out of mere curiosity; they mostly aim to transform nature to garner harmonious life (Porter, 1999). Human knowledge is theoretically a complex system of social memory of which the wealth wisdom is transmitted from generation to generation just to ease the survival of humanity (Rotry, 1998).

Mazzocchi (2006) argued that western science is deeply rooted in the philosophy of Ancient Greece and the Renaissance although indigenous knowledge system has used radically different strategies to create and transmit knowledge. Mazzocchi further indicated the difficulty of analyzing one system of knowledge by using the criteria established to evaluate another knowledge system. Moreover, Dunn (2014) asserted that western knowledge systems are built upon the idea of positivism, the belief that the only trustworthy source of knowledge is the one that can be verified by logical, scientific, or mathematical testing. Consequently, any knowledge that does not come through positivist gate is regarded with a great deal of suspicion (Friedman, 1997). Conversely, indigenous knowledge systems which are based on metaphysical beliefs tend to view knowledge as much more subjective, and so are not as prescriptive. In other words, both have different ways of learning about the world and the place of humankind within it. Thus, the attempt to crown the western knowledge as a unilateral gauge of the social world is unscientific in itself.

Both indigenous and western knowledge are sought-after remedies to solve problems facing humanity (Habermas, 1978) as these knowledges provide people with a way of thinking and knowing about the world in a respective cultural context. All the differing cultural knowledge have certain communalities that lure them towards each other and their interactions take place either through collaboration or confrontation. When indigenous knowledge provides resources to the Western knowledge, the latter gains practical benefit from indigenous knowledge and thereby tends to accept indigenous knowledge. Similarly, when the Western knowledge serves indigenous knowledge by providing technologies, indigenous knowledge respectfully embraces western knowledge—making interactions between the two knowledge systems more collaborative. Conversely, if the western knowledge disseminates scientific knowledge that can be considered too unworldly to indigenous people, the relationship often becomes conflictual. Nonetheless, important lessons

[2]. Some of the references are old but they are very original and appropriate to this review.

can be learned even from conflictual relationships. Therefore, both collaborative and/or conflictual interactions can have productive outcomes.

Batistie and Henderson (2000) argued that indigenous knowledge has, at best, been sidelined or looked down and even deliberately suppressed or eradicated as a kind of knowledge based on emotion or passion. Hume (1965) suggested that reason itself is a prisoner of passion as no reasoner can detach him/her self from his/her moral feelings. Hume stressed that human happiness dwells in emotional tranquility than abstract intellect and rationality. Again, Qujiano (1989) emphasized that the Western knowledge employs defensive rationality to enforce its dominance with exclusionary model of survival - attempting to belittle indigenous knowledge. Qujiano argued that the Eurocentrists believe in the totality and universality of their knowledge while simultaneously demeaning the African epistemic frame of thoughts. Many of the epistemological and axiological problems lead to the incongruity of both systems of knowledge. This incongruity can only be mediated thorough the interactive compromise between the aforementioned knowledge systems.

The modern knowledge age society must critically fuse important segments of both knowledge systems to use them as survival kits. The scholars from both sides have to encourage the serendipitous knowledge sharing process across the globe. As successful knowledge transactions heavily depend on trust and compatibility, communities from both camps of knowledge should persistently engage in mutual edifications (Davenport & Prusak, 1998). Nevertheless, the velocity and viscosity of the knowledge transfer must be negotiated in good faith. This paper aims to identify the gaps between the two knowledge systems and provide alternative tools to build bridges by breaking the walls that are erected to distance the two knowledge systems from each other.

1.1. Statement of a the Problem

Both indigenous and western knowledge systems have some drawbacks. Some scholars such as Tibbetts, (1977, p.272) remained intolerant of knowledge that are created outside scientific knowledge. Others such as Barnes and Bloor (1982), Watts (1993) and Knorr Cetina (1981) argued that adherents of scientific knowledge have completely ignored the social, political, and cultural contexts in which the knowledge are produced, applied and utilized. Most of the western intellectuals such as Sogolo (1998) have argued for the demeaning of indigenous knowledge. Similarly, scholars such as Goldman (2002) have overemphasized the importance of the western knowledge while blatantly undermining indigenous knowledge. Also, Nagel, (2002) emphasized that the western knowledge system has a global validity while its indigenous counterpart could not even have a shred of intellectual value. Strengthening Nagel's position, Swain (1978) unduly discounted indigenous knowledge – the knowledge that is highly relevant to elders and the societies cherishing traditions. Scholars of western knowledge tradition overwhelmingly disregard the incommensurability of values and the distinctiveness of cultures as extant epistemological trouble. Additionally, the utilization of western knowledge as yardstick to measure indigenous knowledge is a least call for generating truth. Also, the wish for a single system of knowledge with unilateral applicability without certain

degree of interaction is the hope of the past. Such motives have been rendered irrelevance by information explosion, the advent of organized knowledge and expansion of a world-wide communication. Mazzocchi (2006) argued that dialogue can serve as an instrument to discover gaps and thereby bridge differences between the two knowledge systems by cohabiting and concurrently utilizing them. Hence, the purpose of this article is to critically examine the way indigenous and western knowledge systems considerately or confrontationally interact in the process of shaping the lives of global/local communities. Unlike previous studies (Asante, & Mazama, 2002, Friedman, 1997), this paper cherishes both knowledge systems by measuring them with unbiased lenses of intellectual yardstick.

1.2. Objectives of the Review

The objective of this review is to investigate the colossal problems created from the unevenness of knowledge production and the lop-sidedness of indigenous knowledge appreciation compared to the western knowledge system. The asymmetry of the production, distribution, and use of the knowledge systems imposes a certain shock wave on the public settings of the global South. Thus, this paper attempts to synchronize both knowledge system by dismantling the walls between indigenous and the western knowledge. The researcher attempt to tackle numerous hurdles deterring unbiased utilization of both knowledges by answering the following questions.

(1) What is the relationship between indigenous and the western knowledge system?

(2) How can the two knowledge systems be bridged?

(3) Why cannot the intellectual property of indigenous knowledge be protected?

2. Method

Many scholars in the global South believe that western academics undermine indigenous thoughts due to their commitment of promoting Western sponsored science. As a result, indigenous researchers and community partners are increasingly concerned about the glamorization of positivist outlooks. Swadener (2008) suggested that decolonizing research is a means of placing the voices and epistemologies of local people at the center of every research. Moreover, Batistie (2000) stressed the need to challenge the widely-accepted belief that Western methods and ways of knowing are the only objective and valid form of knowing. Thus, holding western beliefs and methods as the solely true science marginalizes indigenous methods by belittling it to folklore or myth status (Mercer, Dominey-Howes, Kelman, and Lloyed, 2007).

With these in mind, qualitative apperoach is used to respond to the study questions. Qualitative technique is a means of examining reasons behind human actions and concerns that belong to the social and experiential realm (Berg, 2007). Out of the arsenal of qualitative study, secondary analysis of the pre-existing data was

cautiously employed by selectively extracting data from the primary study conducted on *indigenousness versus modernity* in 2012 by various researchers including the reviewers of this manuscript. During the main or original study data of more than six hundred variables were collected from 150 members of the Ethiopian community in Toronto. However, for this review purpose, this study picked thirty variables amenable for qualitative reanalysis. Outlining all the thirty variables is beyond the scope of this paper, and all the selected variables are very central to the questions of western knowledge, indigenous knowledge, means of bridging their gaps and intellectual property rights. The relevance of the variables to the contemporary social world in global/local context was appropriately ascertained to the satisfaction of the principles of secondary analysis. Those variables[3] extracted from the primary data are elaborately broadened by the use of secondary mode of inquiry.

At present, various assertions have been emerging in favor of developing secondary analysis (Hinds, Vogel, Clarke-Stefffen, 1997). The secondary data help to primarily generate hypothesis of the study (Berg, 2007). Thereafter, new questions are created and refined in consonance with the objective of the study (Glaseer, 1992, Thorne, 1990). The quality of the original data was audited and found to be intact; and thus, all the original tapes and field notes are fully consulted for this analysis. The field notes are retested for confirmability, dependability, credibility, and ultimate validation. Finally, there was no sensitive data that warrant the seeking of additional consent from the original participants. Nonetheless, all the ethical formalities such as confidentiality, anonymity, and respect for the right of the participants are fully respected while conducting this study. Thus, variables extracted from the past study and utilized in this analysis are highly relevant to explore the impacts of knowledge use and/or abuse.

3. Analysis

3.1 Theories of Knowledge

Human biological development during the last two million years has accelerated the human nervous system by enlarging its cerebral function (Mumford, 1970). However, intelligence alone has not been the sole beneficiary of this growth, but the range of emotions and imaginative intuitions have also increased immensely. For this reason, people agree that knowledge is an invaluable instrument to distinguish fact from fiction, truth from falsehood and right from wrong (Poovey, 1998). Also, knowledge enables people to reason, justify, confirm, or refute: it serves as a guide to direct human beings throughout their lives. Welbourne (2001) states that knowledge enables people to exploit their surroundings and guide a purposeful life. An intelligent life is a life produced by the interaction between internal and external circumstances that later reflect each other. Such reflective knowledge can be vital in leading people to happiness, well being, and peace of mind. Others such as

[3] Among the 30 variables used for this analysis include culture, indigenous knowledge, western knowledge, cooperation, conflict, science, tradition, emotion, spirituality, gender, religion, rationality, morality, society, environment, integration, boundary and others.

Wilson (1998) argue that knowledge satisfies emotion by guiding people to necessary courses of action. Also, Nagel (2002) demonstrates that knowledge is a property that stimulates people to adapt to changing circumstances. Furthermore, Lipschutz (1999) presents knowledge as a system of conceptual relationships [philosophical], scientific and social that offers humans the possibility of intervening in and manipulating their environments. Hence, all social activities are preceded by knowledgeable thought – making knowledge the best rudder of human life.

Habermas (1978) asserts that knowledge emanates from cognition of reality tested by sociohistorical practices, and verified by logic. In his judgment, knowledge is a reflection of reality and a capacity to act within the milieu of that realty. The reliability of such knowledge varies in accordance with the dialectics between relative and absolute truth. Hence, knowledge can be verified and ascertained through the natural and artificial languages. Wilson (1998) argues that knowledge is a specialized part of consciousness that creates scenarios by which future directions are guessed and courses of actions are chosen. Conversely, Gettier (2002) and Swain (1978) contend that the primary source of knowledge is experience and that only the bodies of evidence gained through experience can sustain knowledge. The idea that empirical knowledge has foundations in experience has been an ontological tenet common in the past and present (Bonjour, 2002).

Ruch and Anyanwn (1984) argue that differences of knowledge arise from varying assumptions and thoughts about cultural ontology (reality). Resemblances may exist between the philosophical doctrines of different cultures; however these similarities do not mean that the cultures are identical to mediate different kinds of knowledge, and the basic suppositions of various cultures and the methods they use to arrive at some common conclusions should be examined (Diop, 2000). The outcome of such an examination may convince researchers to search for permanent or transcendental conception of reality that can be valid in all cultures at all times and in all places. The researcher of this manuscript, however, argues that change is fundamental, and no knowledge can afford stagnation rather it should historically evolve and be continually refined. It is noted that people from various cultures have different thoughts and knowledge even when they live in the same environment and the discrete patterns of knowledge acquisition comes from distinct interests, desires, capacities, experiences and epistemologies. Hence, indigenous and Western knowledge as well as the alternative approach to the gaps are outlined and discussed below.

3.2 Defining Indigenous Knowledge

Various institutions, scholars, and elders define indigenous knowledge in many ways without diluting its essences. UNESCO (2013) defined indigenous knowledge as the knowledge that is integral to a cultural complex entailing language, systems of classification, reasonable resource use, social, ritual, and spiritual interactions. Ocholla (2007) identified indigenous knowledge as sum of knowledge, skills, and attitudes practised and expressed in the form of action, objects, and sign languages. Various researchers (Grenier, 1998; Alfred, 1999; Battiste & Henderson, 2000) defined indigenous knowledge as unique, traditional, and local knowledge that

is collectively produced, distributed, and protected. Mafeje (1981) suggested that all knowledge are primarily local before they become universal. In addition, Nakashima and Roué (2002) argued that indigenous knowledge has developed a concept of environment that emphasizes the symbiotic character of humans and the natural environments. Becker (1993) suggested that indigenous communities have relied on their environment for subsistence. Mercer et al. (2007) asserted that indigenous people developed a means of managing and properly using their resources to ensure conservation into the future. Their shared meaning and collective knowledge helped them to manage natural resources. Similarly, Dei (2000) and Brody (1983) suggested that indigenous knowledge is a knowledge that is produced as a result of long term occupancy of certain localities. Moreover, Maurial (1999) explained indigenous knowledge as "peoples' cognitive and wise legacy resulting from their interaction with nature in a common territory." Hence, most researchers defined indigenous knowledge as cumulative knowledge representing generations of experiences over a long period of time. Indigenous knowledge is an enduring and dynamic knowledge that allows other kinds of knowledge to be added to innovate itself from within.

Many of the indigenous knowledge descriptions recently established have stemmed from the rise of interests in indigenous knowledge. Most definitions of indigenous knowledge are currently legitimized because Western science has begun to accept divergent views and approaches. Also, readers in indigenous knowledge are attracted by the efforts of indigenous people to broadly define and re-institutionalize their knowledge. Furthermore, many national and international institutions including governments are now willing to embrace various models and characteristics of indigenous knowledge. In a sense, such an improved nomenclature and political climate supports dialogue on the continuation of this knowledge. Thus, indigenous knowledge has become an alternative collective wisdom relevant to a variety of issues at a time when the robustness of cultural relativism is shaking existing cultural values (Deshler, 1996). In any case, therefore, indigenous knowledge is a non-academic wisdom that individuals or groups collectively own, utilize, disseminate, and protect. Specifically, it incorporates important cultural capital such as ritual ceremonies, meditations, songs, proverbs, fortune telling (Kalicha, thumb reading, premonitions), and other kinds of knowledge embedded in culture.

3.3. Production, Distribution and the Utilization of Indigenous Knowledge

The production processes of indigenous knowledge are too many to extensively outline in this study. On one hand, this knowledge emerges from traditional teachings of elders that reinforce the values and beliefs of the civil society (Praeg, 2000). On the other hand, it comes from careful observation and interpretation of dreams, visions, and intuitions that are understood to be spiritual in nature (Brody, 1983). Also, it can be produced through fortune telling and thumb[palm] reading. Even though many scholars believe that indigenous knowledge is solely sacred and spiritual, Kani and Mphahlele (2002, pp. 4-6) argued that indigenous knowledge furnishes the use of medicine (traditional herbs), community engagement, crafting arts (pottery), local education (knowledge transfer through

generations), communication, festivals, drama and storytelling. This knowledge derives much of its central importance from life experiences that undergo modification to feed the constantly changing needs of society (Trouilot, 1991). Although the production of indigenous knowledge appears simple, it is a delicate erudition that serves as a personal cognitive map created by humor, humility, tolerance, and experiences. Such practical and contextual aspects make indigenous knowledge a sensitive subject of study and thus discussing about indigenous knowledge out of context may be insensitive (Asante & Mazma, 2002). Dei (2000) argued that indigenous knowledge is a mental construct that guides, organizes, and regulates people's ways of making sense of the world. It is the experience of a given social group that forms the basis of problem-solving strategies.

The producers of indigenous knowledge engage in extensive dissemination of the knowledge. For example, elders teach, support, encourage and familiarize young people with work ethics, family life, and pass decency on to the younger generations. These elders are committed to passing on the philosophies they developed through rewarding experiences. An elder-younger relationship is essentially a relationship of mentor and protégé (Shutte, 1993). The elders offer guidance and serve as moral cheerleaders. Elders preach anti-crime and anti-trouble messages to their protégés by showing ways of developing good behavior and the value of hard work. Again, elders usually advise and teach peaceful and legitimate means of negotiation. In recent times, however, the keepers and disseminators of indigenous knowledge thus are not only elders but also judges and priests. Consequently, keepers of this knowledge who are conservative may seek to suppress activities that might destabilize or disrupt the prevailing knowledge paradigm including its predictions, theories and causal explanations (Roberts, 1995). Nonetheless, human activity that persists over a long period without being subjected to intellectual criticism tends to get out of hand. Thus, subjecting indigenous knowledge to a certain degree of criticism without dismissing its necessity may aid in opening up its system.

Many researchers such as Battiste and Henderson (2000) argue that the distribution of indigenous knowledge takes many forms because of its diversity. These theorists contend that indigenous knowledge is not uniform among all indigenous people. In some instances, it is known as rural knowledge while others call it local knowledge. Most people typically refer to it as traditional knowledge. All these phrases appear in the literature with some distinction among their meanings (Deshler, 1996). Indeed, it contains diverse bodies of knowledge that spreads throughout the world in varying degrees. With so many approaches, it is easy to get confused as the chorus of voices may prevent one from hearing the tune in the cacophony. Thus, the diversity makes it difficult to generalize about the transmission of knowledge and heritages among indigenous people. The extended family is often the main place where the transmission of knowledge takes place (Battiste & Henderson, 2000). The oral tradition remains the dominant form of intergenerational and intragenerational transfer of this knowledge. While the Western knowledge system is organized so that the laws of intellectual property can protect it, orally transmitted indigenous knowledge cannot be protected by property rights (Posey, 1990). Once this knowledge is uttered from the mouths of its owners, it becomes a public property to which anyone can claim ownership (Welbourne, 2001).

Contrary to the western knowledge, which can be rented or sold (Davenport & Prusak, 1998), indigenous knowledge cannot be sold or bought (Dei, 2000). Nevertheless, indigenous knowledge is extremely relevant to its bearers for shedding light to their lives using unquestionable pragmatism (Kan, Andrew, Mphahlele, & Kutu (2002). The utilization of medicinal herbs and holy water for curative purposes by traditional people constitutes the practising of indigenous knowledge. Also, the nightly placement of knives under pillows to avoid nightmares is part of the traditional belief system of some indigenous people. Despite these traditional exercises, all forms of indigenous knowledge are receptive of the newly emerging ideas. Most of the indigenous knowledge systems are permeable to accommodate important western knowledge in order to evolve in the modern society. Admittedly, indigenous knowledge has inherited a number of concerns and issues from the religious vision it supports. From styles of communication based on proverbs, it inherited a major mode of expression; proverbs are vegetables for eating speech (Henry, 2000). Indigenous knowledge adapts religious expressions to explain the world in terms of social and spiritual relationships. Also, it prescribes reciprocity, obligation toward community members, and responsible resource management. In short, indigenous knowledge is the servant of cultural ethos and the keeper of local unity.

Despite the foregoing discussions, indigenous knowledge suffers from lack of recognition and validation by non-indigenous scholars. Some non-indigenous scholars argue that indigenous knowledge is primitive, static, and a useless folklore. These underestimations have contributed to the decline of indigenous knowledge, normally through lack of appreciation use or application. Others contest that indigenous knowledge and its methods are backward or out of date. Even formal disciplines such as psychology and sociology sometimes reinforce these degrading opinions. These institutional measures undoubtedly erode the confidence of indigenous people and thereby enforce dependence on external solutions to internal problems (Roberts, 1995). It must be noted, however, that indigenous knowledge of the 21st century differs from that of the hunter/gatherer societies because contemporary indigenous knowledge bearers have passed the stage of blind allegiance to superstitions. At present, local people possess abilities to predict certain events and have developed skills to utilize some of the western knowledge systems.

Some academics (cited in Awa, 1989) argue that the authoritarian tendencies of myth and religion void the intellectual significance of indigenous knowledge. Nonetheless, there is much in religious and mythic discourses that is of intellectual importance. Myths may transcend theory and become a mode of life creating an intuitive and untheorized experience of being. In many instances, mythical knowledge is self-justifying, and authoritatively promulgated through culture rather than structure and law. Myth based ideas are essentially religious, and their effectiveness is more sacramental than technical (Ruth & Ayanawu 1984). The mythical notions give human knowledge and action epistemological values ensuring a satisfactory unity of life. Conversely, the conservatism of mythical consciousness creates some problems. For conservatives, deviation from tradition is treason. However, the young and non-conservative elements of the society are ready to depart from such rigidity by adapting a new way of life (Eliade, 1963). The methods of

adapting ways of life require learning life-guiding principles. The process of learning indigenous templates is facilitated through waiting and seeing what elders do and then following it. Most leaders of indigenous knowledge do not claim to have superior knowledge; rather, they claim that they are chosen to facilitate the functioning of the whole. Some elders work as advisors to the leading elder while others implement ideas proposed by leading elders. Hence, knowledge production and utilization in indigenous societies are collaborative as leaders' authority is limited to facilitating the dissemination of knowledge.

Nevertheless, modern ways of life essentially demand the incorporation of both knowledge systems and harmony among all social groups. Whether by reason or by passion, both the bearers of indigenous and western knowledge ought to cultivate positive relationships. Thus, time has come to recognize the necessity of mutual dependence by realizing the relevance of compromise utilizing indigenous knowledge and western knowledge in combination. Both the western and indigenous/local people have to embrace the notion of respectful cooperation on mutual terms and apply peace-making principles for understanding (Alfred, 1999). Moreover, local people aspire to preserve their indigenous knowledge through revitalization of culture, rituals, stories, and legends that can be enriched through the use of the western knowledge (Greener, 1998).

In developing countries, the dominant framework of indigenous knowledge influences human experience. Significant numbers of people rely on cultural and epistemological roots of their indigenous knowledge. Social and cultural interactions within families rely on indigenous knowledge, placing the unofficial management of knowledge under the dominant framework of indigenous knowledge. The intrusion of indigenous thoughts in every facet of social sphere occurs not by a design but by default. Hence, cohabiting scientific and traditional intellect is a forward pace for indigenousness. In fact, there are considerable amount of indigenous knowledge currently accessible as indigenous people are gaining political rights throughout the world. The leaders of indigenous people are earnestly forcing the global community to take notice of their ideas and knowledge system that survived for so many years. Thus, traditional/indigenous knowledge is now increasingly being used not only to solve local problems but also to derive new concepts that may help scholars to reconcile empiricism and science (Iaccarino, 2003).

3.4. Defining Western Knowledge

For the purpose of this study, Western knowledge is mainly treated as scientific knowledge because it claims to be a justifiable knowledge (Goldman, 2002). Justifiable knowledge comprises a cluster of broad conceptual and methodological presuppositions embedded in a standard paradigm. Also, its epistemology holds that modern science is universally valid to the degree of being able to predict and neutrally explain nature's regularities. The notion of its universal validity emanates from the assumptions that creators of scientific knowledge have come from many different cultures, religions, and various belief systems. The amalgamation of multiple values, cultures and epistemologies are believed to have produced universal knowledge that is acceptable as politically neutral (Leherer,

1990). Nonetheless, the impartiality claim is a suspect because scientific knowledge is constituted through the practices of the culture, and hence cannot be culturally nonaligned (McCarthy, 1996). Foucault (1972) asserted that scientific knowledge has no neutral standards as science itself is a social institution.

Asante and Mazma (2002) and Bernal (2001) argued that Western knowledge has a tendency to separate facts from value since it equates facts with objectivity and value with subjectivity. However, society involves in subjective-objective interactions as social beings and social consciousness are bound up with each other. Without the energy of consciousness, social beings are perceived as dead (Spirkin, 1990). However, some western scholars (e.g., Logino, 2002) argue that cognitive processes start by establishing facts. Facts must eventually be interpreted and substantiated because they are not intrinsic components of science, just as building materials are not buildings. All facts have to be woven into the fabric of scientific knowledge through a process of selection, classification, and generalization by humans. Conversely, positivists, such as Schlick (1959) maintain that human beings are passive respondents to their environment. These researchers argue that human moods and emotions are extremely conditioned; thus, they can be studied without reference to an inner state of mind. Nevertheless, the corpus of scientific knowledge consists of humanly constructed ideas. By vice of human fallibility, all scientific knowledge can be fallible and thus can ultimately be replaced (Dennett, 1996). Friedman (1999) contends that Western knowledge relies on quantitative methods and mathematical symbols in data collection and analysis to affirm its scientism. However, these quantitative methods sanctioned by science overemphasize frequencies over meanings. Also, science based knowledge draws on empirical evidences collected through observation that are subsequently used for verification and determination of the meaning of statements. Nonetheless, it is interesting to note that the verification principles of positivism are not themselves verifiable, and thus positivist thought is self-contradictory (Sahakian, 1968).

Additionally, scientific knowledge lives with two parallel principles: logic and creativity (Hacking, 2001). The subordination of creative thought to the rules of logic is supposed to produce ideal success. The rules of logic may not allow scientists to diverge from routinely accomplishing their jobs through formal procedures. Conversely, creativity does not require the subordination of thoughts to certain rules if they are to produce new findings. Thus, creativity may either break the rules of standard logic or remain its captive. While logic appraises *a priori* knowledge, creativity bolsters *a posteriori* knowledge (Quine, 2002). Whatever the magnitude of the differences between *a priori* and a *posteriori*, Western knowledge combines empirical evaluations and abstract principles that measure observation in order to facilitate the testing of hypotheses. Yet, by what yardstick can one measure the varying knowledge generated by western philosophers such as Hume, Foucault, and Derrida remain irresolvable (West, 1996). There are striking differences among philosophers and their orientations in the Western knowledge system (Agrawal, 1995) and thus Western knowledge itself entails diverse approaches. Consequently, all knowledge systems, including contemporary techno-science, are local knowledge (Harding, 1997). Mudimbe (1988) stressed that European epistemology itself is

ethnocentrist and its marriage with "rationality or universality" cannot correct its built-in flaws.

However, there is a political dimension to knowledge that allows some kinds of cultural knowledge to become dominant in certain places and times while others are disused and marginalized. When modernists consider local knowledge an 'oxymoron', they forget that scientific knowledge itself is local in that it does not deduce explanation from universal laws but rather makes rules of thumb derived from the way phenomena present themselves in the operation of instruments and measuring devices in certain localities (Turnbull, 1997). Therefore, knowledge that claims to be neutral, objective, and value-free obscures the inherently ideological nature of a research. Such claims unfortunately legitimize privileges based on socioeconomic status, ethnicity, religion, and gender. Some even argue that the two knowledge systems can easily be distinguished by their differences in rigor, verifiability, attachment/detachment, and longevity.

Stanfield (1994) also argued that scientific knowledge is local in a range of different senses. First, it is produced and reproduced through face-to-face interactions among people of certain localities. Second, it is produced in contingent and culturally specific circumstances. Third, it is a product of open systems with heterogeneous and asynchronous inputs that stand in no particular relationship to one another. In sum, scientific knowledge is as much situated knowledge as its indigenous counterpart. For these reasons, the two knowledge systems have retained strength and weakness throughout human history. However, scholars of scientific knowledge such as Broughton (1999) and Lehrer (1990) constantly glamorized the western knowledge while those of indigenous knowledge (Battiste & Henderson, 2000) romanticised indigenous knowledge. Misinterpreting the views of the other side, undermining the salience and validity of one system of knowledge by the other and outright rejection of the principles of indigenous knowledge over the academics of scientific knowledge are the colossal gap creators between the two knowledge systems.

3.5 Alternative Approach: Mediating the Two Knowledge Systems

In the contemporary knowledge society, however, digging trenches and defending one's system of knowledge against the other is unproductive. As the global community is further coming closer, the walls between the two knowledge systems must be primarily narrowed and then ultimately smashed. The intensely varying ontological, axiological, and epistemological troubles have to be severely mitigated. The scholars of both knowledge systems have to strive to pragmatically close the gap between the two knowledge systems (Agrawal, 1995). Hence, the call for mediating knowledge systems is not a fancy flirting hypothesis but a highly relevant axiological narrative. While all kinds of knowledge theoretically have properties (principles, philosophies, adherents and methods), comparative and analytical studies have led to the recognition of some broad systems of knowledge that differ in their socio-historical foundations and premises. At present, the differentiation of indigenous knowledge from the technologically dominant forms of western knowledge has become commonplace.

For some scholars of western knowledge, indigenous knowledge has frequently been portrayed as value-laden and context dependent (Dalai, 2000). These assertions imply that indigenous knowledge cannot have the same authority and credibility as scientific knowledge because its features restrict it to the social and cultural circumstances of its production (Turnbull, 1997). Scholars who criticize indigenous knowledge hold science to be universal, non-indexical, and value-free-floating above culture and politics (Stanfield, 1994). In reality, however, science is equally value-laden from its inception. Similarly, Freeman (1992) argued that trying to analyze and validate traditional knowledge systems by using external (scientific) criteria carries the risk of distorting indigenous knowledge systems. However, mediating the two knowledge systems engenders the possibility that no piece of knowledge can forever be marked as indigenous or Western (Sallis, 1995). Moreover, Majefe (1996) argued that culture has no boundaries and thus can be widely diffused under the condition of improved communication signalling that the two knowledge systems interact even without any conscious effort of humanity. Scholars have to move away from the supposed sterile dichotomy by using both knowledge systems in collaborative fashion to jointly quench the thirst of humanity (Agrawal, 2004).

In comparison, indigenous knowledge is defined as *true belief*, (Sogolo, 1998), whereas western knowledge is defined as *justifiable true belief* (Gettier, 2002). In principle, western science tends to take observation as the main route to knowledge production while indigenous knowledge can be produced more by conversation than by observation. Also, significant discoveries usually have emanated from modifying earlier experiences, customs and theories in both systems of knowledge (Moser, 1989). Therefore, the use of observation and reasoning should not be confined to the critical examination of conjectures about the unknown but should be applied to the restructuring of previously created knowledge. The Western scientific tradition has defined speedy social process as an important component of inquiry. Nonetheless, the relatively slow pace of change of indigenous societies is inherently more compatible with the social environment and hence more adaptable to it.

All the boundaries between indigenous and western knowledge have some fluidities ignited by the collaboration of the two systems in knowledge production, dissemination, and utilization. However, the western knowledge claims to be value-free (Roberts, 1995) while indigenous knowledge owns value-laden- standardized norms. Again, indigenous knowledge is produced by a specific society while the western science is generated by global networks of universities and research institutions (Deshlers, 1996). Moreover, indigenous knowledge is mostly produced through qualitative inquiry that developed over thousands of years (Grenier, 1998). Conversely, the success of Western knowledge is measured through quantitative approaches, using principles of falsification, verification, and rationalization.

In some instances, this mutability has led to the relegation of indigenous knowledge to a lower level in the epistemological hierarchy. The volatility privileges modern science at the expense of indigenous knowledge. For example, when indigenous knowledge is taught in a classroom, it usually follows curricula designed for scientific knowledge. In this way, indigenous knowledge is given a peripheral position; it is often incorporated in science classes to serve as examples or side issues.

Another classroom technique that privileges scientific knowledge involves discussing various indigenous issues and then ending the discussion with scientific explanation (Nines, 1999). This exercise makes indigenous knowledge a patron or a complete subservient to the western knowledge. Nevertheless, there are obvious similarities and differences between the two knowledge systems. Although their predictions are differently framed, both knowledge systems have predictive power. Indigenous knowledge uses spiritual senses that cannot be scientifically tested while Western science uses hypotheses that subject predictions to testing. Also, both knowledge systems can produce theories. Theories that are produced by indigenous knowledge may last longer because they rarely can be challenged whereas theories produced by Western science may soon be replaced because of their openness to challenges. Even though both knowledge systems have the capacity to generate valid information, indigenous knowledge cannot provide impartial information because it is mostly considered as a personalized knowledge.

Furthermore, western science emphasizes causal explanation while indigenous knowledge emphasizes historicity and views social data in the light of their possible transformation. Western knowledge purports to be non-political and avoids engaging in partisan advocacy while indigenous knowledge considers that all theories are political in a sense that they make far-reaching partisan assumptions about the nature of social phenomena (Agger, 1998). The critical difference between indigenous knowledge and Western knowledge lies in their relationships to power. In this respect holders of indigenous knowledge do not exercise their intellectual power to marginalize other thoughts while holders of western knowledge frequently underestimate other modes of thoughts. For this reason, indigenous knowledge gains legitimacy by moving towards the centre – partially conforming to the theory and practice of Western knowledge. Even scholars of indigenous knowledge usually employ scientific methods to collect, verify and validate indigenous data in order to garner support from the scholars of western knowledge. However, these scholars are unable to totally undermine the core principles of indigenous knowledge that are not absolutely dress up the principles of the western knowledge. They rather amalgamate the fundamental aspects of both knowledge systems in order to mitigate the discrepancies between both knowledge systems.

4. Conclusion

This study attempts to bridge the conflicting philosophical positions of the two knowledge systems. On the one hand, indigenous knowledge has to revive and emphasize ancient ideas that have been undermined while Western knowledge has to uncover new realties by developing new concepts and ideas. Both sides have to be responsible to the societies they attempt to explain; they have to passionately further their ideals and proportionately open to conflicting views rather than paying blind allegiance to their own sides. Hence, there is only one way to bridge indigenous and Western knowledge systems. That way is to view the line between them not as a territorial boundary but as broad and mostly unexplored terrain awaiting cooperative entry from both sides. There are distances between the two, but both should share fundamental principles of knowledge production and dissemination (Wilson, 1998).

Although some western theorists turn away from indigenous knowledge just as irrationally as the Roman bishop turned away from Galileo's telescope, demolishing an old house does not diminish the need to preserve the debris to help build a new one. All scholars of deep research must also devise mechanisms of protecting the intellectual property right of indigenous knowledge rather than brushing it aside as non-encoded. Orality based knowledge should get equal protection as that of the written knowledge.

To sum up, the researcher hopes for the positive interaction between non-Western indigenous knowledge and the knowledge that privileges western epistemology. Particularly, the solution to the theoretical impasse between indigenous knowledge and western science does not lie in choosing sides and defending entrenched positions. Rather, the solution should come from submitting both knowledge to a simultaneous criticism and affirmation. The systems of indigenous and western knowledge can create scenarios and open doors for positive interactions. Hence, both indigenous and western knowledge can satisfy human emotions by the actions they recommend only when they cooperate instead of colliding.

***Limitations*:** An underlying goal of scholarly research is not only to illustrate what works, but to also to demonstrate what needs further elucidation. Among the limitation of this study, one finds the time difference between data collection- 2012 – and the time of the analysis -2017. While the social realties in 2012 and that of 2017[4] can surely be incongruent, the place from where data are collected and the context under which they are analyzed can also generate varying meanings. As the data used for this study were collected in Toronto, Canada, sensitizing empirical responses garnered via the questions to the Ethiopian local reality has proven cumbersome. Besides, this analysis partially relies on interviews and discussions with key informants that might have generated from selective memories of participants – who cannot obviously remember all of their experiences. Moreover, the inability of the researcher to debrief the current findings to the former research participants due to lack of access is the sources of another drawback in this study. Nevertheless, these shortcomings do not undermine the clarity of the analysis, the sanity of the data and rigour of the methods as well as the dependability of the literatures used. The mechanism and process of bridging the gap between the two knowledge systems still require further study.

5. Recommendation

The data used in this study are collected in the global north from the population originated from the south. The future research should endeavor to collected data from the elderlies of the global south (in natural setting) to maintain the classical meaning of indignity. Researchers on ingenious knowledge should primarily use focus group interview to gather optimal information that are generated via argumentative group discussions. The indigenous people also should involve in the decision making of the research from the stage of the design to that of the dissemination – to the extent of upholding the principles of participatory action research.

[4]. The manuscript has been under review since 2015.

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