Local Wisdom in a New Paradigm: Applying System Theory to the Study of Local Culture in Indonesia

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Abstract: Human sociality can be understood as an organism. Almost all aspects of life can be understood in a phenomenological sense as part of a life system. An appropriate perspective for considering life and interpreting social reality is extremely important in determining direction and orientation for mankind. The aim of this paper is to describe a new methodological point of view discover the natureof social reality in the study culture in Indonesia. In taking a perspective from philosophy, this research endeavors to provide a new perspective in the study of local wisdom in Indonesia. This paper presents a philosophical view on approaching the study of local wisdom (*kearifanlokal*): first, human social systems are systems of self-reference; second, human sociality is actualized in social systems that are contingent. Local wisdom can be viewed as a social and communicative system that produces a kind of self-organization (*autopoesis*) within a culture.

Keywords: Local wisdom, New Paradigm, System Theory, Autopoiesis,

1. Introduction

Culture and all of its products are the result of the process of human life. The worlds that humans inhabit influence the way that people live. How people live and creatively determine their lives emerges from these processes. Human's primordial instincts, to survive and thrive, are realized through these creative forms of what we now call culture. Culture is the framework through which various identities, such as local identities, are formed. Each local community expresses their culture and their ability to survive through the unique way they interact with their environment. Local wisdom is the ability to adapt to, organize, and cultivate the influences of the natural world as well as other cultures that is the driving force behind the transformation and creation of the remarkable cultural diversity of Indonesia. Evidence of local wisdom can be found in the material archaeological record from pre-history and early history [1].

The quality of human cultural life expanded rapidly with the advent of communication systems based in language, as language use requires symbolic and abstract thinking. These communication systems allowed humans to better manage and adapt their surrounding environments as well as idealize about what constitutes a good life. The result of the human ability to narrate experience was not only part of the growth of civilization in general, but also part of the increasing dynamism of systems of human culture.

Humans are cultural beings. To speak of culture and civilization is to reference a uniquely human realm. The definition of culture is not restricted to material objects, or even action. Instead, culture must be understood as a dynamic manifestation of human life and human reason that is characterized by a spiritual orientation [2]. Culture can then be summarized as all of the spiritual-material manifestations and actualizations of human will. The relationship of humans and the world within systems of culture is a process of mutual formation and influence. Culture is the expression of human will into recognizable structures shared by those inhabiting the same cultural world, and therefore the relationship between humans and their cultural worlds is dynamic and dialectic.

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National culture is always concerned with the issues of national identity [3] and Indonesian national identity is perceived as an amalgamation of all of the local cultures of Nusantara, with 'Indonesian's' representing the peak expression of positively valued cultural characteristics found throughout the country's diverse communities. In the dynamic processes of everyday life, individual cultural systems gain datum from their interaction with other cultures. Processes of acculturation and assimilation have occurred for as long as human culture has existed, and these processes intensified with increased human contact through systems of trade and other civilizational changes. Culture is a form of self-expression and the creator of communal identity, and individual expressions of local wisdom come to characterize and play a central role in the cultural life of a community. In many instances, local wisdom functions as an answer to the challenges of everyday life as well as the actualization of life systems because it is a framework for responding to outside elements while still maintaining a coherent cultural identity into the future. Local wisdom can be found across various sectors of human expression including lifestyle, social patterns, perceptions and orientations [4].

Knowledge about local wisdom achieved through research from a number of fields of study tends to produce conclusions based on particular representations of this aspect of culture. This tendency towards specialization and compartmentalization of different approaches to examining local wisdom produces results that provide only a partial understanding of the phenomenon. Local wisdom tends to be analyzed separately from its ties in a complex nexus of other entities in the network of a local cultural system. The rich dimensionality of local wisdom and its wider connections are ignored. The focus only on specific aspects of local wisdom in line with the approaches of individual disciplines means that it is not studied holistically and as an integral life-system. Particularistic approaches tend to ignore the breadth and complexity of these systems, and their interconnectedness with other aspects and dimensions of human life.

As a field of study, philosophy is tasked with understanding reality down to its essence, and therefore takes a holistic approach. In the case of local wisdom, a philosophical approach seeks to understand the structure and pattern of the phenomena. Starting from a philosophical perspective, particularly from the philosophy of human beings, this research will contribute to the study of local wisdom by introducing a new methodological approach based in philosophical perspectives that can open new theoretical avenues in the study of local wisdom as an aspect of human culture.

2. Viewing communities in a new paradigm: System Theory

The new paradigm, I am proposing basedon an awareness of the interconnectedness of all human experienced phenomena: physical, biological, psychological, social and cultural. This perspective has the potential to overcome the conceptual and disciplinary boundaries currently characterizing the study of local wisdom in Indonesia.

The importance of applying this perspective is evident in the application of these principles in social movements, like the Green Movement, that have organized themselves in line with ecological-systemic and holistic principles [5]. The holistic system perspective sees the world as interconnected and integrated. A system is always integrated and its individual parts can't be reduced to smaller, separated characteristics. A systems approach doesn't focus on the building blocks or the basic chemical elements or on basic organizational principles. These kinds of integrated systems can be seen in nature. Each organism, from the smallest bacteria to different types of plants and animals and human beings represent a whole, something integrated, in the sense that humans are a unified living system. Cells are living systems, as are neural networks and the organs of the body; the human brain represents of most complex of living systems. A system is not limited to an individual organism and its parts, but how the individual organisms maintain themselves within a complex, connected network [6]. These natural systems represent a unity or wholeness that emerge from each parts interdependence and interaction with one another. The activities of this system include a process of transactional-interactional relations between and dependent upon the interaction between diverse

components. The integrity of the system is damaged when the system is severed, either physically or theoretically, or when the system is divided into individual elements. Although reducing the system to parts allows one to see the individual parts within the system, the essence of the system as whole is always more than the sum of its parts. Another important aspect of the nature of the system is that it is intrinsically dynamic. The form of the system is not an inflexible structure but instead a manifestation of the system's basic flexibility – the suppleness that allows it a dynamic stability [7]. The systems perspective sees connections as inherently dynamic. In a system theory mentality, to theorize about systems is to think about processes; forms are connected through processes, interrelated with interaction and challenges to the unity of the system are overcome through oscillation [8].

In applying this systemic-antipoetic perspective to the social environment, we need an understanding about the basic patterns and organizational principles, most especially an antipoetic understanding within the web of life. In this understanding, a concept of biological networks can help us understand social ones. Social networks also possess no-linear patterns just as biomolecular realms do. Social networks are essentially webs of communication that require the presence of symbolic communication, cultural rules, and power relations. The level of complexity of social systems in system theory can be understood from a combination of knowledge taken from social theory, philosophy, anthropology and other disciplines combined in a non-linear fashion [9]. For the conceptualizers of the concept of Autopoiesis, HumbertoMaturana and Francesco Varela, this concept can only be applied to understand networks of cells. However, the concept has been adapted and used in the social sciences by NiklasLuhman. In system theory, Luhman uses the concept of autopoiesis as a concept that can be applied to the field of the social, and his application of the term came to be known as 'autopoeisis social'.

Human life gives birth to social systems, languages, awareness, and culture as cognitive processes. Cognitive processes are always part of living systems. Autopoeisis represents the most basic attribute for explaining the character of a life. The main idea behind system theory is that communication is central in the sociality of humans. Communication is a special mode of reproduction that has an autopoitek character. Communication is produced, and reproduced in social networks. Communication occurs in a repetitive system of feedback that results in a system of beliefs, values, and norms that continuation depends on communication [10].

In Luhman's thought, communities are autopoietic systems. Social systems form themselves through self-differentiation from their environment. According to Luhman, the environment is at a more complex level than a system [11]. He sees as system as a reduction of the complexity of environment. Without environment (chaos) a system cannot come into existence though self-differentiation. The material for the creation of a system is drawn from the environment. A system is a process of selection and identifying material found in the environment in the effort to create oneself.

A system is the sum of the elements and those elements relation to one another. Luhman claims that at its basis, a system is ontological. Systems that organize themselves and produce themselves by referencing themselves simultaneously differentiate themselves from their environment through communication. Communication for Luhman is the smallest unit of the social, so all social relations must needs be identified as communication. Communication is the mechanism through which communities constitute themselves as systems of autopoiesis. Therefore, communication is the most basic structure of human communities. There is always communication within human communities. In Luhman's thought, communication is defined as the relation between a system and an environment. Communication is no different than a reduction in complexity and a selection of information[12].

3. Method

Methodology is a kind of knowledge about method that is also a theoretical concept. Scholarly works that attempt to formulate a methodology revolve around similar problems as are found in epistemology studies and the philosophy of science [13]. The result of research from system theory contributes to philosophical ideas with ontological assumptions, epistemological models and a new paradigm known as the ecological-systemic. This contribution is the basis for analyzing the research methodology applied to the study of local wisdom.

An interdisciplinary model is needed for research on local wisdom. As with the study of culture, the philosophy of values, and religious studies that shouldn't reduce the concept of religion to just its textual, institutional manifestations, the study of local wisdom should be opened to contributions from different fields of study. The interdisciplinary aspect of studying this phenomenon aims to discover the values within cultural forms such as myths, legends, traditions, rituals, styles of house building, various forms of illustration, peace, and the concept of well-being and hospitality. Local wisdom in all of its forms is a product of the relation between humans and their being in the world [14]. The interpersonal relations within one culture is where local wisdom is born out of the relations and systems created through social life and communication.

The discussion of methodology starts with the object. The object identified as the focus of study in philosophy is all experience: not just the sensory experiences, but all experience: experience which can become the research problem as well as the wider realm of experience [15]. Local wisdom as a research object can be divided into two categories, the first being human social relations. Human social relations within a culture are materialized within social structure. These structures shape everyday social practices. All social interactions and connections aim at reaching understanding and truth [16]. People's everyday social activities related to local wisdom tend to originate from perception of values believed in both moral and aesthetic senses. Values originate from processes of social interaction and connection within a given local community through an organic system (person/individual) and their interaction with a semiotic system (communication).

Local wisdom is a form of knowledge, belief, understanding or perception along with customary habits or ethics that guide human behavior in ecological and systemic life [17]. Values that are rooted in a culture are clearly not concrete material objects, but tend to serve as a kind of guide for human behavior. In that sense, to learn about them we must give attention to how humans act in local contexts. In normal circumstances, people's behavior unfolds within the boundaries of norms, etiquette, and law tied to particular locality. However, in certain situations where cultures face challenges from within or from outside, responses in the form of reactions can occur. Responses and challenges are normal ways to see how change happens in culture [18].

Social structure and values, as well as etiquette, norms and local law will change according to the needs of the social situation. Challenges within a culture can occur because of the feedback that occurs within the life-web of a social system. This signifies that autopoesis is underway, indicating that a social system within a culture is self-regulating, a sign that a community can be said to be a living system.

The second category is human's relationship with nature. Nature is used and managed by humans for their continued survival and well-being. Verification in research is achieved by measuring knowledge in relation to the material world [19]. According to Kartodiharjo, local wisdom is a kind of cultural knowledge possessed by a specific community that covers their management of natural resources, including their relationship with nature through wise and responsible patterns of use [20]. This is evident in each local culture. Local cultures usually have life systems that are in conversation with the natural environment where they live. Groups that live in coastal regions have advanced lifeways connected with the sea, and depend on the sea for their natural resources. For example, the *Tiaitiki*, a coastal community in the Tanah Merah Bay in the Regency of Jayapura in Papua. The local

wisdom system *Tiaitiki* functions as a source of knowledge and learning for the local community, including elements of law etnic about the borders and rights related to areas of ocean use [21]. *Tiaitikiti* functions as a control to prevent the exploitation of ocean resources from overuse.

Local wisdom is a phenomenon that shapes the ability of how members of cultural communities who depend on natural resources are able to manage and regulate natural resources in the environments they inhabit. Another example is the system of *sasi* found in Maluku. For people from Maluku, particularly Central Maluku, *sasi* is a set of rules about when people may not harvest particular forest products or resources from ocean. These rules are set and enforced by the village government representatives. *Sasi* is an action to ensure food stocks are preserved and reserved. The considerations behind the setting of rules for *sasi* originate from a specific understanding of the particular characteristics of resources from sea and land in Maluku. The goal of this system is to anticipate the need for future harvests and to preserve the natural resources people depend on for their livelihood by protecting the naturally occurring cycles of regeneration for natural resources from land and sea [22].

The relationship between human and environment, and the relationships between human communities are essential; what becomes the values of one community influences their relationship with other humans and their relationship with nature. A perspective evaluating both of these social dimensions depends on values that are both particular and unique. Each culture has unique and different systems of values. This particularity is expressed both in the values and practices of a particular community. Comparative approaches to studies of culture examine these differences from the smallest variations for the most significant. The underlying reasons for these differences can be found in the structures, patterns and processes by which local communities emplace themselves in their worlds (environments). The most important element in any study of local wisdom is the subject, or the researcher. In philosophical methodology, the researcher is the subject and an integral and essential part of truth. Subjectivity cannot be ignored because of its influence on the whole process of intelligibility in research. Truth, in philosophical definition is a description of meaning and values from the researcher as a subject [23]. The subject, or researcher, needs to understand that cultural behavior is a life process. Local wisdom has to be understood as a product of life. The subject is then reminded from the beginning to comprehend that whatever the form of the local wisdom, it is a result of the relations as a system between humans and their world. Environment as world is composed of various entities that are part of a whole and always in synergy. That synergy forms the creative and transformative web of life that facilitates the creation of new systems. This implies that the values and practices that are the basis for local wisdom are constantly in flux.

The involvement of the researcher in the daily life of the local cultural communities allows for an approach of the subject of knowledge with an object. This involvement and facilitate a more effective understanding about local wisdom and its links with values and practices as the result of a living system. The researcher must be able to synergize in participatory manner and become part of the web of life of the people they study. The knowledge which is sought must be enriched with the experiences of the researcher who enters and becomes part of the web of the community's life. This new methodological paradigm is remarkable for how it asks us to observe the object of study. It advises us to view the object of study in relation to the entities that support its world. This means that the researcher has to pay attention to the synergy between entities in the web within the world a particular local wisdom inhabits. Understanding the structure of a culture and its expression of local wisdom is more effective if discovered through the observation of the patterns of relation between entities in the network.

4. Local wisdom as a life process

Local wisdom as an aspect of the identity of local culture, as previously understood through the approaches of history, anthropology and archaeology, and especially through the study of local wisdom in Indonesia often characterizes these practices as the ability to maintain particular cultures against 'outside' influences. The ability to accommodate elements from other cultures and to later integrate them is a form of self-preservation, and in a sense gives direction to cultural development. From this it can be underlined that phenomenologically local wisdom should be seen as a kind of orientation, perception, pattern and framework of life, as well as a lifestyle [24].

Local wisdom in Indonesian philosophy means a philosophy that lives in the hearts of the people, wise ways of living, the right path of life, expressed through ritual of custom. Local wisdom in this perspective is the product of centuries of spiritual refinement in relations between people of the same culture. It is related to the concept of God, and the human relationship with God, as well as relationship with nature and self. The character of local wisdom is tied to the concept of locus. The word local here implies human ties with certain places. Locus in philosophical terms doesn't just imply a geographic perspective, but also refers to how human life interacts with a structuration of the world into different areas: the flatlands or the mountains, or the coasts, the forests or the rice fields [25]. All forms of unique human wisdom originate from humans in their locus. Local wisdom is the relational tie born from the interaction between human with the world in which they live. It is this relational context that is local wisdom. All manifestations of human life are a kind of wisdom that is a product of the relation between humans and their environment in which they live. These relations possess a foundation of awareness of something greater and higher than us [26] in other words, something essential. In this relationality we are aware of this in our daily experiences and in our inner life. In this way, local wisdom exceeds the boundaries of pragmatic and practical actions and can be seen as something with spiritual aspects. Through the process of life, the spirituality and rationality of a local community crystalizes into the values that play a role in defining their identity and culture.

The role and function of local wisdom in local communities across Nusantara can be divided into three categories. First, local wisdom as moral and spiritual guide for communities. This is because the measure of truth within the particular life system of a community refers to the how that community sees the world. Second, local wisdom plays a role as the inspiration for knowledge that supports life: local wisdom that contains a system of values and a system of knowledge that supports the continued existence of various natural resources and sustainable lifestyle for all living creatures in the local environment. Third, local wisdom functions as a guarantor of an integrated life indicated by harmonious and equal relations between people and between people and nature that is not exploitative [27].

Local wisdom as a product of culture must be understood in a new way. The appearance of the new holistic ecological-systemic paradigm has influenced a number of fields of study. Natural sciences and philosophy have already begun to interact with the ideas presented in this new paradigm. It presents a solution to seeing reality in a scientific approach and in the realm of everyday life.

Humans as a being with the ability to know themselves to know themselves as one part of the web of life. It is important to remember that humans as entities possess a determination far stronger in comparison with other entities. It is our desires that are the strongest in comparison with other creatures that inhabit our worlds. As rational beings, humans possess understanding and will. Humans are the primary agents in nurturing life, and therefore it is human's responsibility to protect nature as a shared household.

Culture as the human world can't be separated from the synergistic network. The relational dynamic or social dimensions which continually change assume sustainable organization of life. Cultural products and cultural identity, in this case local wisdom is the result of human self-organization in its social environment. The reality of local wisdom should be seen in the context of

human lifeworld. The process of life requires the transformation or the birth of new forms of life. Humans as aware subjects determine the form, direction and cultural strategies. In other words, humans constantly create and recreate their worlds. The direction and the form depends on the autonomy of each culture. Culture as a manifestation of human praxis requires the organization of living systems according to the particularities of each culture. Cultural activities and the material culture manifests through local wisdom. This is the result of intellectual and communicative processes that are necessary in the creation and self-preservation in the webs of life. Therefore, culture is autopoiesis, a system of self-reference.

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