

Formulating architectural-ethnosemantics as a new research method

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received October 15, 2024 Received in revised form Oct. 28, 2024 Accepted November 12, 2024 Available online December 01, 2024</p> <p><i>Keywords:</i> Architectural approach Ethnography Ethnosemantics Methods Research</p> <p>*Corresponding author: Purnama Salura Doctoral Program of Architecture, Faculty of Engineering, Universitas Katolik Parahyangan, Bandung, Indonesia Email: purnama.salura@unpar.ac.id ORCID: https://orcid.org/0000-0002-3652-7192</p>	<p><i>Ethnography is one of the oldest methods in qualitative research rooted in anthropology. Considering that Indonesia is rich in the diversity of vernacular architecture and the culture of its people, ethnography, which means 'the study of culture', is often an option for architectural research. However, architectural research frequently only adopts the steps of the anthropological ethnographic method to reveal the cultural knowledge of a specific community; then, this cultural knowledge is simply applied to justify specific architectural works. This study aims to formulate a new architectural-ethnographic method. Of all types of ethnography, this study elaborates on ethnosemantics put forward by James Spradley. The rigorous analytical steps of ethnosemantics are then elaborated into a theory of architectural ordering principle based on the existential needs of architecture. The results of the study are expected to enrich architectural science, especially in terms of research methods. Thus, the results of this study can also improve existing architectural theories and practices, as well as become a source of new knowledge for the wider community.</i></p>

Introduction

Since the 15th century until now, many architectural experts and theorists have attempted to define architecture. Unlike other sciences, such as biology, mathematics, or even social sciences, the understanding of architecture tends to be diverse. For practitioners, architecture is an applied science, so its ultimate achievement lies in 'building techniques'. When architecture is just understood as building techniques, then the knowledge that architects need to achieve can be obtained from the manuals of design-build alone. For example, Vitruvius's *De Architectura* which contains treatises for building, or Neufert's *Data Architect*, or books on structural and construction calculations needed for buildings to be built. For practitioners who are also artists, architectural knowledge is about the composition of forms and current trends in architectural styles so that the composition is considered 'aesthetic'. For

architectural academics who are influenced by sociology and anthropology, architectural knowledge is whatever is in the minds of the laypeople and the general public about an architectural work and how the specific socio-cultural context influences their interpretation of architecture.

The diversity of interpretations of architecture results in the confusion of the essence of architectural knowledge. This results in a lack of positive standards in architectural research. For example, if we assume that architecture is merely a 'building technique', then a philosophical understanding of what architecture is and a deep understanding of research methods are considered unnecessary in architectural research. Unfortunately, with this assumption, architectural practice only becomes a repetition of previous practices without critical knowledge that can actually develop the practice itself. Likewise, architectural research methods that are actually

significant for the advancement of architectural knowledge tend to be considered less important, and architectural research is carried out haphazardly. It is common for architectural researchers to simply borrow a term from a specific research method and adopt it only based on a simplified and misused understanding of the term itself. This misused understanding is then added to their own opinions or those obtained from popular opinions that are not necessarily true. Problems begin to arise when the research is published and considered as "good research", ultimately becoming a reference for other researchers.

Amid the confused condition of architectural academic, a tendency emerged in social sciences that invited researchers to set aside their preconceptions. Then researchers simply started from human perception and feelings towards specific phenomena. Since the 1960s, in order to criticize the Universal Style and modern architecture that were considered non-humanist, architectural academics have considered that humans and their artificial objects cannot be studied using natural science methods that tend to be objective and deductive. In deductive research, researchers start with previously existing theories and then test them through observations of empirical evidence. After the critique of modernism, the deductive method was no longer popular in architectural research methods. As architecture is considered a man-made object that is used and interpreted by humans, following the development of social sciences, the method that is considered most appropriate is the qualitative approach. This approach is known as the inductive method, and it is grounded in empirical evidence rather than pre-existing theories.

One of the earliest research methods in the qualitative approach is ethnography. Literally, ethnography means writing (graphia) about a society, nation, or cultural group (ethnos) (Eriksen-Nielsen 2001; Skinner 2012; Klein 2017). As the oldest method in the qualitative approach, ethnography is also one of the most frequently applied methods in architecture. Since the 16th century, research on the traditions and culture of specific community groups has been considered capable of providing a basis for the origins of architecture. In contrast to the determination of the monogenetic-universal origins of the Primitive Hut, research on the culture of indigenous peoples outside Europe actually shows the cultural diversity that

influences its architecture (Hvattum 2004). Meanwhile, when it reappeared as a critique of modernism in the 19th century, research on cultural diversity and its ethnographic methods were considered capable of reducing the over-dominance of designers. It emphasizes 'empathetic understanding' of the needs and wants of laymen as building users.

Even though, at first glance, the qualitative approach with its ethnographic method seems to be a solution to escape the deadlock of universalism and modernism, as part of anthropology, ethnography has certain methodological approaches (theoretical, ethical, political, and philosophical orientation) that underlie its research methods. The methodological approach of anthropological research that underlies ethnography is not necessarily in line with the methodological approach in architectural knowledge. Simply applying ethnography in architectural research will only confuse the distinction between the research method and the methodological approach. This also confuses the purpose of architectural knowledge and the purpose of anthropology.

In general, although the term ethnography is very popular in architectural research, scientific efforts to elaborate ethnographic methods to align with the philosophical assumptions of architectural knowledge are still very limited. Pink's research (Pink 2007; 2009) tends to discuss sensory and visual ethnography, but these two aspects are not specific to architecture and can be applied to art. Likewise, Cranz's research (Cranz 2016) is merely a practical guide for teachers who teach social factors and social research methods to designers. Groat-Wang's research (Groat and David Wang 2002), which specifically discusses ethnography as one of the strategies for architectural research, only posits ethnography as a type of qualitative research that emphasizes in-depth involvement through active and comprehensive observation (Groat and David Wang 2002). There is no in-depth understanding of the difference between anthropology, which is the root of ethnography, and architecture. It is safe to say that all of this research is still merely adopting the approach of anthropology without elaboration. As a result, what is obtained is not a research method that is capable of enriching architectural knowledge but rather neglects the essence of architecture itself.

This study aims to produce a new architectural-ethnographic method that is in line with the essential nature of architecture. This study improves on the understanding of ethnography along with its methodological orientation, which is rarely discussed in depth and is often misinterpreted in architectural research. This study not only provides steps for implementing (operationalizing) ethnographic methods in architecture but also provides a basis for filtering anthropological research approaches so that they are suitable for use in architectural research. Thus, it is hoped that this study can enrich the vocabulary of architectural knowledge. For practitioners, the operationalization steps of architectural-ethnography are expected to make it easier for them to redesign or revitalize vernacular architecture. Understanding the importance of architectural-ethnography is also expected to be a source of knowledge that inspires decision makers and the wider community.

Methods

This study reviewed several works of literature that were selected purposively. Ethnography is not a research method originating from architecture but has its own history in anthropology. Therefore, to attain an in-depth understanding of ethnography and its possible application in architecture, all the literature used is classified into three:

Firstly, literature that discusses ethnography in its early emergence in Greek society, as well as in its development in the field of anthropology. Skinner's research, *The Invention of Greek Ethnography* (Skinner 2012), discusses the birth of ethnography in Greek society. Meanwhile, Vermeulen's research (Klein 2017), "Before Boas: The Genesis of Ethnography and Ethnology in the German Enlightenment", comprehensively discusses the history of the emergence of ethnography in anthropology in Europe. Jones's research (Scott-Jones and Watt 2010): "Origins and Ancestors: a Brief History of Ethnography", and Eriksen-Nielsen's research (2001): "A History of Anthropology", contains the history and development of ethnography and anthropology in general.

Secondly, literature that specifically discusses ethnosemantics developed by James Spradley through several of his books, such as: "You Owe

Yourself a Drunk: An Ethnography of Urban Nomads" (1970); "The Cocktail Waitress: Woman's Work in a Man's World" (Spradley and Brenda E. Mann 1975); "Deaf Like Me" (Spradley and Thomas S. Spradley 1978). These three books are examples of Spradley's research when he developed ethnosemantics. Meanwhile, "The Ethnographic Interview" (Spradley 1979) and "Participant Observation" (1980) are summaries and refinements of Spradley's ethnosemantic method. It is also noteworthy to mention that "The Ethnographic Interview" has even been translated into Indonesian with the title "Metode Etnografi" (Spradley 1970; 2007). As the first and earliest ethnographic book translated into Indonesian, it is suspected that this book is often a reference for Indonesian architectural researchers when they explore the influence of culture on architecture in Indonesia.

Thirdly, literature that discusses the essential nature of architectural creation and operationalization methods for reading architectural works. Studies that discuss this topic in depth are *Arsitektur yang Membodohkan* (Salura 2015) and *The Philosophy of Architectural Ordering Principles* (Salura 2018).

The steps of analysis are formulated as follows:

Firstly, exploring the philosophical assumptions underlying ethnography. To that end, the study will focus on the development of ethnography and critique of the philosophical assumptions underlying ethnographic practice. Based on this step, in addition to reviewing the philosophical assumptions underlying anthropology, it also reviews the philosophical assumptions underlying ethnographic practice so far.

Secondly, discussing one of the developments in ethnography, namely ethnosemantics which was put forward by James Spradley.

Thirdly, discussing the essential nature of architectural creation and the principle of ordering principles in architecture. It examines the philosophical assumptions underlying architecture so that they can be compared with the philosophical assumptions underlying ethnography and ethnosemantics. This understanding is very significant in determining important aspects in formulating an ethnographic approach that is in accordance with the essential nature of architectural knowledge itself.

Fourthly, formulating an architectural-ethnographic research approach and operational steps.

Results and discussion

a. Ethnography and ethnosemantic

Ethnography has its roots in the Greek word's 'ethnos' ('society' or 'tribe') and 'graphia' ('writing'). Literally translated, ethnography means 'writing about a society'. This has been the main aim of early ethnography up to the present day, namely to describe in as much detail as possible a culture or group of people. It is believed that the first ethnographic practice was carried out by Herodotus of Halicarnassus (c. 484–425 BC), when he wrote a detailed travel narrative from various parts of western Asia and Egypt and from places as far away as the land of Scythia on the northern shores of the Black Sea (Eriksen-Nielsen 2001). In this narrative, an issue is reflected that continues to follow cultural anthropology to this day, namely: how do one group of people view another group of people ('the others')? Are they basically like us, or are they basically different?

Although Herodotus's notes tend to be very detailed, his ethnography is still merely 'field notes' containing little more than a description of culture. Herodotus's notes are not a serious attempt to analyze a group of people within a broader theoretical framework. It was not until the 17th and 18th centuries that anthropology was born as a science that studies humans and human relations, and ethnography became its main method. During this period, the ethnographic practice was carried out by collecting field data from amateurs who were trained to collect data, such as civil servants, colonial police, doctors, missionaries, and travellers. This field data was then sent to professional researchers ('armchair ethnographers') who would interpret the data and construct theories. This resulted in a significant difference between the interpretations of professional social scientists or anthropologists and amateur data collectors in the field. Conclusions drawn about the culture and way of life of specific groups of people were often misleading and even manipulated to fit existing theoretical models rather than to create new understandings (Scott-Jones and Watt 2010).

Towards the 19th century, two important views emerged that influenced the emergence of ethnosemantics in the following period (Eriksen-Nielsen 2001):

Firstly, the paradigm of cultural-relativism put forward by the German-born anthropologist, Franz Boas (1858 - 1942). Boas studied the

Eskimos' perception of the colour of ice and water. He found that people from different social groups had different conceptions of the world around them. Thus, he opposed the usual views adopted by most anthropologists at that time, who tried to find similarities in the cultures of people around the world. He also opposed the view that there was one group of people who were more civilized than others. Instead, he argued that each culture has its own ethical and social standards that reflect its own cultural beliefs, and the only culture that individuals truly know is their own. Thus, no culture can be used as a standard by which to judge other cultures. Cultural relativism influences the philosophical assumptions that underlie all forms of qualitative research, even today. In other words, cultural relativism is a methodological orientation that also underlies ethnography, both when ethnography is applied to Malinowski's anthropology and cognitive anthropology as well as to Chicago School sociology in America.

Secondly, the Polish-born social anthropologist Bronislaw Malinowski (1884-1992) criticism of the ethnographic methods of armchair ethnographers who always used translators to understand the culture of local communities. In 1914, Malinowski travelled to New Guinea to do preliminary fieldwork. During this assignment, he learned the local language, which he believed was a major advantage for any aspiring ethnographer. Malinowski emphasized that the ultimate goal of the ethnographer was 'to understand the native's point of view, his relationship to life, to realize his vision of his own world'. In the following years, he published three volumes on the Trobriand people, with three main themes that influenced subsequent ethnographic methods: 1) The ethnographer must contextualize a culture by 'immersing himself' in it. This means that the researcher must live in the field for an extended period, understanding the language spoken by the local people. 2) The ethnographer cannot rely on informants' descriptions of social reality, and therefore, social or cultural reality can only truly emerge through participant observation; 3) Through contextualization, ethnographers will realize that all things cultural are relative and therefore one should not make judgments about the rationality or irrationality of other people's cultural practices. Thus, Malinowski's critique focuses on the methods or ways of practising ethnography itself. However,

this method is clearly in line with the cultural relativism view put forward by Boas.

The similarity between Boas' ethnography and Malinowski's is that both are still based on the researcher's reasoning and conceptualization. Boas tends to start from a historical study of society. Malinowski starts with a comparison of the social and cultural structures of various societies, which are then described and interpreted based on the researcher's own opinion. Approaching the 1960s, the comparative method was considered not valid enough to describe what specific community really think. As a reaction to this traditional ethnography, a new branch of anthropology emerged, which is known as cognitive anthropology. It is known as 'New Ethnography' or 'Ethnosemantics' (Spradley 2007).

The idea of Ethnosemantics originates from the cultural perspective put forward by anthropologist Ward Goodenough, and remains rooted in the methodological nature of Boasian cultural relativism. Both Goodenough and Malinowski have similar opinions about the purpose of ethnography, namely to "understand the native's point of view, his relationship to life, to gain his view of the world." However, the difference between the two lies in their understanding of culture. According to Malinowski, culture is the organization between humans in a society, so his ethnography focuses on describing and conducting comparative studies of the organization of the society to find similar structures that underlie the organization. Meanwhile, Goodenough argues that culture is not a phenomenon consisting of objects, events, behaviours, organizations, or emotions; but rather the meaning of these phenomena. This system of meaning is assumed to be something that already exists in the minds of members of society, and each society has a unique system in interpreting specific phenomena. Therefore, the task of ethnography in cognitive anthropology is to explore and describe the system of meaning that exists in the minds of members of the society (Spradley 2007).

One of the American cognitive anthropologists, James P. Spradley, then created a systematic method that could be directly operationalized to make it easier for novice researchers to conduct ethnography. This method is called the Developmental Research Sequence (DRS). Just like ethnographic methods in general, DRS begins with interviewing informants and

ends with identifying cultural themes and writing ethnography. However, between the initial and final steps, there are three stages of analysis that distinguish it from other ethnographies, namely domain, taxonomic, and component analysis (Spradley 1970; 2007). These three stages always begin with an interview. For example, domain analysis always begins by asking descriptive questions; taxonomic analysis always begins by asking structural questions, while component analysis always begins by asking contrast questions.

Observed in detail, these steps are actually a way to ensure the validity and credibility of the results of ethnographic analysis. Doing an iterative interview at each stage to the informant is likely to reduce bias from the researcher's interpretation. This effort ultimately goes beyond Malinowskian ethnography, which is dominated by participant observation. Spradley's Ethnosemantics are truly able to describe the system of meaning in the minds of informants in their original terms. In anthropology, ethnosemantics is considered a solution so that research has practical benefits in society. This is quite understandable because ethnography was originally a justification tool for colonizing and enslaving other groups of people. Throughout its development, ethnography has changed from studying society in the context of gaining 'knowledge for its own sake'. It culminated in Spradley's ethnosemantics, which views informants not as an object to be studied but rather as a teacher. In Spradley's own words, ethnography is not only used to understand humans but also to serve human needs. However, how is ethnography, which is basically rooted in anthropology, applied to architecture? Should cultural relativism as a methodological approach to ethnography in anthropology be adopted entirely for architectural research? Or is it enough to view ethnography as a method, but the underlying research approach remains based on the essential nature of architectural knowledge itself?

b. The essential nature of architecture and its differences from anthropology

Architecture was initially created to fulfill human's basic need for space to accommodate activities. Thus, ontologically, architecture is a material - physical object created by men. While the purpose (*causa finalis*) of architecture is to create building enclosures so that humans can

carry out activities comfortably, easily, healthily, and safely. Architecture is not an image reside in the designer's mind; nor is it just a design drawing on paper. It is also not a design concept in the mind of the designer, nor is it an interpretation of the user or observer of the building. Because architecture was primarily created to accommodate human activities, the material cause of architecture is a real (physical) object that can be felt with all our five senses.

The formal and material cause of architecture are clearly different from anthropology. Anthropology studies human interpretation or meaning of any phenomenon that occurs around them, and specifically, cognitive anthropology studies how the human mind constructs the system of meaning (Klein 2017). The material cause of cognitive anthropology is the human mind when interpreting a specific phenomenon. Although the phenomenon can be a physical object, for example, the appearance of a building, the material object of anthropology is what humans think about the appearance of the building. Thus, the material cause of anthropology remains non-physical and very different from the material cause of architecture, which must be physical.

After revealing the differences in the nature of architecture and anthropology, the second step in filtering ethnosemantics for architectural research is to distinguish between the notion of 'meaning' in architecture and meaning in anthropology. Ethnosemantics is often a choice in architectural research because the term 'semantics' is considered a synonym for 'meanings'. Indeed, since the 1960s, meaning has become an important aspect used by post-Modern theorists to criticize modern master-builders who are considered to dominate individual speculative practices. Master builders are considered to ignore the opinions of the general public as users and observers of buildings (Jencks 1969; Bonta 1979; Broadbent, Richard Bunt, and Charles Jencks 1980). This seems to imply that architectural practice can be improved only if we follow whatever the public says as building users. As a result, the notion of meanings in architecture is mistakenly understood to be 'any interpretation of laymen about architecture.'

Although meaning is also an important aspect in architecture, the understanding of meaning in anthropology is different from the meaning in architectural knowledge. Meaning in anthropology means whatever members of a

specific society think about their way of life; this could include what a designer thinks about his work, or what the general public thinks about the appearance of a specific physical artifact. On the other hand, meaning in architecture specifically focuses on the quality of space and the building's enclosure elements when the building is used to accommodate specific activities. In this case, anthropology could discuss the appearance of a building by saying that 'this appearance is good or bad because it reminds me of this or that'. Or 'the ornamentation of this specific architectural element should be there, because it is a symbol of this or that tradition.' Although such interpretations may be considered valid in the criteria of anthropological research, in architectural research, such interpretations are actually biased. We are no longer talking about the essence of architectural creation, namely so that it can be used for activities easily, comfortably, healthily, and safely. We only care about whatever is in the human mind, which is not necessarily in accordance with the purpose of architectural creation.

After uncovering the nature of architecture and understanding the notion of meaning specific to architecture, the next step is to put forward why relativism is not appropriate as a methodological approach of architectural research. Cultural relativism did initially have a noble perspective on the culture of a society that is foreign to us, namely by not directly "judging" the culture of another society as good or bad, but by understanding it deeply through the perspective of the society itself. However, now, the ethical consequences of cultural relativism are beginning to be questioned, even from within anthropology itself. For example, the attitude of not judging other cultures can also be seen as an act of legitimizing violence that is a cultural practice of some groups of people (Hahn 2023). In his work *Sick Societies: Challenging the Myth of Primitive Harmony* (1992), social anthropologist Robert Edgerton shows that the ethnographer's belief that 'other cultures' are good and have their own truth, is a problematic and even dangerous fallacy. According to Edgerton, the interpretivist view that science cannot, or should not, critically evaluate other societies, will only be a form of intellectual onanism. In other words, it has no benefit for the society being studied.

When cultural relativism becomes a general relativism applied as a methodological approach that underlies architectural research, the

understanding of the good or bad architecture becomes relative like relativism in culture. Thus, there is no absolute judgment to evaluate architectural works. The evaluation will always shift into an assessment of the socio-cultural-political context that influences the minds of humans who interpret the work.

A deeper examination of relativism shows that it is actually rooted in speculative thinking in philosophy that posits the human mind as identical to the external-natural world (Hammersley 1992). This means that whatever is in our minds (be it theoretical criticism, personal desires of designers, to the imagination of users and observers of buildings, even ideological meanings and traditions) is equal (identical) to the real world itself. This speculation may not have much impact on anthropology, whose objective is to reveal how the human mind constructs their "world". However, the fallacy of this speculation is apparent if we position it inside architectural knowledge, whose purpose is to create real buildings for use. Architecture was not first created only for the sake of romanticizing our ancestors' memories of living inside the caves, of the habits of a group of people to worship certain gods, or of the designer's desire to express certain architectural styles. On the contrary, men create architecture as a place of shelter precisely because humans are aware that they cannot eliminate the disturbance of heavy rain, scorching sun, or wild animals. Moreover, architecture is a physical object created from objects that exist in nature. Humans can certainly compose and modify these objects. For example, the building enclosure elements (i.e., roof, wall, floor) may be created from stone or wood, but it is impossible to create them from water or air, unless the water freezes and has the same properties as stone.

This implies that architecture is not born according to man desires (wants) alone, but from external and objective awareness and the existing laws of nature. Man can indeed alter the world through practice. However, we can only alter the objective world within the limits permitted by the laws originating from the external world itself. This is the non-relativistic view that allows architecture to exist. If architecture is originally created from this non-relativistic view, then architecture must also be evaluated based on non-relativistic criteria.

Based on this argument, it can be understood that the essential nature of architecture is different from that of anthropology. Therefore,

architectural research does not need to adopt the methodological nature of ethnography or ethnosemantics, which is rooted in anthropology. The steps of Spradley's Ethnosemantics can be elaborated as a research method, which is combined with principles that have been formulated from the beginning to explore the function, form and meaning of architecture.

c. Formulation of architectural-ethnosemantics research methods

The process of evaluating architectural works based on non-relativistic criteria is carried out by sorting between basic needs and speculative wants in architecture (see figure 1). The need for shelter is believed to be one of the basic needs that ensures human survival (existence), in addition to the need for clothing and food (Salura 2015). Therefore, basic needs are said to be existential in nature.

The birth of architecture began because of human needs for shelter from weather conditions and protection from wild animal attacks. After finding shelter and protection, all activities that humans need in order to live, such as eating, resting, or gathering can be done without the disturbance from the surrounding environment. In other words, the purpose of creating architecture is to fulfil human existential needs, namely space and building enclosure elements as a container for specific activities that protect humans from disturbances around them. Because existential needs are human attitudes towards nature, and every single thing in nature has an essential quality of balance and order, then the fulfilment of existential needs must logically follow this balanced and orderly characteristic.

The following is the purpose of architecture expressed through the ability of buildings to: Firstly, accommodating interaction between users through a combination of properties and composition of enclosing elements that allow the creation of a comfortable artificial climate and protect building users from disturbances from nature and the surrounding environment.

Secondly, organizing all properties and compositions of activities, which involve the entire activity program. The program of activity itself is greatly influenced by the character of the activity, which, of course, differs from one type of activity to another. It is realized that in its development, humans never stop at just fulfilling basic needs but continue to interpret the surrounding nature. At a particular stage, humans

also begin to interpret the laws of nature by constructing specific symbols. Suppose it is proven that this symbol persists for a long period and is collectively agreed upon because it is believed to be in line with the principles of balance and order that exist in nature. In that case, these symbols will become a tradition that generates new activities. This kind of tradition is existential to the activity. Because without the values that underlie the tradition, the activity would not exist. At this point, the relationship between function and architectural form is no longer universal but depends on the values of the existential tradition that generates activity.

Thirdly, integrating and composing the properties of all existing patterns, be it user activity patterns, building enclosure elements, three-dimensional shape patterns, to the patterns of furniture and equipment, in order to support accommodated activities.

On the other hand, in the journey of life, humans also have a tendency to express other things, namely by adding preference or 'wants'. In contrast to basic-existential needs, wants are essentially speculative. Only when wants are in line with the principles of balance and order that exist in nature can it support activities and increase the value of architecture itself. Meanwhile, if wants are constructed arbitrarily, without referring to human existential needs, then these actually negate existential needs. Why? Because these wants negate the principles of balance and order that exist in nature.

There are three classifications of wants that influence architectural creation and interpretation: Firstly, the preference to express the symbol of local traditions. Secondly, the values of social class and social gender. Thirdly, the values of collective ideology.

It is realized that in order to develop, architecture always needs input from other sciences. Because it is an object made by and for humans, architecture also needs input from sciences that study humans, one of which is cognitive anthropology. However, an in-depth understanding of the purpose of architecture is absolutely necessary to show that not everything that is believed to be true in other sciences can be directly applied to architecture. Based on this understanding, it is clear that the purpose of ethnosemantics in cognitive anthropology can be distinguished from architecture. Because the meaning of tradition in architectural needs that must be accommodated by the building is an

existential tradition that gives birth to activity. Meanwhile, speculative interpretations of tradition, social and ideology that exist in the minds of humans such as in cognitive anthropology, are not necessarily basic-existential human needs. Evaluation of architecture based on the fulfilment of existential needs can actually be the basis for measuring whether speculative interpretations of traditional, social, and ideological values are in line with the fulfilment of existential needs (wants are in line with needs). On the other hand, it can also measure subjective-personal deviations of designers, observers and building users (wants negate needs). Indeed, this kind of evaluation could even propose critical solutions to overcome the contradictions inherent in the deviation.

In his book, Spradley argues that ethnosemantics must have practical benefits for society rather than just knowledge for the sake of knowledge. Because the architectural-ethnosemantic method is based on the fulfillment of basic human needs, this method has more practical benefits than simply describing everything that is in the minds of informants as precisely as possible. The architectural-ethnosemantic method can actually inspire anthropologists to sort out which cultures are essential for human life, and which are constructed arbitrarily and diminish the quality of life itself.

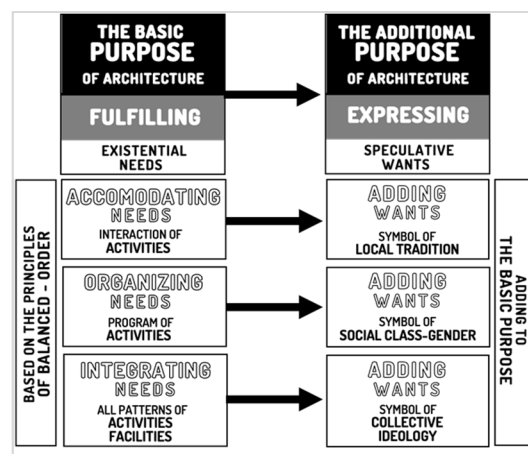


Figure 1. Needs and wants in architecture

After sorting out the aspects of needs and wants in architecture, and establishing the fulfillment of needs as the basis for interpreting architecture, the elaboration of the architectural-

ethnosemantic method can be formulated as follows (see [figure 2](#)):

1. Preliminaries step

Spradley's ethnosemantic method begins with determining an informant, interviewing the informant, and making ethnographic notes based on the results of the interviews. Meanwhile, the architectural-ethnosemantic method begins with determining formal and material objects that are in line with architectural issues.

In contrast to Spradley's ethnosemantics which is only based on interviews, the determination of formal and material architectural objects is based on a literature review supplemented by a Focused Group Discussion (FGD). The discussion in the previous section shows that in line with the differences in the nature of architecture and anthropology, architectural knowledge has its own truth that cannot simply be equated with the truth of anthropology. Therefore, the priority of the literature review is to discuss the nature of architecture. It will be followed by the literature that focuses on the purpose of creating specific architectural types, which is the object of research. For example, if we want to study mosque architecture, we must examine why the mosque exists at the first place. What kind of activity must be accommodated by a mosque, and what kind of significant values underlie this activity? Only then is it supplemented with literature on the socio-ideological context that influences architecture.

Likewise, a Focused Group Discussion is not only conducted by involving the general public or laymen as observers or users of the building but must also involve architects, both designers and architectural academics. The preparation stage in ethnosemantic architecture ends by determining the general function to be studied, such as the function of a residence, school, office, or place of worship (mosque, church, etc.).

This preliminaries step is followed by several analytical steps. Spradley's ethnosemantic analysis step is divided into three: domain analysis, taxonomic analysis and componential analysis. While the basic purpose of architecture is to accommodate, organize, and integrate activities. The three steps of ethnosemantic analysis are then elaborated based on the purpose of architecture.

2. Analysis of basic architectural purpose (1): Quality of architectural property-composition of form and elements in accommodating activities

Spradley's domain analysis is used to construct a temporary categorization of cultural knowledge. This is done by asking descriptive questions, conducting ethnographic interview analysis, and isolating fundamental units of cultural knowledge.

In architectural-ethnosemantics, this step is used to determine the quality of a building to accommodate specific and fundamental user interactions among other functions. A building is said to be successful in accommodating activities can be seen through: 1) The appearance of the building that gives an inviting expression, allowing easy identification of the entrance; 2) The appearance of the building that gives an expression of sheltering; 3) Through functional or non-symbolic signs attached to building elements.

These three aspects can be observed even from the exterior of the building, for example, in the context of the environment or site ([Salura, 2018b](#)). Thus, in addition to being based on the researcher's own observations and interpretations, the results of the analysis regarding the exterior expression of the building could and must be re-evaluated by interviewing building observers who only occasionally pass outside the building.

3. Analysis of basic architectural purpose (2): Quality of architectural property-composition of form and elements in organizing programs of activity

Spradley's taxonomic analysis focuses on finding the dominant concept or internal structure of the established domain. This step begins by asking structural questions, making temporary taxonomic analyses, asking additional structural questions, and returning to make a more complete taxonomic analysis based on the analysis of the answers to additional structural questions.

In architectural-ethnosemantics, this step aims to determine the taxonomy of the completeness and spatial movement of activity contained in architectural form. The initial stage of this analysis step is to describe activities and forms based on their properties and composition ([Salura 2018](#)). Thus, the discussion no longer focuses on the external appearance of the building, but focuses on the interior space and its relationship to the quality of the building's enclosure elements.

The concept of architectural property-composition is a concept resulting from two fundamental theoretical processes that are always collectively present in humans when interpreting a building (Salura 2018). These processes are the identification and orientation processes that, at the practical level, are always interconnected and inseparable. However, at the theoretical level, both can be analyzed separately in order to focus on sharpening understanding. The first theoretical process, namely identification, allows humans to find and recognize an object. Humans recognize something first by identifying a property, an activity or a facility (architectural form). The second theoretical process is called the orientation process which allows humans to observe and realize the direction of an activity as well as a facility. The theoretical process of identification is described as the concept of property, while the theoretical process of orientation is described as the concept of composition.

The principle of type - boundary and position - movement

In line with the unity between the theories of identification and orientation, the concept of property-composition is always interconnected, united, and mutually supportive. The concept of property is broken down into the principle of type and property boundary, while the concept of composition is broken down into the principle of compositional position and movement. Both property type-boundary and compositional position-movement all apply to architectural activities and facilities. The following describes examples of attribute properties of the four principles: type-boundary and position-movement in architectural activities and facilities.

- Principle of type-boundary in architectural activities:

Examples of properties for the principle of activity type: important-ordinary, formal-casual, main-supporting activities, silent-moving activities, noisy-silent activities. While examples of properties for the principle of activity boundaries: clear-vague, geometric-organic, randomized-patterned. Generally, human activity boundaries are associated with anthropometry and ergonomics.

- Principle of type-boundary in architectural facilities:

Examples of properties for the principle of facility type: heavy-light, datum axis, repetition-rhythm, additive-subtractive, geometric-organic, dense-loose. Meanwhile, examples of properties for the facility boundary principle: chromatic-plain, transparent-opaque, barrier-filter, connector-switch, sharp-curved, smooth-rough.

It can be observed that the nature of the boundary-type principle in activity and facility properties is clearly different. It is because the properties of activity require space to carry out activities, while the properties of facility are real objects that encompass the activity space.

- Principle of position - movement in architectural activities - facilities:

While the type-boundary principle in activity and facility properties is very different, the principle of position-movement in activity and facility properties tends to be similar. The principle of position explains 'where something is located'; while the principle of movement explains the direction. Examples of properties in the principle of location of activities and facilities are: on above-below, in the left-right, on the front-back, on the middle-edge, far-near. Meanwhile, examples of properties in the movement of activities and facilities are: towards linear-circular, towards the center-radial, towards independent-group, towards radial-segmental, towards grid-randomized.

Based on the analysis of architectural property-composition, the criteria of organizing programs of activity are: 1) the completeness of the space in the building for the activity; 2) the suitability of the form with the space of movement needed by the specific activity accommodated by the building; 3) the role of natural lighting and natural ventilation in relation to the activity accommodated by the building.

This stage adapts Spradley's rigorous methods: First, the analysis of the building is based on its composition and properties, and the search for the completeness, suitability, and influence of natural lighting and ventilation on the activity is based on the researcher's observation and interpretation. Second, the results of the researcher's interpretation need to be asked again to the building users and the architects who designed it. Thus, in contrast to Spradley's ethnosemantics, the results obtained are not the perception of the community in their native-

original language, but rather the interpretation of the users and architects regarding the quality of building's enclosure element when they used the building for specific activities.

4. Analysis of basic architectural purpose (3):
Quality of architectural property-composition of form and elements in integrating all patterns of activity.

Componential analysis in Spradley's ethnosemantics focuses on finding attributes that reveal contrasts or differences in a cultural term. This is done in order to obtain a more detailed meaning of a cultural term. The steps in making a component analysis are choosing a series of contrasts to analyze, finding all the contrasts that have been found previously, identifying contrast dimensions that have twin values, conducting interviews to obtain the necessary data, and ending with preparing a complete paradigm.

In architectural - ethnosemantics, this stage analyzes user activity patterns, patterns of building's enclosure elements, three-dimensional form patterns, and patterns of furniture. The success of the building in integrating existing patterns can be seen through 1) The relationship between zoning and the organizational scheme, 2) The suitability between the pattern of building enclosure elements (walls and floors) and patterns of activity, and 3) The suitability between patterns of furniture and patterns of activity. Similar to the previous stage, this stage also integrates the results of observations and interpretations of researchers with interviews with the designer and building users.

5. Discovering architectural themes

After going through the domain, taxonomic, and component analysis stages, ethnographers can describe cultural themes. Spradley understands themes as cognitive principles (general assumptions about the experiences of specific communities) that are implicit or explicit, repeated in a number of domains and act as a relationship between various subsystems of cultural meaning. In other words, there are three characteristics of themes: abstraction (cognitive principles), generality (repeated in several domains), and relational.

Meanwhile, in ethnosemantic architecture, the three characteristics of themes are elaborated into the ethnosemantic architecture method. The results of the analysis of the relationship between activity and form in the previous stage are further abstracted to reveal the concept of part-whole and hierarchy that underlies the relationship between activity and architectural form. Whether the form of the building is able to meet the basic needs of architecture. This stage begins with the researcher's interpretation of the architectural themes. To maintain the objectivity of the interpretation, the results of the interpretation need to be asked again to the building users and architects involved in the design. This can be done either through interviews or focused group discussions.

After completing the analysis of the relationship between activities - facilities (architectural forms) that are in line with the basic purpose of architecture, this step is continued by analyzing symbols of local traditional - social and gender values - collective ideologies that also underlie the architectural design. Unlike the analysis of architectural purpose that involves interviews with architects and users, interviews at this stage involve the laymen and the general public.

6. Interpreting architectural meaning

Spradley's ethnosemantics ends with ethnography. Writing ethnography can be seen as a process of "translation," which includes discovering the meaning of a culture and conveying these meanings to people in other cultures.

In the architectural-ethnosemantic step, based on steps 1-3, it can be interpreted which dominates the architectural design as the object of research: Is the design preceded and dominated by the intention to fulfil the basic needs of architecture, or is it dominated by the desire to express speculative expressions of existing traditions - social - ideology. Based on this step, it can also be interpreted whether the speculative wants are in line with the philosophical principle of balance - order so that it has the potential to become an existential tradition that will give birth to new activities, or tends to be arbitrary so that it actually negates the principle of balance - order.

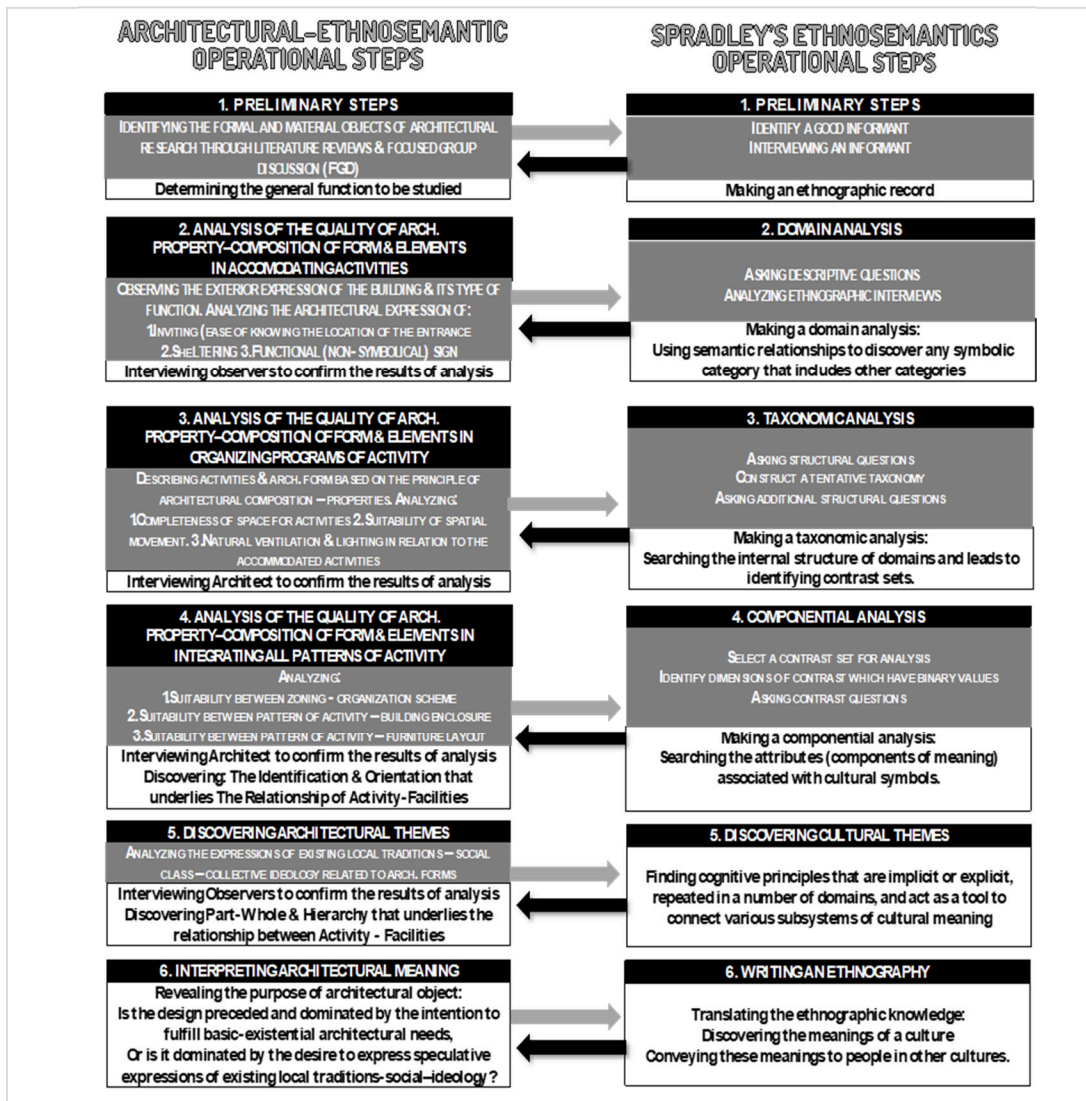


Figure 2. Comparison of architectural-ethnosemantic operational steps and Spradley's ethnosemantic steps

Conclusions

This study concluded that:

Firstly, ethnosemantics is a development of ethnography rooted in cognitive anthropology. The ethnosemantic research methods, especially those put forward by Spradley, have advantages compared to previous types of ethnography that focus solely on comparison and the search for social structures. Spradley's ethnosemantics are believed to be able to describe the meaning system (culture) that exists in the minds of informants in the original terms they use. Thus, ethnosemantics is expected to no longer focus on knowledge for the sake of knowledge but on being

practically useful for the lives of the communities being studied.

Secondly, ethnosemantics can be understood from two sides: Firstly, as a methodological approach rooted in cultural relativism. Secondly, as a research method with a rigorous operational step to ensure the validity and credibility of the analysis results. Based on the different nature of architecture and anthropology, the methodological approach of ethnosemantics is not suitable to be simply adopted in architectural research. Architecture was originally created to meet basic - existential human needs for accommodating, organizing, and integrating activity. Departing from this purpose, the material

cause of anthropology is non-physical, while the material cause of architecture must be physical. Therefore, when applied in architectural research, ethnosemantics is ideally only seen as a research method but must remain based on the methodological orientation of architectural research itself.

Thirdly, this study formulated a new architectural research approach, namely: architecture-ethnosemantics. This approach departs from the essential nature of architectural knowledge and then elaborates on the rigorousness of Spradley's ethnosemantics. The operational steps of architecture-ethnosemantics are based on the criteria of basic-existential needs that should be met first by every architectural work. Unlike other adoptions of ethnography in architecture, which generally tend to be used specifically in research on traditional-vernacular architecture, these operational steps can be used to study any architectural work. Likewise, these operational steps of architecture - ethnosemantics are quite straightforward to be applied by designers to create architecture that is in line with the fulfilment of the basic-existential needs of its users. Thus, it is hoped that this study can contribute to improving architectural knowledge and practice in the future.

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Stephanie Clarissa contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.