

# Ethnoarchaeology of Prehistoric Cave Hand Stencils in South Sulawesi

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**ABSTRACT----** *Hand stencil is one kind of prehistoric human cave culture found all over the world, including Indonesia. In South Sulawesi numbers of prehistoric caves are found within the region of Maros, Pangkep, and Bone, and more than thousand of hand print images are discovered. It is interesting to find that people in that area are still practicing hand print stamping when housewarming their traditional house. This rite ceremony is called mabedda bola (“powdering the house”) and is meant as disaster repellent so the people who dwell in the house would safe. This research show how ethnoarchaeology approach throw light on interpreting the function and meaning of prehistoric hand stencil in South Sulawesi.*

**Keywords---** hand stencil/print image, prehistoric caves, mabedda bola, ethnoarchaeology

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## 1. INTRODUCTION

This is about ethnoarchaeology research on hand stencil in South Sulawesi. Schiffer (1978) describes ethnoarchaeology as the study of material culture in its system context in order to get information, either general or specific, that can be use in archaeology. An ethnoarchaeologist would try to find systematically the relations between behavioral and material culture, which might not be described by ethnologist, for building interpretation about processes that occurred in the past (Kramer, 1979:1). Interpretation drawn on behavior and the using of artifacts is based on the similarities between the artifacts and artifacts used by people who are believed the culture successor (Mundardjito, 1981:2). The basic assumption is that if two groups of people have resemblance in certain point (e.g. form of a pot), they might have similarities in other point as well, for instance the way they make and use a pot.

Object of this research, the hand stencils, is one of oldest prehistoric cave culture that can be found around the world in most similar form. Most of the study of hand stencil is about the form aspects; not much is done about the function and meaning. Some studies about the function and meaning of hand stencils show that hand stencil/prints are functioned as kind of communication code and membership status among traditional people (Chazine, 2005; Fage, 2005), while those that are depicted with mutilated finger or fingers have relation with ritual ceremony (Leroi-Gourhan, 1981; Willcox, 1984). Another studies show that hand stencil has the function to give protection from evil spirit (Tichelman, 1944), and the different size of hand stencils is meant to show the relation between the predecessor and the descendants (Röder, 1938). In some cases, hand print image is considered as a sign of magic, or a sign of mourning (Moore, 1977), while hand stencil/print associated with animal images is considered to have relation with hunting magic (Bahn and Vertut, 1988).

One place that is rich with prehistoric hand stencils is South Sulawesi. The hand stencils are found in caves that were used as dwelling place in ancient times in the karst area of Maros-Pangkep. Based on researches that had been conducted until year 2014, it is recorded that there are more than 130 caves with hand stencils drawn on the wall, and other artifacts as well (Permana, Karina, and Ingrid, 2014). Unfortunately some of the drawings have disappeared or damaged or not clear any longer. It is still not clear until now the function and meaning of the drawings because research on it is still limited since so few references on hand stencils or hand prints in Indonesia are available.

It is good to know that a tradition related with hand print is still practiced in South Sulawesi: the *mabedda bola*, a ceremony related with housewarming. It is reported that *mabedda bola* is being practiced in Soppeng District (Driwantoro, 1989) and later in Barru District ((Vetriyani, 1998), Maros, and Bone Districts (Permana, Karina, and Ingrid, 2014). All of which are now on the verge of extinction. Regarding the similarities on cultural region (Sulawesi), location of ceremony (dwelling places: house and cave), belief background (animism and dynamism), and the “product” of the ceremony (hand stencil/print), it is assumed that *mabedda bola* is a tradition of prehistoric hand printing or hand stencil that is still practiced until now.

## 2. LITERATURE STUDIES

The term “ethnoarchaeology” was first introduced about a century ago, in year 1900 to be exact, by Jesse Fewkes in his “*Tusayan migration traditions*” that was published in *Bureau of of American Ethnology Annual Report* (1900:577-633). Ethnoarchaeology appear as anthropology sub-discipline for archaeological interpretation through

cultural phenomenon similarities that might still being practiced by traditional people (David & Kramer, 2001:1-2, 6). It was first used by anthropologists but later by archaeologists such as Patty Jo Watson with Maxine Kleindienst in their “*Action archaeology: the archaeological inventory of a living community*” (1956), Robert Ascher in his “*Analogy in archaeological interpretation*” (1961), Richard A. Gould’s “*Explorations in ethnoarchaeology*” (1978), Carol Kramer in her edited book “*Ethnoarchaeology: implications of ethnography for archaeology*” (1979), Ian Hodder in his “*Symbol in action: ethnoarchaeological studies of material culture*” (1982), W.A Longacre’s “*Ceramic ethnoarchaeology*” (1991), and Nicholas David and Carol Kramer in their book “*Ethnoarchaeology in action*” (2001).

Ethnoarchaeology was introduced in Indonesia by Mundardjito in his article “*Etnoarkeologi: peranannya dalam pengembangan arkeologi di Indonesia*” (1981). Ever since many Indonesian archaeologist started applying ethnoarchaeology in drawing archaeological interpretation through ethnographical analogy.

Ethnoarchaeological study related with hand print tradition in South Sulawesi is so far only found in two articles. Firstly is the one written by Dubel Driwantoro (1989) about religion ceremony related with building house in Soppeng District, and the second is A. Vetriyani’s undergraduate thesis (1989) about the analogy of hand stencils from Bellae cave in Pangkep District and hand prints on staged houses in Barru District. Both only discussed the formal aspect of the hand prints.

First study on hand stencils in Indonesia is found in Röder’s “*Die Felsbilder in Flussgebiet des Tala (Sud West Ceram)*”, published in *Paideuma I* (1938:19–28). Local people reported to him about hand stencils, which he mentioned as “silhouette painting”. According to the local people, the hand prints were related with their origin. It is said that there was a big war between the Sawai people and the Hatue people in the area of Seleman Bay in Ceram Island. One of the Sawai warrior beheaded some Hatue people and his hands were covered with their blood. In order to clean his hands he pressed his hands over and over on rocks. That is the way how the hand prints was imprinted on karst cave wall.

In the same book Röder also wrote an article titled “*Felsbildforschung auf west Neuguinea*” (1938:75–88), in which he mentioned about the color and the meaning of hand stencils in Papua. According to him, red colored hand stencils are older than black colored hand stencils and have different meaning, namely as ownership symbol and disaster repellent.

Hand stencils in Papua was also reported by W.J. Gruyter and G.L. Tichelman in their book titled *Nieuw-Guinea Oerkunst* (1944:19–20). It is stated in that book about local folklore, telling that once upon a time lived a man and two women (white skin color and black skin color) who came from the direction where sun rise. They were all blind and walking their paths by groping the wall of the cliff they passed through. They were heading to the direction where the sun set. The more they approached the sunset, the more their eyes opened until they totally were able to see. One day the two women were involved in a disagreement, and ended with separation. The black skin woman stayed and became the ancestor of the Papuan, while the white skin woman (Omimin is her name) continued her journey to the sunset direction and became the ancestor of white people. It was their foot- and hand-prints that were imprinted on the wall of caves and rockshelters, which are believed to belong to the ancestor who first arrived.

Information about how the hand stencil/print is made can be found in K.G. Heider book titled “*The Dugum Dani: a Papuan Culture in the Highland of Wes New Guinea*” (1970). Heider mentioned that either positive hand stencils or negative hand stencils are the very common motif in Papuan rock art. Positive hand stencil was made by applying red color liquid on the palm of hand and then imprint it on the cave’s wall, while the negative hand stencil was made by spraying or splashing red color liquid on the back of hand that was put on the surface of the wall of the cave. There are also hand prints that are made using painting technique, as well as line drawing technique. He also found that all the hand prints he discovered, either left or right hand, belong to adult person. Uniquely the Dani people practice finger-mutilated among adult women as a sign of mourning but no mutilated-finger hand prints are found.

February 26<sup>th</sup>, 1950 turned out to be historic day for rock art research, particularly hand stencils, in South Sulawesi. C.H.M. Heeren-Palm was on excavation at Pattae cave (Maros) when he found numbers of hand images drawn with full red color. On the next day, still at the same cave, van Heekeren found a rock painting image depicting a jumping wild boar that was drawn with line drawing technique using red and brown color lines. Several days after Heeren-Palm and Heekeren findings at the Pattae cave, they found another numbers of red hand stencils at Burung cave, a cave that is located some kilometers far to the east of Pattae cave, and Franssen found numbers of hand stencils at a cave that was later named as JariE cave.

In 1969 a joint research, between the Center of Archaeological Research and National Heritage and Prehistory Department of Australia National University, was conducted in Maros. The research, which was led by D.J.Mulvaney and R.P.Soejono, explored the caves of BatuEjaya, Burung 1, Lambatorang, Bembe, and Pettakere. Charcoal sample from BatuEjaya was taken for C-14 dating and it showed 1030±275 CE (ANU-392), while sample from Burung 1 cave showed 870±210 BCE (ANU-391) and 1470±400 BCE (ANU-390). Research result was published in an article titled “*The Australian-Indonesia Archaeological Expedition to Sulawesi*” in 1970.

In 1970, 1973, and 1975 research on Maros rock painting was continued by I.Glover. He managed to conduct research at the Ulu Leang cave, and discovered more new caves (van Heekeren, 1958:22–35; Arifin, 1992: 8-9; Kosasih, 1995:14-16). Independent rock art researches by archaeology institute begin in 1977 and still go on until now in Maros, Pangkep, and Bone (Permana, Karina& Ingrid, 2014).

### 3. METHOD

This research use archaeology and anthropology approaches. Data are collected from hand stencils found at more than 130 prehistoric caves within the Maros-Pangkep karst region. Ethnographical data are collected through observation, description, and interviews with people who are still practicing *mabedda bola* ceremony as part of house warming in Soppeng, Barru, Bone, and Maros region. Structured and not-structured interviews are conducted to source persons and informants who are selected purposively. They who understand and take charge on the traditional *mabedda bola* ceremony are taken as source persons, such as the shaman or *sanro bola*, traditional leader, or the elders.

Ethnoarchaeological analogy is used in data analysis and syntheses. Resemblance of "cave" and "home", similar form of "hand prints drawing", as well as similarities in the cultural area "South Sulawesi", allowing ethnoarchaeological analogy could be applied in order to see the relation between cultural behavior and material culture. The interpretation of the function and meaning of prehistoric hand stencils is based on the similarities of ceremonial rites and activities, and the form and spots where hand prints are applied on traditional houses of present-day people who practicing *mabedda bola*.

### 4. RESULT AND DISCUSSION

#### 4.1 Hand Stencils on Prehistoric Caves

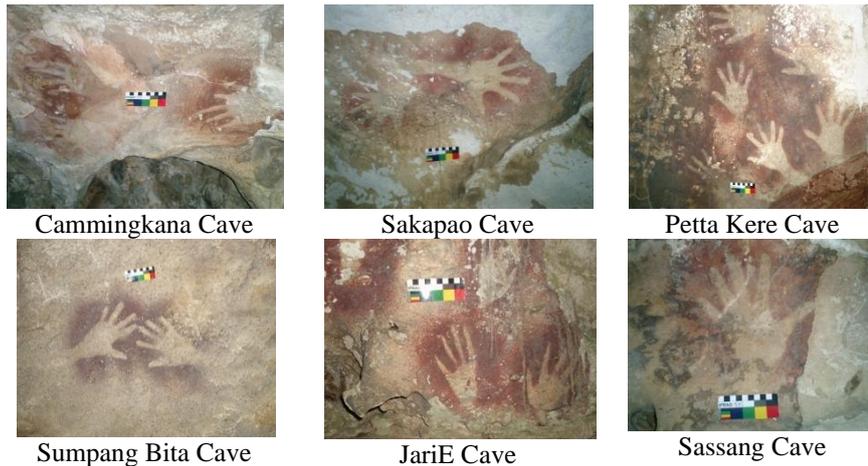
Hand stencils are made by placing the finger-stretched hand with palm facing down on the surface of the wall of cave or rockshelter, and then splashed or "sprayed" the back of the hand with colored liquid. This will produce a picture of "no-color" hand on the wall, which is known as "negative hand stencil" or more popular as "hand stencil". Hand stencils can also be produced in the form of "positive" hand stencil by applying color ingredient on the palm of the hand and then "stamping" it on the surface of the wall of the cave or other media. This type of hand stencil is commonly known as "hand print" (Maynard, 1977: 391-401; Clegg, 1983: 94-95; Lewis-Williams, 2002:216-218). Hand stencil is the type that is very common found in Indonesia.

Information about prehistoric cave hand stencils in Indonesia was first mentioned by Röder (1938:19-28), who found out that hand stencils in Molucca and Papua were considered as the hands of the ancestors of the local people. Besides of that, research carried by Heider (1970) shows that all the hand stencils among the Dani ethnic group in Papua represent the hand of adults, and those hand stencils show no mutilated finger considering there is a custom among adult women to cut off their finger as a sign of mourning on the death of family member or husband.

Research on hand stencils in South Sulawesi started with the findings of H.J. van Heekeren, C.H.M. Heeren-Palm, and C.J.H. Franssen in year 1950 at the Pattae cave, Burung cave, and JariE cave in Maros District (Heekeren, 1952:22-25). C-14 dating from Burung cave shows  $870 \pm 210$  BCE (ANU-391) and  $1470 \pm 400$  BCE (ANU-390) or around 1,870 until 650 BCE (Soejono and Leirissa, 2008:187-188). Other opinion mentioned that the cave was occupied between 6,000-5,000 BCE (Forestier, 2007:65), even earlier since 31,000 until the beginning of first CE (Glover, 1984:329). Latest joint research conducted by National Archaeology Center (Indonesia) and Wollongong University and Griffith University (Australia) that was published in *Nature* (October, 2014) revealed that the oldest hand stencils in South Sulawesi are dated from 39,900 years ago.

There are more than 130 cave sites within the area of Pangkep, Maros, and Bone Districts. More than half of them have hand stencils on their walls, and more than thousand of motifs are recorded. But aging, environment, climate, and human activities have caused these hand stencil disappeared, damaged, and fading. Relatively good condition hand stencils in the area of Pangkep Districts are found at the caves of Batang Lamara, Bulu Sumi, Cammingkana, Cumi Lantang, Garunggung, Kassi, Lompoa, Pattenungan, Sakapao, Saluka, Sassang, and Sumpang Bitu. Hand stencils within the area of Maros District are found at the caves of Ambe Pacco, Baratedong, Barugayya, Burung II, Burung V, Burung VII, Ellu Loang, JariE, Jin, Kamase, Lambattorang, Lompoa II, Minrallenge, Pajae II, Petta Kere, Sampeang I, Sampeang II, Samungkeng I, Samungkeng II, Samungkeng III, Tampuang, Tengae, Timpuseng, and Ulu Wae. In Bone District area, well preserved hand stencils are found at Uhallie and Batti caves (Permana, 2008; Permana, Karina, and Ingrid, 2013; 2014).

The hand stencils are studied based on the aspect of form, orientation, numbers of fingers, and left-or-right hands. From the form aspect, most of the hand stencils show the hand part only, followed by hand until wrist part, and only few which show hand until lower arm. From orientation aspect, most of the hand stencils have upward fingers orientation, followed by left or right orientation, and few only with downward fingers orientation. Number aspect shows that most of the hands have complete five fingers, only few that show four or three fingers. And the left-or-right hand aspect shows that both relatively equal. Photos below are examples of hand stencils that are in good condition, making them easy to be observed.



**Photo 1. Hand stencils from South Sulawesi (Photo by R. Cecep E.P. 2008)**

Besides the formal aspect, the hand stencils are believed to use colors. Color that is seen nowadays is reddish brown. It is not certain if that is the color used when first applied, or it is the color produced after being affected by the environment and old in age. Nevertheless, red and black colored hand stencils are found as well. Those hand stencils are made using “spray” technique, producing what is called “negative hand stencil”.

#### **4.2 Mabedda Bola ceremony**

The Bugis-Makassar people believe in the harmony of macro-cosmos and micro-cosmos (Wunas et al., 2005:12). They follow the belief that vertically the world consist of three parts: upper world (*banua atas*), middle world (*banua tengah*), and under world (*banua bawah*). The upper world is the place of gods, led by the high-most god named Single God who lives in *botting langik* (upper most sky). Middle world is the world of human and the representatives of gods, who has the duty to manage the relation between man and the high-most god and to control the universe. The under world, called *uriliyu* (the deepest place), is considered to be under water (Hamid, 1978:30). This view is expressed on their staged houses, which is vertically divided into three parts: the upper part or attic (*pammakkang*), middle part or the body of the house (*kale balla'*), and the under part (*siring*) (Radja, 2000:21; Wunas et al., 2005:13).

The harmony between macro-cosmos and micro-cosmos is reflected in the spiritual aspect of building houses. Generally, the process of building new houses should following the order as follows. Firstly is *makkarawa bola*, or the preparation of location, materials, and tool for house building. The second is *mapatettong bola* or erecting the house, and the third is *maccera bola*, or the first anniversary of the new built house (Zein, 2012).

When a house owner is going to occupy his new house, a special ceremony is supposed to be conducted. This ceremony is called *menre bola baru*, and there is a specific rite in this ceremony which is called *mabedda bola* (powdering the house). The powdering is done by applying white hand prints mainly on house posts. At some houses, hand prints are applied also on walls and stairs. This ceremony is still present in Barru, Soppeng, Bone, and Maros Districts in South Sulawesi Province.

Even tough the Bugis-Makassar people are mostly Moslem, the *mabedda bola* ceremony is still following animism who believes in the presence of the high-most god or Single God they called *Dewata SaunaE*. This Single God is worshiped through wooden posts they called *ajuara*. That is why the hand prints are supposed to be applied on house posts. By this they believe that the Single God, as the universe creator, would hold off any disturbance, evil spirits, and any bad things (Driwantoro, 1991:194).

The *mabedda bola* ceremony is led by a shaman called *sanro* (*sangro*)*bola* or *panre* (*pangrita*) *bola*, who has the ability as communicator between the house owner and the spirits or safety gods. Media used by the *sanro* in building the communication are a set of instrument and offerings, and traditional incantations and Islamic prayers. The purpose of this ceremony is to give peace, happiness, and wealth to the house owner and keep him away from bad spirits and disaster as well.

*Mabedda bola* ceremony is used to be held in the afternoon after the sun rest, or in the dawn before the sun rise. The ceremony begins with the *sanro* encircling the underpart of the staged house for three times and splashing holy water at the same time (*mappasilli*). Then the *sanro* will start making ingredients, in a cup, consist of rice seed concentrate (*benni luttu*) that is mixed with holy water ingredient and turmeric. In other area, the ingredient is added with jack-fruit leaves and lime leaves. This ingredient will produce yellowish white mixture called holy powder or *dinging* powder (*bedda rica*). After that, the *sanro* would invite the wife of the house owner (*punna bola*) as the first person to start applying hand prints on the main post of the house (*possa bola*).



Applying hand print (left) and situation during *mabedda bola* ceremony (right). (Photo by Isabuddin, 2013)



Hand prints on house posts in Barru District (Photo by R. Cecep E.P., 2013)

**Photo 2. *Mabedda Bola* ceremony (left) and hand prints on posts of the under part of traditional house**

Stamping hand print is practiced by firstly placing the palm of the hand on holy powder ingredients. The powdered palm is then applied on the posts of the house. All the people who will be living in the house would do this but with one exception, that for the female people only the wife and girls who has not get their menstruation are allowed. In certain area, stamping hand prints are only applied by the wife as honor from her husband. The ceremony is closed with saying prayers and eating together (*manre salama*) (Driwantoro, 1991:196-198; Permana, Karina & Ingrid, 2013; 2014).

## 5. CONCLUSION

South Sulawesi is famous for its archaeological hand stencils and hand prints found on the wall of dwelt karst cave dated back to thousands of year prehistoric times. Applying hand prints is still practiced nowadays in traditional housewarming. Both show some similarities. It is obvious that hand stencil/print is applied on dwelling place (cave, house). What we see as differences are in the techniques used and colors. Prehistoric hand stencils was made using spraying or splashing technique and the red color came from ocher; while recent hand print is made using stamping technique and the yellowish-white color came from rice seed powder and turmeric.



**Photo 3. Hand prints on traditional house wall (left) and prehistoric cave hand stencils (right)** (Photo by R. Cecep E.P., 2009)

It can be concluded that hand stencil/print practices in South Sulawesi already existed back to the prehistoric era about 40,000 years ago. This practice is still present within the South Sulawesi area. It shows that stamping hand print is very important that it is keep practiced for thousands of year. By drawing analogy with the *mabedda bola* tradition, conclusion could be drawn that the cave hand stencils in South Sulawesi might have the similar function and meaning as disaster repellent.

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