

PERAK MALAY (KUTAI) ARCHITECTURE: A METHODOLOGICAL APPROACH IN EXTENSIVE SURVEY AND ANALYSIS.

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Abstract: The *Kutai* House in Perak is the oldest surviving traditional Malay house and is gradually disappearing from the indigenous cultural landscape of Malaysia. Therefore, it is crucial to preserve such delicate and intricate Malay heritage for our next generation in a form of concise historiographical outline and is becoming more essential as time progresses. The aim of this research is to identify the location of the surviving houses and eventually to establish a style and its evolution of Kutai House in Perak, within a period of 1840-1940, covering villages along Perak River and its tributaries. This research has been conducted with a guided methodology and theories that have been generative in identifying the classification components that could be categorized in two broad terms of the manifest and the latent. The manifest aspects cover elements such as form, space, functionality, building components and material. The latent aspects include the semantic/symbolic realm of expression that embedded within the design of the house and the traditional architectural principle of Perak Malay. By establishing the theoretical framework, the approach is to search for a definition of Kutai Asli. This is achieved by focusing on breaking up architectural elements into fragments - house form, building components and its expression (decorative elements) in order to understand the process of Malay Kutai Asli house building and construction. With this definition, the researcher is able to ‘assemble’ a definite conclusion based on the data analysis. The trace of evolution is established by comparing the fragments or components on its variation and progression from its predecessor.

This holistic and methodological approach is pertinent in order to assess the historical validity of the various styles of the traditional Perak Kutai house and its related typologies. In conclusion, the style of Kutai house has been categorized in three different styles and chronologically valid as the evolution progressed periodically.

Key words: Malay heritage, House definition, and Style evolution

1. INTRODUCTION

The traditional Perak *Kutai* house is slowly diminishing and replaced by new dwelling scheme in the typology of Malaysia. With a need to document a concise architectural record to prove of their existence, the research is to introduce a typological outline of the house. This is by establishing a formal category and to understand the “Kutai” language in their architectural expression: form and meaning. An initial study by previous researchers, (Gibbs, 1987; Nasir, 1983; Nasir & Teh, 1996; Yuan, 1987) need to be continuous and with further elaboration and investigation. The research is focused on strengthening a methodological approach in order to establish a framework that became an effective tool in the classification of the development of architectural styles inherent in the traditional

Perak *Kutai* house. Therefore, this method can be applied to a similar research (Ariffin & Zubir, 2005; Talib & Ariffin, 2003) and related preferences on Malay historical and architectural design development for future references (Ariffin & Zubir, 2004).

1.1 Problem Statements.

The Perak Malay house, as with the various house styles of the peninsular Malay states has not been thoroughly identified, measured and studied in depth. A comprehensive and in depth study on the traditional Perak Malay timber houses has long been overdue and the rate of deterioration of abandoned houses as well as the dismantled and demolition of these century old houses for the “modern” house is alarming. These houses had undergone much alterations and renovations that the overall transformations rendered the original house design as almost unrecognisable. In the very near future, these houses will be effaced from existence, burying with it the wealth of architectural design, aesthetics and traditional Malay worldview and culture, which is beautifully embedded within.

1.2 Research Objectives.

The objective is to identify the locations of existing and surviving *Kutai* houses along the Perak River and its tributaries, built between the years 1840s to 1940s. Data is collected and documented through a series of surveys, photographs, interviews and actual house measurements.

The study is limited to the “traditional” *Kutai* Malay house of the *bumbung panjang* (long roof) or *bumbung Melayu* (Malay roof) (of the *rumah ibu* or Main house) type.

2. RESEARCH METHODOLOGY.

The research method is divided into two sections in order to establish the data collection and the analysis of the study. The followings are the methodological approach that has been adopted. “Method of Extensive Survey and Recording”(Brunskill, 1978) and “Theory of Style” definition (Schapiro, 1953), both are guided or combined with an “Iconography” theory (Panofsky, 1972). Therefore the data collection and analysis study is based on this theory perceptive (Fig. 1).

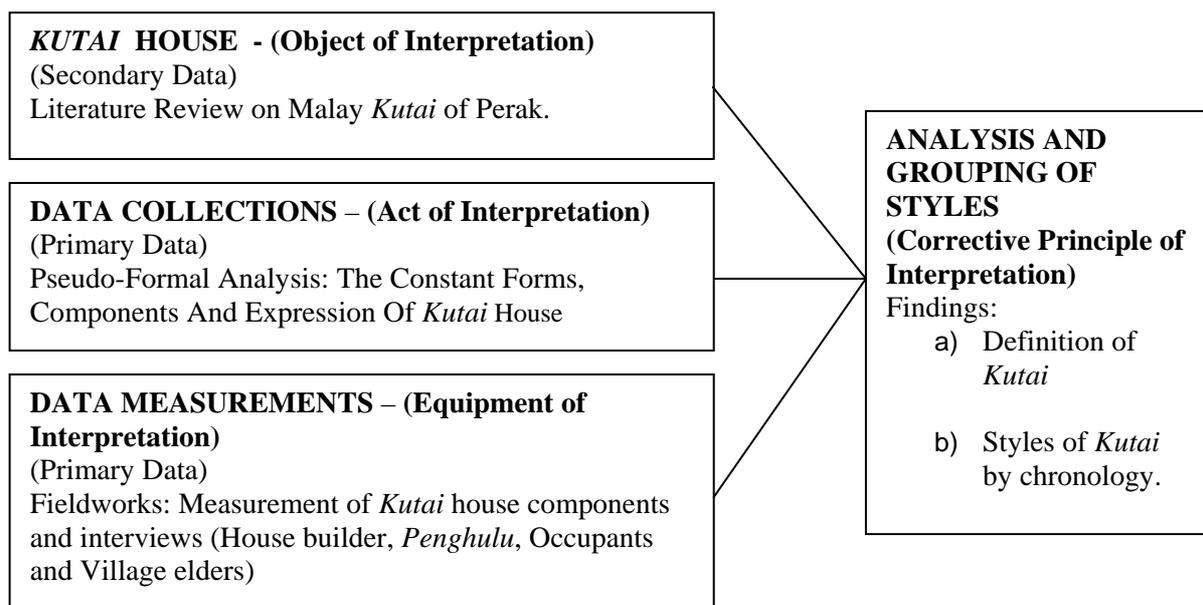


Figure 1: The study of “iconography” of the *Kutai* House.

2.1 Perak *Kutai* house (Object of Interpretation).

Primary and secondary data were obtained from the National Archives, various published materials, unpublished postgraduate thesis (Ali, 1983; Ariffin, 2001) and ancient literature such as *Tajul Muluk* (Winstedt, 1951) *Misa Melayu*⁺ of Perak and *Sejarah Melayu*^β (Ahmad, 2000; Brown, 1970). The study area is specifically within the territory of the Perak State. The review of the historical background is extracted from evident such as old maps (Andaya, 1979; Nasir, 1983) to identify the original location of the surviving villages and houses. Old photographs (McNair & Adolphus, 1972; Moore, 2004) are also assisted us in determining the degree of comparable transformation of the various styles within the specific study period of 1840s to 1940s.

After reviewing the maps, initial identification and groupings of early nineteenth-century houses in riverside settlements is made and key houses were documented. These houses are documented with a full background history (in which seldom with full history). Various ruined houses without documentary evident were also measured and studied for the purpose of comparison and used whenever appropriate in future analysis.

2.2 Primary Data Collections (Act of Interpretation).

An initial exploration and survey of villages and house locations is done through the 'Method of Extensive Survey and Recording' (Zoning of Perak Districts along Perak River and its tributaries). The collected database then is recorded in a form of digital images, video documentary, measured drawings, detailing and sketches. Brief interview with the owner(s) or builder(s) is also been conducted for further inquiry on verbal information.

The identified *Kutai* houses types are located at various villages in the State, and then located on the modern Malaysia Map (JUPEM, 1999). During the fieldwork, some of the villages have disappeared from the current situation on site. Our fieldworks on house measurements are consisted of the following tools, compass, digital camera, notebook, documentation sheets, measurement instruments, and mask, laptops and spare battery.

2.3 Data Measurements (Equipment of interpretation).

Analysis and grouping of the identified houses were made and are measured at various locations. The method of 'Extensive Survey and Recording' is applied throughout the research inventory. This measurement is divided into the followings:

- a) Mapping - This method is based on the mapping done initially to the current road Perak Map (obtained from Jabatan Pemetaan Negara Malaysia) to identify a brief location comparing to the old Map. Then the mappings of house locations are recorded before survey.
- b) Extensive Survey and Recording - The method of "extensive recording" devised by Professor Codrington was used for the study of Vernacular Architecture in England. His method is to assist the collection of materials in fieldworks.

Documentation sheet – General information and house measurements are gathered for and during studio work. Plans and elevations were measured on site. Detail construction, materials of house components and decorations such as beams and floors, *bendul*, walls, windows, doors, staircases, decorations and roof were measured, recorded and photographed for further analysis.

2.4 Analysis and Grouping of Style (Corrective Principle of interpretation).

Documentation of findings and studio works is used for the method of house sampling selection for classification of style or grouping. Below are the procedures for comprehensive measurement of selected house samples:

- a) House re-measurement on site

⁺ The *Misa Melayu*, a regal historical account of the Perak Malay Sultanate was the works of a contemporary royal chronicler, Raja Chulan. (1720-1786)

^β The *Sejarah Melayu* was written in 1612 by Tun Seri Lanang, then Bendahara of Johor.

- b) Scaled drawing reproductions by CAD (Studio work) and construction drawings;
- c) Revisit and re-measuring (extra visit for precision measurement for selected house sample)
- d) Redrawing final drawing documentation.
- e) Tracing the outline of building components from photographs taken.

2.5 Definition of *Kutai* style.

For theory on “styles” in art and architecture, this theoretical inquiry is a basis to enquire the *Kutai* definition and its styles. This approach is exploratory and interpretative in nature and its validity is supported by precise formalistic study based on building measurements. Meyer Shapiro defines “style” as the following:

“By style is usually meant the constant form – and sometimes the constant elements, qualities and expression in the art of an individual or a group”

Shapiro’s theoretical definition of style is appropriate not only for the study of styles on artefacts but also applicable for the study of house styles. The fact that “architecture” falls within the domain of “art”, further substantiate the validity of the same formula for the definition of a house style.

3. THE *KUTAI ASLI* AND ITS VARIATIONS.

With the study of the house form, the definition of *Kutai Asli* is established in terms of its basic house form and roof form, which also consisted of constant building components and decorative elements (Fig. 2). And by comparing these constant elements between *Kutai Asli* and its variations, the definition of *Kutai Anjung* and *Kutai Anjung Beranda* is established. In turn, the styles is not only looking into solely onto one elements, but rather the entire building components, design, house form, construction method and materiality, which consisted of its own styles.

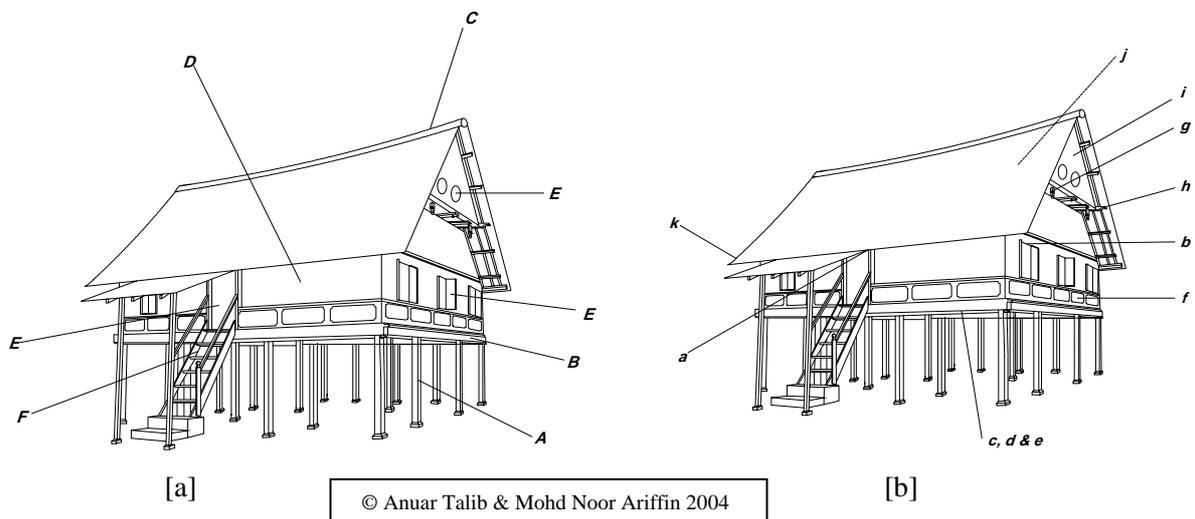


Figure 2: Study of main house components and building components.

[a] A – Column, B – Floor & *bendul*, C – Roof, D – Wall, E – Openings, windows, doors & ventilation, F – Staircase.

[b] a – *pintu*, b – *tingkap*, c – *lantai*, d – *bendul*, e – *rasuk & rok*, f – *papan kembang*, g – *labah bergantung*, h – *papan sendeng*, i – *tebar layar*, j – *tunjuk langit* (hidden), k – *papan kening*.

3.1 Definition of *Kutai Asli*.

The *Kutai Asli* is composed of the *rumah ibu* (main house) and *rumah tangga* (staircase “house”) shown in Fig. 3. The *rumah ibu* component has simple pitch roof ranging from 50° to 60° with a cantilevered gable-end walls on both sides of the *rumah ibu* (Fig. 4) This traditional roof form is termed by the locals as “*Bumbung Panjang*” (long roof). The house is identified by the roof form and number of columns at the *rumah ibu*. It is built on columns (*tiang*) that support the entire house structure; the floor is between five feet to six feet above ground level. The roof is slightly curved (by front elevation) at the middle of the roof at about two and a half in. lower then the apex of the roof at both ends. Both the *Kutai Asli* T*16 and *Kutai Asli* T12 have a similar front and side elevations. The *Kutai Asli* is consisted of two types of *Kutai*; *Kutai* T12 and *Kutai* T16. The list of *Kutai Asli* as classified in the category of early and original *Kutai* (1840s – 1940s) is divided into two types as in Table 1.

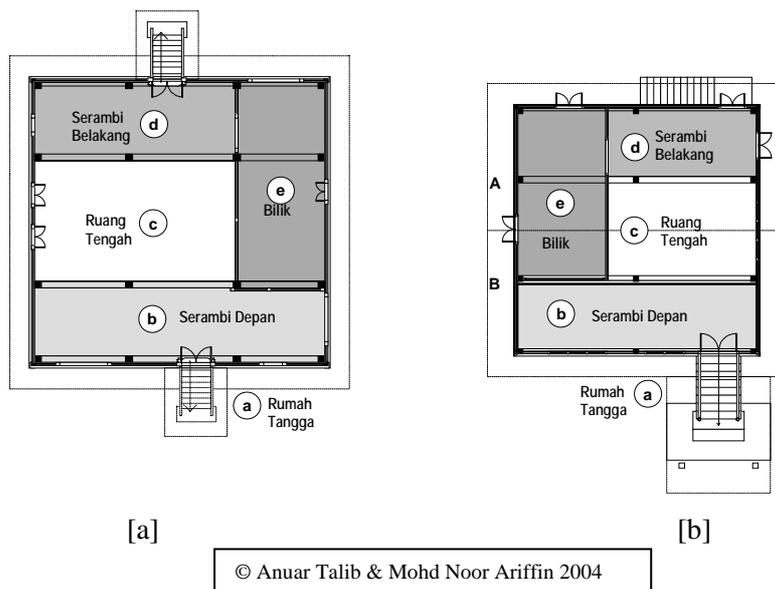


Figure 3: Column configuration of [a] - *Kutai* T16 – *Kutai* Tok Sedera Bongsu, Bota Kiri & [b] - *Kutai* T12 – *Kutai* Kulub Samah.

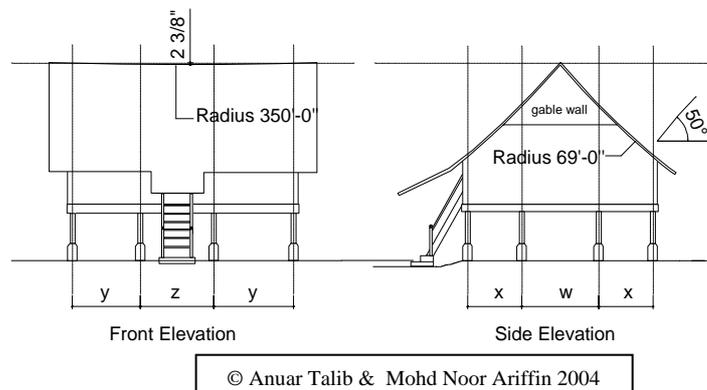


Figure 4: Front and Side Elevation of *Kutai* Tjih T16. Note: ‘w’, ‘x’, ‘y’ and ‘z’ is representing house dimension that is varied and unequal. For example ‘x’ and ‘x’ is differed by 1” – 4” in dimension.

* T – *Tiang* (column), the main house is identified based on its no of columns.

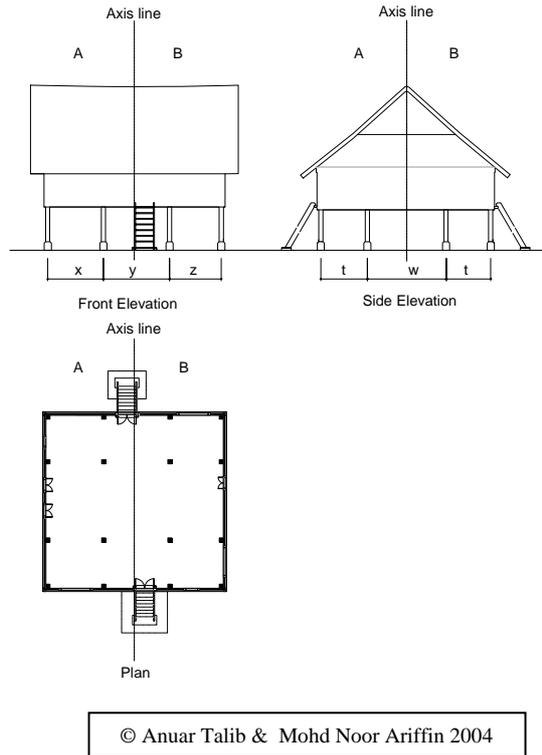


Figure 5: Plan, Front and Side Elevation of *Kutai* Tok Sedera T16 showing the symmetrical and asymmetrical of dimension and location – Front Elevation: dimension ‘x’, ‘y’ and ‘z’ is different and the Plan view indicates location of the stairs are not aligned with one another.

Table 1: List of *Kutai Asli* T16 and T12 houses.

No	<i>Kutai</i> Owner and Location	Year of Built	No of T at <i>Rumah Ibu</i>	House Reference File
	Kutai T16			
1	<i>Kutai</i> Angkat Warisan, Kota Lama Kiri, Kuala Kangsar	1817	T 16	(No 3)
2	<i>Kutai</i> Tok Sedera Bongsu, Bota Kiri, Bota	1840s	T 16	(No 5)
3	<i>Kutai</i> Tijah Bt Abd Latib, Kampung Kepayang, Simpang Pulai, Ipoh	1850s	T 16	(No 4)
4	<i>Kutai</i> Madrasah, Bota Kiri, Bota	1870s	T 16	(No 6)
	Kutai T12			
5	<i>Kutai</i> Keroh Hilir, Padang Rengas	1850s	T 12	(No 2)
6	<i>Kutai</i> Kulub Samah, Kampung Bendang Kering, Sayong, Kuala Kangsar	1900s	T 12 (Split Level)	(No 18)

3.2 *Kutai Anjung*.

Kutai Anjung is consisted of *rumah ibu* and *anjung* area (Fig. 6), which is an additional frontage space ‘protruding’ from the original *rumah ibu* (*Kutai Asli* house), placed perpendicular and extended from the centre front of *rumah ibu*. The plan shape is forming ‘T’ shapes. From the components studied through the form, building components and decorations elements, the evolution has taken place in the development of *Kutai Anjung* house. Even though the progress is gradual, but

the implication towards the originality of *Kutai Asli* has shifted from the use of its materiality and rationality.

In one category of *Kutai Anjung*, the Chinese builders have a role in the building up the Malay house. Therefore, some analysis was conducted during the research. The researchers observed that some houses are at the equal length or with even dimension therefore concluded that the material, technique of joinery, and neatness of the construction was not the Malay doing. Whereby, the Malay has reasons in doing so. This evidence can be traced and visible in all *Kutai Asli* and the dissimilarity has eventually defined the basic of *Kutai Asli* and its newly developed *Kutai Anjung*.

From the analysis and strengthen with the interview with the current owner of the *Kutai Anjung* Bendang Kering, it can be concluded that the house that were built by the Chinese builders (*tukang*) tend to be more precise in it dimensioning. For example, the dimension of column-to-column may varied, but this house; the dimension is having an equal length. From the list, the style tends to be regionalised in one particular area or located nearby to each other in one district. In this case, most of the *Kutai Anjung* was located in Kuala Kangsar District. It can be concluded that *Kutai Anjung* can be influenced by the surrounding of the locality, which became a tendency for others to follow suit with the design. But to trace the originality or the direct influence would involve further investigation.

In conclusion, the *anjung* style has progressed from the *Kutai Asli*, to a different stage that emphasis on a different characteristics in it house form, building components and also the qualities of decorative elements. This has contributed to a newer style but nevertheless, the originality is slowly faded away, thus reflecting a turning point for *Kutai Asli* design development. Therefore, *Kutai Anjung* style classification is divided into three categories as shown in Table 2.

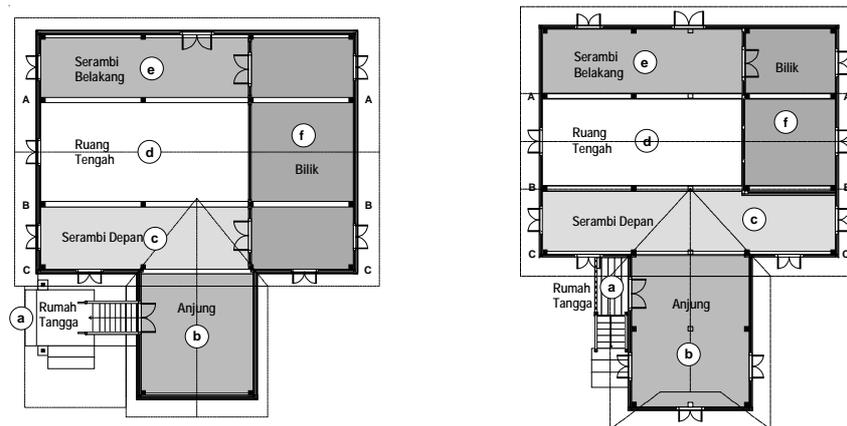


Figure 6: Column configuration of [a] - *Kutai* T16 – *Kutai* Badrishah, Kota Lama Kiri Kuala Kangsar & [b] - *Kutai* Bendang Kering, Sayong, Kuala Kangsar.

Table 2: List of *Kutai Anjung* T16 houses with an indication of the variations.

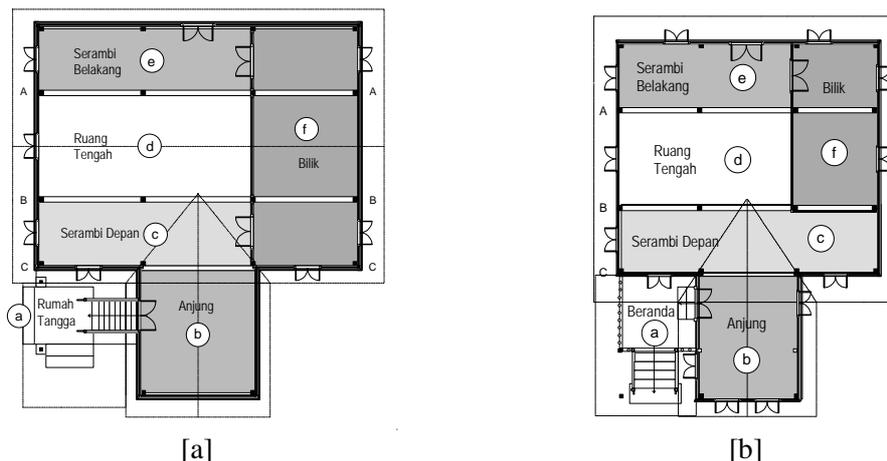
No	<i>Kutai</i> Owner and Location	Ultimate Variations	Year of Built	No of T at Rumah Ibu	House Reference File
1	<i>Kutai Anjung</i> Raja Badrishah, Kota Lama Kiri Kuala Kangsar	<i>anjung</i> and gable end roof	1900s	T 16	(No 20)
2	<i>Kutai</i> Bendang Kering, Sayong, Kuala Kangsar	<i>anjung</i> and gable end roof (Chinese Builder)	1910s	T 16	(No 25)
3	<i>Kutai Anjung Bumbung Limas</i> , Megat Sulaiman, Kampung Sementa, Kuala Kernas, Kuala Kangsar	New roof both <i>anjung</i> (<i>bumbung limas</i>) and <i>rumah ibu</i> (two-tier roof)	1910s	T 16 (Exclude of <i>Tiang Tongkat</i>)	(No 31)

3.3 Kutai Anjung Beranda.

Kutai Anjung Beranda is consisted of *rumah ibu*, *anjung* and *beranda* (Fig.7). The *beranda* is used in *Kutai* house is an additional space to the entrance area (*rumah tangga*) at the front house. It is an intermediate space between the two staircases, which is lower than the living floor level of *rumah ibu* and *anjung*. Also created a sufficient space for informal activities such as entertaining informal male guest or friends. *Kutai Anjung Beranda* is still having the same characteristic and shape as *Kutai Anjung* with 'T' shape house plan. The number of *tiang* is still based on the counting of columns of *rumah ibu*. The columns that are supporting the *beranda* components are independent and sometimes sharing the weight at the *tiang pendek* of *rumah ibu* by using *tetupai*. For this particular study, *Kutai Kecil Parit*, near Bota Kanan, *Kutai Teh Saayah*, Kampong Baru and *Kutai Telok Kepayang* resemble a similar house form that can be classified as *Kutai Anjung Beranda*.

From the components studied through the house form, building components and decorations elements, the evolution in the development of *Kutai* house has progressed gradually. For *Kutai Anjung Beranda*, it has developed a further variation of *Kutai Anjung* in terms of its space utilization, whereby an additional and informal space were taken out from the house and located at the outside. Such activities were once performed inside the house at *serambi depan* area. But for *Kutai Anjung Beranda*, another space is used instead to add more privacy to the occupants without having to go in. The building components and decorations is slightly differed form the *Kutai Asli*, the method and joinery has been altered. The design is implicated to the house form and the activities, and has created a new version of *Kutai* house along the development of *Kutai* house. However, overall design, in terms of its basic house form (*rumah ibu*) is remained the same.

Therefore, it can be concluded that *Kutai Anjung Beranda* style classification can be grouped into two categories as shown in Table 3. These houses were taken as an analysis study based on the principal elements that can be identified it as *Kutai Anjung Beranda*. In conclusion, the variation of house form as compared to the *Kutai Asli* and *Kutai Anjung*, the *Kutai Anjung Beranda* is one style that is derived from the change of needs and activities which indirectly alter the façade and the house form to new 'reinvented' *Kutai* house. From the analysis, it is clear that from the period of 1840s to 1940s, the *Kutai* house has evolved gradually but without having to effect to much on the original structure, form and components. With modification has had been done to the current house and expected to evolve after the 1930 is pertinent.



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Figure 7: Spatial organisation in a typical plan of, [a] *Kutai Anjung* T16, Plan of *Kutai Raja Badrishah*, [b] *Kutai Anjung Beranda* T16, *Kutai Kecil Parit*, Bota

Table 3: List of *Kutai Anjung Beranda* house list and its *beranda* variation.

No	<i>Kutai</i> Owner and Location	Ultimate Variations	Year of Built	No of T at <i>Rumah Ibu</i>	House Reference File
1A	<i>Kutai</i> Kecil Parit, Bota Kanan, Bota (Owner unknown)	Small wooden <i>beranda</i>	1910	T 16	(No 34)
1B	<i>Kutai</i> Telok Kepayang (Owner unknown)	Bigger wooden <i>beranda</i>	1930	T 16	(No 36)
2	<i>Kutai</i> Teh Saayah, Kampung Baru, Bota Kanan	Entirely Concrete <i>beranda</i> and <i>Bumbung Limas</i> roof	1930	T 16 (Exclude of <i>Tiang Tongkat</i>)	(No 26)

4. CONCLUSION

4.1 The location of *Kutai* Houses.

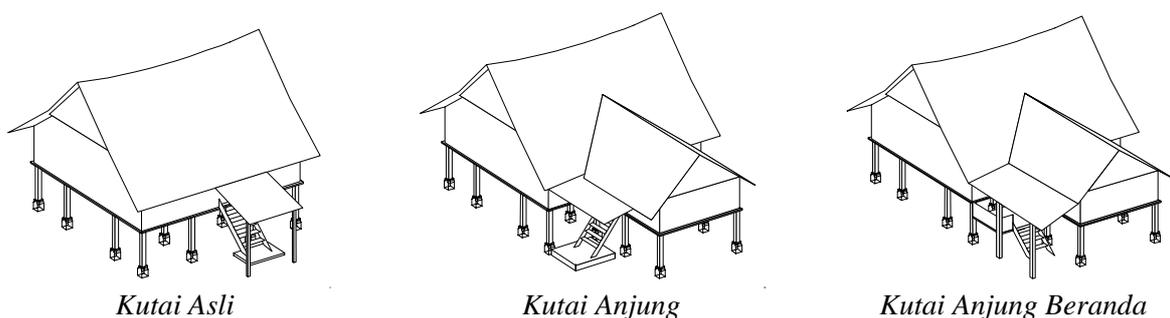
For this research, the scope is extended from Kuala Kangsar District, Perak Tengah District to the northern part such as Temenggor in Hulu Perak District. Two houses were found in the tributaries of Perak, namely, Kinta River and Larut River – *Kutai* Keruh Hilir (Kuala Kangsar) and *Kutai* Tijah (Kinta). The research has managed to establish the location of *Kutai* houses mainly located at the riverbank of Perak River and its tributaries (Fig. 8). The categorisation of *Kutai* house based on the year of built and its location. These houses were taken as a sample and for analysis study.

Since 1935, most houses have evolved using much faster and cheaper substitution of materials. Changes were also found in the detailing of house components, which include space addition and house orientation. The design however, was very much contributed by less of knowledge of the *tukang*, and unfortunately with no systematically transferral to the next generation. An addition to that, with the new emphasis in mass production and its development in housing industry direction towards, the use of the traditional skills and experience become effaced and slowly forgotten. Nevertheless, the evolution of the traditional *Kutai* house gradually came to an end and new category emerged, forming new evolution which is quiet similar to the *Kutai* house design (Fig. 9)

The definition of *Kutai Asli* is determined by investigating the number of building components losses or additional features during the process of evolution. In this context, some components have gone through a few changes, alteration and addition, resulting in the formation of variants. However, some of the *Kutai Asli* components are still exist in both *Kutai Anjung* and *Kutai Beranda* even though with different construction technique. But for both *Kutai Anjung* and *Kutai Beranda* had different techniques and materials that are obviously not similar to *Kutai Asli*.



Figure 8: Map of Perak showing the location of 36 documented *Kutai* houses along Perak River and its tributaries. The majority of the *Kutai* houses were found in the administrative district of Kuala Kangsar and Perak Tengah.



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Figure 9: Basic house form of *Kutai Asli*, *Kutai Anjung* and *Kutai Anjung Beranda*. Note on the constant form of *Kutai Asli* house form.

4.2 The Evolution of Style and Its Variations of *Kutai* House.

The analysis shows that the evolution of the *Kutai* houses had under form three stages: Original, Progressive and Growth (Fig. 10). *Kutai Asli*, which was built between the years 1817 to 1900, had a very progressive development in its design. It include additional space to it original house form, building components and decorative elements.

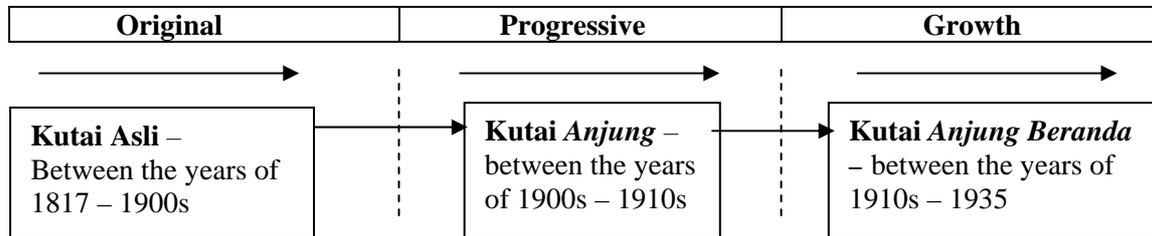


Figure 10: The evolution of *Kutai* house between the periods of 1817 to 1935.

The year 1935 marked a dismissal of gradual evolution of *Kutai Asli*, *Kutai Anjung* and *Kutai Anjung Beranda*, which is replaced by a different type of house such as *Rumah bumbung limas* (comparable house form but dissimilar components). The *Kutai Anjung Beranda* style has evolved much later than the *Kutai Anjung*. Since *Kutai Anjung* existed earlier (c. 1900), subsequently, the introduction of *beranda* space at the front entrance staircase of *Kutai Anjung*, thus, the term *Kutai Anjung Beranda* is used to describe this house style. The most common feature found in *Kutai Anjung* is the entrance, which is at the side and straight flight to *anjung* space. And for *Kutai Anjung Beranda*, with the introduction of *beranda* – a relaxing area at the front of the house with two short flights of staircases indicates the versatility of its form has combined without destroying the main *Kutai* design. This further enriches the house form within its main style of *Kutai Asli*. In conclusion, the evolution of *Kutai* house had evolved between the periods of 1817s to 1935s. This period witnessed at least three main styles of *Kutai* houses: the *Kutai Asli*, *Kutai Anjung* and *Kutai Anjung Beranda*.

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LIST OF REFERENCES

- Ahmad, A. S. (2000). *Sulalatus Salatin Sejarah Melayu*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Ali, K. M. (1983). *A Vanishing Heritage: The Old Traditional Malay Houses*: University of York.
- Andaya, B. W. (1979). *Perak the Abode of Grace*. Kuala Lumpur: Oxford University Press.
- Ariffin, M. N., & Zubir, S. S. (2004). *Revue: Exporting Regionalism: Transposing Vernacular Elements In Housing Design*. Shah Alam: Universiti Teknologi Mara.
- Ariffin, M. N., & Zubir, S. Z. (2005, 26 - 28 January). *A Forgotten Tradition: A Critical Survey of The Traditional Melaka House*. Paper presented at the Hoompoon-Sathapattayapata' 04, Chiang Mai.
- Ariffin, S. I. (2001). *Order in Traditional Malay House Form*: Oxford Brookes University.
- Brown, C. C. (Ed.). (1970). *Sejarah Melayu or Malay Annals*. London: Oxford University Press.
- Brunskill, R. W. (1978). *Illustrated Handbook of Vernacular Architecture* (2 ed.). London: Faber and Faber London.
- Gibbs, P. (1987). *Building A Malay House*. Singapore: Oxford University Press.
- JUPEM (Cartographer). (1999). *Semenanjung Malaysia, Perak*
- McNair, & Adolphus, J. F. (1972). *Perak and the Malay*. Kuala Lumpur: Oxford University Press.
- Moore, W. K. (2004). *Malaysia A Pictorial History 1400 to 2004*. Kuala Lumpur: Archipelago Press, Editions Didier Millet, in association with Arkib Negara Malaysia and The New Straits Times Press.
- Nasir, A. H. (1983). *Rumah Kutai di Perak*. Paper presented at the Working Paper for Bengkel Kepimpinan dan Pengajian, Kebudayaan Negeri Perak, Perak.

Nasir, A. H., & Teh, W. H. W. (1996). *The Traditional Malay House* (F. Jonas, Trans.). Selangor: Penerbit Fajar Bakti Sdn. Bhd.

Panofsky, E. (1972). *Studies in Iconology: Humanistic Themes In the Art of the Renaissance*. New York: Icon Editions Harper and Row, Publishers [Originally published in 1939 by Oxford Univ. Press].

Schapiro, M. (Ed.). (1953). *Theory and Philosophy of Art: Style*. New York: Artist and Society.

Talib, A., & Ariffin, M. N. (2003). *The Style of Perak Malay House (Rumah Kutai) Along Perak River and Its Tributaries*. Paper presented at the Seminar Paper on Research Methodology, 2nd Qualitative Research Convention. Theory and Practice QRC, Malaysia.

Winstedt, R. O. (Ed.). (1951). *Tajul Muluk*: Originally published by Maktabat wa-Matba'at Darul Maaruf in Penang. Exact provenance and the author of the treatise are not known as was the date of its first publication.

Yuan, L. J. (1987). *The Malay House: Rediscovering Malaysia's Indigenous Shelter System*. Penang: Institut Masyarakat.