

中央研究院民族學研究所

專刊之三

樹皮布印文陶與造紙印刷術發明

凌 純 聲

中華民國五十二年

臺 灣 南 港

INSTITUTE OF ETHNOLOGY
ACADEMIA SINICA

MONOGRAPHS NO. 3

**BARK-CLOTH, IMPRESSED POTTERY, AND THE
INVENTIONS OF PAPER AND PRINTING**

by

SHUN-SHENG LING

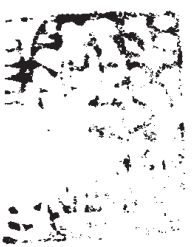
with a contribution by

MARY MAN-LI LING



NANKANG, TAIPEI, TAIWAN
REPUBLIC OF CHINA

1963



本書一至七篇，係著者自民國五十年起至五十二年
應國家長期發展科學委員會之聘，擔任國立研究講
座教授期內撰述之研究專題，用特附誌謹表謝忱。

This monograph was accomplished by the author between
years of 1961-63 when he was appointed by the National
Council on Science Development as National Research
Professor. For this appointment and associated academic
grants the author is deeply indebted to the Council.

中央研究院民族學研究所

專刊之三

樹皮布印文陶與造紙印刷術發明

凌 純 聲



中華民國五十二年

臺 灣 南 港

序

民國四十七年夏，小女曼立在臺灣東部，花蓮縣馬太安社阿美族從事民族學調查工作。她發現馬太安社老年人中，尚有多人見過樹皮布，並且還有人能記憶清楚在其少年時做樹皮布的方法，當時她祇問了一個大概。調查回來後，她告訴我此事，我對她說此一發現甚為重要，這一現已消失的樹皮布文化，幸而老人尚在，應快去做復原工作。所以在民國四十八年的年暑假，她又兩次赴馬太安社作調查時，都繼續做此項工作。所得資料關於樹皮布的原料及其製造的過程與技術記錄得相當詳細。因此鼓勵她將這部份材料提出來，先行整理並與環太平洋其他地區的樹皮布做一番比較研究，作一專題發表。因為環太平洋地區當然應包括中國一區在內，但中國古代有關樹皮布的材料，文獻散載古籍，當初她已搜集一部份資料，但繼續再找頗感吃力，而費時太多。因此著者利用她所得材料，繼續搜求與研究，擬先寫成中國古代的樹皮布文化一文，以補她文中所缺的中國地區。但後來在研究中，發現中國漢代蔡倫對於造紙術的發明，是受樹皮布文化演變而來的影響，乃將題名改為中國古代的樹皮布文化與造紙術發明。在第二世紀（105 A. D.）初蔡倫發明用植物纖維造真紙故名蔡侯紙之後，古代的樹皮布紙又名赫聾書的仍繼續製造，如第三世紀陸機（261—303）詩疏的穀布紙；第四世紀東晉初年虞預表中稱的布紙，都是樹皮布紙。因為真紙雖價廉而質輕薄，然紙質柔弱而易破碎，並且不能受濕。反不如穀布紙的粗厚而能耐濕經用。所以中國直至唐宋金元的時代，通行的紙幣又名楮幣或楮鈔，或是直接以樹皮布紙而造鈔幣；至少是採用古代打製樹皮布紙的方法以造鈔紙。又唐宋以來做紙甲紙衣紙帷等的紙，及北宋初年鈔寫藏經用的金粟牋等，作者懷疑這許多名雖為紙，實非真紙而為樹皮布紙，乃寫了三篇論文：宋元以後造楮鈔法與樹皮布紙的關係，唐宋以來的紙甲紙衣紙帷考，北宋初年的金粟牋考，以上三文，僅根據文獻的記載作的考證，藉志存疑。夏金元時的紙幣和北宋初的金粟箋，幸實物尚存，希望造紙專家，能作實物的研究，以明究竟。

在研究樹皮布文飾時，發現樹皮布上的花紋，除手繪外多數是由印刷而成，印刷

樹皮布花紋的技術有五種：鏤空花模版 (stencil designs)，陽文花模板 (tablet designs)，雕花木板 (carved board)，小花木印 (small stamps)，滾條木軸 (wooden cylinders)。這幾種印花紋於樹皮布，當為後世印花布的先河。作者以為古代雕板印畫必先於印字，其在技術相同，不過文字與花紋的分別而已。印刷術發明既與印花布有關，更應溯源到樹皮布印花，在樹皮布印花與印刷術發明一文中即證明此說。又印文陶的花紋及文字與印刷術發明一文，是研究從新石器時代起與樹皮布印花同時並存的印紋陶文化，因為印花樹皮布與印紋的陶器的製造技術，打製工具及所印花紋，有許多相同之處，因此她們可稱是姊妹文化，二者都可說是後世印刷術發明的先驅。

在曼立文中曾述及臺灣樹皮布石打棒，作者後又繼續新發現若干石打棒，又將臺灣打棒類型，與華南，東南亞及中美洲的作一比較研究，寫成華南與東南亞及中美洲的樹皮布石打棒一文。自民國五十年至五十二年的三年中，關於樹皮布，印紋陶與造紙，印刷術發明，這一類問題先後寫了七篇論文，發表之後，頗能引起中外學者的注意，索取抽印本者甚多，茲集七篇論文及曼立的臺灣與環太平洋的樹皮布文化作一專刊出版，以就正於有道。又本報告能得出版，承嚴伯英，陳毓杰兩先生節譯英文與整理文稿，協助甚多，特此敬表謝意。

凌 純 聲

民國五十二年十月

FOREWORD

During her ethnological survey of the Ami Tribe at Vata-an Village of Hualien Hsien in east Taiwan in the summer of 1958, my daughter, Mary Ling, found out that many of the aged aborigines of Vata-an had seen the bark cloth during their early days and some of them could still describe clearly its manufacturing processes from their remembrance. However, she made only a general inquiry then about this subject. Being advised of this upon her return, I told her that it was an important discovery of the bark cloth culture which has now disappeared, and that some reconstruction work should be done about it as soon as possible while these aged aborigines were still alive. As a consequence, she made two more trips to the Vata-an Village during the summer and winter vacations of 1959, chiefly to carry out further investigation and possible reconstruction work of this ancient culture. In view of the considerable valuable materials and informations she collected from these trips with regard to the raw materials and manufacturing skills and processes of the ancient bark cloth, I then encouraged her to first arrange these materials and then, based on these materials, make a comparative study of the various features of the bark cloth culture of the circum-Pacific areas and publish the results of this particular study in a paper. China is, of course, included in the circum-Pacific area. Originally she had gathered some of the data and records in connection with the bark cloth of ancient China which are scattered in numberless old documents and books. Nevertheless, it later became quite difficult and time-consuming for her to continue her search for more of such materials. As a result, I decided to write a paper on the bark cloth culture of ancient China myself in order to supplement the portion of China which was lacking in her paper. For the development of this paper, I conducted a thorough study, based upon the materials made available by her and the other data I later collected myself. During my study, I discovered that the invention of the art of paper-making by Tsai Lun in the Later Han Dynasty (25—220) was a result of the

influence of the bark cloth culture, and accordingly, I changed the title of this paper to "Bark Cloth Culture and the Invention of Paper-Making in Ancient China". As a matter of fact, the bark cloth paper of old times, also called the *heti*-paper, continued to be in production long after the appearance in the 2nd century (105 A.D.) of the "True Paper" which was made with plant fibres and was also known as the "paper of Marquis Tsai" because Tsai Lun invented it. The following are named for further example: The *ku pu* paper recorded in Lu Chi's (261-303) *Shih shu* of the 3rd century; and the cloth paper mentioned in Yu Yu of early Eastern Chin's Memorial of the 4th century, both were bark cloth paper. Although the true paper was cheap, light and thin, it was fragile, unable to resist dampness, and therefore not so durable as the coarse and thick *ku pu* paper. For this reason, the paper currency, also known as *chu pi* or *chu chao*, in circulation in ancient China from the remote times until the Tang, Sung, Kin and Yuan Dynasties, had been made either directly with bark cloth paper or at least the ancient beating process of bark cloth manufacture was adopted in making the paper for such currency. Likewise, I believe the paper which had been used to make armors, clothes, screens, etc. down from the Tang and Sung eras, and the Chin Shu paper which had been used for making copies of Buddhist Classics during the early Northern Sung period, were not the so called "true paper", but varieties of bark cloth paper. Recently, I have completed some research work in this area based upon the records and documents which were made available to me. And for the benefit of those who have interest in this same area, I have published the results of my research under three separate titles, namely, "Relationship between the Making of Chu Chao (paper money) down from Sung and Yuan Dynasties and the Bark Cloth Paper", "Study of the Paper Armors, Paper Clothes and Paper Screens from the Tang and Sung Dynasties", and "Study of the Chin Shu Paper of Early Northern Sung Period". Fortunately, specimens of the paper currencies of Hsia, Kin and Yuan periods as well as samples of the Chin Shu paper of Northern Sung are still in existence. And it is hoped that some expert paper-manufacturers can determine the truth by careful examination of these existing specimens.

In my study of the decorated bark cloth, I found out that except by hand painting, most of the designs and patterns were printed on the bark cloth in the following five different methods: Stencil designs; tablet designs; carved board; small stamp; and wooden cylinders. It may be said that such bark cloth with printed designs was the forerunner of the printed cloth of later ages. It is my opinion that wood-block printing of pictures had appeared earlier than the printing of characters in ancient China; essentially, the former was concerned with the printing of figures or designs, while the latter with the printing of words, but there was little difference between them so far as the basic printing skills were concerned. Since the invention of printing was related to the printed cloth, it is more proper that its origin should be traced to the decorated bark cloth and my article titled "Design-Printing on Bark Cloth and the Invention of the Art of Printing" was written from this point of view. Further, my paper, "Designs and Inscriptions on Impressed Pottery and the Invention of Printing" presents my study of the culture of impressed pottery which had co-existed with the printed bark cloth ever since the Neolithic era. And they may be called Sister Cultures because they had much in common with respect to their manufacturing processes and tools as well as the designs or patterns adopted. Thus both may be regarded as the herald of the invention of the art of printing.

Subsequent to Mary's discussion in her paper of the stone bark cloth beaters found in Taiwan, I discovered more such stone beaters and made a comparative study, by type, of the beaters of Taiwan, South China, Southeast Asia and Central America. The result of this study was published in my paper, "Stone Bark Cloth Beaters of South China, Southeast Asia and Central America". During the 3 year period from 1961 to 1963, I had completed 7 papers with regard to the ancient bark cloth culture, impressed pottery and the inventions of paper-making and of block printing, etc. All of which have attracted the attention of scholars at home and abroad, and requests for reprints have been received frequently. In view of this and for the sincere purpose of eliciting valuable comments from scholars who are also

interested in this field, this special volume, containing **seven of my recent articles** and Mary's "Bark Cloth Cultures of Taiwan and the **circum-Pacific Areas**" is published.

Finally, I wish to express my deepest appreciation to **Mr. Yen, Po-ying** for his translation of each of the English abridgements. I am **also grateful** to Mr. Chen, Yu-chieh for the assistance he has provided in **search of background information, arrangement of necessary materials as well as the final preparation of the manuscript for publication.**

Shun-sheng Ling

October, 1963

樹皮布印文陶與造紙印刷術發明

目 錄

序	i
一、中國古代的樹皮布文化與造紙術發明	1
二、宋元以後造楮鈔法與樹皮布紙的關係	51
三、唐宋以來的紙甲紙衣紙帷考	69
四、北宋初年的金粟牋考	81
五、樹皮布印花與印刷術發明	87
六、印文陶的花紋及文字與印刷術發明	123
七、華南與東亞及中美洲的樹皮布石打棒	185
八、臺灣與環太平洋的樹皮布文化(凌曼立著)	211

一 中國古代的樹皮布文化與造紙術發明

- 一、前 言
- 二、中國古代的榻布答布都布納布
- 三、古代華北的楮冠與江南的穀布衣
- 四、樹皮布在中國古代的地理分佈
- 五、蔡侯紙發明前的縑紙與麻紙
- 六、前漢書的縑紙書即爲樹皮布紙
- 七、蔡倫發明造紙術與樹皮布文化
- 八、後 語

一、前 言

民國四十七年夏，本所承中國東亞學術研究計劃委員會之推薦，得哈佛燕京學社的補助，舉行臺灣花蓮縣光復鄉馬太安社阿美族的民族學調查，這是一個訓練計劃，所以參加的人員，多數是民族所的助理員及臺灣大學考古人類學系的高年級學生。小女曼立利用暑假亦加入此項工作。她擔任阿美族的衣服，飾物，紡織，編織等項調查。在她調查衣服的原料時，發見馬太安社老年人中，尙有人見過樹皮布，並且還有人能記憶清楚其做法。當時她祇問了一個大概。調查回來後，她告訴我此事，我對她說此一發見甚爲重要，這一現已消失的樹皮布文化，幸而老人尙在，應快去做復原工作。所以在民國四十八年的暑假，她又兩次赴馬太安社作補充調查時，都順便繼續此項工作。所得資料對於製造樹皮布的過程與技術紀錄得相當的詳細。因此鼓勵她將這部份材料提出來，先行整理並與環太平洋其他地區的樹皮布做一番比較研究，作一專題發表。本文可說是著者指導她研究和寫作臺灣與環太平洋的樹皮布文化論文的副產品。因爲環太平洋地區當然應包括中國一區在內，但中國古代有關樹皮布的材料，文獻散載古籍，當初她已搜集一部份資料，但繼續再找頗感吃力，而費時太多。因此

著者利用她所得材料，繼續搜求與研究，先完成中國古代的樹皮布文化，以補地文中所缺的中國地區。又同時發現中國漢代蔡倫對於造紙術的發明，是受樹皮布文化演變而來的影響，著者再繼續研究，這是本文命題的由來。

樹皮布文化的地理分佈甚廣，其區域西起非洲西部，東經東南亞，太平洋諸羣島，而達中南美洲。現代民族學家多數以為這一文化特質，是起源於東南亞，而後東西分道傳播至美非二洲的。西洋的人類學者很少兼治漢學，不能在中國古文獻中找資料，所以多數不知中國古代不僅華南，甚至在華中與華北亦有樹皮布文化，如西方的人類學同工，讀到本文以後，他們對於樹皮布這一文化特質起源的觀點和理論，應當有所改變。

造紙術是中國四大發明之一，中西學者已有不少人研究過這一問題，紙是後漢蔡倫發明的，史有明文；但在蔡倫之前，已有幡紙，絲紙和赫隲書的薄小紙的問題，中外學者迄今尙在爭論未得解答。國內學者中央研究院院士同仁中，在近三十年來，就有三位先生發表三篇與造紙術發明有關的重要論文：姚從吾（士鰲）的中國造紙術輸入歐洲考，勞貞一（榦）論中國造紙術的原始，李書華（潤章）造紙的發明及其傳播。他們多討論到蔡倫以前的紙，尤其是漢書所載赫隲書的問題，三位的意見不一，著者現在提出新的解答，西漢時的赫隲書，應劭注作薄小紙，就是中國古代的樹皮布，亦即陸璣詩疏所說的穀布紙，這種紙或稱布，在蔡倫之前早已存在，蔡倫不過利用古代造絲紙和穀布紙的兩種方法合併，原料方面本來用動物纖維之絲，代以植物纖維而已。所以要明瞭蔡侯紙或稱真紙的發明，必須先研究中國古代的樹皮布文化。

二、中國古代的榻布答布都布納布

樹皮布在馬來波利尼西安語 (Malayo-Polynesian) 或南島語 (Austronesian) 中稱為 *tapa*，臺灣土著族的語彙中亦有 *tapas, tapal, tarip* (*ri* 為接中語)，*tapes* 等語⁽¹⁾與樹皮布有關，使吾人感到驚異的，中國古代稱樹皮布亦同此名，雖文字上有榻布，答布，都布，納布諸名，都可說是 *tapa* 一語的同音異寫，或因時代先後或地域

(1) 鹿野忠雄 1946, p. 317.

的不同而生的差異。如史記卷一二九貨殖列傳第六九云：

其帛絮細布千鈞，文采千匹，榻布皮革千石。

在汲古閣刻本的史記，榻布之榻作榻，這是值得注意的。又在前漢書卷九一貨殖列傳第六一云：

其帛絮細布千鈞，文采千匹，答布皮革千石。

上段文字除榻寫作答字外，可說是與史記的完全相同。後漢書卷二四馬援列傳第十四云：

公孫述稱帝於蜀，囂使援往觀之。援素與述同里閭相善，以爲既至，當握手歡如平生。而述盛陳陛衛以延援入，交拜禮畢，使出就館，更爲援制都布單衣，交讓冠。

但在東觀漢記卷十二列傳第七馬援傳云：

爲援制答布單衣，交讓冠。

東觀漢記與漢書均爲班固所著，故多用‘答布’，至范曄時始作都布。至在宋書中又稱納布，宋書卷七列傳第三一徐湛之傳云：

初高祖微時，貧陋過甚，嘗自新洲伐荻，有納布衫襖等衣，皆敬皇后手自作。由上錄可見自前漢至劉宋樹皮布之名已有四種。古來注家如三國魏孟康漢書音義注答布云：“答布，白疊也”。劉宋裴駟史記集解注榻布亦云：

徐廣曰榻音吐合反。駟案漢書音義曰：榻布，白疊也。

至唐初顏師古漢書注答布云：

麤厚之布也，其價賤，故與皮革同其量耳，非白疊也。答者，重厚之貌，而讀者妄爲榻音非也。

顏氏雖言榻布非白疊，而爲麤厚之布，但亦未能說明是何種布類。直至明清注家對榻布是否爲白疊，尙在爭論，莫衷一是。如明末清初方以智的通雅卷三七云：

榻布，卽答布也。馬援都布單衣，注卽答布。郝氏引史記貨殖傳榻布，注榻布白疊布。……按榻卽答，番布之稍粗者。

梁玉繩史記志疑卷三五云：

附案：榻乃答之譌。師古云：麤厚之布，非白疊也。晉書王沈傳：拉答者，有

沈重之譽，可參。

沈欽韓漢書疏證卷三四云：

答布按上言細布，則知是麤布。其時白氎未入中國故孟康之說非也。答布即納布，宋書徐湛之傳，高祖微賤時，伐荻有納布衣襖，以付長公主。柳元景傳薛安都著絳納兩當衫，納即納之異。

王先謙漢書補註卷六一云：

顏氏家訓云：醕者多饒積厚之貌，與答布重厚之意相近。集韻答醕二字同託合切，與榻音亦相近。

俞正燮癸巳類稿卷十四木棉考：

木棉有木本，有草本。其為布初見者史記貨殖列傳榻布千石，注引漢書音義云：白疊也。三國志東夷傳云：倭人男子露紵，以木棉招頭。

由上可見史記的榻布即漢書的答布，洪頤宣曰：“史記作榻布，齊民要術卷七引漢書亦作榻布千石”。答布又作都布，後漢書馬援傳的都布，在東觀漢記同傳作答布。宋書的納布，沈欽韓以為納布即答布。此榻，答，都，納布，明明同為一物，可能是因時代的先後而異寫。又榻布究為何種布類？孟康謂是白疊，顏師古謂非白疊而僅是麤厚之布，方以智則以為番布之稍粗者，其他注家皆無創見。方氏以榻布為番布，可見榻，答，都，納為番名之漢譯也。中國古代注家近兩千年來，未知榻布答布等究為何種布類，雖方以智認為榻布為番布之稍粗者，其說稍近事實，然亦未能明言榻布為樹皮打成之布。

日本學者那波利貞在1923年著榻布考一文，他的結論說：

日本的古語習慣將楮栲布稱做 *tahu*，古習慣常常將此語相當於漢字的榻布答布，此可能對秦漢人之楮栲布，俗稱的 *tahu*，在很早就傳到日本，而漢書的答布，就是楮栲布，也即用楮栲所織的織物⁽¹⁾。

國分直一氏在他所著東亞古代之 tapa 文化文中對那波氏認為答布與楮栲布同是織成之布不能同意，他說：

(1) 那波利貞，1923, pp. 28-29.

筆者認為並非織物，而是以搗氈法 (felting) 的手續 (process) 打成的樹皮布即 *tapa* 布⁽¹⁾。

國分氏的結論是正確的。又三宅米吉氏的拷布考文中也說：

tahe 與 *tapa* 相似處有四項：原料同一，名稱相似，形質用法相近，製法亦同。⁽²⁾

後籐守一氏在服裝史概論文中也認為 *tahe* 是 *tahu*，他說：

拷布是拷布之誤，拷為打之意，拷布為打成之布的意思，此或我國最古的衣料也說不定⁽³⁾。

此拷布為拷布之誤，與前引在汲古閣刻本的史記榻布之榻作搗，同一意義，搗亦打之謂也。故中國古代的榻布、答布等，為日本的拷布 *tahu* 或 *tahe*，與今太平洋區的南島語中的 *tapa*，同是以樹皮打成之布。其名稱相同及其由來，詳見後說。

三、古代華北的楮冠與江南的穀布衣

史記的榻布與漢書的答布，是住在中國南方的南島語系遺民及苗蠻等族稱樹皮布的名詞，直接音譯而來的，在下文第六節將詳細討論。但在古代中國華北及江南則稱樹皮布謂楮布或穀布，早用以做衣冠。如漢初韓嬰的韓詩外傳卷一有云：

原憲居魯，環堵之室，茨以蒿萊，蓬戶甕牖，桷桑而無樞，上漏下濕。匡坐而絃歌。子貢乘肥馬，衣輕裘，中紺而表素，軒不容巷而往見之。原憲楮冠黎杖而應門，正冠則纓絕，振襟則肘見，納履則踵決。子貢曰：嘻！先生何病也。

原憲，孔子弟子，公元前第六世紀時人，當時用楮皮為冠，故曰楮冠。毛詩小雅鴻雁鶴鳴：

樂彼之園，爰有樹檀，其下維穀。

陸機毛詩草木鳥獸蟲魚疏卷上註：“其下維穀”：

穀，幽州人謂之穀桑，或曰楮桑。荆揚交廣謂之穀，中州人謂之楮。殷中宗時桑穀共生是也。今江南人績其皮以為布，又擣以為紙，謂之穀布紙，長數丈，

(1) 國分直一，1953, pp. 51-52.

(2) (3) 國分直一，1953, p. 49 引。

潔白光輝，其裏甚好，其葉初生，可以爲茹。

陸機三國時吳人，生於公元後第二世紀，時江南人積樹皮爲布。至於‘糝以爲紙’，在下文再討論。此後以樹皮爲衣冠，常見於史志。如後漢書卷一一三周黨傳：

周黨字伯況，太原廣武人也。……著短布單衣，穀布綃頭，待見尙書。注曰：以穀樹皮爲綃頭也。

又東觀漢記卷十六周黨傳：

建武中，徵黨，著短布單衣，穀布幪頭待見，尙書欲令更服。黨曰：朝廷以是徵之，安可復更。遂以見也。

范書的綃頭，漢記的慘頭，又名幪頭。綃頭詳解見向栩傳注後漢書卷一一三云：

向栩字甫興，河內朝歌人。……爲被髮，著綃頭。注曰：說文：綃，生絲也。從糸肖聲音消。其字當作幪，音此消反，其字從巾。古詩云：‘少年見羅敷，悅巾著幪頭’。鄭玄注儀禮云：如今著慘頭，自頂中而前交額上却繞髻也。集解惠棟曰：方言云自河以北，趙魏之間曰幪頭；廣韻云：斂髮謂之幪頭，亦作慘。

所謂幪或慘頭，斂髮之巾也。古樂府有云：“脫帽著幪頭”。綃頭或以糸爲之，穀布綃頭，以穀樹皮布爲綃頭。絳綃頭或以穀樹皮布染紅色做的綃頭。

自南北朝以至隋唐，楮皮冠或穀皮巾在華北一直沿用，如梁書卷五一張孝秀傳：張孝秀字文逸，南陽宛人也。……孝秀性通率，不好浮華，常冠穀皮巾，躡蒲履。

又南史卷四九劉訐傳云：

訐常著穀皮巾，披衲衣，……在林谷之間，意氣彌遠，或有遇之者皆謂神人。

至唐蘇恭的唐本草（李自珍本草綱目卷三六引）

楮有二種：一種皮有斑花文謂之斑穀，今人用皮爲冠者。

上言以穀樹皮爲巾或冠，冠之形制雖不可知，至於巾，今阿美人所製樹皮巾的標本四件⁽¹⁾，製作很簡單，剝取樹皮熟搥成巾而已。

(1) 凌曼立，1960, p. 329