賀蘭山岩畫

Rock Art of Helan Mountain

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上海古籍出版社

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吳仕民 題

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上海古籍出版社
2007.上海

圖書在版編目（CIP）數據

賀蘭山岩畫.3/ 西北第二民族學院編纂 __ 上海：上海古籍出版社，2007.5
ISBN 978-7-5325-4703-6

Ⅰ.賀… Ⅱ.西… Ⅲ.賀蘭山－崖畫－美術考古－圖集 Ⅳ.K879.422

中國版本圖書館 CIP 數據核字(2007)第 044622 號

賀蘭山岩畫（全三册）

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出版 上海世紀出版股份有限公司
上海古籍出版社
（上海市瑞金二路 272 號 郵政編碼 200020）

網址：www.guji.com.cn
E-mail：guji1@guji.com.cn
易文網：www.ewen.cc

製版 上海圖致圖文設計有限公司
印刷 上海中唱印刷有限公司

開本 787 × 1092 mm 1/8
印張 155.5
插頁 12
版次 2007 年 8 月第 1 版
印次 2007 年 8 月第 1 次印刷
印數 1—300
ISBN 978-7-5325-4703-6/K.989
定價 4200.00 圓

Rock Art of Helan Mountain (3 volumes)
Editor: The Second Northwest University for Nationalities
Xixia District.Yinchuan.Ningxia.China.750021

Publisher: Shanghai Century Publishing Co.,Ltd.
Shanghai Chinese Classics Publishing House
272.Ruijin Second Rd.Shanghai.China.200020

Website: www.guji.com.cn
E-mail: guji1@guji.com.cn
Ewen wedsite: www.ewen.cc

Plate maker: Shanghai Tuzhi Image Design Co.,Ltd
Printer: Shanghai Zhongchang Printing Co.,Ltd

8 mo 787 × 1092 mm
Printed sheets 155.5
Insets 12
First Edition August 2007
First Printing August 2007
Print Quantity 1-300
ISBN 978-7-5325-4703-6/K.989
Price RMB 4,200

賀蘭山與賀蘭山岩畫

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賀蘭山像一條巨蟒横亘於寧夏西北部，山體走向爲北東30°，分水嶺偏於山體東側，是寧夏回族自治區與内蒙古自治區的界山。賀蘭山東麓中北段爲國家級自然保護區。賀蘭山北迄内蒙古烏海市南，瀕臨烏蘭布和沙漠；南抵寧夏青銅峽市馬伏峽子，與衛寧北山相接；西側平緩，毗連阿拉善高原；東側陡峻，面臨銀川平原。在寧夏境内南北長250多公里，東西寬15～30公里，面積1938平方公里，占寧夏實有總面積的3.7%。山峰海拔多在1500～2800米，主峰沙鍋洲3556米。從地質演化歷史來説是一個獨立的單元。

賀蘭山的自然地理特徵，通常分爲三段：大武口溝以北爲北段，大武口溝至三關口爲中段，三關口以南爲南段。北段海拔2000米左右，在長期的物理分化作用下，形成别具一格的球狀風化地貌。山勢和緩，氣候乾寒，植物種類與植被類型比較貧乏；中段爲賀蘭山主體，海拔3000米，具有明顯垂直分帶，海拔2000米以下爲乾燥剥蝕山地，2000～3000米爲水流侵蝕山地，3100米以上爲寒凍山地。主峰位於本段中部，山勢陡峭，地形險峻，自然條件複雜，植物種類豐富，類型多樣，並以森林植被集中分佈和植被垂直帶分異明顯爲主要特徵。

賀蘭山不但是銀川平原的天然屏障，而且是我國外流區和内陸區的分水嶺，季風氣候與非季風氣候、荒漠草原與荒漠的分界綫，具有十分重要的地理意義。賀蘭山有茂密的森林、衆多的植物種類、豐富的礦藏、完整的地質剖面，奇異的生物化石，是乾旱、半乾旱地區少有的自然綜合體和比較完整的自然生態系統。

約在25億年前，寧夏爲陸地；從原生代到古生代的石炭紀的十幾億年時間裏，寧夏大部分地區淪爲海洋。近幾年，地質部門采用賀蘭山北端的一種變質岩——含硅綫石榴二雲二長片麻岩，以“鋦—鍶法”測定其生成年齡約爲20.56億年±81.8百萬年。説明在距今20億年前，今賀蘭山地區是一個南北狹長的海洋槽地，據測量最深處達15403米。在外力作用下，從當時隆起的古陸上剥離的大量泥砂被流水源源不斷送往這個深淵。

大約在距今19億年前，在我國大陸上發生了一場規模巨大的“吕梁造山運動”。今賀蘭山地區在其巨大力量的推動下，一躍上升爲陸地。在賀蘭山上隆過程中，産生了一些裂縫，深藏地底下的熾熱岩漿乘虚而入，侵入於早先生成的岩石中。今天在黄旗口等地存留“黄旗口斜長花崗岩體”，就是這個時代岩漿侵入的産物。經利用“鉀氩法”測定，其生成年齡爲距今18.39億年。以後，賀蘭山再次下沉，淪爲海洋。但這時的“賀蘭山海槽”中，正孕育着生命的誕生，已經發現了一些“微古植物”菌藻類遺體，生成於17～14億年前。後來，在賀蘭山海洋中又演化孕育了藍藻。藍藻及其生命活動遺蹟所形成的綜合結構物，在石灰岩、白雲岩中形成同心狀的叠層結構，故被稱爲“叠層石”。賀蘭山中的叠層石種類十分繁多，較早期的代表有加爾加諾錐叠層石、鐵嶺叠層石、王全口錐叠層石、雅庫特叠層石等。同時於12.9億年前還生成了一種“海緑石砂岩”。

至晚元生代，也就是在距今10億年前，造山運動再度使賀蘭山隆起，上升爲古陸，隨後進入升降不定期。在距今約7億年時，賀蘭山區氣候變冷，進入至今所能考察出來的第一次冰期。在冰雪覆蓋下，賀蘭山渡過了漫長的歲月，氣温又逐漸回升，冰雪消融。巨大的冰岩雪塊，挟帶着滾石、漂礫，蕩滌着賀蘭山被擡升的大地。在正誼關、蘇峪口發現了這種自然運動留下的冰磧石。在距今6億年前，賀蘭山又沉没爲海。隨後一種屬于節肢動物的“三葉蟲”首次出現在海中。賀蘭山磷礦隨着這種動物的出現而沉積於蘇峪口一帶。到了地質史上的石炭紀——二叠紀，也就是距今約3.5～2.3億年的這段時期，賀蘭山地區地殼變動十分頻繁，時而上升，時而沉没，最後終於演變成湖泊、沼澤、河流相環境，氣候亦變得温暖潮濕，這就爲大量植物的滋生提供了良好的環境，鱗木、封印木、蘆木以及羊齒類樹木迅速繁衍、茁壯成長，使賀蘭山地區逐步變成一片茂密的林海。這些樹木死亡以後，適逢成煤的有利環境，

再經漫長地質作用的改造，就逐漸變成了煤層。賀蘭山的煤炭資源主要是這一時期形成的。到了中生代，即距今2.3～0.7億年前，地球進入“恐龍王國”。當時的賀蘭山是穩定的陸地，在汝箕溝一帶森林茂密，爲賀蘭山第二次形成可供開采的煤提供了物質來源。

持“多旋回學說”的地質工作者認爲，從距今1.8億年前開始，地應力又在很不穩定的賀蘭山區聚集，並開始推動着山體緩慢上升。到了距今0.8億年左右時，爆發了“燕山造山行動”，在此影響下，沿着賀蘭山昔日的裂痕，承繼着歷史的輪廓，地應力一舉將賀蘭山擡起，屹立蒼穹，奠定了賀蘭山今日這種高亢突兀的山勢。賀蘭山基本定形後，歷經長期的風化作用，被大自然刻劃雕琢成群峰崢嶸的外貌，同時也形成了許多山坳和谷口，成爲賀蘭山東、西往來的通道。

賀蘭山爲地壘式山地。山地東西麓均有巨大的山前隱狀斷裂。其地質基礎是由一系列南北走向的復式或單式褶皺及壓性斷裂帶構成的經向構造體系，與南部的牛首山褶斷帶、清水河——六盤山褶斷帶、羅山——雲霧山隆起帶等構成山字形的脊部，構造形跡是一系列背向斜的斷層，由于新華夏系的干擾，其表現比較破碎。

賀蘭山地層發育比較齊全，化石也比較豐富。自古生代至第四紀地層大都完備，僅缺失晚奧陶紀——早石炭紀的沉積。前寒武紀的片麻岩與石英岩均有出露，見於柳條溝、大武口等處。下古生代寒武紀的石灰岩、砂岩、葉岩發育良好，分佈普遍。上古生代則以石炭紀二迭紀地層同等發育爲特點，見於石炭井、蘇峪口、石嘴山等地，以葉岩、砂岩等爲主，並含有炭層。中生代三迭紀地層廣泛分佈，侏羅紀次之，前者以砂岩、礫岩、葉岩爲主，並組成山體的主要地層；後者主要見於汝箕溝、古拉本等地，以各種砂岩爲主，爲主要産煤地層之一。白堊紀和第三紀地層都未發育。在山前地帶和山間低地廣泛分佈着第四紀冲積洪積物、風積物和山麓堆積物。

賀蘭山在地貌形態上呈東仰西傾，形成東坡有衆多古老岩層出露的斷崖，岩石壁立，遠比西坡陡峭險峻。由於內外應力作用的差異，使賀蘭山北、中段在地貌形態上存在着很大的不同。北段東坡山體最寬處21公里，海拔不超過2000米，主要由花崗岩組成，邊際有少量沉積岩，物理風化强烈，形成球狀風化地貌。

中段是賀蘭山主體部分，海拔3000米左右，最高峰沙鍋洲即在此段中部偏南。這裏山體龐大，地勢陡峭，峰巒起伏，危岩聳矗，溝谷下切很深。海拔2000米上下有一段相對較平緩的山坡，出現小型山溝窪地或山間臺地，山坡風化物較厚，甚至出現小型山間積水窪地。中段東坡南狹北寬，最寬處21公里，以蘇峪口爲界，向南寬度不足14公里，山勢較爲和緩；向北則山體較寬，一般大於14公里，到汝箕溝一帶可達20餘公里。這是古生代末期以後中生代的地層發育，有優質煤炭資源。

賀蘭山東坡溝道極爲發育，多數自西向東延伸，呈梳篦狀分佈，自三關口至苦水溝之間有溝道21條。具有代表性的有三關口、榆樹溝、甘溝、大口子溝、黄旗口溝、拜寺口子、蘇峪口溝、插旗口溝、大水溝、汝箕溝、歸德溝、石炭井溝、大武口溝、苦水溝等。概屬黄河水系的外流區，其中最大者爲大武口，集水面積爲574平方公里。溝道一般在中、上部下切較深，呈“V”字形，溝道下部則較爲寬闊，礫石遍布谷底。

寧夏賀蘭山國家級自然保護區位於賀蘭山山脉東坡的北段和中段，北起麥汝井，南至三關口，西到分水嶺，東至沿山脚下。其位置在北緯38°27′，東經105°20′～106°41′。保護區内將山體分爲南、中、北三段，三關口至甘溝爲南段，甘溝至汝箕溝爲中段，汝箕溝至麥汝井爲北段。保護區南北長150公里，東西寬11.2公里。

1956年，全國第一届人大第三次會議92號提案及同年10月召開了第七次全國林業會議，確定賀蘭山爲全國15處自然保護區之一；1980年，國務院108號文件，把賀蘭山定位爲重點水源涵養林區；1982年7月，寧夏第四届人民代表大會第四次會議批准的《寧夏回族自治區天然林區保護暫行辦法》，確定賀蘭山爲省級自然保護區。1988年經國務院批准，將賀蘭山列爲保護天然森林和野生動物類型的國家級自然保護區。

保護對象：一是乾旱風沙典型的森林生態系統；二是青海雲杉、杜松、油松、羽葉丁香、蒙古扁桃、沙冬青、賀蘭山紅尾鴝、灰鶴、馬鹿、馬麝、藍馬鷄等物種；三是寒武紀地質剖面及新構造運動的形跡。

據考察資料，賀蘭山地處荒漠草原向荒漠的過渡地帶，植被類型多屬荒漠草原類型，計有青海雲杉、油松、山楊等喬木林1.34萬公頃，疏林地0.28萬公頃，灌木林0.25萬公頃，森林儲量144萬立方米。已知有維管植物81科，318屬，655種，其中有國家三級保護的珍貴瀕危植物如蒙古扁桃、沙冬青、羽葉丁香、四合木等。有觀賞價值的灌木黄刺玫瑰、野玫瑰，食用的山珍白蘑、紫蘑、菅盤蘑菇以及有經濟價值的野生菓木、藥材。保護區内栖息着有科研和經濟價值的動物，共有117種。其中屬於國家一、二級保護的15種，如黑鸛、金雕、豹、馬鹿、馬麝、岩羊、兔猻、荒漠猫、猞猁、藍馬鷄等。列入自治區保護的珍貴動物有石鷄、賀蘭山岩鷚、灰背伯勞等20種。賀蘭山是聞名於世的賀蘭山岩鷚、賀蘭山紅尾鴝與新發現的賀蘭山兔鼠等40餘種動植物標本的原産地。

賀蘭山有保存完整的文化遺迹，著名的如反映古代游牧民族生産、生活的岩畫20多處、正誼關的漢代墓、西夏王陵、拜寺口雙塔、明代長城、明清小口子寺廟、馬連口

佛塔及石刻佛像、大武口的武當廟等。

自古以來，我國北部的羌戎、匈奴、突厥、回鶻、党項、蒙古等游牧民族長期在賀蘭山一帶繁衍生息和游牧狩獵。據唐代《元和郡縣圖志》卷四記載："山有樹木青白，望如駁馬。北人呼駁爲賀蘭。"賀蘭山岩畫是這些游牧民族的珍貴遺存，爲我們研究和瞭解古代民族史、文化史、藝術史，提供了難得的形象資料。1969年發現賀蘭口岩畫，1984年自治區文物普查中又相繼發現了大批岩畫。

賀蘭山岩畫分佈比較廣，自北向南主要地點有：樹林溝、雙疙瘩、麥汝井、驢尾溝、黑石峁、歸德溝、白岌溝、大西峰溝、小西峰溝、插旗口、賀蘭口、蘇峪口、回回溝、白虎溝、廣武口、黄羊灣、石馬灣。賀蘭山岩畫從地域講綿延數百里，從時空講跨越了上百個世紀。它屬於不同民族、不同歷史時期的産物，組成一幅絢麗多彩的民族藝術畫廊。石嘴山地區岩畫以森林草原動物爲多，其次有放牧狩獵的形象；以賀蘭口、蘇峪口爲代表的中部地區，則以形形色色的人面像爲主；青銅峽地區以放牧、人騎及草原動物爲主。賀蘭山南部中寧岩畫數量甚多，岩畫内容則更爲豐富，廣角度地表現了游牧民族生活場景，堪稱游牧民族藝術的薈萃之地，表現了各不相同的地區特點。賀蘭山地區自古以來就是一個動物王國和天然的狩獵場，爲人類的生存提供了豐富的生活資料。所以在岩畫中有種類繁多的動物形象，以及人們狩獵、舞蹈、騎射、祈禱、娱樂的活動場面，藝術地再現了古代游牧人的社會風情和游牧生活。岩畫風格因此而表現得古樸、渾厚、粗獷、奔放。

岩畫的製作有三種：一種是磨刻法。畫像綫條没有明顯凹陷，作出的岩畫平整而光潔，基本是通體磨刻，有些像陰刻法。一種是敲擊法，用金屬或堅硬的石器在岩石上打擊，從畫面上可以明顯看到許多敲擊的點窩。第三種是綫刻法，似用金屬鑿頭勾勒出形象輪廓，然后掏深綫條，造成畫面的明快利落。在作畫中往往采用兩種結合的手法，避免了單調和平淡。

賀蘭山岩畫的産生在新石器時代甚至更早，晚期延續至中古西夏、宋、元時期。總體來説，賀蘭山岩畫絶不是一個時代一個民族的手筆，而是集多個民族之大成，經歷了漫長歲月完成的長卷史詩。

岩畫：人類文明的記録

李祥石　束錫紅

一、寧夏岩畫研究的回顧

賀蘭山岩畫自1969年春首次發現以後，鑒於當時“文革”的特定歷史環境，研究者衹能采取沉默的態度。此時開始，可稱爲沉寂的10年，是寧夏岩畫研究的蟄伏期，但並不是説處於冬眠狀態，而是蓄勢待發。自1979年始，岩畫事業迎來了百花齊放百家争鳴的春天，寧夏岩畫研究有了較大起色。其間比較重要的是1984年的寧夏文物普查。在極爲困難的條件下，文物普查隊冒酷暑、頂風沙，沿賀蘭山東麓發現了10多處岩畫點，1988年又發現了衛寧北山大麥地岩畫。這10年可稱爲岩畫大發現的10年，其影響巨大而深遠，直到今天寧夏岩畫的基本資料主要來源於此段時間的調查。這10年，中國岩畫界開始走向世界，産生了第一批國際岩畫委員會（10DMOS）會員。

1989年起，寧夏先後發表岩畫論文約百篇，出版了專著《賀蘭山岩畫（拓片）》、《中衛岩畫》、《賀蘭山與北山岩畫》、《賀蘭山岩畫》、《賀蘭山岩畫研究》等一批著作，爲寧夏岩畫的發展夯實了基礎。1991年10月在寧夏銀川召開了“國際岩畫委員會年會暨寧夏國際岩畫研討會”。這是在亞洲、在中國召開的第一次國際性的岩畫研討會，共有13個國家的145位代表參加。2000年9月又召開了第二届“寧夏岩畫研討會暨國際岩畫委員會年會”。爲宣傳寧夏、提陞寧夏的文化品格，爲寧夏岩畫工作開闢了道路。1995年3月發現了賀蘭山白芨溝洞窟彩繪岩畫；1995年9月發現了同心青龍山岩畫；1995年6月發現了青銅峽牛首山岩畫；1998年3月發現了靈武横山岩畫。2006年3月以來，在賀蘭山又相繼發現了石嘴山雙疙瘩、韭菜溝、驢尾溝、白溝、石炭井等一批十分精彩的岩畫。

值得一提的是1995年4月自治區文管會在賀蘭山北部的白芨溝内一處天然形成的洞窟内發現了由赭石粉繪製的彩色岩畫。在我國北方以鑿刻爲主的岩畫群中，發現了彩繪岩畫，對研究我國北方和南方岩畫的發生與發展，以及古代民族、民族遷徙、文化交流與傳播、宗教信仰等都有着相互關聯的意義。這次發現，也豐富了我們對絢麗多彩古代岩畫的認識。

賀蘭山白芨溝彩繪岩畫洞窟，是一個坐北朝南的天然洞窟，岩洞爲敞口形，開口寬約40米，高約20米，進深約35米，可容納上百人。洞窟前方山灣開闊，有山泉從旁邊流過，自然環境優美。彩繪岩畫分佈在岩洞東側呈斜坡形岩石夾縫的石面上，共31組，約有上百個單體形象和符號。其中有鑿刻岩畫1組。

這批彩繪岩畫内容基本上是記實性的，描繪了當時人們的生活場景和所見所聞，其中噴製空心手印很難得，因爲製作工藝比繪製難度更高。手印岩畫是一個古老的題材，我國較少，内蒙有幾處，也不過幾個手印，西藏岩畫也有空心手印，數量也不多，而賀蘭山白芨溝内的空心手印則多達18個，除了赭色的，還有黑色的。從打破關係分析，黑色的較早，以後又噴製了赭色覆蓋在黑色手印之上。此外更多的彩繪岩畫，是射獵和放牧的場面，有人騎、人物，以及多種符號。其中賽馬的岩畫尤爲精彩，賽馬呈奔馳狀，四蹄懸空，昂首拖尾，動感强烈，人物手執馬鞭，頭飾飄逸，畫面生動活潑，表現了游牧人的生活情趣。僅有的一幅鐫刻岩畫漫漶難辨，判斷爲人面像。

這批彩繪岩畫在表現技法上采用了剪影式大輪廓描繪方法，即運用散點透視法，不分遠近，不表現物體細部，但總體描繪準確，動態明顯，個性張揚，不失爲岩畫佳作。

白芨溝赭色彩繪岩畫，同我國南方系統岩畫所使用的顔料大致相同，繪製的手法也大致相同，即用獸毛或羽毛蘸赭色顔料繪製在石面上。赭色即赭石顔料，是自然界最容易找到的礦物顔料，也深受許多民族喜愛。

這批岩畫的年代有待進一步的確定，從總體看，空心手印要早，賽馬岩畫要晚，而且有打破關係。但不論早晚，這批岩畫填補了我國北方彩繪岩畫的空白，是十分寶貴的文化遺産。

過去幾十年我們在賀蘭山與衛寧北山有過許多新的發現，並且震驚了世界，現在仍有新的重要發現，我們相信這僅是一部分，是重要的一部分，隨着時間的推移，今後

仍然會有許多新的發現。不可否認，過去的近40年由於經費的不足，時間的倉促等因素限制了寧夏岩畫的發現與研究。因此，隨着國家綜合國力的提高，隨着岩畫研究的深入，必將會有一些新的發現。岩畫研究的前途是誘人的，將鼓舞一代又一代岩畫人去進行新的發現和探索。隨着寧夏岩畫的新發現，必將迎來又一次岩畫研究的新高潮，也必將出現一批新時代的力作。

二、寧夏岩畫的新材料和新發現

進入21世紀後，寧夏岩畫是否還會有新的發現？寧夏岩畫研究的潛力很大，而且方興未艾。現在正是春光無限好，花開正及時的大好時機。

就世界性的岩畫調查與發現而言，岩畫有4萬年的歷史，尤其是歐洲洞窟岩畫的發現，一般出現在早期莫斯特里文化期、奧瑞納時期、梭魯特時期和馬格德林時期，也是岩畫的鼎盛時期。在我們這個星球上除了南極洲之外，有陸地的五大洲都發現了岩畫。

中國岩畫自1915年黃仲琴發現福建華安太溪岩畫以來，將近100年了，中國大地上北到白山黑水的東北，南到木棉花紅的廣西，東到大海之濱的連雲港，西至雪域高原的西藏無人區，都發現岩畫的倩影。

寧夏岩畫從上個世紀60年末發現到80年代文物普查以來，1988年發現大麥地岩畫，1995年發現白芨溝洞窟彩繪岩畫，1998年發現靈武岩畫。到了2006年，又是一次迎來了賀蘭山岩畫發現大豐收，新發現了雙疙瘩岩畫。這是一次重要的發現，數量達200幅，製作在相近的3塊巨石上，色彩鮮艷明亮，充滿了神奇和生氣，是多年來少見的精美岩畫。這批岩畫內涵豐富多樣，有羊隻角長而彎，還有馬匹、人物，有揚鞭奔馳的人騎，有多種多樣的符號。更爲神奇的是，在這批岩畫中出現了少有的植物形象，特別突出的是穗狀植物比比皆是。這些植物高大生動非同一般，生機勃發，具有强大的生命力，具有象徵的意義。標志着原始民族從關注動物開始轉向了關注植物，社會生産形態從狩獵、采集時期開始跨入了農耕時期。

此外，2006年10月，北方民族大學（原西北第二民族學院）又調查了驢尾溝岩畫。這是賀蘭山岩畫的最新發現，約有百幅，均爲磨製岩畫。驢尾溝是一處幽静的風景名勝地，山高水長，林木葱蘢，景色優美，恍如神仙福地一般。岩畫大致製作于山口北側的山崖石面上，高者約10米，低者在溝畔，同岩石形成了明顯的反差，因而也就顯得别樣壯美和生動。這批岩畫有行走和狩獵的人物，比例適度，身體彎曲，表現了曲綫美和動態美，是不可多得的人體描寫，是其他地點岩畫中所少見的。驢尾溝岩畫有手印岩畫，有人面神靈岩畫，不同於賀蘭山其他的人面岩畫，獨樹一幟，表現了神秘怪誕的模樣，傳送了寓意深遠而又難於捉摸的心態和意念。驢尾溝岩畫中的羊隻，個個生動，活靈活現；馬匹則表現了斑紋細節，優美而富有生機，是不可多見的上乘之作。毛驢形象生動又逼真，活潑可愛。（也許有了毛驢岩畫而叫驢尾溝吧。賀蘭山中的石馬灣就是因有馬匹岩畫而得名。）另外驢尾溝岩畫有大小不一的許多重圈，反映的是天空雲彩的多樣，雲紋的絢爛，指紋的神秘，人們思念的回旋，還是對太陽的崇拜？太陽充滿了光圈和温暖，是熱與火的象徵。總之，重圈有太多的懸念，太多的不確定因素。神秘的大山，神秘的岩畫，我們徘徊於山間又百思難得其解。這裏是藝術的殿堂，又是原始宗教的勝地，到處充溢着熱烈、恐懼、希望、沉默、歡樂與爭鬥；身臨其境，纔覺深奥莫測，纔有神思遐想。

白溝岩畫神秘的人面像又是另一種風格，在那高大的岩石之上，幾十個形形色色的圖像又把我們帶到了荒蠻而神奇的世界。還有石炭井岩畫、韭菜口岩畫都各有千秋，造形生動但又充滿了詭譎。使我們不得不佩服古人的神來之筆和天馬行空的想法。

2006年新發現的岩畫都是來之不易的。我們相信再過40年，寧夏岩畫將會有更多的新發現。時至今日，無論是賀蘭山還是衛寧北山，乃至寧夏的許多山川，我們調查的脚步並没有完全走到；許多陌生的地段，還需要繼續探索和發現。

三、寧夏岩畫的新研究和新成果

寧夏岩畫的發現、研究走過了一條不平坦的道路。上世紀八十年代初期，人們對岩畫的認識還比較浮淺。隨着研究的深入，相繼出現了一批有水平有説服力的成果，把岩畫研究推向了更高的層次。例如岩畫圖騰論、岩畫巫術論、岩畫生殖崇拜論等論證，都是岩畫研究不斷進步、不斷創新的結果。其中，有幾個重要的課題將引起來我們特别的注意。

1．岩畫的斷代研究

岩畫的斷代，是一個世界性的課題，也是研究岩畫的瓶頸。過去多運用傳統的考古學方法和類型比較方法來進行斷代，多根據文獻記載、岩畫刻痕顏色、岩畫的殘破保存情況，與岩畫的製作工藝、内容、題材、藝術風格與民族學、民俗學、考古學的有關材料進行對比，並運用岩畫的打破和叠壓關係，用已出土器物的形象與岩畫上的形象進行對比，找出對應的年代關係；利用岩畫上的動物形象進行動物學研究分析比較。還有利用晚期岩畫旁的題記分析時代等。這些方法無疑是實用可行的也是有效的，缺點是不够細化，較爲粗糙。現代自然科學技術爲岩畫斷代帶來了希望。比如C^{14}的測定，陽離子比斷代法，CR草酸鹽分析法等。這些方法雖然先進，但缺點也不容忽視，其測試結果仍是岩石的年代，而非岩畫的年代。現代科學最新

測定成果有“宇生同位素測年”法及“岩漆顯微層理層序測定”法，是比較實用又較準確的方法，可以直接測定岩畫的年代，但費用較高。另外，目前國內還不具備采用宇生同位素測年法的條件。

在現有的條件下，除了微腐蝕斷代法之外，寧夏用麗石黃衣測年法還是可行的。寧夏文管會和北方民族大學采用了這種方法，雖然測定限於“具有普遍性的適於測定年代的地衣十分稀少”並受到温度、濕度、海拔等多種因素的制約，但仍不失爲經濟實用的好方法。用麗石黃衣測定賀蘭山岩畫年代在8000年左右還是實際有效的。還有用冰川擦痕測定法，雖然觀點不一，但也不無益處。

總之，在岩畫的斷代研究方面還要等待相當長的時間纔能有實質性的突破。社會在進步，科技在進步，隨着時間的推移，相信有新的方法新的理論會誕生，岩畫的斷代問題的解决總是充滿了希望。

2．岩畫象形符號和文字起源

2004年9月，西北第二民族學院和上海古籍出版社編纂、出版了四卷大型圖册《大麥地岩畫》，第一卷收録彩色照片835幅，第二卷收録拓片725幅，第三、四卷收録考古綫圖3172組共8453個個體岩畫。岩畫内容豐富，題材多樣，在近萬個岩畫中有符號圖形1500個，並且發現了似文似圖的符號，其中有單個符號組成的復合型帶有詞語性質的圖符。經過進一步比較研究，發現大麥地岩畫這種類似文字性質的符號有一個顯著的特徵，就是早期岩畫的表意性與古漢字的象形字相似。

大麥地岩畫的某些圖形具備了象形、會意、指事的功能，表達一個完整的意思和情節。比如有一幅岩畫由3個圖符組成，右側是高大的類似甲骨文“女”字的女人，手平舉，膝微彎，左側上部一個弓箭表示武力，下部一個人下跪祈求，表示在武力的屈服下投降或臣服。這種組合式的岩畫無疑表達了一個完整的詞或詞組，具有典型的會意屬性。

在文字産生之前，人類如何進行交流和記事，這是許多岩畫專家和文字專家所關注的問題。雖然各有各的見解和認識，但有一點共識，就是在文字産生之前，遠古的人類除了語言之外，就是用圖畫的形式進行交流；而文字的形成也不是一朝一夕就能完成的事，它總是經歷了一個産生、發展、演變到成熟的漫長過程。

漢字的起源，既古老又神秘。1899年在河南安陽小屯村發現了刻在龜獸骨上的古文字——甲骨文。殷墟甲骨文已是相當完備的文字體系，單字有四千多個，書法純熟，刻工精細，距今3300年。但是，可以肯定地説，它不是中國最早的原始文字，也不是漢字最早的始祖。甲骨文，只能是到目前爲止發現的最早的漢字，而漢字應當還有更早的淵源。（陳煒湛《古文字趣談》P366，上海古籍出版社2005年12月版。）

那么漢字的淵源在何處呢？有“八卦説”、“結繩記事説”、“契刻説”、“圖畫説”等，其中圖畫説最有説服力。圖畫可以傳遞信息，表達思想，交流情况，是固化的、跨時空的，能把最原始簡單的語言、思想保留下來、傳達出去。從考古學的角度分析，中國文字最初的形式應是圖畫的形式。

岩畫古老而又形象，是世界上現存最早的圖畫形式。岩畫的内容極爲豐富，涉及到了那些遥遠時代的方方面面，有古老民俗風情，有狩獵游牧，有天神地祇，有各種動物，有人物形象和活動，有日月星辰，江河湖海，有人們的生産勞動，歡慶豐收的歌舞等等，林林總總，包括了大千世界和人們相關的事物。這些岩畫既是一部用藝術形象描繪的巨幅連環畫，也是一部用圖畫形式記録了古代的歷史、文化、思想的語言巨著。

岩畫是史前人類刻石記事的産物，是有感而發有意而作的物質性文化産品，因此，岩畫以歷史的悠久、歷史的真實而流傳下來，成爲我們認識古代社會以及古人們交流的證據，使我們通過這個載體去認識史前文字的發展軌蹟。

在《大麥地岩畫》的研究基礎上，北方民族大學又開啓了“大麥地岩畫和符號文字”的科研項目。其基本方法和成果是，將岩畫符號進行綜合歸類，並從中找出有規律的圖形進行類型分析。這樣就把零星的、雜亂的符號大致歸入了同一個系統，使象形、會意、指事的岩畫符號有了歸屬，有了大致的定性和認同。在尋找出一些符號的固定樣式、固定用途、固定搭配和固定表意的基礎上進行抽象歸納，就可以尋找出具有文字屬性的圖形，也就是雛形期的圖畫文字。釋義、分類和統計成爲確認圖畫文字的定性定量的基礎。這項研究對闡釋中國文字起源具有重大意義，同時，也有着嚴密的科學性，嚴格的論證程序。目前，我們已經取得了初步的成果，還將繼續運用傳統考據學和現代技術進行識别、統計和研究。

3．岩畫研究的其他重要課題

賀蘭口發現的第四紀冰川遺迹，對賀蘭口岩畫的發生發展以及斷代，都有着重要的意義。2003年9月水洞溝舊石器時代遺址發現80周年紀念活動期間，我國著名冰川地質學家周昆叔在賀蘭口參觀岩畫時發現了多處冰川擦痕，位于賀蘭口内300米處，海拔1420米。2005年6月中旬，寧夏第四紀地質專家張國典先生在西北第二民族學院岩畫研究中心的邀請下，先後兩次到賀蘭口考察和研究第四紀冰川擦痕的岩畫，認爲時間應在距今4——0.78萬年，這一時期正好是賀蘭口岩畫的産生與發展時期。

賀蘭口岩畫中最爲突出的是衆多的人面像岩畫，包括俗稱“太陽神”岩畫。在岩畫中反映和描繪太陽，並且反映人們對太陽的崇拜，這又是岩畫以表像的形式反映人們

深層思想的特有方式。岩畫中的太陽崇拜不僅表現單個圖形上，也表現在由人與太陽組成的完整的符號系統中。表現了對人生，對民族、對温飽饑渴的關心，並通過交感巫術聯繫起來。

西夏岩畫是寧夏岩畫的一個重要組成部分，大致在1038年——1227年前後製作。這一時期的岩畫内容也相當豐富，其中比較突出的有塔形建築、人騎、狩獵、放牧、人物、裝飾類的岩畫，以及少量題記和西夏文文字，都從多角度反映了西夏民族的信仰，以及西夏的風土民俗，反映了西夏社會、經濟、文化及人們的審美情趣。

《賀蘭山岩畫》大型圖書的出版，是我國岩畫史上又一里程碑式的創舉。是北方民族大學繼《大麥地岩畫》之後的又一力作。從此也奠定了北方民族大學在岩畫調查、研究、保護這一領域裏的學術地位。

四、寧夏岩畫研究的展望

岩畫是石頭的書籍和石頭的歷史，是古代社會和古代民族文化歷史的集大成者。正因爲岩畫爲我們提供了無與倫比的直觀的鮮活的人文資料，而且這些資料是文字記載所没有的，吉光片羽，十分難得，所以更顯得珍貴。北方民族大學社會學與民族學研究所，承擔着研究古代社會與古代民族的課題，因此必然把對岩畫的研究，放在極爲重要的地位；同時把岩畫調查、研究、保護看成是自己義不容辭的責任和義務。

如今，寧夏岩畫的兩大群落——大麥地和賀蘭山岩畫，經過我們艱苦的調查，可以説大部分資料都已收集到了。現在要集中力量、集中精力，一步一個脚印，踏踏實實，深入地進行專題研究，力求有所突破，有所進步。

中國岩畫經過近百年的努力和探索，寧夏岩畫經過30多年的不懈努力，現在的研究水平與早年已不可同日而語。我們的視野已經大大開闊了，關注和研究的範圍已經很廣泛，提出和解決問題方面也有了大的進展。在掌握的資料和研究的手段上也早已今非昔比了。過去那種解説式的大而化之議論，以及從概念到概念或以現象的羅列而省去論證的簡單方法，將被細化的研究所替代。民族學、環境學、人類學、考古學、冰川學的研究都引入了岩畫學的範疇，將進一步提升岩畫學的學術水平。1991年和2000年兩次寧夏國際岩畫研討會及國際岩畫委員會年會以及衆多的研究機構，擴大了學術交流的範圍，打破了過去少數人掌握的信息和資料資源，相互增進了解和認識，促進了對岩畫的認識、研究，推動了岩畫學的世界化進程。在岩畫的研究中開始關注到文化與社會的聯繫以及岩畫更深層的内涵，使岩畫與古代生活有了更密切的關係，回歸到它本該關照的實際生活，並進行具有普遍性意義的研究和探討。

我們要加强學科定位和整體規劃研究，尤其是岩畫斷代研究，組織跨學科的學術合作，力爭在岩畫斷代上有進步、有起色。岩畫界要拿出“夏商周斷代工程”的那種勁頭，發揮各自的優勢，群策群力，啃下岩畫斷代這個硬骨頭。

五、賀蘭山岩畫申報世界文化遺産的構想

賀蘭口岩畫是賀蘭山岩畫的薈萃之地，是我國著名的古代文化遺址。

賀蘭口岩畫分布在約11平方公里的面積内，最新統計2318組，個體岩畫5679個。賀蘭口岩畫不僅數量多，而且質量高，内容豐富，題材多樣，自史前以來至西夏都有岩畫製作，尤其是豐富多彩變化多端充滿神秘色彩的人面像更是聞名於世，具有極高的歷史、藝術、科學、文化價值。

賀蘭山岩畫1988年1月被寧夏回族自治區人民政府公佈爲自治區重點文物保護單位。1991年10月和2000年9月在寧夏首府銀川市兩次召開國際岩畫委員會年會和寧夏國際岩畫研討會。賀蘭山岩畫是各國專家參觀學習的重點地區，受到各國專家的一致讚譽。1996年12月20日，賀蘭口岩畫被國務院公佈爲第四批全國重點文物保護單位。

由於賀蘭口岩畫具有巨大的人文價值，2003年12月自治區人民政府啓動賀蘭口岩畫申報世界文化遺産的工作。賀蘭口岩畫申報世界文化遺産，是一件十分慎重、十分重要的工作，其要求甚高甚大。要求既“表現人類創造性天賦的巨作”，同時，作爲一個文化傳統或文明的獨特見證，並且“和某些事件、活着的傳統、理念、信仰具有普遍意義的藝術和文學作品有直接或可感知的聯繫”。申遺的這些條件和要求，賀蘭口岩畫都完全具備。無論從歷史、文化、藝術、科學的任何角度分析，賀蘭口岩畫都能滿足這些要求，都能得到圓滿的解答。

自2003年北方民族大學以大學的科研優勢和人才優勢，異軍突起，在岩畫調查和研究方面成果卓著，先後出版了幾部有影響的岩畫方面的專著。爲了宣傳和推動賀蘭山岩畫申報世界文化遺産工作，社會學民族學研究所束錫紅教授等撰寫了《賀蘭山岩畫與世界文化遺産》一書，全面系統地叙述了賀蘭山岩畫的産生與發展，介紹了世界岩畫的概況，分析了中國各地岩畫的長處與不足，並且闡述了寧夏賀蘭山岩畫研究的優勢與存在的問題。28萬字洋洋灑灑，詳細論證，條分縷析，有理有據，爲自治區人民政府及相關單位申報世界文化遺産的決策與操作提供寶貴資料。

寧夏岩畫工作走到今天實屬不易，但是前面的道路還很遥遠，還有許多工作要去做，現在緊迫的任務我們認爲有以下幾點：

1．要深入探討岩畫學科的體系建設。岩畫學科的體系是一個大的系統，包括許多子系統。例如，岩畫的本質與特徵；岩畫的起源；寧夏岩畫、中國岩畫、世界岩畫之間的關係；岩畫的内涵；岩畫的年代；岩畫與各民族的關係；岩畫與古遺址的關係；岩畫與古文字的關係；岩畫與舊石器時代文化、新石器時代文化演變過程與關係；岩畫與夏商周三代文明的關係等等，都是要急於研究的方向。

2．岩畫學科理論方法的探討與研究。這是一個大的系統，包括許多從未涉足的領域。如岩畫的防風化與保護；運用現代科技對岩畫圖像的綜合性分析；運用多種科學手段對岩畫年代的測定；岩畫在人類起源與發展中的作用；岩畫與藝術起源與發展的關係；岩畫與宗教的起源與關係，岩畫中的人類生産與食物生産的起源與發展；岩畫中的社會體制的産生與發展；岩畫的分析與觀測手段（如C^{14}的分析、花粉孢子的分析、熱測定等），岩畫打破關係的測定。

3．岩畫中的古代民族與中華民族文化傳統的形成。探討中華文明的起源與發展，並從岩畫的形象資料分析中華民族的文化傳統産生與發展過程及其本質與特點。

4．中國岩畫與世界岩畫的關係，即東西方原始文化的比較研究。

5．通過岩畫研究了解古代歷史民族的社會組織以及生産技術的發展與進步，使我們深入到遠古以來的各個社會階段的社會形態以及演變。

6．岩畫與古代或現代族群及少數民族多樣性文化的比較研究。

7．岩畫與環境的關係。通過岩畫反映的自然環境的變化，從中獲取必要的啓示。

8．在岩畫領域進行中外文化技術交流。

早在2006年，作爲國家“十一五”重點科技攻關項目“中國文明探源工程”已經全面實施。啓動中華文明探源工程，同前些年啓動的“夏商周斷代工程”和“中國文明探源與研究”一樣，是中國學術界的重大事件。文化是歷史的靈魂，歷史是文化的傳承和發展。中華民族的歷史，就是以中國傳統文化爲核心傳承下來的。因此，必須建立以文化爲核心的歷史研究觀，把歷史學的研究核心放在各個歷史階段中文化的産生、再現、發展與繼承方面，而不是片面地限於考證、修正、補充、完善歷朝歷代所發生的歷史事件和歷史人物的真僞論證方面。這一次岩畫學趕上了大好時機。搶救和保護民間口頭傳説的非物質文化遺産是非常重要的，非物質文化遺産保存着鮮活的生動的歷史資源，在歲月長河中幾乎如同流星劃空稍縱即逝；而岩畫的固定性和壽世性，正好彌補了這一缺陷，將口頭的無形的傳説、詠唱，和有圖像的可視可觸摸的岩畫結合起來，纔能還原出一部“有聲有色”的文化和歷史。

以往，人們有一種偏見，認爲岩畫就是純游牧民族的，是夷族的、胡人的東西，似乎與中華民族無關。如果從中華民族的族源看，漢民族也好，龍的傳人也好，都與古代古老的周邊民族有着淵源關係，有着血緣關係。因此，研究中華民族的悠久歷史和燦爛文化，不能排除岩畫這一重要的歷史文化遺産。

我們要感謝北方民族大學的領導，他們不僅熱愛岩畫，而且全心全意支持岩畫事業。我們要在北方民族大學構築的岩畫研究的新鋭陣地上，在完成了四册《大麥地岩畫》、三册《賀蘭山岩畫》之後，仍然不懈努力，多出成果，出好成果，把岩畫調查與研究深入紮實地進行下去。

Helan Mountain and Its Rock Art

by Shu Xihong Li Xiangshi

Helan Mountain lies in the north-west of Ningxia, with its mountain body lying 30 degrees east to north and the watershed slanted to the east of the mountain body, and serves as the boundary of Ningxia Autonomous Region and Inner Mongolia Autonomous Region. The central and northern parts of the eastern foot of Helan Mountain are national natural conservation region. Helan Mountain extends in the north as far as the southern border of Wuhai City, Inner Mongolia, close to Wulanbuhe desert; in the south it reaches the Mafu Gorge, Qingtongxia City, Ningxia, connecting Weiningbei Mountain; in the west it joins the Alashan Plateau flatly; in the east it faces the Yinchuan Plains steeply. Within the borders of Ningxia it is over 250 kilometers long from south to north, 15 to 30 kilometers wide from east to west, covering an area of 1,938 square kilometers, occupying 3.7% of the total area of Ningxia. The most peaks are as high as 1,500~2,800 meters with its main peak Shaguozhou reaching 3,556 meters. The mountain body can be divided into 3 part, the northern, southern, and central part. It is an independent unit in the light of geological evolution history.

Helan Mountain consists of three part natural-geographically: the northern part to the north of the Great Wukougou, the middle part between the Great Wukougou and Sanguankou, and the southern part to the south of Sanguankou. The northern part is as wide as 30 kilometers with the height of 2,000 meters above sea level, assuming a unique globular weathered landform. The terrain here is relatively flat and plain, the climate is dry and cold, and variety and type of plantation are rather scarce and meager. The middle part is the main body of Helan Mountain, with the height of 3,000 meters above sea level. The vertical distribution of life in this area is distinct. Below 2,000 meters is the dry denudated mountainous region, between 2,000 to 3,000 meters is the water-eroded area, and above 3,100 meters is the cold mountainous area. The main peak lies in the center of the part spoken of. The terrain here is very steep with complicated natural conditions. The plantation in this region enjoys a rich diversity, with the concentrated distribution of forest plantation and the distinctness of vertical distribution of various plantation as its major characteristic.

Helan Mountain serves not only as the natural defense of the Yinchuan Plains but also as the watershed of the outflow-waters region and the inland-waters region, the boundary of monsoon climate and non-monsoon climate, and the divide of desert and desert-grassland. Thus, it has great geographical significance. Helan Mountain is a rare specimen of natural synthesis and fairly complete natural ecological system with its thick forests, abundance of plantation variety, rich mineral resources, intact geological section plane, and curious fossils.

About 2.5 billion years ago, today's Ningxia was land; whereas most of it had been the sea during the several billion years from the Proterozoic Era to carboniferous period of the Paleozoic Era. Recently the geological departments examined with the "rubidium-strontium method" a piece of deteriorated N, and discovered that its growth age is 2,056billion years ±81.8 million years, which indicates that about 2 billion years from now, the modern Helan mountains was a south-to-north oceanic channel with the utmost depth of 15,403 meters ever fathomed. Huge amounts of soil and sand peeled off from the then upthrust ancient continents were transferred by the rushing waters non-stop to this great gulf, under the effect of outside force.

About 1.9 billion years from now, there occurred on the mainland of China a " L¨aliang Mounting-building movement" of gigantic scale. The modern Helan Mountain regions, pushed by enormous force, were elevated to form land. Certain crevices

were created in the process of the elevation of Helan Mountain. Fiery magma hidden under earth hitherto entered the rocks created already in existence. The "Huangqikou plagioclase granite" preserved in places such as The Huangqikou is the outcome of the magma invasion of this period, the developing age of which is 1,839 billion years through the examination of the "potassium-argon method". Afterwards Helan Mountain sank again and was submerged by oceans. But life was in conception in Helan Mountain oceanic channel during this very time. Remains of some "micro ancient plants" i.e. thallophytes, formed about 1.7 to 1.4 billion years ago, have been discovered. Blue algae was developed and conceived in a later period in the oceans of Helan Mountain. The synthesis structure formed by the Blue algae and its remnants of life activities, formed concentric layer structure in the formation of limestone and dolomite, and was consequently named "stromatolite". Stromatolite in Helan Mountain has various types. The earlier representatives are Gargano prick-Stromatolite, Tieling-Stromatolite, Wangquankou prick-Stromatolite, Yakut Stromatolite, etc. And in the same age of about 1.29 billion yeas ago, a type of glauconite- sandstone was formed.

Until the later period of Proterozoic Era, i.e. about 1 billion years from now, Helan Mountain was elevated as an ancient continent again because of the mountain-building movement, and afterwards entering a period of rising and sinking constantly without regularity. About 700 million years from now, the Helan Mountain region, with its climate turning cold, entered the first ice age observed by modern scientists. The Helan Mountain region experienced endless time under the cover of ice and snow before the temperature rose gradually and the ice and snow melted. Gigantic torrents of melting snow and ice carrying stones and grits, swept the raised lands of Helan Mountain. Iced stones left by this gigantic natural mechanism have been discovered in Zhengyiguan and Suyukou. Helan Mountain region became ocean again 600 million years from now. Subsequently, trilobite, a type of arthropod, emerged for the first time in the ocean. Phosphorite mines of Helan Mountain were deposited sediment in the Suyukou areas as the animal emerged. During the carboniferous period of geological history—— Permian period, i.e. 350 to 230 million years from now, Helan Mountain underwent frequent crustal changes, rose and sank on no regular basis, and finally evolved into an environment of lakes, marshes and rivers. The climate also became very warm and wet, which provided favorable conditions for the developing of plants on a large scale. Scale-trees, seal-trees, calamites and pteridophytes multiplied quickly and grew very strong, gradually covering the Helan Mountain areas thick plantation. These trees were in a suitable environment of forming coal after they died, and turned into layers of coal with the transformation of long geological mechanism. The coal resources of Helan Mountain were mainly developed in this period. The earth became the realm of dinosaurs in Mesozoic, i.e.230 to 70 million years from now. Helan Mountain then was a stable land with thick coverage of plantation in the Ruqigou areas, which provided material source for the second formation of coal which could be mined.

Geologists of the "multi cycle" school maintain that ground stress started to be concentrated in the positively unstable Helan mountain 180 million years ago, and pushing the mountain body slowly upwards. The "Yanshan Mountain-building movement" broke out about 80 million years from now, under the influence of which ground stress raised Helan Mountain with a powerful move along the old crack and continuing the outline of history, established the lofty and gigantic features of Helan Mountain seen by modern man. Helan Mountain, with its main shape having been fixed once and for all, underwent long weathering effects, attaining from nature its extraordinary and lofty appearance as well as a lot of laps, which served as passage from east to west of the great Mountains.

Helan Mountain is horst-typed. There exists in both eastern and western feet of the mountains concealed ruptures set in front of the mountain –structure. Its geological substructure is a meridional formation system formed by a series of south-to-north double or single folds and pressive crack belts, forming the ridge of a pyramid together with the Niushou Mountain fold belts, Qingshui River-Liupan Mountain fold belt, Luoshan Mountain-Yunwu Mountain budge belt in the south, with the formation features revealed as a series of faults, which is scattered in a certain degree due to the disturbance of the New Huaxia System.

The earth layers in Helan Mountain developed quite completely and the fossils are abundant in quantity. Layers are mostly complete from the Paleozoic Era to the 4th Age, only lacking the sediment of the later part of Ordovician period to the early carboniferous period. Gneiss and quartzite of the early-Cambrian period can both be discovered in Liutiaogou and Dawukou. Limestone, sandstone, and shale developed well, and were distributed on a scale. The early Paleozoic Era is characterized by the coequal development of layers of the carboniferous period and the Perm, which could be seen in Shitanjing, Suyukou, Shizui Mountain, etc. consisting of mainly shale and sandstone accompanied by layers of coal. Mesozoic Triassic period layers

are distributed the most widely, Jurassic ranking the second. The former are the major layers building up the mountain body, and consist of mainly sandstone, conglomerate and shale. The latter is seen mainly in the Rujigou and Gulaben areas, consisting of mainly various sandstone, and is one of the major coal-producing layers. Layers of the Cretaceous Period and the 3rd Age have not developed. Water-and -air-deposited materials and deposits of the mountain-foot are widely distributed in areas in front of the Mountain and lowlands among hills.

The landforms of Helan Mountain are characterized with a slant to the west, resulting in the eastern slops a lot of escarpments with ancient rock layers exposed, where the precipices are far steeper than in the western slopes. The difference of force effect from within and without contributes to the great distinction of landforms in the northern and central part of Helan Mountain. The eastern slops of the northern part is 21 kilometers at the utmost width, and not higher than 2,000 meters, compose of mainly granite, with small amount of sedimentary rocks in the edges. Globular weathered landforms have been formed due to the strong physical weathering process.

The central part is the main body of Helan Mountain, with the height of about 3,000 meters above sea level. The highest peak Shaguozhou lies in the central part of this region, a little bit to the south. Mountain body in this area is gigantic, with lofty and step terrains, and the ridges and peaks are characterized with considerable undulations. The cliffs are shockingly lofty and the valleys cut into the earth very deep. A slope of relatively flat attitude is to seen about 2,000 meters above sea level with small lowlands in the ravines or platforms. The wind deposited materials here are fairly thick, with even small water-containing low-lying lands exposed. The eastern slopes of the central part are narrow in the south and wide in the north, with the utmost width of 21 kilometers. The width grows smaller than 14 kilometers to the south of Suyukou with the terrain relatively flat. The mountain grows wider in the north, generally more than 14 kilometers, reaching as wide as more than 20 kilometers in the Rujigou areas. The earth layers here developed in the Mesozoic area after the later periods of the Paleozoic Era contain coal resources of very good quality.

Channels in the eastern slopes of Helan Mountain developed very completely, most of which extend from west to east, assuming a comb shape, totaling 21 in number from Sanguankou to kushuikou. The most representatives are Sanguankou, Yushugou, Gangou, Dakouzigou, Huangqikougou, Baisikouzi, Suyukougou, Chaqikougou, Dashuigou, Rujigou, Guidegou, Shitanjinggou, Dawukougou, Kushuigou, etc. The largest in the whole outflowing waters region of the Yellow River System is the Dawukougou, with a watered area of 574 square kilometers. Channels usually cut into the earth relatively deep in the central and upper part, assuming a "V" shape. The lower part is relatively wide with gravels covering the valley bottom.

The National Natural Conservation Region of Helan Mountain in Ningxia lies in the northern and central part of the eastern slopes of the mountain range, reaching as far north as Mairujing, south to the Sanguankou, west to the Watershed, east to the foot of Yan Mountain, occupying the position of 38°27'of north latitude, 105°20'~106°41'of east longitude. The mountain body in the Conservation Region can be divided into 3 part, the southern from Sanguankou to Gangou, the central from Gangou to Rujigou, and the northern part from Rujigou to Mairujing. The Conservation Region is 150 kilometers long from south to north, 11.2 kilometers from east to west.

Proposal No.92 of the 3rd session of the 1st National General Assembly Conference in 1956 and the 7th National Forestry Conference in October of the same year designated Helan Mountain as one of the fifteen natural conservation regions. Resolution No. 108 of the National Congress in 1980 designated Helan Mountain as a key water resources preservation region. Interim Regulations for Natural Forests in Ningxia Autonomous Region, approved by the 4th session of the 4th Conference of People's Representatives in Ningxia in July, 1982, designated Helan Mountain as a conservation region of provincial level. Approved by the National Congress in 1988, Helan Mountain was designated as a conservation region for natural forests and wildlife of national level.

The three major objects of conservation are as follows: the typical forest ecological system of aridity and sand and wind.; the species such as Qinghai-spruce, juniper, Chinese pine, pinnas clove, Mongolian almond, sand ilex, Helan Mountain red-tailed bird, gray crane, Wapiti, musk-deer, blue-pheasant, etc.; geological section planes of Cambrian period and traces of new formation movement.

According to the research data, Helan Mountain lies in the transit areas of desert-grassland towards desert, with the most plantations belonging to the desert-grassland type. There exist 13,400 hectares of trees such as Qinghai-spruce, Chinese pine,

Poplar etc., 2,800 hectares of sparse forests, 2,500 hectares of bushes, with the forest reserves totaling 1.44 million cubic meters. There are already known 655 species, 318 groups, 81 families of vascular plants, including rare and endangered plants in the 3rd level of national preservation list, such as Mongolian almond, sand ilex, pinnas clove, Sihe-tree, etc. Bush yellow-sting rose and wild rose are of ornamental value, mountain white mushroom, purple mushroom and field mushroom are edible and some fruit trees and herbs are of economic value. There inhabit in the conservation region animals of scientific and economic value, totaling 117 species in number, fifteen species of which belong to the 1st and 2nd level of national preservation list, such as black stork, golden eagle, leopard, wapiti, musk-deer, blue-sheep, otocolobus manul, desert cat, lynx, blue-pheasant, etc. Rare animals listed in preservation of the autonomous region total 20 in species, such as rock- pheasant, Helan Mountain- alpine accentor, gray-back shrike, etc. Helan Mountain is the country of origin of over 40 species of animals and plants, such as the world-famous Helan Mountain- alpine accentor, Helan Mountain red-tailed bird, and the newly-discovered Helan Mountain- Rabbit-mouse.

There also exists in Helan Mountain completely preserved cultural vestiges, of which over 20 pieces of rock art depicting the production and life of ancient nomadic nations, Han-Dynasty graves in Zhengyiguan, royal mausoleum of Xixia Dynasty, twin towers in Baisikou, Great Wall of Ming Dynasty, Xiaokouzi temples of Ming and Qing Dynasties, buddhist pagoda and stone Buddha in Maliankou, and Wudang Taoist Temples in Dawukou are especially famous.

Helan Mountain has been inhabited by various nationalities: Qiangrong, Huns, Tujue, Uighur, Dangxiang and Mongolian etc. since the ancient times. From the record in *Yuanhe county picture records* vol. 4 of Tang Dynasty:"the mountains are covered with trees,green and white, like a fine horse.North people call it Helan." The rock art of Helan Mountain was left by those nomadic nationalities, providing precious vivid information for the studies on the history of ancient nationalities, culture and art. The rock art of Hankou was discovered in 1969.More rock art was known in the procession of the cultural relic general investigation of Ningxia Autonomous Region in 1984.

The rock art of Helan Mountain distributes widely in the rock art sites of Shulingou, Shuanggeda,Mairujin,Luweigou, Heishimao,Guidegou,Baijigou,Daxifenggou,Xiaoxifenggou,Chaqikou,Helankou,Suyukou,Huihuigou,Baihugou,Guangwukou, Huangyangwan and Shimawan from north to south.Created by various nationalities in different historical periods, they form a colorful national art gallery. There are a lot of images of animals in forest and prairie and less images of herding and hunting in Shizuishan site. The middle sites represented by Helankou and Suyukou were known for kinds of images of human face, while the images of herding, riding and animals occupy the main part of the rock art in the Qingtongxia site. The rock art of Zhongning in the south of Helan Mountain boast for huge quantity and rich content which reflect the living situation of the nationalities in wide aspects and manifest various features in different areas, deserving to be the collection of nomadic nationalities art. The Helan Mountain region has been a animal world and natural hunting place since the ancient time, providing plenty of living resources for human beings. Therefore, there are images of kinds of animals, hunting, dancing, riding and shooting, praying and entertainment, which vividly reflect the social ethos.The style of the rock art is consequently simple, rough and bold with deep ancient connotation.

There are three methods to make the rock art: The first is abrading. Some abraded designs are produced by repeatedly rubbing, so the lines are deep and broad. Some lines are narrow, which only can be seen in the sunshine. The second is pecking. Pecked designs are made by striking the rock surface with a pointed stone or metal, which is obviously manifested by a series of small, round holes. The third is lining. The lined designs form the outlines of images by metal chisel. The lines are deep enough to make the pictures to have bass-relief style. It should be pointed out that a lot of works are made by more than two methods.

The early stage of the creation of rock art of Helan Mountain dates back to the Neolithic Age or even earlier and the late stage date back to Xixia Dynasty, Song Dynasty and Yuan Dynasty of the Medieval age.In whole, the rock art of Helan Mountain is not the creation by a nationality or an age but the long scroll of epic collecting the wisdom of many nationalities and undergoing long history.

Rock art: the record of culture

by Li Xiangshi Shu Xihong

I Retrospection of the studies on the rock art in Ningxia

The rock art of Helan Mountain was discovered in 1969 for the first time. Since 1979, the studies on the rock art in Ningxia have been made great progress, in which the general survey of cultural relics in Ningxia in 1984 played an important role. More than 10 rock art sites are discovered along the eastern slope while the rock art of Damaidi was found in 1988.

Since 1989, about a hundred papers and several professional books such as *Rock Art of Helan Mountain (rubbings), Rock Art of Zhongwei, Rock Art of Helan Mountain and Northern Mountain, and Studies on Rock Art of Helan Mountain etc.* have been published, forming solid basis for the development of rock art in Ningxia. The International Rock Art Committee Annual Conference and the symposium on the rock art in Ningxia was held in Yinchuan Ningxia in October 1991, which was the first international symposium on the rock art held in China, even in Asia. 145 deputies from 13 countries have attended the meeting. Another international symposium was held in September 2000, which enlarged the road for propagandizing Ningxia, promoting the cultural level of Ningxia and the work on the rock art in Ningxia. The colorful rock art in the caves of Baijigou on Helan Mountain the rock art of the Qinglong Mountains of Tongxin and those on Niushou Mountains of Qingtongxia were respectively found in March, September and June 1995. The rock art of Lingwu Heng Mountains was known in March 1998. Since March of 2006, a set of wonderful rock art were found scattered in Shizuishan Shuanggeda, Jiucaigou, Luweigou, Baigou and Shitanjing etc..

The most important part of the rock art mentioned above is the colorful rock art painted with ocher in the caves of Baijigou in the north of Helan Mountain found by autonomous cultural relic management committee in April 1995. The color paintings in the carved rock art of North China are of relating significance for the studies on the occurrence and development of the rock art both in the north and south of China, the national immigration, the cultural exchange and transmission and religion belief etc and also enrich our knowledge of the ancient rock art.

The rock art is still to be dated, in which images of handprint appeared earlier and the images of horse race latter. No matter earlier or latter, this set of rock art fills the blank of colorful rock art in North China, being very precious cultural relics.

In the past tens of years, we have discovered a lot in Helan Mountain and Weining Northern Mountain. Along with the improvement of the national comprehensive power, and the progress of the studies on the rock art, more discoveries are sure to happen. The prospect of the studies on the rock art is prosperous, encouraging generations to explore and research. The new discoveries of the rock art in Ningxia are sure to meet the new climax of studies on the rock art and propel the occurrence of a set of profound books representing new time.

II New materials and discoveries of the rock art in Ningxia

After the first discovery in the 1960s, the general survey of cultural relic in the 1980s, the discovery of the rock art of Damaidi in 1988, the discovery of colorful rock art painted with ocher in the caves of Baijigou in 1995 and the rock art of Lingwu in 1998, 2006 celebrated another discovery of the rock art of Shuanggeda, a big harvest of the exploring of the rock art. Shuanggeda Rock art collects about 200 pieces of rock art on three huge stones. The images are with fresh color and in vivid construction being one of the rare precise rock art discovered in recent years. The themes are various including goats

with big and curving horn, horses, human and even riding people with lash. Collecting a lot of plant images in rare fringy shape is the outstanding and stocking feature of this part, which are big and vivid and full of living power, signifying the change of the attention of the ancient nationalities from animals to plants and the transition of the age from hunting and collecting to farming.

The latest discovery was the rock art of Luweigou with the total of almost 100 pieces of abrading rock art investigated by the North Universities for Nationalities (former SNUN) in June 2006. Luweigou, a quiet natural scenery, surrounded by hills and rivers and covered with flourishing trees, seems like the heaven. The rock art is mainly carved on the cliff of the northern side of the Mountains with the height of 10 meters. The lower parts distribute beside the valley, being in contrast with the rock. This part of rock art collects images of human body with different poses including walking and hunting. The images of hunting human are especially in proper proportion, the curving body of which manifests the beauty of curve and movement. They are precious description of human body, hardly seen in the rock art in other places. The images of handprint, human face and god are with unique style, grotesque and mysterious, giving the cue for deep and obscure feeling and idea, quite different from the rock art of other part. The mysterious images of human face are in another style. Tens of images gathering on the huge stone show us the savage world. Besides, the rock art of Shitanjing and Jiucaikou is also in various styles, vivid and fantastic.

It is not easy to get the discovery of 2006. But we believe more rock art will be found in the future 40 years. Up to this time, many places on Helan Mountain and Weining Northern Mountains, or even many hills in Ningxia have yet been investigated and still expected further exploration.

III New studies and achievements on the rock art in Ningxia

The road of the discovery of the rock art in Ningxia is uneven. People knew little about the rock art in the early 1980s. Along with the development of studies, a set of convincing achievements propel the studies on the rock art to higher level. For instance, the theory of rock art and totem, the theory of rock art and wizardry and the theory of rock art and procreation adoration are all the fruits of continuous progress and creation. Among those achievements, some important topics draw special attention.

1. Studies on the rock art dating

Dating studies on the rock art is an international topic and also the bottleneck of the studies on the rock art. Rock art used to be dated by the archeological and comparing method such as Color Dating, Patination and Weathering Dating, Style and Technique Dating, Superimposition Dating and Iconography Dating. These methods are reliable but simple. Modern techniques provide new dating method such as 14C analyzing dating, CR and oxalates analyzing dating. Though advanced, they date the rocks rather than the carving on them. The latest Cosmogenic Isotopes Dating and Rock-varnish Microsequence dating is practicable and precise which dates the rock art directly but costs a lot. Besides, as for Cosmogenic Isotopes Dating, necessary conditions are lacking in China at this time.

On current conditions, apart from erosion dating, X.elegans Lichenometry is used by the Ningxia Cultural Relic Management Committee and the North Universities for Nationalities. Though with limited to rarity of lichen and the weather elements of temperature, humidity and latitude, it can provide valid data at small cost. It is reliable to date the rock art of Helan Mountain created 8,000 years ago. Glacier Scraping Dating is also useful.

In brief, it is still a long way for studies on the rock art dating to take. However, the progress of society and science and technique will put new method to born and solve the dating problem consequently.

2. The Hieroglyphic symbols of rock art and origin of character

In September 2004, 4 volumes of *Rock Arts of Damaidi* were compiled by the Second Northwest University for Nationalities and the Shanghai Chinese Classic Publishing House, in which vol.1 collected 835 color photographs, vol.2 collected 725 copies and vol. 3and 4 collected 3,172 groups of 8,453 individual figures. The themes of rock art are various. 1,500 symbols and images are described in about 10,000 pieces of rock art, some of which are compound phrases formed by the single word. Through arduous research, we have found that the pictographs of the rock art are similar to the ancient hieroglyphs of Chinese characters.

Some pictures in the rock art of Damaidi have the function of pictograph or ideograph and can express complete meanings. For instance, there is a piece formed by 3 picture symbols, to the right of which being a huge image of woman like the character "女" in Jiaguwen (the character carved on shell bone), raising her hands flatly and curving her legs slightly, with a bow