
SINO-PLATONIC PAPERS

Number 162

September, 2005

Counting and Knotting: Correspondences between Old Chinese and Indo-European

by
Julie Lee Wei

Victor H. Mair, Editor
Sino-Platonic Papers
Department of East Asian Languages and Civilizations
University of Pennsylvania
Philadelphia, PA 19104-6305 USA
vmair@sas.upenn.edu
www.sino-platonic.org

SINO-PLATONIC PAPERS

FOUNDED 1986

Editor-in-Chief

VICTOR H. MAIR

Associate Editors

PAULA ROBERTS

MARK SWOFFORD

ISSN

2157-9679 (print)

2157-9687 (online)

SINO-PLATONIC PAPERS is an occasional series dedicated to making available to specialists and the interested public the results of research that, because of its unconventional or controversial nature, might otherwise go unpublished. The editor-in-chief actively encourages younger, not yet well established, scholars and independent authors to submit manuscripts for consideration. Contributions in any of the major scholarly languages of the world, including romanized modern standard Mandarin (MSM) and Japanese, are acceptable. In special circumstances, papers written in one of the Sinitic topolects (*fangyan*) may be considered for publication.

Although the chief focus of *Sino-Platonic Papers* is on the intercultural relations of China with other peoples, challenging and creative studies on a wide variety of philological subjects will be entertained. This series is **not** the place for safe, sober, and stodgy presentations. *Sino-Platonic Papers* prefers lively work that, while taking reasonable risks to advance the field, capitalizes on brilliant new insights into the development of civilization.

Submissions are regularly sent out to be refereed, and extensive editorial suggestions for revision may be offered.

Sino-Platonic Papers emphasizes substance over form. We do, however, strongly recommend that prospective authors consult our style guidelines at www.sino-platonic.org/stylesheet.doc. Manuscripts should be submitted as electronic files, preferably in Microsoft Word format. You may wish to use our sample document template, available here: www.sino-platonic.org/spp.dot.

Beginning with issue no. 171, *Sino-Platonic Papers* has been published electronically on the Web at www.sino-platonic.org. Issues 1–170, however, will continue to be sold as paper copies until our stock runs out, after which they too will be made available on the Web.

Please note: When the editor goes on an expedition or research trip, all operations (including filling orders) may temporarily cease for up to three months at a time. In such circumstances, those who wish to purchase various issues of *SPP* are requested to wait patiently until he returns. If issues are urgently needed while the editor is away, they may be requested through Interlibrary Loan. You should also check our Web site at www.sino-platonic.org, as back issues are regularly rereleased for free as PDF editions.

Sino-Platonic Papers is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 2.5 License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/2.5/> or send a letter to Creative Commons, 543 Howard Street, 5th Floor, San Francisco, California, 94105, USA.

Counting and Knotting:
Correspondences between Old Chinese and Indo-European

Julie Lee Wei

Abstract

This paper proposes more than 200 new correspondences between Old Chinese (i.e., Sinitic) words/characters and Indo-European roots or morphosyllables. Most of the IE roots are given as realized in Welsh. A few correspondences are also between disyllabic or polysyllabic words. The Old Chinese sounds will be the reconstructions of ZHENG-ZHANG Shangfang (2003) and in some cases reconstructions by other phonologists.

Introduction

The present paper is not about counting and knotting per se, although the list of words that follow will include a few on counting and knotting, and they are certainly tied to the reasons why the present study was begun. After writing a paper on the Chinese calendar signs for *Sino-Platonic Papers* (Wei 1998), I was interested in Old Chinese words related to the calendar, words such as "counting" and "number". I also became interested in

words related to knots because knots were used anciently to count and keep numbers. This is probably what led to the development of the *quipu*--in China and in ancient South America. Besides, I have always been interested in such things as knotting, knitting, crocheting, sewing, and embroidery. These interests received further impetus when I read books on the Tarim mummies by V.H. Mair, E.W. Barber, and J.P. Mallory (Mair 1998a, Barber 1999, Mallory and Mair 2000), and saw pictures of the European-looking mummies, their ancient knitting, and their stylish pre-historic garments. Later I noticed that some designs in Chinese knotting (for making purses, necklaces, pendants, girdles, and so on), an ancient and dying art, were very similar to Celtic decorative knots.

Recently I became interested in finding a particular set of correspondences between Old Chinese and Indo-European words/roots, and thought I should take a better look at the Celtic lexicon, since the European-looking mummies, some dating to the second millennium BC, were found in the Tarim Basin in present-day Sinkiang Region, China, and their fabrics looked like Scottish plaids. I bought a small Welsh dictionary by Henry Lewis at a second-hand shop in Hampstead, London. Soon I found quite a few words in the dictionary that resembled Old Chinese words in sound and meaning. I communicated these results to Professor Mair. He encouraged me to continue this work, and furthermore recommended that I acquire some more books to help in the study. He recommended the big four-volume *Dictionary of the Welsh Language* published by the University of Wales, as well as *A Concise Comparative Celtic Grammar* by Henry Lewis and Holger Pedersen, the etymological dictionary of Old Irish by J. Vendryes, and several other titles (some volumes of Vendryes are out-of-print and unavailable). I am heavily

indebted to Professor Mair for this guidance, for the volumes have proved to be indispensable.

Why Welsh?

Comparison of Old Chinese with Greek, Latin, Avestan, or Sanskrit requires no particular justification because these Indo-European languages have records dating to the first millennium BC. The case with Welsh is different. The earliest fragments of Welsh writing date to the early ninth century AD. However, let me quote Janet Davies in her book *The Welsh Language*:

The Welsh language, like most of the languages of Europe, and many of those of Asia, has evolved from what linguists term Indo-European. Indo-European was spoken about 6,000 years ago (4,000 BC) by a semi-nomadic people who lived in the steppe region of southern Russia. Speakers of the language migrated eastwards and westwards; they reached the Danube valley by 3,500 BC and India by 2,000 BC..... The Celts were probably the first Indo-European people to spread across Europe. (Davies 1999:2,3)

These movements belong to the received paradigm. She tells us that Celtic-speakers reached Britain perhaps as early as 2000 BC but more probably in the centuries following 600 BC. And further down:

Wales is the only part of Britain where a version of Brittonic

has had an unbroken history down to the twentieth century.

Indeed, Welsh is one of the rare examples of an indigenous

language of the Western Roman Empire continuing to be

spoken today. Of the languages now spoken in Britain,

Welsh has by far the oldest roots in the island; those roots go

back at least 2,500 years and perhaps 4000 years....(p. 9)

I should add that almost all the five hundred or more Chinese words for which I have proposed Indo-European sound-and-meaning correspondences (Wei 2005a,b,c,d,e) are still in common use today, although they are attested in inscriptions or texts that date to 2300 to 3000 years ago. If so many Chinese words can survive for so long, it is not far-fetched to maintain that Welsh or other Celtic roots and stems that are in current use today could also have had a very long history.

What Previous Evidence is there for Celts in the Chinese Heartland in Prehistoric Times?

Since this paper proposes so many sound-and-meaning correspondences between Old Chinese (i.e., Sinitic) and Indo-European, as realized mostly in Welsh, it is pertinent to ask: Is there any previous evidence for Celts in the Chinese heartland, that is, the region of the ancient dynasties of Shang (c.1766-c.1154) and Zhou (1122-256 BC)? Since this is an important question I shall take a few moments to address it. I will not discuss the purely linguistic evidence such as the hundreds of word correspondences between Old Chinese and Indo-European proposed by Professor Zhou Jixu in his book *Hanyu Yinouyu*

Cihui Bijiao (Comparison of Words in Old Chinese and Indo-European)(Zhou 2002) but look at archaeological evidence that is also supported by historical and linguistic evidence.

The Tarim basin lies just outside the ancient Sinitic region. Besides discussing the mummies in their book *The Tarim Mummies*, authors James Mallory and Victor Mair also give a wide-ranging account of historical and linguistic evidence pointing to the presence of Indo-Europeans in the Sinitic region, or Chinese heartland, itself, in the first millennium BC. The evidence suggests that these peoples spoke Iranian languages, which belong to the eastern branch of the Indo-European language family. In contrast, the language tentatively associated with the Tarim mummies is Tocharian, which belongs to the western branch of the Indo-European family. The western branch includes such language groups as Germanic, Italic, and Celtic. Historian Yu Taishan of the Chinese Academy of Social Sciences, Beijing, has argued that various non-Sinitic tribes mentioned in ancient texts, such as the Da Yuezhi, the Sai, and the Wusun, who in the first millennium BC lived in the areas of present-day Shandong, Shanxi, Shaanxi, and Gansu provinces, were probably Indo-Europeans who spoke Iranian (Yu 2000).

More recently, Victor Mair wrote a paper, "The Horse in Late Prehistoric China: Wrestling Culture and Control from the 'Barbarians'" (Mair 2003), which points to the presence of Celts or Germanic peoples or both in the territory of the Shang and the Zhou. Their presence is suggested by a combination of archaeological, historical, and linguistic evidence related to the horse. He gives an account of the relationship of the Shang and Zhou polities with non-Sinitic peoples and their horses. His account is based on many

sources, including K.C. Chang, Ho Ping-ti, C. Hsu, A.H.C. Ward, L.G. Fitzgerald-Huber, J. Yang, S. Li., and many other researchers. The following is a summary of some of the main points in Mair's paper.

Like cattle and sheep, the horse was introduced from the west into the Chinese heartland. The Shang did not raise their horses locally but imported their horses, according to CHANG Kuang-chih, and horses were introduced after cattle and sheep. Very few horse remains have been found in the Chinese heartland before the late Shang period (1250-1050 BC), and these are generally considered to be wild. There is evidence that domestication of the horse was introduced to China proper by steppe peoples from the north and northwest.

Mair notes that although evidence of horse domestication in China before the middle of the second millennium is extremely scanty and problematic, some excavation sites, such as those belonging to the Qijia and Siba cultures, evince horse bones as culturally prominent much earlier, in the first half of the second millennium, and they are located on the western fringes of what is now China. Together with the domestication of horses, the Qijia and Siba economies also involved metal-working.

Shang shell-and-bone inscriptions (SBIs) document Chinese interest in the northern people and their horses. These non-Sinitic northern peoples, generally referred to as the Rong (戎), were sometimes allies, sometimes enemies of the Shang. Mair tells of an SBI of the beginning of the twelfth century BC speaking of a campaign against the Horseland (Mafang), a term referring to a place of horses, apparently in northern Shaanxi, as well to the Rong people who lived there. While the Mafang was mentioned as

adversaries, another people who provided horses were the Duoma Qiang ("Qiang of the Many Horses"), also a Rong people, who are mentioned as allies. However, the Qiang, sheep- and goat-herding tribes located to the northwest of the Shang, are also often mentioned in the SBIs as enemies, Mair says. The Shang sometimes fought them, and on one occasion captured a tremendous number, killing thousands of them in sacrificial rites and employing the remaining captives as slaves in agriculture, for hunting, and other purposes. Significantly, "during the last couple of centuries of the second millennium BC, the people of the area formerly occupied by the Qijia culture were referred to on the SBIs as Qiang." The Qijia culture is dated c.2500-1600 BC, flourishing mostly circa 2000 BC. Although its main center was near the base of the Gansu Corridor, "it also reached northward and eastward toward what is now Inner Mongolia and was present along the upper reaches of the Yellow and Wei rivers." It is distinguished by the large number of domesticated horses, animal husbandry and advanced farming, as well as the use of copper and bronzes. According to Fitzgerald-Huber, the metal artifacts suggest a connection with Siberian and Central Asian cultures, especially the Seima-Turbino complex.

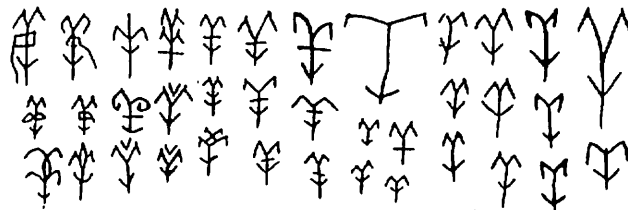
"The Qiang are almost always described as Tibeto-Burman by modern scholars, largely on the basis of their identification with a current minority group bearing that name who live in Sichuan Province and do speak a Tibeto-Burman language", Mair says, but he is doubtful of this identification. First, he says, it was Han historians, more than a thousand years after the Shang, who loosely applied the term "Qiang" to a variety of non-Han peoples living in the west of China. He observes that the modern Qiang call

themselves Rma, Qiang being a name applied to them by Sinitic speakers. And furthermore, "Shang and Zhou visual representations of the Qiang or their successors in the same locale almost always have clearly Europoid characteristics (large and long noses, round and deep-set eyes, narrow faces, thin lips, prominent jaws, beards, tattoos, etc.)"

Mair says that inscriptional evidence clearly point to the later introduction of the horse, and that the time of introduction coincides with the establishment of the Shang polity, based on the dating of the SBIs. The following is a comparison of SBI graphs (1200-1051/41 BC) for ovicaprids, bovines, and horses, then BI graphs (1045-771 BC) for the horse, excerpted from Mair's paper. The earliest forms are to the right, the latest to the left.

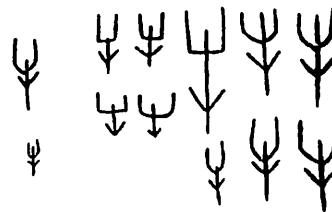
SBI graphs

for ovicaprids:



SBI graphs

for bovines:



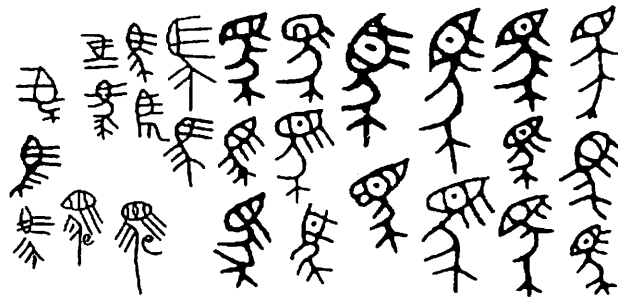
SBI graphs

for horses:



BI graphs

for horses:



It can be seen that the first set of horse graphs are much more representational than those for ovicaprids and bovines, which are stylized and abstract, suggesting a much longer history of development for the latter, and the recent introduction of the horse. The BI graphs of the horse from the Western Zhou (1045-771 BC) period, about 150 years later, become increasingly schematic and abstract.

Yet another clue to the ethnic identification of the non-Sinitic European-looking Qiang from whom the Shang polity obtained horses may be found in the word for horse in Old Chinese and other East Asian languages. Here are excerpts from Mair's paper on the sounds of the word for horse in these languages, compared to the word in Celtic and Germanic languages :

馬

mǎ, 'horse'

K mǎ

L mragx

S mǎra?

B mra?

C mrway

P mai?me:

Old Irish

Welsh

Gaulish

Old Norse

Old English

Old High

German

marc

march

marco(s)

marr

mearh

marah

'horse'

IE root *márkos

Germanic

words for 'mare'

derive from this

same root.

Citing J. Janhunen, Mair says: "These are clearly words of the western IE world and

belong to Celtic and Germanic. No other IE languages have native words for 'horse' that derive from **markos*."

Furthermore, ancient East Asian sounds for the word for horse, based on J. Janhunen (except for Proto Kam-Sui, based on G. Thurgood):

Mongolic **mori/n* (final *-n* in unstable)

Tungusic **murin*

Koreanic **morV* (where *V* is an indefinite vowel)

Burmese **mrang-h*

Japanic **(u-)ma(-n)*

Proto-Kam-Sui **ma⁴-r-*

From the above comparisons, a natural conclusion to draw would be that the non-Sinitic peoples who brought the horse to the Shang were Celtic or Germanic or both. Although Janhunen concludes that these sounds suggest that the horse was introduced to East Asia from a single source, possibly by a single wave of cultural impact, he does not go on to draw the conclusion that the people who transmitted the word to East Asia were Celtic or Germanic or both.

Mair also gives Old Chinese words relating to the horse that have sound-and-meaning correspondences in Indo-European languages. I will not reproduce them here but refer

the reader to his paper, which also discusses the introduction of the chariot from the southern Urals in the west.

I shall now conclude this discussion of whether Celts were in the Chinese heartland in prehistoric times with a few correspondences I have proposed that support Mair's paper. These concern the Old Chinese word for "sheep, ovicaprids", and the word Rong 戎, a name applied to the horse-rich "barbarians" of the west, northwest, and north, including the Qiang. Here are the correspondences:

YANG 羊 **lang* "sheep, goat,
a sheep, a goat".

OInd. *URAN-, Akk. *URANUM
"lamb, ram", GrHom. (*φ*)arén "lamb"
Ger. *lamm* "lamb"; Eg. *ram* "ram".
(Pok 1170)

L. *lana* "wool"; W. *gwlân*,
Ir. *olann*, Ga. *olann* "wool".

RONG 𦍋 **njong* "tousled
haired".

Ga. ROIN "a hair", pl. ROINE "hair";
W. RHAWN "coarse long hair; horse-hair";
Ir. RÓN "horsehair".

(The Gaelic is from *DGL*, published 1909.)

RAN 𦍋 **njams* "beard".

As above, Ga. ROINE, W. RHAWN,
Ir. RÓN.

RONG 𦍋 **njung* "wool,
woolen velvet, felt".

Ga. ROIN "a hair, a hair of a tail or mane,
a small quantity of wool or an hairy

(<i>Math</i> 3183)	substance"; pl. ROINE "hair"; W. RHAWN "hair, coarse long hair; horse-hair". Gr. <i>érion</i> , <i>érion</i> "wool"; L. <i>lana</i> "wool"; W. <i>gwlân</i> , Ir. <i>olann</i> , Ga. <i>olann</i> , <i>clòimh</i> "wool". (The Gaelic is from <i>DGL</i> .)
RONG 𦍋 (* <i>njung</i>) "wool of sheep". (<i>Math</i> 3185)	As above, Ga.ROIN, etc.
RONG 𦍋 * <i>njəwng</i> (Sch), * <i>njə ngw</i> (Li), * <i>njung</i> (ZZSF) "bushy [haired]". E.g. " <i>Hu qiu meng</i> <i>rong</i> 狐裘蒙戎" ("the fox furs are motley and bushy.") (<i>EZ</i> 512).	As above, Ga. ROIN, etc.
RONG 𦍋 * <i>njung</i> (ZZSF 451) "general name for tribes on the western frontier". (<i>Math</i>)	As above, Ga. ROIN, etc.

(Note: The left column gives the Chinese. The word in capital letters is Modern Standard Mandarin, transcribed in *pinyin*. The asterisked word is ZHENGZHANG Shangfang's reconstruction of Old Chinese (unless otherwise noted). The word RONG "wool" is not found in ZHENGZHANG Shangfang's reconstructions, but since all the words with RONG 𦍋 phonophore among his reconstructions have sound **njung*. I

have conjectured the sound **njung* for RONG "wool". Note the similarity between Modern Standard Mandarin RONG 絨, 絨 "wool" and the Welsh sounds for "hair" and "a small quantity of wool". In my correspondences further down I will explain why Modern Standard Mandarin is often closer to the corresponding Indo-European than the reconstructed sound. As Harold Greenberg has said: "Asterisks are not infallible." The modern sound is attested, while the reconstruction is built on an edifice of inferences. It would appear that the Chinese sounds for the words "wool" "hair" are closest in sound to Celtic and Greek, and not Germanic or Latin, and may have entered Proto Old Chinese before Proto Celtic split off from Proto Greek. Evidence of cattle, sheep, and goats are still extremely scarce in the Neolithic Yangshao sites (5000-3000 BC), and were probably not fully domesticated in China until the Longshan period (2500-2000 BC)(Mair 2003). The ethnonym RONG "barbarian peoples in the north and northwest of Shang and Zhou" may well have meant "wool" or "the wool people" or even the "bushy haired people", and so on. One more meaning of the word RONG follows.)

RONG 戎 **njung* "weapons of As above, Ga. ROIN, etc.

war; warlike; war, military,

soldiers. Military chariots."

(Math. no.3181)

(Note: Here my conjecture is that the word RONG 戎, originally "hair, wool" and perhaps "the wool people, the hair people (they may have been clothed in fleece), etc."

acquires the additional meaning of "war, military, warlike, military chariots, etc." because of their association with the Rong tribes. The chariot was also introduced into the Chinese heartland from the steppes. The *rong che* 戎車 "rong wheeled vehicle" means "war chariot". Other phrases with the word *rong* "war, military": *rong bing* (*rong* weapons) "weapons", *rong zheng* "military organization", *rong xing* "military expedition", *rong yi* "military garb, i.e., armour", *cong rong* "follow a military career" [Math 3181]. However, it should be noted that the same character *rong* 戎 is a phonophore which also has other meanings, including "your", "great", and "assist".)

The Correspondences

The purpose of this paper is to present sound-and-meaning correspondences between Old Chinese (OC) words or morphemes on the one side and Indo-European (IE) roots or stems or words on the other. Because most of the OC words recorded in ancient texts were monosyllables or single characters or graphs, the corresponding IE will be the roots or stems of words, in other words, mostly morphosyllables. Occasionally there will be corresponding disyllables and polysyllables.

Old Chinese will be understood as words that were used in the Shang and Zhou dynasties, attested in inscriptions or in texts from circa 1266 BC to 221 BC. However, because many of these words are found in texts as late as the Han dynasty (206 BC – 221 AD), words in Han texts will also be used. Occasionally some words not found in early texts or in ZHENGZHANG Shangfang's dictionary of Old Chinese phonology

(Zhengzhang 2003) will also be used because those words may have been very ancient but not written down earlier.

Since our knowledge of the sounds of Old Chinese words ranged from the uncertain to the non-existent until the twentieth century (because the script is not alphabetic but morphosyllabic), the Old Chinese sounds used in this paper will be reconstructions resulting from inferences made by numerous historical phonologists, East and West. The reconstructed sounds of OC used in this paper will be those of ZHENGZHANG Shangfang, unless otherwise noted. These are found in his book, *Shanggu Yin Xi (Old Chinese Phonology*, 2003). Zhengzhang is one of the leading phonologists of Old Chinese living today. He is a member of the Chinese National Academy of Sciences, Beijing, and his *Phonological System of Old Chinese*, in which he gives a brief account of his system of reconstruction, has been translated into English by Professor Laurent Sagart of the École des Hautes Études en Sciences Sociales, Paris (Zhengzhang 2001). In his reconstructions, Zhengzhang uses the phonetic symbols of the International Phonetic Association. The modern sounds of OC characters given here are those of Modern Standard Mandarin (unless otherwise noted) and are transcribed in the *pinyin* system of romanization. The comments in parenthesis after each entry are mine.

Although other lists of correspondences between Old Chinese and Indo-European have been presented, notably those of the late CHANG Tsung-tung (Chang 1989) of Germany and ZHOU Jixu of China (Zhou 2002, 2003), I have tried not to duplicate their correspondences in my own list. If there are any overlaps, they are inadvertent.

1. Some OC-IE Sound Correspondences

(**Abbreviations:** A. = adjective; adv. = adverb; AS. = Anglo-Saxon; *ASD* = *Concise Anglo-Saxon Dictionary*; Av. = Avestan; Bax = W.H. Baxter; *BI* = Bronze Inscriptions; Bret. = Bretonish; Brit. = Brittonic; Buck = Carl Darling Buck; Cant. = Cantonese; *CH* = *CI HAI*; Ch. = Chinese; Clt. = Celtic; *COD* = *Concise Oxford Dictionary*; Crn. = Cornish; dem.=demonstrative; *DGL* = *Dictionary of Gaelic Language*; *DTch* = *Dictionary of Tocharian B*; *DWL* = *Dictionary of the Welsh Language*; Eg. = English; *EZ* = *A Dictionary of Early Zhou Chinese*; Fr. = French; Ga. = Gaelic; Ger. = German; Gmc. = Germanic; Goid. = Goidelic; Gr. = Greek; *HYDCD* = *Hanyu Da Cidian*; IE = Indo-European; Ir. = Irish; L. = Latin; *L&P* = *A Concise Comparative Celtic Grammar*; Li = LI Fang-kuei (in *EZ*); *MI* = middle; *Math* = *Mathews' Chinese English Dictionary*; *MI*Bret = Middle Bretonish; *MSM*. = Modern Standard Mandarin; n. = noun; O = old; OC = Old Chinese; OF = Old French; *OInd.* = Old Indic; *OIr.* = Old Irish; *OIV* = *Old Irish Verbs*; *OR* = *ORIGINS* ; OS. = Old Saxon; OW. = Old Welsh; Pers. = Persian; PIE = Proto Indo-European; pl.= plural; *Pok* = *Indogermanisches Etymologisches Wörterbuch*; prep. = preposition; pron.= pronoun; Sag = L. Sagart; *SBI* = Shell and Bone Inscriptions; *ScGa* = Scottish Gaelic; Sch = A. Schuessler; Skt. = Sanskrit; Toch = Tocharian; Turk. = Turkish; v. = verb; *VL.* = Vulgar (or Low) Latin; W. = Welsh; *WD* = *Welsh Dictionary* by H. Lewis; *XYX* = *Xing Yin Yi Zonghe Da Zidian*; *ZZSF* = Zhengzhang Shangfang, *Shang Gu Yin Xi [Old Chinese Phonology]*).

(Note: For easier typing, the sound η is written ng.)

After looking at hundreds of what appear to be sound-and-meaning correspondences, I have begun to discern some sound correspondences between Old Chinese and Indo-European. I shall list a few here, to help explain the correspondences between OC and Indo-European words/roots that I propose. Some of the sound correspondences are well recognized by phonologists as occurring in both Indo-European and Old Chinese. some

are less well-known or have received less attention. Below are examples of both categories.

Alternation among homorganic sounds, for example, *d, t, n, r* and *l*. These consonants have the same place of articulation. Alternation among them is a common phenomenon in the IE languages. For instance L. *sōl* "sun", and Eg. *sun*, where *-l* corresponds to *-n*. An example of *r, l* correspondence: Old Indic *roka-* "light", Welsh *llug* "light", Old Icelandic *log* "flame" (Pok 687). An example of *l* and *t* correspondence: Finnish *seula* "sieve" and Lithuanian *sietas* "sieve" (Pok 889). And example of *-r* and *-n* correspondence: OIr *ar* "our" and Ir. *an* "our". Likewise, we have such examples as: OC **njəwng* 戎 "bushy [haired]" and Gaelic *roine* "hair" (correspondence of *n-* and *r-*), OC **rang* 郎 "young man" and Welsh *llanc* "young man" (*r-* and *ll-*), OC **swjin* 旬 "cycle of ten days" and Welsh *chŵyl* "turn, rotation" (*-n* and *-l*), and OC **g'al* 為 "(to be:) is, was, were" and W. *oedd* "was, were" (*-l* and *-dd*).

Interchange of other homorganic sounds. Other homorganic sounds that are often interchanged are sounds like the bilabials, *b, p, m*, the sibilants *s, z*, the dental stops *d, t*, the palatals *j, ch, sh*, the velars, *g, k, h*, and so on, for example, in the following examples. (The words on the left column are Chinese, first spelled in Modern Standard Mandarin [MSM] followed by the Chinese character, then the reconstructed OC sound with an asterisk.)

FAN 煩 <i>*han</i> "to annoy, trouble"	Welsh POENI "to trouble, annoy, pain"
HUO 或 <i>*gwuu g</i> "perhaps"	Welsh. HWRACH "perhaps"
ZHE 赭 <i>*tjaa?</i> "red,"	OIr DERG, Ir. DEARG "red".

reddish brown".

IE vowel initials, *a-*, *e-*, *i-*, *o-*, *u-*, etc. usually correspond to a velar initial in Old Chinese. This is because these vowels begin with a glottal stop and can be transcribed as *ʔa-*, *ʔe-*, *ʔi-*, *ʔo-*, *ʔu-*, etc. And the glottal stop is homorganic or near-homorganic with a velar consonant. So we have:

AN 岸 **nganh* (Li), *nggaans*

(ZZSF) "a high riverbank,
 riverbank".

OIr ARD "high", Ir. ARD "high, great";

W. ALLT "cliff", L. *altus* "high".

ANG 昂 **ngang* (Sch) "be high".

As above, OIr. ARD, etc.

WEI 為 **G^wal* (ZZSF 487)

W. OEDD "was, were".

"to act, be;...". (EZ 635)

(Note: "Be" includes "is, was, were".)

(Note: OC. *-l* and W. *-dd* [pronounced as *th-* in English *that*] are near-homorganic. OC. initial *G^w-* corresponds to W. *oe-* because this vowel can be transcribed as *ʔoe*, which is near-homorganic with with OC *G^w-*.)

YI 義 **ngiarh* (Li), **ngraal*

(ZZSF) "be right, righteous, proper,
 just; rightness, propriety, justice,..."

W. IAWN, UNIAWN (cf. OBret. *on*, *iun*

"union") "rightness, truth, justice; claim,
 right;...". (DWL 2003).

(Note: Again, the Welsh vowel *i-* can be transcribed as *ʔi-*, and the initial glottal stop *ʔi-* in IAWN is homorganic with the initial velar *ngj-* in Old Chinese. OC *-l/-r* and W. *-n* are also homorganic.)

WO 我 **ngarx* (Li), **ngaalʔ*

OIr AR "our", Ir. AR, W. EIN, AN,

(ZZSF 490) "I, we, my, our" Bret. HON, ON "our".

(EZ 643).

YAN 言 *ngan "I" (EZ644) Ir. AR, W. EIN "our".

ANG 仰 *ngang "I, we". Ir. AR, W. EIN "our"

YAN 顏 MICH. ngan, *ngnan (Li), OIr. EINACH "face".

*ngnaan (ZZSF 514) "face".

(Note: Middle Chinese forms an important basis for reconstructing

Old Chinese.)

OC final -n or -ng often correspond to IE final -l, -ll, or -r (i.e., final of a syllable). For example:

GUAN 管 *koon? (ZZSF),

*kuan? (Sch), *kwanx (Li) "to

manage, govern, control, look

after, mind, keep an eye on".

JING 筋 *kain "muscle, tendon".

W. GWARCHOD "to guard, look

after, keep an eye on, mind, watch,

safeguard"; Eg. GUARD "guard".

W. CYHYR, CYHYRYN "muscle, tendon".

GONG 躬 *kung "body"

W. CORFF "body, trunk".

GONG 公 *kung (Li), *kong

W. GWR "man, person, adult male person,

(Sag), *kloong (ZZSF) "head of

brave warrior, hero."

clan, head of major lineage

(EZ 44, 197); duke; term of

respect for man; husband's

father; male (of animals)".

XUN 旬 * <i>swjin</i> (Sch), o*sgwin "a cycle of ten, of ten days, of a year".	W. CHWYL "a turn, a. rotation".
(Note: W. <i>ch</i> has sound of <i>ch</i> in German <i>loch</i> .)	
WANG 王 * <i>g"ang</i> "king, ruler".	W. GWÂL "leader, chieftain, ruler".
KUANG 狂 * <i>g"ang</i> "wild, uninhibited"	W. CUALL "quick, rash, foolish"

OC final -l often corresponds to homorganic or near-homorganic IE final -th, -t, d.

For example:

WEI 為 * <i>g"al</i> "to act as, be, make, do." (EZ)	W. GWAITH "work, labor, act, task, deed", v. GWEITHIO.
BEI 被 * <i>bral?</i> , <i>brals</i> "a coverlet, blanket, quilt; to wear on the back".	Scot.-Ga. PLAIDE "blanket; cloak". Ir. <i>pluid</i> "blanket"; Ir. BRAT "cloak, mantle, covering"; Ga. BRAT "cover, sheet, mantle".

OC *hl-*, *l'-*, *lh-*, *gr-*, *gl-*, *hr-*, *hl-*, *l-*, *r-*, *k-*, and *g-* frequently correspond to Welsh *ll-*,
 and *rh-*. For example:

ZHEN 娠 * <i>hljwn</i> "pregnant"	W. LLAWN "full; pregnant"
DU 犢 * <i>l'oog</i> "calf"	W. LLO "calf"

SHU 贖 *hljog "to redeem, to ransom"	W. LLOG "interest (i.e. payment); hire"
LE/LO 樂 *raawg "happy, joy(ful)"	W. LLAWÉN "merry, joyful"
CHUNG 充 *lhjung "to fill; full"	W. LLONAIÐ, LLOND "full"
LANG 郎 *rang "young man"	W. LLANC "young man"
JI 吉 *klid "be auspicious, lucky"	W. LLWYD (i.e., <i>hlwyd</i>) "prosperity"
YIN 飲 *qrums "drink"	W. LLYMAID "drink, sip"
LUN 圓 *g:run "complete, whole"	W. LLWYR "entire, complete, total"
HANG 行 *graang "row, ranks"	W. RHENC, RHENG "row, rank"; Ger. RANG "rank"; Eg. RANK (<i>WD</i> ; <i>DWL</i>).
GE 格 *klaag "any space or spaces made by lines or limits" (Math)	W. RHYCH "furrow, rut, groove".

(Note: Modern Welsh *y* has the sound of *i* or *ü* if it is in the last syllable, otherwise it has the sound of *u* in English *cut*. W. *rh-* approximates *hr-*, which resembles OC **kl-*. The sounds *l* and *r* often alternate.)

Because *l* and *r* are often interchanged, Welsh *ll-* (i.e., approximating *hl-*) and *rh* (i.e., *hr-*) are also interchanged in Old Chinese. And *hl-* (i.e., Welsh *ll-*) and *hr-* (i.e. Welsh *rh-*) often harden into *gl-/kl-*, *gr-/kr-* in Old Chinese. This also appears to happen in Welsh, for instance:

W. RHWYMO, v. "tie"

W. CLYMU, v. "tie"

Sometimes the medial *-l-* or *-r-* is elided, resulting in OC *h-*, *k*, or *g-* corresponding to Welsh *ll* (*hl*) and *rh* (*hr*), for instance:

HANG 行 **graang*, **gaang* "row(s), series, ranks". (Note: *ZZSF* [p. 505] gives these two reconstructions, indicating the word had these two different sounds. In Modern Standard Mandarin HANG 行, the -r- has dropped out.)

W. RHENG, n. "rank"; Ger. RANG "rank",
Eg. RANK. (*WD* 140)

The following list of correspondences that I propose are not in alphabetical order.

They are divided under the headings:

Body Parts

Basic Words

Culture and Technology

Agriculture

Counting and Calendar

Knotting and Weaving

Pronouns and Relational Terms

Special headings for the cultural activities of Agriculture, Counting and Calendar, and Knotting and Weaving are made because the words under these headings have been of special interest in the present research.

Body Parts

SHOU 首 **hlju?* "head".

W. PENGLOG "skull".

(Note: Here OC **hlju?* Corresponds to W. –GLOG ["rock, precipice"]. W. PEN means "head, top". OC **hlju?* would be a contraction of PENGLOG.)

JI 頤 Cant. *gw b*, **krw b* "head".

L. CAPUT, OHG HOUBIT, OE *hafod*,

heafod, Ger. *Haupt*, Eg. *head* "head"

Skt. *kapalum* "skull". (OR 282)

(Note: EZ has **gjəp* for phonophore JI 頤 [EZ 272].)

YAN 眼 Cant. *ngan*, **ngruw n?*

W. LLYGAD, pl. LLYGADU, "eye".

"eye(s)".

(Note: In this correspondence, four points should be noted: (1) OC **ngr-* corresponds to W. LL- (*hl-*), (2) W. –G- has been elided, (3) OC final –*n-* and W. –D are homorganic, and in OC has been nasalized, and (4) OC –? corresponds to W. –U in the plural.)

YAN 顏 MICH. *ngan*, **ngnan* (Li),

OIr. EINACH "face".

**ngraan* (ZZSF 514) "face".

(Note: Middle Chinese constitutes an important basis for reconstructing Old Chinese.)

SHOU 手 **hljə w?* (Sch),

W. LLAW "hand".

**hnjw w?* (ZZSF 466) "hand".

GONG 躬 **kung* "body,

W. CORFF "body, trunk".

person, self" (EZ) (Note: Probably

***-n* > **-ng*.)

SHEN 身 * <i>hlin</i> (Sag), * <i>hljin</i> (EZ) "body, self".	Ir. COLAINN "body"; W. CELAIN "corpse".
TI 體 * <i>rhii?</i> "the body, the trunk".	AS. LĪC "body" (ASD 217B).
TI 體 * <i>rhii?</i> "the limbs" (E.g., Si TI 四體 "four limbs".)	AS. LIÐU "limb, member" (ASD 220B).
NAO 腦 * <i>nuu</i> , * <i>nuus</i> (ZZSF 425) "the brain".	Gr. NOUS "the mind".
XUE 血 * <i>hwit</i> (Sch), * <i>qh</i> ^v <i>iig</i> "blood".	W. GWAED "blood".
RONG 鬃 * <i>njong</i> "tousled hair".	Ga. ROIN "a hair", pl. ROINE "hair"; W. RHAWN "coarse long hair; horse-hair"; Ir. RÓN.
RAN 鬚 * <i>njams</i> "beard".	As above W. RHAWN, Ga. ROINE.
(Note the similarity between MSM. RONG and MSM. RAN and the Celtic words. Some phonologists have argued that the sounds of the Chinese medieval rhyme book, the <i>Qieyun</i> , on which OC reconstructions are heavily based, are not the sounds of any one regional speech/topolect but are reconstituted from several topolects. See Norman and Coblin 1995; Mair 1996)	
JING 筋 * <i>ku n</i> "muscle, tendon, sinew".	W. CYHYR, CYHYRYN "muscle, tendon, sinew, flesh".
JING 勁 * <i>ku ns</i> , * <i>kengs</i> "strong.	As above. W. CYHYR.

muscular"(Math).

JI 肌 **kril* "the muscles or
 flesh, meat on the bones".

As above, W. CYHYR.

(Note: The phonophore 肌 has sound **kwil*?, suggesting that **kril* 肌 may earlier have
 had sound **kwil*.)

DU 肚 **l'ool* "stomach".

W. CYLLA "stomach".

SHOU 手 **hljəw?*(Sch), **hrjəwɣwx*.

W. LLAW, O.Corn. LOF "hand".

(Li), **hnju w?* (ZZSF) "hand".

GAN 肝 **kaan* "liver"

OE GEALLA "bile"; W. GERI, n. "gall".

Eg. GALL "bile". OE *geolu* "yellow".

(OR "gold", paragraph 3)

XIANG 工頁 **groong?* "neck"

W. GVAR "(nape of) neck".

BAN 分頁 **praan* "big head"

W. PEN "the head; chief, supreme".

QUAN 權頁 **gron* "the cheek
 bones"

W. GRUDD "cheek"; OIr. GRÚAD.

Cf. Ger. WANGE "cheek".

(Note: The sound *dd* in Welsh has the sound of *th* in English *that*. The phonophore
 of QUAN, 權, also has sounds HUAN and GUAN in Modern Standard Mandarin,
 similar to German WANGE).

JIA 夾頁 **keeb* (ZZSF 365) "jaw,
 cheeks".

IE base GEP(H), GEB(H)- "jaw, .

mouth"; OIr. GOB "beak, bill, mouth":

ONorse KJAPTR, KJOPTR (**kebuta*)

"mouth, jaw"; Ger. *kiefer* "jaw". (Pok 382)

KOU 𠂔 **khoo?* (ZZSF 392)

OIr. GOB "beak, bill, mouth".

"mouth".

(Note: This correspondence was pointed out by Zhou Jixu [Zhou 2002: 206].)

FU 𠂔 **ba?* "cheek, face".

Ger. BACKE, W. BOCH "cheek"

HAN 𠂔 **guum* "the chin, jaws"

W...GĒN "jaw, chin"; Skt. HANU-

(*Math*)

"jaw" (Buck 4.207)

(Note that MSM. HAN "chin, jaws" is close to Skt. HANU-.)

HOU LONG 𠂔 **goo* **long*

W. LLWNC, LLWNG "gullet, throat".

(ZZSF) "throat, gullet" (*Math* 2137).

(*DWL* 2236)

(Note: HOULONG / **goolong* is a disyllabic word in Chinese. W. LL [close to *hl-*] has spread out into MSM. HOUL-.)

BI 𠂔 **pi?* (ZZSF 273a)

Ga. PIT, pl. PITE, "female genitalia,

"vulva". (YYY)

vulva" (*GD* 93).

(Note: 𠂔 with the same phonophore 𠂔 is **pi?* [ZZSF 273b]. OC. BI 𠂔 **pi?*,

with the same phonophore, means "(earlier usage:) mother; (later usage:) deceased mother or grandmother, female ancestor".)

PI 𠂔 **phis* (PI- in compounds

Eg. PISS, PEE "urinate". OF. *pissier*, VL.

means "buttocks, anus".)

pissiare, perhaps akin to *pizzle*, an animal's penis. (*OR* 498).

YI 𠂔 **laag* (ZZSF 527) "testicle(s)".

Ga. CLACH "testicle".

(Note: YI 𠂔 with same phonophore has sound **l'aags*/**l'aags* in ZZSF [page 527].)

FEI 𠂔 *bjəd (Li), *bwl, bwl,
 (ZZSF 317) "calf(s) of leg, leg(s)",
 "[to leg:] follow on foot" (EZ 159).

OE. FŌT "foot", pl. FĒT, Gmc. root *fōt-;
 L. pēs "foot", pedes "on foot" (OR 225).

Basic Words

JUN 君 *kwjən (Li),
 *kjuən (Sch), *klun (ZZSF 389)
 "ruler, chief, lord".

W. CUN "lord, chief, ruler".
 Cf. Gr. kurios "lord, master, chief".
 (DWL 629-630, CUN¹)

QUN 君羊 *gwjiən (Li),
 *gjuən (Sch), *glun (ZZSF) "herd of
 sheep, cattle, etc.; pack of dogs,
 wolves, etc.; throng, multitude".

W. CUN "pack of dogs or wolves;
 .throng, host". (DWL 630, CUN²)

BIN 𡥉 *bin?, *bil? (ZZSF 273)
 "female (of animals)".

OIr. BEN "woman, female".
 Ir. BEAN "woman"; OW. BEN "woman".

KAO 𡥉 *khew? (EZ) "father,
 deceased father, ancestor; seniors, elders;
 old". (EZ)

W. YSGAW "elder".

BIN 嬪 *pjīn "concubine, wife".

As above, OIr. BEN "female, woman".

XIONG 雄 *g'wung, "brave
 man (Zuozhuan); strong and outstanding
 man; hero" (CH 3097)

W. GŴR "man, person, adult male person,
 ... valiant warrior, brave man, hero". (DWL
 1693-94). Derived from IE *uiro-s. L. vir,
 OIr fer, Ir. fear "man".

NAN 男 * <i>nuum</i> "man, male"	IE *NER-; OInd. <i>NÁR-</i> , Av. <i>NAR-</i> "male, man" (Pok 765)
NÜ 女 * <i>na?</i> "woman"	IE *NER- OInd. <i>NÁRI</i> "woman, wife"
NAI 奶 * <i>rneel</i> "milk, mother, grandmother"	IE *NER-, Av. <i>NĀIRI</i> "woman, wife"
FU 夫 * <i>pa</i> , * <i>ba</i> "man, husband".	OInd. <i>PÁTI</i> ; Av. <i>PAITI</i> "master, husband"; TchA. <i>PATS</i> "self, husband" (<i>DTch</i> 401; Pok 842)
FU 婦 * <i>bu?</i> "woman, wife, lady".	Skt. <i>PÁTNI</i> "mistress, wife"; Lith. <i>PATĪ</i> "wife" (Pok 842)
GONG 公 * <i>kung</i> (Li), * <i>kong</i> (Sagart), * <i>kloong</i> (ZZSF) "head of clan, head of major lineage (EZ 44, 197); duke; term of respect for man; husband's father; male (of animals)"	W. <i>GŴR</i> "man, person, adult male person, brave warrior, hero."
JIN 今 Cant. <i>gum</i> , * <i>kjam</i> "today; the present time".	Tch <i>KAUM</i> "sun; day". Tch A <i>kom</i> , TchB <i>kaum</i> , PTch. * <i>kaun</i> . (<i>DTch</i> 210-211). Tch <i>KOMTAK</i> "today", a derivative of Tch B <i>kaum</i> "sun, day" (<i>DTch</i> 202).
(Note: I believe PTch * <i>kaun</i> "sun" is cognate with W. <i>haul</i> "sun".)	
XI 昔 * <i>sjaag</i> "former times"	Av. <i>ZYO</i> "yesterday"; OInd. <i>HYAH</i>

	"yesterday" (Pok).
ZO 昨 * <i>zaag</i> "yesterday"	Same as above, Av. ZYO.
XIAN 現 * <i>geens</i> (ZZSF 370)	AS. GĒN "yet, now, still, again; further,
"now, at present" (Math).	besides, also, moreover". (ASD 150B).
GENG 現 * <i>krang</i> (Li), * <i>k̄rang</i> (Sch)	AS. GĒN, as above, "still, again,...".
"more, much more, still, again" (Math).	
XING 星 * <i>sleeng</i> "star".	W. SEREN "star".
YUN 雲 * <i>gun</i> "cloud".	Ir. CWMWL "cloud".
YU 雨 * <i>g"la?</i> (ZZSF 2000:	W. GLAW "rain".
14) "rain".	
SHU 暑 * <i>hja</i> "hot, summer"	Eg. HEAT, Gmc. root * <i>hait-</i> (OR 283).
	Perhaps Ir. TE "warm", Ir. TEIGH "heat,
	warm"; Ga. TETH "hot".

[Note: I believe SHU/**hja* 暑 was earlier ***tj-*, ***dj-* because all other words with phonophore 暑 are **tj-*, **dj-*, **t-*, **d-* in ZZSF.)

YAN 𪔵 * <i>qeen</i> "(a) swallow".	W. GWENNOL "(a) swallow".
YAN 𪔵 * <i>qeen</i> "feast (n.&v.)".	W. GŴYL, GWLEDD "(a) feast".
MOU 畝 * <i>mu?</i> "acre, field"	Ir. MAG "plain, open field", (L&P 28),
	Ir. MA "field"; W. MAES "plain, field".
	(< Brittonic * <i>mages-tu-</i>) (DWL 2312);
	Tch A. <i>miši</i> . B. <i>mīše</i> "field" < Common
	Tch * <i>mišōē</i> , borrowed from Khotanese

	<i>māssa-, omiṣṣa-</i> "field" (Carling: 60).
RU 入 Cant. <i>yup</i> , * <i>njəp</i> (Sch)	Tch A,B. <i>yäp</i> "enter"; Skt. <i>yahb</i> "have
"enter" (EZ)	intercourse" (Carling 47).
DU 篤 * <i>təwk</i> (Sch), * <i>təkw</i> (Li)	W. TRWCHUS, TEW (OIr TIUG,
"be firm, solid, massive, honest,	Ga TIUGH < IE * <i>tegu-</i> , cf. OE <i>þicce</i> , Eg.
sincere" (EZ 134).	<i>thick</i> , pl.-(<i>on</i>), - <i>iau</i> "thick; made of thick
	cloth, etc.; strong, sturdy, powerful, also
	fig." (DWL 3491). Ir. TÉAGARTHA
	"hefty"; TÉAGAR "substance".
DUN 敦 * <i>tuul</i> (ZZSF), * <i>rən</i> (Li),	W. TRWCHUS (OIr TIUG < IE * <i>tegu-</i>), as
* <i>tuər</i> > * <i>tuən</i> (Li) "thick, ample, gen-	above, pl. -(<i>on</i>), - <i>iau</i> .
erous", "to make thick; to mass,	
mass troops" (EZ 138).	
(Note: DUN/* <i>tuul</i> /* <i>tən</i> /* <i>tuər</i> 敦 "thick" may correspond to the plural form of	
the Celtic, with elision.)	
DAN 單 * <i>taan</i> , * <i>djan</i> ? "single	W. TENAU, OIr. TANA(E) "thin",
(layer, strand, etc.); unit; alone"	IE base * <i>ten</i> "extend", akin to L. <i>tenuis</i>
	"thin, slight, etc."; Gr. <i>tana(f)os</i> , Skt. <i>tanu-</i> ;
	G. <i>dürr</i> , Eg. <i>thin</i> "thin".
(Note: DAN 單 "single", as in single-layer coat or covering, means "thin".)	
ZHE 赭 * <i>tjaa</i> ? "red" (EZ).	Ga., Ir. DEARG "red", OIr. DERG "red".
XUE 血 * <i>hwit</i> (Sch), * <i>qh</i> "iig	W. GWAED "blood".

(ZZSF) "blood".

HUANG 黃 **gwang* (Sch),
 **g"ang* (ZZSF 355) "yellow" (EZ).

Av. H^uARð "the sun, light, sky",
 Av. X^uð NG "the sun" (Pok 881); Av.
 X^uAENA "glowing"; W. HUAN, HAUL
 "the sun".

HUANG 皇 **g"ang* (ZZSF 484),
 **gwang* (Sch) "be august, stately"
 (EZ 348)

Av. OX^uð NG "the sun", as above.

HUANG 煌 **g"ang* (ZZSF 484)
 **gwang* (Sch) "be brilliant, splendid
 magnificent" (EZ 249).

Av. OX^uð NG "the sun", as above.

(Note: The above three characters HUANG all contain the 日 "sun" semaphore.)

GUANG 光 **kwang* (Sch) "be
 bright, glorious" (EZ 213).

Av. X^uð NG "the sun", as above.

DI 抵 Cant. *dei*, **tiil*? "arrive, reach".

Ir. TEACHT "approach, arrival".

DI 邸 Cant. *dei*, **tiil* "royal/
 official lodging place; residence".

OWlsh. TIG (pl. TE), OCm. TI, OIr. TECH
 "house"; IE base (s)TEG- "to cover",
 (s)TEGOS- "roof, house". L. *tectum*, Ger.

Dach "roof". (Pok 1013)

CHANG 暢 **lhangs* "to protrude".

W. ALLAN "out".

LU 賂 **g·ruags* "to contribute,
 present (EZ); give a present, bribe;

W. ANRHEG "gift".

(Note: ^a*n-* is a common prefix; the

a present; a bribe".

stem is -RHEG.)

(Note: W. -rh [corresponding to hr-] has hardened into OC. g.r.)

GUAN 貫 *koon (ZZSF),

W. GWANU "to pierce"

*kwan(h) (Li), *kuans (Sch) "to go

through the center of; to go through

(a bull's eye, etc.)"

ZHEN 娠 *hljw n "pregnant"

W. LLAWN "full; pregnant"

YUN 孕 *ljəŋh (Sch) "pregnant".

W. LLAWN "pregnant".

YUAN 源 *ngwan "spring (i.e., water)".

W. GWANEG "wave, billow, surge"

(DWL 1574)

YUAN 元 *ngyuan (Sch)

W. UN "one".

*ngwjān (Li) "be at the head, first,

eldest, principal, great". (EZ)

WEN 溫 *quun "warm"

W. CYNNES "warm".

WEN 緼 *quun "secret; hidden"

W. CUDDIO "to hide".

YU 予 *ragx (Li), *la, *la?

W. RHODDI "to give, present". (DWL 3087)

(ZZSF) "to present, to give".

LAI 賚 Cant. loi, *ruw

W. RHOI "to give, bestow" (MlCm ry, rei).

"to give, reward".

(DWL 3087).

KUAN 寬 *koon (ZZSF), *khuan

W. RHYCHWANT "span".

(Sch) "wide".

GUANG 廣 *k"ang "extensive".

W. RHYCHWANT "span".

HENG 橫 *g^wraang "breadth".

W. RHYCHWANT "span".

ZHONG 中 *trjəwng (Sch),

W. CYD-RHW NG "between".

*tung(s) (ZZSF); "be in the middle,
middle".

(W. *cyd* "joint, united, common")

YUE 曰 *g^wad "say".

W. CHWEDL "story, talk"; OHG

QUEDAN; Eg. QUOTH "say".

WEI 謂 *guds (ZZSF 489),

W. CHWEDL, OHG QUEDAN, as above.

*gwjadh (Li) "say; call, be called" (EZ).

WEN 聞 *muns "to hear".

W. YMWRANDO "to hearken".

HUI 會 *gwadh (Li), *guats (Sch),

W. CWRDD "to meet".

*koobs/*goobs [ZZSF] "to join, come
together" (EZ), "to meet".

(Note: ZZSF has reconstructed some words with same phonophore 會 with a medial -r-:

會 *kroobs, 口會 *khroobs, 小會 *qgroobs.)

CHOU 觸 *thjog "to butt, gore".

W. TWLCIO "to butt".

CHUNG 充 *lhjung "to fill; full".

W. LLONAIID "full" (<llawn + aid).

(EZ)

(DWL 2206b); Corn. LUEN, LEUN
"full".

LUI/LEI 類 *ruuls (ZZSF 398a),

W. RHYW "kind, type, sort, class, species".

*rjuas (Sch) "class, species, kind, sort".

(DWL 3144)

YUN 隕 *gun? "to drop, fall" (EZ).

W. CWYMPO, v. "fall"; CWYMP "a fall".

YUN 殞 *gun? "to fall, perish".

W. CWYMPO, as above.

ZHU 朱 *tjo "red".

OIr DERG, Ir. DEARG "red".

HE/HOH 赫 *qhraag "red".

Ir. CRÓCH "red", W. COCH "red",

Gr. KOKKINOS "red" (Vendryes: C246).

ZHU 注 *t(r)jugh (Li) *t(r)juh (Sch),

W. TYWALLT, v. "pour".

*tjos (ZZSF) "to conduct water, to pour"

(EZ 853).

(Note: Other characters with the same phonophore in ZZSF: 隄主 *do? 饗主 *thoo?.)

HE. 喝 *qoob "drink".

Eg. quaff "drink".

HUAN 完 *hngoon "bright,

W. GWYN, GWEN "white, shining, bright",

luminous" (Math 2245).

"faired-haired, fair-faced", "holy, blessed",

"splendid, beautiful, fair,..." (< Clt.ouindos)

(DWL 1770).

(Note: The semaphore in WAN is 白 "white".)

WAN 丸 *gwaan "white

W. GWYN, f. GWEN "white".

silk; white".

YUAN 媛 *g'an (ZZSF 545, col.B)

W. GWEN "fair, beautiful".

"a beauty, beautiful" (Math 7736).

YUAN 嫺 *ngwan "name of the

W. GWEN "fair, blessed".

princess consort of the mythical

emperor Di Ku 帝嚳". (Math 7726).

(Note: This correspondence is my conjecture. A number of the figures of Chinese mythology have names corresponding to Celtic words. See Wei 2005c.)

WAN 丸 * <i>gwaan</i> "pill, pellet"	W. GRAWN "grain"; GRONYN "particle".
GUAN 串 * <i>kwanh</i> (Li), * <i>kwǎrans</i> (Sch) "custom, usage" (EZ 211).	AS. GIWONO "habit, custom"; Ger. GEWOHNEN "to be accustomed to". IE base * <i>uen</i> .
GUAN 慣 * <i>kwan(h)</i> "custom; accustomed to".	Same as above.
SHI 世 * <i>hljeb</i> s "generation, epoch, age".	OHG LIB "life, body"; OHG LEBEN "to live"; ON LIFA "to remain, to live".
GUO 過 * <i>kwār</i> h (Li) "to pass, pass over,..."	W. GOR (OWlsh GUAR) "over, super". "over-".
NEI/NUI 餓 * <i>nuul</i> "hungry".	W. NEWYN "hunger", NEWYNOG "hungry".
TU 土 * <i>l'haa?</i> / <i>*l'aa?</i> (ZZSF 480, 481), * <i>tha?</i> (Sch) "land, soil" (EZ), "earth, land, soil, ground, terri- tory" (Math).	W. LLAWR "floor...ground...earth...." < Celtic * <i>laro-</i> < IE * <i>pla-ro</i> .
TU 塗 * <i>l'aa</i> (ZZSF 538). "to smear, to daub; mud, mire". (Math).	W. LLACA "mire, mud". Cf. MIEg LACA. "lake, stream;..., ?marsh, slough" (DWL 2075).
DU 肚 * <i>l'aa?</i> / <i>*l'aa?</i> (ZZSF 480, 481) "stomach".	W. CYLLA "stomach".

DUO 多 *ʔl'aal (ZZSF 309)

W. LLAWER "many".

"be much, many,...." (EZ)

HUO 夥 *glol? (ZZSF 345)

W. LLAWER "many".

"numerous"

WO 窩 *(kwarh), *glol,

W. GWÂL "lair, den".

"nest, den".

(Note: It is my conjecture that WO 窩 "nest, den" had sound *kwarh because Li Fangkuei's reconstruction of GUO 過 with the same phonophore is *kwarh [EZ 220].)

XI 隙 *khrag (ZZSF 497b) "a

W. RHWYG "rent, rupture, schism".

crack, fissure".

Eg. CRACK.

(Note: W. rh- can be spelt as hr-, which, when hardened, gives khr- and cr-.)

LAO 勞 *raaw, *raaws. (ZZSF

W. RHODDI, RHOI "give, bestow".

395b) "to recompense, reward toil".

(Note: See LAI 賁 "give, reward" above.)

JIAN 間 Cant. gan, *kreen (ZZSF)

W. CANOL "middle, center, midst".

"be in the middle" (EZ)

JIAN 兼 *kliam(h)(Li)"to

W. CYMAL "joint".

combine; at the same time".

SUAN 酸 Cant. sün,*suan (Sch),

W. SUR "sour".

*sloon (ZZSF) sour".

QIAN 遣 *khen? "to send"

W.GYRRU "to send".

TING 聽 *lheengs (ZZSF 461),

OIr. CLUIN- "to hear, to listen to",

*hling (Sch) "to hear, listen" (EZ 611).	Ir. CLUIN, W. CLYWED "hear, listen" (< *klinu-) (Vendryes: C127-28).
AN 岸 *nggaans (ZZSF 325), *nganh (Li) "high riverbank" (EZ)	OIr ARD "high", Ir. ARD "high, great"; W. ALLT "cliff"; L. <i>altus</i> "high".
ANG 仰 *ngang (Sch) "be high" (EZ).	OIr ARD, as above.
HOU 後 *goo? "behind, rear"	W. CODI "rear".
JIN 近 *gun? "near".	W. GER "by, near".
LUN 圓 *g-run "complete, whole".	W. LLWYR "entire, complete, total".
(Note: LUN 圓 is not in ZZSF but 纒 with the same phonophore is *g-run; other characters with the same phonophore are *run.)	
WEN 文 *mun "be striped, patterned" (EZ), "tattoo".	W. MAN "mark, distinguishing mark, spot, blemish, birthmark,...". (DWL)
WEN 文 *mun "refined, accomplished, cultured" (EZ)	W. MÂN, "small, fine,..., elegant". (DWL)
XIAN 咸 *gruum complete, finish, all"	W. CYMAN "complete, entire." W. <i>cym-</i> , also <i>cyf-</i> , <i>cy-</i> (OW. <i>com-</i> <i>cem-</i> , <i>co-</i> ; O.Corn. <i>com-</i> ; <Clt. *kom-); L. <i>com-</i> , <i>cum</i> . (DWL 673)
MAN 滿 *moon? "full, complete, the whole of..."	As above, W. CYMAN.
XIU 休 *qhu. *hjəw (Sch.) "to rest, be happy, lucky". (EZ)	W. HOE "pause. break, respite, rest...." Eg. HO "halt, pause". (DWL 1883)

BI 弼 **brwd* "aid, assist".

W. PORTH, n. "help, aid, succor".

MI 彌 **mei* "more"

W. MWY "more".

(e.g. *mi yuan* 彌遠 "still further"

[i.e., "more far".]) (*Math*).

MEN 悶 **munn* "stifling;

W. MWLL, MWRN "close, warm, sultry".

to cover; closed" (*Math* 4420).

RUO 弱 **njewg* "be weak,

W. NYCHDD "feebleness, infirmity".

consider weak, weak".

LANG 朗 **raang/?* "bright,

W. LLACHAR "bright, brilliant".

brilliant". (*EZ*)

(Note: W. *-ch-* has sound of *ch* in Scottish *loch*. It is elided in OC LANG, just as *-gh-* has disappeared in English *taught*, now pronounced *taut* in standard English. For correspondence of OC *-ng* and W. *-r*, see above section, Sound Correspondences.)

WEI 為 **g'al* (ZZSF 487) "to
 act, be;...". (*EZ* 635)

W. OEDD "was, were".

(Note: "be" includes "is, was, were". Welsh initial OE- may be written *ŷOE*, and the glottal stop *ʔ* would be close to OC initial **g-* here. OC final *-l* is near-homorganic with W. final *-dd* here. Modern Welsh *dd* is pronounced as *th* in English *that*.)

SHI 釋 **hljaag* "put away,

W. LLAC "slack, loose,..."; Eg. SLACK

do away" (*EZ*); "to release, unloose,

"loose". (*DWL* 2075)

lay aside, get rid of...." (*Math*).

JIE 解 **krigx* (Li), **kəri?* (Sch)

W. RHYDD "free, loose....", RHYDDAU

"to unloose, take off". (EZ)

GAN 乾 *kan (Sch.), *gran

(ZZSF) "dry".

LU 路 *g-raags "road, way".

LU 露 *g-raags "to condense;
dew". (EZ)

HUO 活 *gwat (Li), *guat

(Sch) "life, keep alive, alive".

HUO 诃 *gwat (Li), *guat

(Sch) "to unite, join".

LIN 林 *g-rum "a forest,

a grove, a copse" (Math).

SHU 鼠 *hlja? (ZZSF

468b) "mouse, rat".

CHANG 敞 *thjang "open,

spacious; to display".

YAN 言 *ngan "word(s),

speech".

DONG 懂 *loong?

"to free, release, liberate".

W. CALED "dry".

W. RHYCH "furrow, rut, groove".

W. RHEW "frost, ice".

W. HOEDL "lifetime, life, duration of life,
age". (DWL 1883)

W. CYDIO "join", CYD "joint, united".

W. LLWYN "bush, shrub, thicket, copse,
grove, woods, forest"; OBret. LOIN, LOEN;
cf. L. *lignum* ; "wood, firewood, timber".
(DWL 2244).

W. LLYG "shrew", Ir. LUCH, LUCHOG

"mouse", Ir. and Ga. LUCH "mouse".

W. DANGOS "show, set forth, reveal,...".
(DWL 887)

W. GAIR "word, speech,..., saying,...".

Crm. GER "word, speech". < Clt.

*gar-jo- , root *gār-* "to call, cry, shout".

Ga, Ir. TUIG "understand", TUIGIM "I

"understand".

understand".

(Note: OC *-ng?* and Ga. *-g* are homorganic. For a similar OC nasalization, see below.)

YONG 庸 *long (ZZSF 533), *ljung

W. LLOG "to hire" (*WD*), "hire, wage,

(Sch) "use, employ,...employment"

fee" (*DWL* 2202).

(*EZ* 760).

HANG 行 Cant. *hang*, *gang (ZZSF),

AS. GANG "going, journey, progress,

*grang (Li) "to go, march, travel" (*EZ*).

track, footprint" (*ASD* 148).

XIA 夏 *gragh (Li), *g₂ra?h (Sch)

Ga. and Ir. SAMHRADH "summer".

"summer".

XIA 暇 *gragh (Li), *g₂ra?h (Sch)

W. SEGURAF, SEGURA, SEGURU

"be at leisure, lazy" (*EZ* 664).

"to be idle, be at leisure,..." (*DWL* 3205);

Ir. SUGRADH "play (i.e., activity of

children)"; L. SĒCŪRUS "carefree" (*DWL*).

(Note: For disyllabic OC correspondences for W. SEGURAF, see Wei 2005e).

RU 綵 *njog "colorful;

W. LLIW "color, hue, tint".

of variegated colors; adorned,

beautiful, elegant". (*CH* 2277b)

YAO TIAO *?iw? *?-liw? 窈窕

W. LLIW "color, hue, tint". OE *hiw*,

"elegant, beautiful".

Eg. hue.

(Note: W. LLIW (approximately *hliw*), realized as *?hiw?liw?* in Old Chinese.)

I. YU 役 *Gweg (ZZSF 525a)

W. GWAITH (OCm. GUEID, OBret

"labor; serve as a servant, employ

GUEITH < Clt. **uekto* "move. remove,

as a servant; military service,...."

travel", root **ueǵh*, L. *veho*; *vehere*)

"work, labor, act, deed, task, job; aid".

(DWL 1563, GWAITH¹).

Culture and Technology

CHANG HE 閭閻 **khjang*gaap*

W. CARCHAR "prison"; L. CARCER

"door, gate (in language of Chu 楚)".

"prison, barrier".

GE 格 **klaag* "any space or spaces

W. RHYCH "furrow, rut, groove";

(such as squares) made by lines or

W. RHIC "notch, groove".

limits; divisions, levels, partitions,

in a cupboard, window pane, etc."

(CH 1493.8, XY 716), also written

隔 "partition" (XY 749

Math) "rule, limit, patterns, frame,

standard". (CH; Math)

XIU 袖 **ljunwgs* "sleeve(s)".

W. LLEWYS (pl.), LLAWES "sleeve".

YOU 油 **luw* "oil". (ZZSF 534A).

W. OLEW "oil".

SHI 尸 **hli* "corpse; representa-

W. RHITH "shape, form, figure...."

tive of the dead" (EZ); "one who imper-

(DWL 3080, col. b)

sonates the dead at a sacrifice".

SHI 示 **gle* "ancestral tablet:

W. RHITH "form, guise, appearance,

show, manifest".

image".

SHI 式 * <i>hljak</i> (Sch) "model, form".	W. RHITH "form, image, etc."
SHI 誓 * <i>hljeds</i> "formal statement, solemn declaration; oath" (EZ).	W. HAERIAD "statement".
SHU 贖 * <i>hljog</i> "to redeem, to ransom".	W. LLOG "interest, usury, hire, fee,..."; W. CYFLOG "pay, hire, wage, wages"; W. LLOGI, LLOGAF "...lend at interest, practice usury,...". (DWL 2202)
YONG 庸 * <i>long</i> (ZZSF 533), * <i>ljung</i> (Sch) "use, employ,...employment" (EZ 760).	W. LLOG "to hire" (WD), "hire, wage, fee" (DWL 2202).
DU 犢 * <i>l'oog</i> "calf"	W. LLO "calf"; CYFLO "calf", OIr. LÓEG "calf".
WEN 醞 * <i>qun</i> "wine; to ferment wine".	W. GWIN "wine".
REN 賃 * <i>noms</i> "to rent, lease". (Note the similarity between MSM REN and W. RHENT.).	W. RHENT, RHENTU "rent, to rent".
LI 里 * <i>rw?</i> (ZZSF), * <i>ljəgx</i> (Li), * <i>rjə?</i> (Sch) "village, neighborhood, community" (EZ 371).	W. LLE (OBret. LE < Clt. * <i>legā</i> or * <i>lego</i> , root * <i>legh-</i> "to lie") "space in general; locality, area, region, neighborhood,...a specific place, a general designation (for a city, town, village, farm)..." (DWL 2121, LLE ¹).
(Note: Words with the same phonophore as LI/* <i>rw?</i> 里 have initials * <i>hl-</i> , * <i>lh-</i> :	

**lhug* 董 and **hlug* 董 [ZZSF 399], indicating alternation between *l-* and *r-* in Old Chinese.)

SHI 室 **hlig* "a room".

W. LLE "a room". (*WD* 282)

XIANG 鄉 **qhang* (ZZSF 500) "village" [earlier **qhrang*, see note below].

W. LLAN "village" < Clt. *landa*, from root **lendh-* "open land, moor, heath, plain".

(Note: **qhang* 鄉 has the same phonophore as LANG/**rang* "young man", which corresponds to W. LLANC "young man", which means that **qhang* 鄉 "village" was earlier **qhrang*, where the medial *-r-* was elided. **Qhr-* would correspond with W. LL- [which can be transcribed as *hl-* or *qhl-*]. This is confirmed in another OC word with the same phonophore: 郎 **khlang* [ZZSF 500], which retained the medial *-r-*.)

LUN 輪 **run* "wheel".

W. CRWN "round", W. OLWYN "wheel".

KUANG 石廣 **k"raang* "stone quarry".

W. CHWAREL, CWAR "quarry" (loanword, English *quarrel* "quarry, stone pit", derived from Latin *quadrus*, *quadrum* "a square, or squared, stone." (*DWL* 633; *ORIGINS* 540)

ZHU 鑄 **tjos* "melt, cast"

W. TODDAF, TODDI "melt, liquefy, ..., cast, mould". IE base **tā-* "melt, ...cast, mould, etc." (*DWL* 3514)

YONG 俑 **lhoong*, **long*

W. LLUN "form, image, figure....".

"wooden figures of men and women

that are buried with the dead".

CHUAN 船 **hlon* (ZZSF

512b) "boat, ship".

W. LLONG "ship", OIr. LONG "ship".

SI 祀 **ljw* ? "sacrifice, sacrifi-

cial cycle, year; to sacrifice" (EZ 581)

W. LLADD "slay, kill".

GE 耜 **kreeg* (ZZSF 329b)

"yoke of cart or carriage" (CH).

OE. GEOC, OHG. *joh*, Skt *yugam*.

"yoke".

GUAN 罐 **koons* (ZZSF 340)

"jug, jar, pot".

W. CROCHAN "pot, cauldron". (WD 193)

(Note: W. *-ch-*, with sound of *-ch-* in German *loch*, has been elided.)

Agriculture

(Note: All the following words relating to farming are still words in common usage in spoken and/or written Modern Chinese. For example, the words LEI 耒, LI 犁 "the plough", GENG 耕 "to plough", and NONG 農 "farmer, peasant, farming" are still in common usage in both spoken and written Modern Chinese.)

LEI 耒 **ruł*?, **ruuls* "the plough".

W. ARADR "the plough", AREDIG "to plough"; OIr. AIRID "to plough"; Clt.

**aratron*, L. *aratrum*, Gr. *aratron* "the plough" (DWL 175; OIV 103).

(Note: OC *-l-* and W. *-d-* are homorganic.)

LI 犁 **ril, *riil* "the plough" W. ERYDR, pl. of ARADR "the plough".

(Note: LI 犁, phonophore of LI 犁 "plough", is **rids*, suggesting the interchange of *-l* and *-d*.)

GENG 耕 **kreeng* (ZZSF 381), Ga. CRANN "the plough", CRANN,
**kring* (Li), **karing* (Sch) "the plough CRUINN, CROINN, CRAINN "mast
 (Shuowen); to till, cultivate" (Kangxi or other long rod; plough"; OIr. CRANN,
 Zidian). CRUINN "tree, mast (of ship)" (OIV).

YUN NOU 耘耨 **gun*nuug* W. CHWYNNU, CHWYNNAF
 "to weed" (HYDCD 8.593A; 9.283A). "to weed". (DWL)

YUN 耘 **gun* "to weed". As above, W. CHWYNNU.

(Note: OC **gun* corresponds to W. CHWYN-, an example of elision involving loss of final syllable [-NU], or apocope.)

YUN 芸 **gun* "proliferous; W. CHWYN "weeds"; cf. Eg. WHIN
 growing prolifically", as in *yun yun*. "gorse, furze, etc." (DWL 862)

4.25. NOU 耨 **nuug, *noogs* (ZZSF W. CHWYNNU "to weed".
 452a) "to hoe, to weed". (HYDCD 8.598)

(Note: **Nuug*, corresponding to W. -NU, is an example of aphesis, or elision involving loss of initial syllable [CHWYN-].)

(Note: YUN NOU **gun*nuug*, 耘耨 "to weed", above, corresponding to W.

CHWYNNU "to weed", is attested in Middle Chinese [HYDCD] and in modern Chinese as a disyllabic word. It has also split into two words, YUN/**gun* 耘 "to weed" and

NOU/**nuug* 耨 "to weed". Aphesis and apocope in OC disyllabic words occur quite frequently. For some other examples, see Zhou 2003:56-66.)

NOU 耨, 耨 **nuug*, **noogs*, W. CHWYNNOGL n. "(a) hoe". (WD)
 n. "(a) hoe" (HYDCD 11.1366).

(Note: **Nuug* is another example of elision.)

NONG 農 **nuung* "agriculture; W. CHWYNNU."to weed", as above.
 farmer, peasant; to cultivate" (EZ 444).

(Note: NONG 農 "cultivate" is probably a nasalization of NOU 耨 "to weed",
 above.)

YANG 羊 **lang* "sheep, goat, OInd. *URAN-, Akk. *URANUM
 a sheep, a goat". "lamb, ram", GrHom. *(f)aren* "lamb".

CHU, XU 畜 **lhug*/**hlug* OIr.CROD "cattle", Ga. CRODH
 (ZZSF 507), **hrjəwk(h)* (Sch) "cattle".

"nourish, support" (EZ 698);

"cattle, domestic animals; to
 rear, feed" (Math).

(Note correspondence of OC **h*- and OIr. *c*- in OC **hlin* 身 "body" and OIr.
 COLAINN "body".)

Counting and Calendar

XUN 旬 **swjin* (EZ), **sg^win* W. CHŴYL "[a] turn, [a] rotation".
 (ZZSF 549) "[a cycle of] ten, ten days,

a decade" (EZ).

(Note: The Chinese calendar is based on a cycle of ten days, just as the Western calendar has a cycle of seven days, or the week. Other characters with the same phonophore such as 旬, 旬, 旬 have sounds *qh^wiins, *g^wiin, indicating XUN 旬 may earlier have been *qhwiin, closer to the sound of W. CHŴYL "rotation". See ZZSF 548.)

XIA 夏 *gragh (Li), *gəraʔh (Sch) Ga. and Ir. SAMHRADH "summer".
 "summer".

LI 歷, 曆 *reeg, *rik (Sch.) PIE (A)RĪ-, RĒI-, Gr. ARITHMOS
 calculate; the calendar; number". "number", OIr RÍM "number", W. RHIF
 "number", RHIFO "count, reckon",
 OHG RĪM "row, series, number" (Pok 60).






(Note. According to classics texts, Xi and Ho 羲和 were ancient ministers responsible for the calendar. For papers on the Indo-European origin of Xi and Ho, see Snow 2002.)

SI 肆 *səljas "a set, a row" Gr. SERĪŌ- > eíro "put in a row, put in
 (EZ 580, SI 7) a series", IE base ser-; L. SERIES "row, sequence". (Pok 911).







SI 四 *səljas (Sch), *sɛdɥh (Li) L. SERIES "row, sequence,..."
 "be four, four". (EZ 580, SI 8)

XU 叙, 序 *sljaʔ (Sch) Gr. SERĪŌ- "put in a row, put in a series",
 "arrange in a row, arrange, order, L. SERIES "row", as above.
 succeed". (EZ 699)

SHU 數 *srjuʔ (Sch); *sroʔ. Gr. SERĪŌ, as above.

- *sros, *sroog (ZZSF 410) "to calculate, evaluate". L. SORS "lot, fate", Fr. SORCIER "magician". (Pok 911)
- XUAN  Cant. :s'ün, *sjuanx (Li), Ir. SUIM, "sum, a sum; number; interest",
 *sjuan?, *suan? (Sch) "to count" SUIMIGH "add (up)", Ga. SÙIM "sum".
 (EZ 702).
- SUAN  (*suan?), *sloon Ir. SUIM, SUIMIGH, as above.
 (ZZSF) "to count, calculate".
- (Note: SUAN  is not in EZ. I believe SUAN  "count" was *suan? because the character XUAN/*sjuan?/*suən?  , above, also meant "to count".)

Knotting and Weaving

- RONG  *njung "wool, woolen velvet, felt" (Math 3183). Ga. ROIN "a hair, a hair of a tail or mane, a small quantity of wool or an hairy substance"; pl. ROINE "hair"; W. RHAWN "hair, coarse long hair; horse-hair".
 Gr. *érion*, *erion* "wool"; L. *lana* "wool";
 W. *gwlan* , Ir. *olann*, Ga. *olann*,
clòimh "wool". (For ROIN, see DGL)
- RONG  (*njung) "wool of sheep". (Math 3185) As above, Ga.ROIN, ROINE, etc.
- (Note. This character is not in ZZSF. But its phonophore  is *njung, and most of the other words listed with the same phonophore , ,  , are *njung. I have thus

conjectured RONG 絨 to have sound **njung*. I have proposed that RONG **njong* 聾
"tousled hair" [see above, Body Parts] also corresponds with Ga. ROINE, W. RHAWN.)

RONG 戎 **njəwng* (Sch) "bushy [haired]" (E.g., "The fox furs are...

Ga. ROINE, as above.

bushy (**njəwng*). (EZ 512).

TAN 毯 **lhaam* (ZZSF), "carpet,
rug?"

Ga. CLÒIMH "wool"; Turkish CILIM/
KILIM "woven rug".

(Note: Regarding the correspondence of OC **lh-* with W. CL-: OC **hlin* 身 "body"
and W. CELAIN "body, corpse". For words with 炎 phonophore, EZ gives 談
**glam* [Sch], 炎 **glam* [Sch] [EZ 598]. ZZSF gives 炎 **hlam*, 目炎 **hjam?*, etc.)

JING 絳 **keeng*, **keengs* "warp
threads of loom"

W. CAINC, CAING "strand or yarn (of a
rope)" (DWL 390, CAINC (b)), "branch,
strand" (WD 40) "a knot" (WD 244).

Ir. CEANGAIL, v. "bind, tie, fasten, lace up,
...", W. CENGL "skein" (WD) "girth, girdle,
band"; L. CINGULUM "band,
girdle, belt". (DWL 450).

(I am indebted to Professor ZHOU Jixu for first proposing that **keeng* 絳 "warp"
corresponds to English *skein* [Zhou 2002:379], which led me to look for W. CENGL and
Irish CEANGAIL. I am not sure if W. CAINC is cognate with W. CENGL "skein" and
Irish CEANGAIL, but all three words are close in sound and meaning to OC **keeng* 絳
"warp".)

<p>GANG 綱 *<i>kang</i> (Sch) "guiding rope (of a net)" (EZ), "large rope of a net" (Math)</p>	<p>W. CAINC, CAING "strand or yarn (of a rope)< Clt. *KANKŪ-, base *KANK-" "branch, bough" (DWL 390 CAINC (b)); Ga. CEANGAL "a bond, a fastening".</p>
<p>WEI 緯 *<i>g"als</i> "woof" (Note: The phonophore 韋 has sound *<i>g"al</i> [ZZSF].)</p>	<p>W. GWEAD "a weaving; texture", W. GWE "a weaving, texture", W. ANWE "woof".</p>
<p>BEI 被, 帔 *<i>bral?</i>, <i>brals</i> "a coverlet, blanket, quilt; to wear on the back; cloak. that can be thrown over the shoulder; false hair, braid made of someone's else hair worked into one's own hair" (HYDCD) (Math 4999, 5144).</p>	<p>ScGa. PLAIDE "blanket; cloak that can be thrown over the shoulder", Ir. PLUID "blanket"; Ir. BRAT "cloak, mantle, covering"; Ga. BRAT "cover, sheet, mantle".</p>
<p>PI 披 *<i>phral</i> "to wrap, throw on, as a garment". (Math 5145)</p>	<p>As above, PLAIDE.</p>
<p>BI 髮皮 *<i>phral</i> "false hair, braids of someone else's hair". (Math 5094)</p>	<p>As above, PLAIDE.</p>
<p>PI 披皮, 巾皮 *<i>phral</i> "to throw over the shoulders, mantle" (Math 5144, 5145).</p>	<p>As above, PLAIDE.</p>

(Note: The above correspondences for ScGa PLAIDE are proposed by V.H. Mair, and I am indebted to him for permission to include them on this list. OC *-*r-* and W. *-l-* are homorganic. as are OC final *-l* and W. final *-d*. Note that **phral*. **bral?* 巾皮. 披皮.

被 are variants of one word with the meanings "blanket, (cloak) thrown over the shoulders, and false hair/braid". Mair notes that the mummies in Qizilchoqa [Red Hillock], Sinkiang, were ones who wore true plaids, and some of the females had braids of their own hair extended by false braids. Qizilchoqa is next to Qaradowa [Wupu], outside Qumul [Hami], Sinkiang.)

BIAN 編 *pen [ZZSF 276b] W. PLETHU "to plait, weave, fold" (*WD* 134); Ga. PLEAT, v. and n. "weave" (*DGL*, English-Gaelic). Ga. PLEAT "plait" (*DGL* 867). Cf. Ga. *plat* "a sort of cloth made of straw". (*DGL* 452),

(Note: "Plait" means "pleat, fold" and "braid". The phonophore 扁 has sound *phen/*phlen, suggesting *pen 編 also earlier had sound *phlen [ZZSF 276], and *phlen corresponds to W. PLETHU in sound because OC -n and W. -th are homorganic.)

BIAN 辨 *been? [ZZSF 278] W. PLETH "a plait".
 "braid, plait".

(Note: Many words with the same phonophore as *been? "plait" have a medial -r-, as in *praan 辨, breens 辨, bren? 辨, bren? 辨 [ZZSF 278a]. -N and -d, -t, th are homorganic or near-homorganic.)

LUN 綸 *g-run "rope, cord". (*EZ*) W. RHWYM, adj. "bound", n. "tie".
 WEI 隸 *g'i "to tie". Clt. *UEG "weave, plait, knit, tie",
 W. GWE "a weaving, woven fabric. etc."
 (*DWL* 1607-1608, GWE).

(Note: Clt. **ueg* gives us W. *gwe* "a weaving, woven fabric, web of cloth" and *gweaf*,
gweu "weave, plait, knit,...". [DWL 1607-1608, *GWE* and *GWEAF*.])

CHOU 紬 **l'uw* (ZZSF 534) W. EDAU, n. "thread, yarn, wool".
 n. "thread".

(Note: OC **l-* is homorganic with W. *-d-* in EDAU.)

NIU 扭 **nu?* (ZZSF 290) W. NYDDU "to twist".
 "to twist".

JIAN 緘 **krwum* (ZZSF 498) W. RHWYMO, CLYMO "to tie".
 "to bind; close; seal"

JIE 結 **kiid* (ZZSF 361a) W. CYD "joining, coupling, junction,
 "to tie, tie up; connect, unite". union".

Pronouns and Relational Terms

WO 我 **ngarx* (Li), **ngaal?* OIr AR "our", Ir. AN, W. EIN, AN,
 (ZZSF 490) "I, we, my, our" (EZ 643). Bret. HON, ON "our".
 ANG 𠂔 **ngang* (Sch) "I for my part" Ir. AN, W. EIN, AN, Bret. HON, ON "our".
 (EZ 644), "I, we".

(Note that MSM ANG is closer to W.AN than the reconstruction **ngang*.)

YAN 言 **ngan* "I" (EZ 644) Ir. AN, W. EIN "our".
 GE 各 **klaag* (ZZSF 330) OIr. CACH "each"; Ga. GACH "each".
 "each".

(Note: Many other characters with the same phonophore 各, such as 𠂔, have sound

*g:raag in ZZSF.)

YUAN 爰 *gwjan (Li, EZ 791)

*gwan (ZZSF) "there, then"

SI 斯 *se "this".

CI 此 *she? "this".

ZHI 之 *tjw (ZZSF), tjəg (Li),

*tjə (Sch.), pron., "this; he, she, it,
they, them". (EZ 829)

SHI 時 *djw "this, now,
then" (EZ 545)

SHI 是 *dje? (ZZSF), *djigx
(Li), *dji? (Sch.) "this, that, which"
(Math), "this, this is". (EZ)

ZI 兹 *zu, pron., "this, here;
then, and so" (EZ)

ZHI 止 *tjw? < kj- (ZZSF 565)

Alternate character for ZHI 之 "this,
he, she, it... ", above. (See illustrative
sentences. EZ 830)

W. HWN "this (one)"; HWYNT "they";

HWNNU (m.), HONNO (f.), HYNNY(n.)
"that". (L&P)

Ir. SE, MiBret SE "this", stem *so.

TchA sa- and TchB se, dem. pron. "this"

from PIE*so/seh_a, Skt. sá/sā/tāt. (DTch 698)

As above MiBret. SE. TchB SE.

TchB TE "this"(m. se, f. sã, n. te).

(Pok 979). Also, m. se, -, ce// "the"
(DTch 698, se)

As above, TochB TE.

As above, TchB TE.

As above, TchB SE, Ir. SE.

Tch TAY, TA//, TE, CE (m. se, -,

ce; f. sã, tã, tã//toy, -, -; n. te, tentse, tel//
"this" (DTch 698).

ZHE 者 *tjaa? "this/those/the As above Tch TAY, TA//.

(one/ones, one/ones who)".

(Note: My interpretation of ZHE 者 "this/the (one/ones)" is close to Schuessler's, who defines ZHE 者 as "particle; perhaps: a nominalizer". Thus the sentence:

知 我 者 謂 我 心 憂
 zhi wo ZHE wei wo xin you

know me the-ones-who say my heart grieves

yields Schuessler's translation:

Those who know me say that my heart is grieved. [EZ 821b ZHE 1])

ZHU 諸 *tjaa?, dem., "these; IE TO-, dem. stem, neuter sing. and those; the (plural)". m., f., and n. plural of IE *so(s)*, *sā* "this".

(Pok 978)

Skt. TAT "this", neuter of *sá*, *sā*.

(DTch 693, *su*; 698, *se*)

(Note: "These/those, the [plural]" is my interpretation of ZHU 諸 as a demonstrative, which is very close to Schuessler, who translates ZHU 諸 as "all, the, all the, those..." and as plural marker, for example, *zhu hou* 諸侯 "the feudal lords", *zhu jie* 諸節 "the various ranks". I would translate *zhu jie* 諸節 as "the ranks".)(See EZ 850)

BI 彼 *breel, "that, that one; W. ARALL (pl. ERAILL), adj. And

they; the other, others (as opposed to self), another".	pron. "another, other". <i>Y llall</i> "the other", pl. <i>y lleill</i> . (Lewis 225) From Brt. <i>*alallos</i> . OIr. <i>araile</i> < Goid. <i>*alaljos</i> . (DWL 176)
TA 𠵽 <i>*lhaal</i> (ZZSF 521) "other, different" (EZ)	W. ARALL, LLALL "other, another".
ZHI 至 <i>*tjigs</i> "come to, get to, arrive at, reach to; to, until". (EZ 840)	OWelsh DI "to", from <i>*du</i> ; OSax. <i>to</i> (<i>te, ti</i>) "to". IE <i>*DE-</i> , <i>*DO-</i> , dem., OChSl. DO "to, until" (Pok 181-182)
DAO 到 Cant. <i>dou</i> , <i>*tawh</i> (Sch.), <i>taws</i> (ZZSF) "go to, arrive; to".	IE <i>*DO</i> , OChSl. DO "to, until". (Pok 182)
DAI 迨 <i>*dāgx</i> (Li), <i>*glā?</i> (Sch) "to come to that; (coming to:) at the time that, when". (EZ 109)	IE <i>*DE</i> , <i>*DO</i> , dem., OChSl. DO "to, until", L. <i>demum</i> "now, not till". (Pok 181-182)
RUO 若 <i>*nja?</i> "that" (dem.)	W. YNA "that" (dem.) (YNA also means "there, then, thereupon, etc.")
NAI 乃 <i>*nww?</i> "then; and then".	W. YNA, "(conj.) then".
HUO 或 <i>*g^wuw g</i> "perhaps"	W. HWYRACH "perhaps".
(Note: Medial -r- in OC <i>*g^wuw g</i> may have dropped off. Cf. words with same phonophore 或 <i>*g^wuw g</i> , 𠵽 <i>k^wruuw g</i> , etc.)	
GOU 苟 <i>*kwg</i> "if".	W. HWYRACH "perhaps".
TANG 倘 <i>*thaang?</i> "if"	W. DA "if"
(Note: 堂 with the same phonophore is <i>*duang</i> [ZZSF 456, 457].)	

REN 任 **njuum* "any" as in

MSM. *renhe* "any".

YU 於 **qa*, **qaa* (ZZSF 539)

"be in, on, from, at...." (EZ 775)

(Note: 於 with same phonophore is
 **qeen*.)

YAN 焉 **gan*, **qan* (ZZSF

512) "in it, on it, etc., here, there".

(EZ 709)

YU 與 **la*, **la?*, **las* (ZZSF 540)

"to be with,...with, and".

YIN 因 **qin* "..., follow,

therefore; and then".

(Note: 因 with same phonophore is **quum n*, suggesting YIN 因 may also earlier have
 had sound **quum n*.)

WEI 為 **g'al* (ZZSF 487) "to

act, be;...". (EZ 635) (Note: "be"

includes "is, was, were".)

(Note: Welsh initial OE- may be written ?OE, and the glottal stop ? would be close to OC
 initial **g*- here. OC final -*l* is homorganic with W. final -*dd* here.)

YOU 伊 **ljaw* (Sch.)

W. NEB "anyone".

W. OCCA, OCCAE, OCCUN "at", forms
 of conjugated preposition OC "at".

OCCA is 3rd person, masc. and neut. dative.

OCCAE is 3rd person, fem. dative. OCCUN
 is first person plural.

Ir. AND, **on-*, **an-* "there" (L&P 224).

OIr. LA, prep. "with, by". (L&P 199)

W.CANYS, conj. "because, for" CANLYN

"follow"; W. GAN "with, by, of, from".

W. OEDD "was, were".

L. ILLE, -A, -UD "that, that one, he, she,

rel. pron. "which, who, where" (EZ). it".
 YOU 有 * $\sigma^w u$? "impersonal W. OES "is, there is, there are", OEDD
 existential copula: There is [are, was, "was, were".
 were]; to have". (EZ 769)

WEI 佳 *($\sigma^w i$) "it is, to be" W. OES "is, there is, there are",
 (EZ 632-33) W. OEDD "was, were".

(Note: I cannot find WEI 佳 in ZZSF. It is not always easy to find characters in ZZSF because the characters under any one alphabetical heading are not listed in alphabetical order, and they are grouped according to phonophore. Ze 澤, for example, is listed under Y, qing 青 under S. I assume WEI 佳 has sound * $\sigma^w i$ because the two characters below, with the same phonophore, have sounds * $\sigma^w i$ in ZZSF.)

(Note: The initials of OES, OEDD can be transcribed phonetically as ?*oe*-, and this is close in sound to OC σ^w -.)

WEI 維 * $\sigma^w i$ "it is, to be". As above, W. OES, OEDD.
 (EZ 632-33)

WEI 惟 * $\sigma^w i$ "it is, to be". As above, W. OES, OEDD.
 (EZ 632-33)

WEI 隹 * $\sigma^w i$ "only; and; W. GWAITH "for, because, since".
 with; is. An initial particle, often (DWL 1564, GWAITH³)
 untranslatable." (Math 7066)

(Note:)

I have often thought this particle meant "because", "for". "Only" can mean "only

because of", and "being, is" can means "being because of, is because of". "It is" can mean "it is because of". Schuessler gives an example where he translates WEI 佳 as "being because of":

且	厥	佳	顏	林	我	舍
Qie	jue	WEI	Yan	Lin,	wo	she ...

Furthermore, it being BECAUSE of Yan Lin, I gave (its owner presents in order to get it.) (See EZ 633, bottom of left column.)

WEI 維 **g*^w*i* "An initial particle. Only, but...". (*Math* 7067) W. GWAITH "for, because, since".

PI 譬 **phjigh* (Li), **phjikh* (Sch.) W. PE "if".

"..., to suppose, for instance" (*Math* 5167).

JIN 今 **kjum* (Sch) "as, like" (*CH*). W. CYN, c. and adv. "as".

JI 暨 **gjiedh* "together with, and" (EZ: 180), W. CYD "joint, common, together; coupling".

JI 及 **grub* "together with, and". As above, W. CYD.

JU 俱 **ko* "all". W. HOLL, OL, Ir. GACH "all".

YOU 由 **luw* "from; by; by way of; because of,...". (*Math*) W. LLWRW (a) "track, trail, path, way,...".
 (c) "..., by, through, on account of, because of". (*DWL* 2236)

YOU 猶 **klus*, **lu* (ZZSF 535a) W. LLWRW "..., following after...: on

"like, similar to, as if". (*Math*)

the track of,...; after the fashion or pattern

of, in the manner of, like, resembling".

(*DWL* 2237, column A, two-thirds down

the column)

(Note: OC. **kl* is a hardened W. LL (*hl*).)

RAN 𠂔𠂔 **njen* (ZZSF 450),

W. IAWN (cf. OBret. *ion*, *iun* "union")

**njan* (Sch) "be like that, be like it,

"rightness, verity, truth,...", "right, correct,

be so", "consider to be so, to be true"

true, real,..." (*DWL* 2003), "right" (*WD*).

(*EZ* 503), "correct, that is so", "Yes"

(*Math*).

(Note: Regarding the sound correspondence: W. IAWN can also be transcribed as ?*iawn*.

I believe this ?*iawn* > **ngiawn* (initial nasalized) > **njawn* > **njan*. Another example of

this initial consonant change is YI/**ngjarh* (Li) 𠂔𠂔 "justice, duty, right conduct",

corresponding to W. IAWN "rightness, justice, proper".)

Conclusion

If a significant portion of the preceding correspondences between Old Chinese and Indo-European are valid then they can shed light on the history of the Chinese language as well as the beginnings of Chinese civilization. Here I shall confine my remarks to some of the implications of the correspondences for the history of the Chinese language and for the study of the phonology of Old Chinese.

It is commonly held that Chinese has always been a monosyllabic and analytic or non-inflected language, unlike European languages, which are polysyllabic and inflected. Some linguists have questioned this common belief, maintaining that Chinese may well have been once a polysyllabic and inflected language.

Among the correspondences there are examples of some words that were originally polysyllabic words that became two monosyllabic words. For example:

YUN NOU 耘耨 * <i>qun nuug</i>	W. CHWYNNU, CHWYNNAF
"to weed"	"to weed".
YUN 耘 * <i>qun</i> "to weed"	As above, W. CHWYNNU.
NOU 耨 * <i>nuug</i> , * <i>noogs</i> (ZZSF	W. CHWYNNU "to weed".
452a) "to hoe, to weed".	

(Note: YUN NOU, **qun nuug*, 耘耨 "to weed", above, corresponding to W. CHWYNNU "to weed", is found in Middle Chinese (and modern Chinese) as a disyllabic word. It has also split into two words, YUN/**qun* 耘 "to weed" and NOU/**nuug* 耨 "to weed".)

An example of a polysyllabic word that became monosyllabic:

SI 肆 * <i>saljas</i> "a set, a row"	L. SERIES "row, sequence,..."
(EZ 580, SI 7)	

An example of a consonant cluster in Old Chinese that probably resulted from an elided syllable:

SHU 數 * <i>srju?</i> (Sch); * <i>sro?</i> ,	L. SERIES "row, sequence,..."
* <i>sros</i> , * <i>sroog</i> (ZZSF 410) "to calcu-	L. SORS "lot, fate", Fr. SORCIER
late, evaluate".	"magician". (Pok 911)

Among the correspondences there are some that indicate inflection. For example:

LEI 耒 * <i>rul?</i> , * <i>ruuls</i> "a plough".	W. ARADR "the plough".
(OC - <i>l</i> and W. - <i>d</i> - are homorganic.)	
LI 犁 * <i>ril</i> , * <i>riil</i> "the plough"	W. ERYDR, pl. of ARADR "the plough".
(LI 耒, phonophore of LI 犁	"plough" is * <i>rids</i> , suggesting the interchange of
- <i>l</i> and - <i>d</i> .)	

Here the difference in the OC vowels reflect the difference between singular and plural in the Welsh. The following appears to be another example of inflection:

GONG 公 * <i>kung</i> (Li), * <i>kong</i>	W. GŴR "man, person, adult male person,
(Sag), * <i>kloong</i> (ZZSF) "head	brave warrior, hero."
clan head of major lineage;	
duke; term of respect for man;	
XIONG 雄 * <i>g"ə ng</i> ,	W. GŴR "man, person, adult male
"brave man (<i>Zuozhuan</i>);	...valiant warrior, brave man, hero". (DWL
strong and outstanding man; .	1693-94)
hero".	
JUN. 軍 * <i>kwj ɳ n</i> (Sch)	W. GWYR "men....warriors." pl. of GWR.
"troops. army".	

Here in the above, the differences in vowels in the Modern Standard Mandarin and in Schuessler's and Li's OC reconstructions reflect a difference between the singular and plural in Welsh.

Chinese may well have been an inflected language that became an analytic language, like Welsh, which was an inflected language until about the 8th century AD, when it gradually became an analytic language. (Davies 1999)

The correspondences, if valid, also have implications for Chinese phonology. Phonologists who reconstruct the sounds of Old Chinese look at shared etymons in neighboring languages such as Vietnamese, Tibetan-Burman, Korean, and Japanese, Altaic, Mongolian, and so forth, for clues to the sounds of Old Chinese. They may now have reason to look at Celtic too for clues. With the publication of Zhou Jixu's more than 700 correspondences (Zhou 2002, reviewed in Reviews, *Sino-Platonic Papers*, no.166), they may also have reason to look at other Indo-European languages as well.

Comparison of Old Chinese reconstructions with Celtic and other IE languages may solve some phonological conundrums in Old Chinese. For example, one of the conundrums has been the following:

Shou 首 *hlju? (ZZSF) "head"

Shou 手 *hljəw? (Sch) "hand"

The puzzle has been: They have virtually the same sound. How could "head" have the same sound as "hand"? Surely ancient man did not have the same word for both "head"

and "hand". What if the emperor wanted to say "Off with his head"? As a result of this predicament, some phonologists have reconstructed *shou* "hand" as **hnrjə gwx*, *hnjəw?*, **hnu?*, and so forth. But Welsh may help solve the conundrum if we have

SHOU 首	<i>*hlju?</i> "head"	W. PENGLOG "skull"
SHOU 手	<i>*hljəw?</i> (Sch), "hand"	W. LLAW

Another implication of the present list of correspondences is that it helps expose some of the problems of relying too heavily on the *Shijing* (*Poetry Classic*, c.600 AD) and the *Qieyun* (*Tonic Rhymes*, mid-7th century AD) as the basis for reconstructing the sounds of Old Chinese sounds. Some of the correspondences in the present list indicate that the modern Mandarin and Cantonese sounds are closer in sound to the corresponding IE words than the Middle Chinese and OC reconstructions. Here are some examples:

RONG 容	MICH. <i>nzjung</i> ,	Ga. ROIN "a hair", pl. ROINE "hair";
<i>*njəwng</i>	"bushy (hair)" (EZ 512).	W. RHAWN "coarse long hair; horse-hair";
RU 入	Cant. <i>yup</i> ,	Tch A,B <i>yăp</i> "enter"; Skt. <i>yahb</i> "have
MICH. <i>ńzjwok</i> ,	<i>*njəp</i>	intercourse" (Carling 47).
	"enter".	
XUN 旬	MICH <i>zjwen</i> , <i>*sg^win</i>	W. CHŴYL "[a] turn, [a] rotation".
	"a cycle of ten, ten days, ten years".	
SUAN 酸	Cant. <i>sŭn</i> ,	W. SUR "sour".
MICH. <i>s^wan</i> ,	<i>*suan</i>	"sour".

The *Shijing* (*SJ*) and the *Qieyun* (*QY*) have been traditionally the two most important bases for reconstructing the sounds of Old Chinese. However, they present problems, as V.M. Mair and others have pointed out:

Critical commentators since at least the Qing period have long doubted that the *SJ* represents a unitary phonological construct from a single place and a single time. This especially so not only because the text was lost and had to be reconstituted during the Han period, but also because one of the three main sections of the classic (the *Guofeng*) collects the airs of various far-flung states. (Mair 1996)

As to the *Qieyun*:

It is widely acknowledged that the *QY* does not faithfully represent the real language of any given place or time but that it displays qualities of compromise and conflation.

How can this be remedied? Mair lists five means of remedying the shortcomings of the *Shijing* and *Qieyun* as bases for reconstruction, the chief of which is

Most importantly careful observation and comparison of all the hundreds of Sinitic languages, dialects, and subdialects still being spoken today or accurately recorded during the preceding centuries;... (Mair 1996).

That so many correspondences in this paper have been derived using the reconstructions of ZHENGZHANG Shangfang, Li Fang-kuei, Axel Schuessler, and Laurent Sagart, testifies to the fact that they and other phonologists of Old Chinese have been increasingly using not only the *Shijing* and *Qieyun* for reconstruction but also various other materials, such as looking at a number of Chinese regional speeches (languages or dialects), foreign words in Sinitic texts and borrowing of Sinitic words in foreign texts.

and comparison with Tibeto-Burman and other languages. But more needs to be done, and comparison with Indo-European languages should also play an important role.

The present work is a preliminary study. Although most of the IE words corresponding to Old Chinese are given in this paper as realized in Welsh, this does not mean that the correspondences do not hold in many cases also for other IE languages, such as Greek, Latin, Sanskrit, Iranian, and Germanic. The study has not gone into the etymology of all the words. That has yet to be done. Because of the sizable number and wide range of sound-and-meaning correspondences in the present list, as well as in the lists proposed by other researchers, such as the late CHANG Tsung-tung of Germany (Chang 1988) and Professor Zhou Jixu of Sichuan Normal University (Zhou 2002), it would seem worthwhile to look into these and other correspondences further. When studied in conjunction with evidence from other fields, such as archaeology, genetics, history, and literature, they may contribute to a re-examination of the received paradigms concerning the prehistoric movements and relationships of peoples and their languages on the Eurasian landmass.

Dedicated to the memory of my father and mother, Lee Chih-fu 李直夫 and
Lay Ro-chao 雷若昭, of P'u-ch'i Hsien, Hupei, heroic parents in a time of war and
revolution.

Acknowledgements

The author wishes to register her gratitude to Professor Victor H. Mair for editing earlier drafts of this paper. She is indebted to her relatives Josiah and Flora Chang for their support. She is also grateful for the support of her children and their spouses, Lulu and Vincent, Wafa, and Max and Christina, and of her sisters and brothers, Vivien, Dora, Peter, Paul, and Nancy.

References

- Adams, D.Q., 1999. *A Dictionary of Tocharian B*. Amsterdam/Atlanta, GA: Rodopi.
- Barber, E.W., 1999. *The Mummies of Urumchi*. New York (NY) & London: W.W. Norton.
- Baxter, W.H., 1992. *A Handbook of Old Chinese Phonology*. Trends in Linguistics: Studies and Monographs 64.) Berlin & New York (NY): Mouton de Gruyter.
- Buck, C.B., 1949. *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*. 1988 paperback edition. Chicago: The University of Chicago Press.
- Carling, G., 2005. Appendix: Proto-Tocharian, Common Tocharian, and Tocharian—on the value of linguistic connections in a reconstructed language, in Mair 2005.
- Chang, T.T., 1988. Indo-European in Old Chinese: A new thesis on the emergence of Chinese language and civilization in the late Neolithic age, *Sino-Platonic Papers* 7(January), 1-56.
- CI HAI* 辭海 (Chinese-Chinese Dictionary), 1957: Taipei: Zhonghua Book Co.
- Concise Anglo-Saxon Dictionary*, see Hall.

- Concise Oxford Dictionary*, 1911. Oxford: Oxford Clarendon Press.
- Davies, J., 1999. *The Welsh Language*. Cardiff (UK): The University of Wales Press.
- Evans, D. S., 1893. *Dictionary of the Welsh Language*. 1965 reprint. Ann Arbor (MI): University Microfilms.
- Geiriadur Prifysgol Cymru: A Dictionary of the Welsh Language*, 1950-2002. 4 vols. Cardiff (UK): The University of Wales Press.
- Hall, J.R. Clark, 1984. *A Concise Anglo-Saxon Dictionary*, 4th edition, 1960. Cambridge: Cambridge University Press.
- Hanyu da cidian* 漢語大辭典 (Unabridged Dictionary of Chinese), 1987-95. 13 vols. Shānghai: Hanyu Da Cidian Chubanshe.
- Janhunen, J., 1998. The horse in East Asia: reviewing the linguistic evidence, in Mair (ed.) 1998a, vol. 1, 415-30.
- Kangxi Zidian* 康熙字典 (Kangxi Dictionary), 1990. Taipei (Taiwan): Da Taipei Chubanshe.
- Lewis, H., 1960. *Welsh Dictionary*. London and Glasgow: Collins.
- Lewis, H. and H. Pedersen. 1937. *A Concise Comparative Celtic Grammar*. Gottingen: Vandenhoeck & Ruprecht.
- MacLeod, N., and D. Dewar., 1909. *Dictionary of the Gaelic Language*. Edinburgh: John Grant.
- Mair, V.H., 1990. Old Sinitic *M'ag, Old Persian *Maguš*, and English 'Magician', *Early China* 15. 27-47.
- Mair, V.H., 1996. Language and script: biology, archaeology, and (pre)history. *Interna-*

tional Review of Chinese Linguistics 1.1, 31-41, 47-50.

Mair, V.H. (ed.), 1998a. *The Bronze Age and Early Iron Age Peoples of Eastern Central Asia*, 2 vols. Washington (DC): The Institute for the Study of Man; Philadelphia (PA). The University of Pennsylvania Museum Publications.

Mair, V.H., 1998b. Canine conundrums: Eurasian dog ancestor myths in historical and ethnic perspective. *Sino-Platonic Papers* 87 (October), 1-74.

Mair, V.H., 2003. The horse in late prehistoric China: Wrestling culture and control from the 'barbarians', in *Prehistoric Steppe Adaptation and the Horse*. Cambridge: McDonald Institute for Archaeological Research.

Mair, V.H., 2005. Genes, Geography, and Glottochronology: The Tarim Basin during Late Prehistory and History, in *Proceedings of the Sixteenth Annual UCLA Indo-European Conference*, Journal of Indo-European Monograph Series, No. 50. Washington, DC: Institute for the Study of Man.

Mallory, J.P. & V.H. Mair, 2000. *The Tarim Mummies: Ancient China and the Mystery of the Earliest Peoples from the West*. London: Thames and Hudson.

Mathews, R.H. 1975. *Chinese-English Dictionary*. Revised American edition. Thirteenth printing. Taipei: Dunhuang Book Co.

Norman, J.L. and W.S. Coblin, 1995. A new approach to Chinese historical linguistics, *Journal of the American Oriental Society* 115.4:576-584.

Green, A., 1995. *Old Irish Verbs and Vocabulary*. Somerville, MA: Cascadilla Press.

Partridge, E., 1958. *ORIGINS: A Short Etymological Dictionary of Modern English*.

- Julie Lee Wei, "Counting and Knotting: Correspondences between Old Chinese and Indo-European", *Sino-Platonic Papers*, 162 (September, 2005)
- Reprint, 1983. New York (NY): Greenwich House.
- Pokorny, Julius, 1959. *Indogermanisches Etymologisches Wörterbuch*. 2 vols. 2002 printing. Tübingen and Basel. A. Francke.
- Sagart, L., 1999. *The Roots of Old Chinese*. Amsterdam/Philadelphia: John Benjamins.
- Schuessler, A., 1987. *A Dictionary of Early Zhou Chinese*. Honolulu (HI): University of Hawaii Press.
- Snow, J. T., 2002. The spider's web: Goddesses of light and loom. Examining the evidence for the Indo-European origin of two ancient Chinese deities, *Sino-Platonic Papers* 118(6), 1-75.
- Vendryes, J., 1981. *Lexique Étymologique de L'Irlandais Ancien*, vol. "B", edited by E. Bachellery and P.-Y. Lambert. Dublin: Dublin Institute for Advanced Studies; Paris: Centre National de la Recherche Scientifique.
- Vendryes, J., 1987. *Lexique Étymologique de L'Irlandais Ancien*, vol. "C", edited by E. Bachellery and P.-Y. Lambert. Dublin: Dublin Institute for Advanced Studies; Paris: Centre National de la Recherche Scientifique.
- Vendryes, J., 1996. *Lexique Étymologique de L'Irlandais Ancien*, vol. "D", edited by P.-Y. Lambert, Dublin: Dublin Institute for Advanced Studies; Paris: Centre National de la Recherche Scientifique.
- Wei, J.L., 1999. Correspondences between the Chinese calendar signs and the Phoenician alphabet, *Sino-Platonic Papers* 94 (March), 1-65.
- Wei, J.L., 2005a. The eight *Yi Jing* trigrams: An inquiry into their linguistic origins. *Sino-Platonic Papers* 161 (September), 1-18.
- Wei, J.L., 2005c. Huangdi and Huntun (The Yellow Emperor and Wonton): A new

hypothesis on some figures in Chinese mythology, *Sino-Platonic Papers*

163 (October), 1-44.

Wei, J.L., 2005d. Shang and Zhou: An inquiry into the linguistic origins of two
dynastic names, *Sino-Platonic Papers* 164 (October), 1-51.

Wei, J.L., 2005e. DAO and DE: An inquiry into the linguistic origins of some
terms in Chinese philosophy and morality, *Sino-Platonic Papers* 165 (October), 1-62.

Xing Yin Yi Zonghe Da Zidian 形音義綜合大字典 (An Epigraphical Dictionary
of Chinese), 1979. Enlarged 3rd edition. Taipei: Cheng Chung Book Co.

Xu, Z. (ed.), 1988. *Jiagu wen zidian* 甲骨文字典 (A Dictionary of Oracle Shell and
Bone Graphs). Chengdu: Sichuan cishu chubanshe.

Zhengzhang, S., 2000. *The Phonological System of Old Chinese*. Paris: École
des Hautes Études en Sciences Sociales, Centre de Recherches Linguistiques sur
l'Asie Orientale.

Zhengzhang, S., 2003. *Shanggu Yin Xi* 上古音系. (Old Chinese Phonology).
Shanghai, China: Shanghai Educational Publishing House.

Zhou, J., 2002a. Correspondences of the basic words between Old Chinese and
Proto-Indo-European, *Sino-Platonic Papers* 115 (April), 1-8.

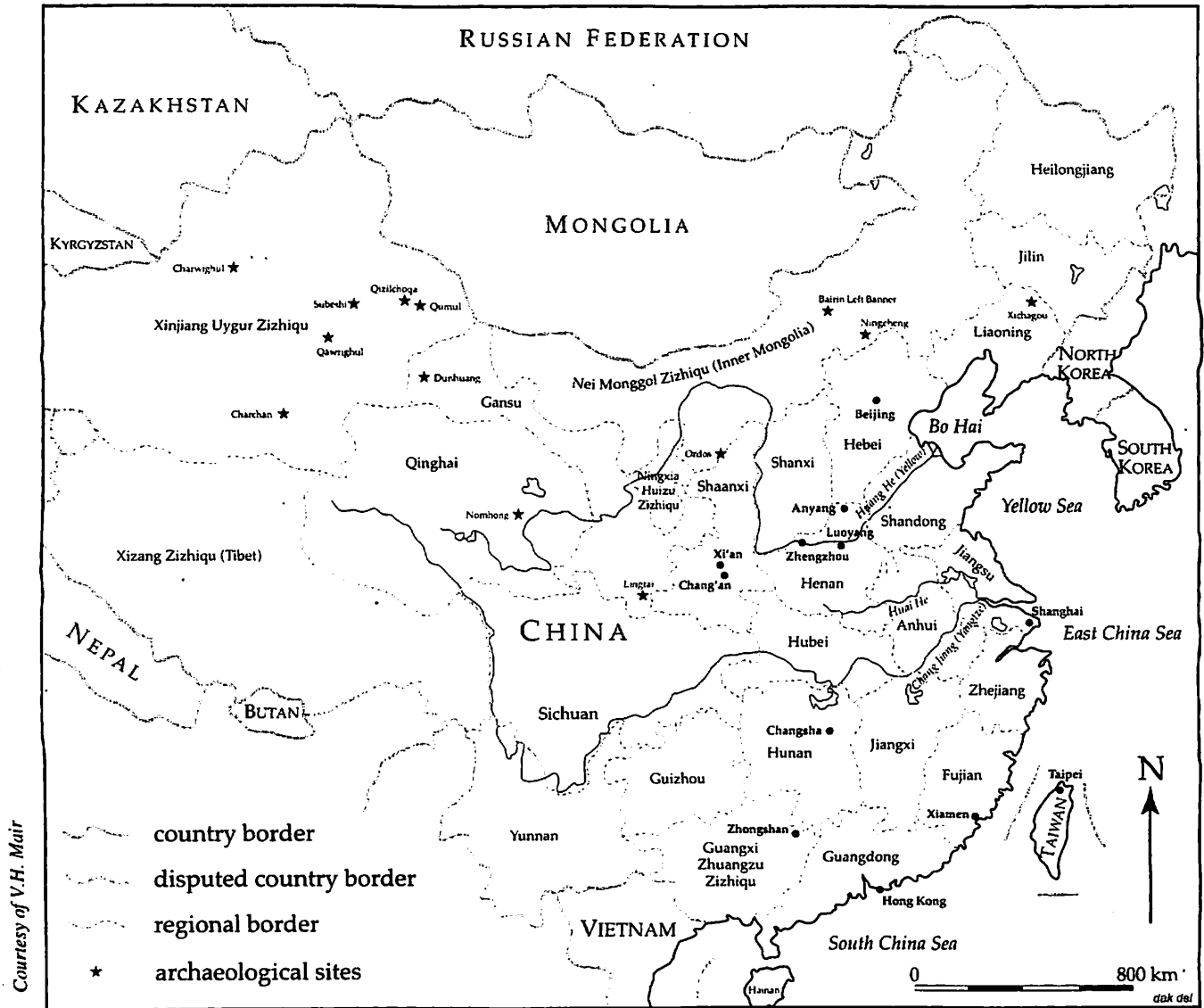
Zhou, J., 2002b. *Hanyu Yinouyu Cihui Bijiao* 漢語印歐語詞彙比較
(A Comparison of Words in Chinese and Indo-European). Chengdu, Sichuan:
Sichuan Minzu Chubanshe.

Zhou, J., 2003a. *Lishi Yuyanxue Lunwen Ji* 歷史語言學論文集 (Collected Papers

Julie Lee Wei, "Counting and Knotting: Correspondences between Old Chinese and Indo-European",
Sino-Platonic Papers, 162 (September, 2005)

On Historical Linguistics). Chengdu, Sichuan: Bashu Shushe.

Zhou, J., 2003b. Correspondences of Cultural Words between Old Chinese and Proto-Indo-European, *Sino-Platonic Papers* 125 (July), 1-19.



Map of China showing some archaeological sites.

Since June 2006, all new issues of *Sino-Platonic Papers* have been published electronically on the Web and are accessible to readers at no charge. Back issues are also being released periodically in e-editions, also free.

For a complete catalog of *Sino-Platonic Papers*, with links to free issues, visit the *SPP* Web site.

www.sino-platonic.org