ANALYTIC DICTIONARY

OF

CHINESE

AND SINO-JAPANESE

BY

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IMPRIMERIE ADOLPHE HOLZHAUSEN
VIENNE (AUTRICHE)

TO THE MEMORY OF

EDOUARD CHAVANNES

INTRODUCTION.

The present dictionary is intended to facilitate a systematic study — scientific and practical — of the Chinese script.

There are two great epochs in the history of the Chinese written characters:

a) From the oldest times down to the Ts'in dynasty,

b) From the fixing of the *siao ṭṣuan* "small seal" character by Li Sï about 200 B. C. to our days.

For a rational study of the modern script it is essential to remember that it is based directly upon the small seal — being a modification of the small seal due to technical changes — and only indirectly has it anything to do with the older stages of the script. For the small seal was not, as it has been often stated, a mere shortening and simplification of the earlier script: it was in fact to a large extent a new system of writing.

If we compare the characters preserved in old inscriptions (mostly on bronzes) from the Ṣang and Ṭṣou periods to the corresponding characters in the small seal, we very frequently come upon differences in the composition. A few examples:

The 9th of the duodecimal cyclical characters was written  on bronzes from the Ṣang dynasty. (1) This symbol was incomprehensible to the men of later ages, and in the small seal we find the character entirely remade into  (modern 申) "to stretch out" (further meanings "to divulge, notify" etc.): two hands stretching something out.

On the Ṣang and Ṭṣou bronzes the char. for *dz'âi* "exist, in, at, on" is this:  In the small seal we find instead of this unintelligible symbol the char. 𡈼 (now 在) consisting of 土 "earth" as "signific" (2) and, to the left, 才 *dz'âi* "talent" as "phonetic"; thus a character absolutely different from that of the olden times.

The word *p^{w}ai* "to salute" was originally written  which Wieger has shown (op. cit. p. 430) to be two strings of shell (money) presented. In the small seal this is altered to  (now 拜) two hands and 下 "down", two hands going down — the ordinary way of saluting in China to this day.

(1) Wieger, Caractères Chinois$_3$ p. 461.

(2) I never use the term "radical", as it wrongly conveys the idea of "radex, racine, root" which is quite a different notion in general philology from that of signific: the meaning indicating part in the Chinese character.

Of course this radical change of the system was not effected all of a sudden by Li Sï alone. Obvious tendencies in this direction can be observed during the later part of the Ṭsou dynasty. But the small seal reform of Li Sï meant that it was carried through in a systematic way. In fact he created a new, comparatively simple and practical system of writing:

a) He adopted a great number of primitives (simple pictures, concrete such as 門 or abstract such as 三) from the old epoch.

b) He often adopted old primitives but simplified them to such an extent that he obscured their original value. In the bronze just cited "tiger" is written  . It is not so difficult to see the connection between this and the small seal form  . But this latter taken alone is so unlike a picture of an animal that the old commentators from Xan onwards explain it as a picture of the stripes on the skin of the tiger!

c) He took over from older times a good number of characters consisting of several significs (會意) e. g. 初 "beginning": to cut 刀 the garment 衣.

d) He took over from the Ṭsou epoch a certain number of characters composed of one signific and one phonetic, e. g. 清, 神 (cf. the Ṭsou bronze reproduced by Wieger p. 509).

e) A large number of old characters, primitives as well as compounds, which he was unable to interpret, were replaced by new characters. These were either quite different from the old ones — as in the case of 在; or they were a kind of Folk etymology, the form still somewhat resembling that of the original character — as in the case of 申. In the endeavour to preserve some conformity with the old characters one often resorted to very farfetched combinations.  in the Ṭsou writing (see Wieger p. 509) was replaced by 青: the 丹 colour of 生 vegetation: green.

f) He created scores of new characters, either according to the principle of 會意 logical compounds or, and above all, according to the principle of 形聲 phonetic compounds. Or else he authorised characters of these categories recently created by others.

g) Unfortunately he did not reject and replace all that was unintelligible to him but took over — and simplified — a lot of old characters the interpretation of which had long been forgotten, e. g. 屮 (之), 乂 (五), 王. Consequently the commentators from Hü Ṣen (author of the famous Ṣuo Uen 100 A. D.) to our days have been much puzzled to interpret these characters, and they give us farfetched, scholastic, often very amusing explanations. The hoary char. 王 "king" (found already on Ṣang bronzes) is interpreted as | the mediator between 三 the three powers: heaven, earth and man. 乂 is X the five cardinal points (N. S. E. W. and Centrum) between 二 the two cosmogonic powers *jin* and *iang*. 屮 is the picture of a growing plant etc.

From what has been said it will be gathered that the small seal to a very large extent, i. e. in the numerous cases mentioned under *e* and *f*, was an entirely new script, and that the study of the modern characters in these cases need not and ought not to go farther back than to the small seal. The explanation of 申 is really: two hands stretching something out, and it is only of indirect interest to know that before this sign there existed another symbol  for the same word. And again 在 is really made of 土 and 才, this interpretation not being invalidated by the fact that the word *dzʿâi* was written  in the Şang dynasty. And even in the cases mentioned under *a*, *c* and *d* there is no need to go farther back in our study than to the small seal, as this has faithfully held to tradition in these cases.

Exactly the contrary must be said of the cases discussed under *b* (虎 etc., overmutilated pictures) and *g* (王 etc., unintelligible old char.). Here the small seal is quite insufficient, and in order to get a better explanation than the scholastic one we must turn to the documents of Şang and Ṭşou.

In the dictionary I have as a rule inserted the small seal forms for the primitives, sometimes also for compounds when necessary for lucidity.

The traditional interpretation of the characters — simple or compound — such as it is given by Hü Şən in Şuo Uən (1) and his followers I reproduce when I consider the characters to belong to the categories *a*, *c*, *d*, *e* and *f* above. Even some scholastic interpretations concerning characters which I think belong to the cat. *b* and *g* I sometimes reproduce when they seem sufficiently amusing and fanciful to aid the memory — in such cases of course I mark the explanations as scholastic, thus indicating that in my opinion they must be replaced in future by interpretations that are more historically true. In a considerable number of cases I have given no explanation at all: these are the bulk of the cases belonging to cat. *b* and *g*, the explanation of which it seems premature to venture upon. Not until archaeological excavations on Chinese soil have brought to light a sufficient material from the Şang and the Ṭşou dynasties for a systematic research into the oldest Chinese script will these numerous cases find their true explanation.

Evidently it is a matter of taste how far one goes in scepticism. May be I have now and then refuted and passed in silence an interpretation which deserved to be included. In other cases I may have been too credulous and given, not as scholastic

(1) The epoch-making work of Hü Şən is so much the more valuable as it was published only three centuries after Li Sï and as therefore an unbroken tradition must have continued to the time of Hü about the interpretation of most of the characters. Several Europeans have studied and reproduced the works of the Chinese philologists over the small seal characters. JOHN CHALMERS: The structure of the Chinese characters$_2$ 1911, has kept very faithfully to the Şuo Uən. L. WIEGER, in his work cited above, has given a much more readable account of the same thing, now and then however leaving the Şuo Uən and following later Chinese philologists. His work is up to now the best European work on this subject.

but good, explanations that are untenable. Only in a few cases have I ventured to propose other interpretations of significant elements than the traditional ones.

The novelty I have to offer in this work is of quite another kind.

The point on which the Chinese philologists as well as their western followers have entirely failed is the phonetic side of the study of the Chinese script; and yet it is obvious that just this side plays an extremely important part, as nine tenths of all Chinese characters consist of one "signific" and one "phonetic". The Chinese scholars however have never treated these problems in a serious way, and their western followers have laboured under the difficulty that they have had to base their studies on modern dialects some 2000 years younger than Archaic Chinese (late Ṭṣou, Ts'in, early Xan). The first serious western work on the phonetic series in the Chinese script was CALLERY: Systema phoneticum scripturae sinicae 1841, an excellent work in its day. With respect to the phonetic study of the script, research has not been carried beyond CALLERY by later attempts, e. g. WIEGER's Triple Lexique (several editions) (1). Both are based on modern Mandarin and give no idea of the laws governing the use of the "phonetics" in the compound characters.

It is evident that if we knew the pronunciation of Archaic Chinese, it would be an easy thing to ascertain the principles followed in the composition of characters consisting of signific + phonetic. Unfortunately the archaic phonetic system has so far been out of our reach (2). But a very great step forwards has been taken by the phonetic system of Ancient Chinese (by this I mean the language of the 6th century A. D.) having been thoroughly investigated. Through the study of old dictionaries arranged according to rimes, *fan-ts'ie*-spellings, old rime tables, ancient transcriptions of foreign words and above all a comparative study of the dialects it has been possible to determine in its essential features the pronunciation of the language embedded in the dictionary *Ts'ie jün* written by Lu Fa-ien and published 601 A. D., the North-Chinese language spoken in Ṭṣ'ang-an during the Suei and the beginning of the T'ang dynasties (3).

(1) SOOTHILL's Pocket dictionary (many editions), though a very good little extract from GILES as far as phraseology is concerned, is very much inferior to both CALLERY and WIEGER from a scientific point of view and for a systematic study of the script.

(2) The first western scholar who tried to make researches in this line was J. EDKINS. EDKINS, one of the keenest pioneers of sinology, wrote remarkably good linguistic works (Mandarin grammar, Shanghai grammar) long before western linguistic philology had reached its modern methods. But in his work Introduction to the study of the Chinese characters (1874) he allows imagination to run away with him. Almost every stroke in the Chinese script can according to him have a phonetic value: 豆 was an archaic *dut* with "final *t* inferred from — *yit*". With methods not yet antiquated at his time he supposed that one archaic *dut* has given mandarin *tou* (豆), another *dut yüh* (聿), a third *yü* (余), a fourth *tui* (兌), a fifth *ch'a* (茶) etc.

(3) The first scientific endeavour to unveil this language was made in 1900 by SCHAANK in a short article in the T'oung Pao. After this PELLIOT (in several articles in Journal Asiatique and T'oung Pao 1911—14) and Maspero (Bull. Ec. Fra. Extr. Or. 1912) created provisional interpretation systems

If we examine the Chinese script in the light of the ancient language thus reconstructed we find that a great number of phenomena which are incomprehensible in the light only of Mandarin or any other modern dialect become perfectly intelligible. And this is not astonishing, for the great majority of the phonetic compounds were created in the later part of the Ṭsou or in the Ts'in and Xan dynasties, and they are thus only five to ten centuries older than the Ts'ie jün. Moreover, as we shall see presently, this study enables us to draw conclusions on many highly important points as to the phonetic system in Archaic Chinese.

If this study of the script in the light of the ancient and archaic pronunciation in the first place has a scientific interest, it is of no less practical value. Of this our volume will give abundant proofs. Here only a few examples. It does not appeal very much to reason nor does it aid memory to know that 合 *ho* is phonetic in 洽 *hsia*, 恰 *ch'ia*, 翕 *hsi*, 給 *kei*; or that 弱 *jo* is phonetic in 溺 *ni*, or that 我 *wo* is phonetic in 義 *i*.

But by the aid of Ancient Chinese all is easily explained and easily remembered:

合 *γâp* is phonetic in 洽 *γap*, 恰 *k'ap*, 翕 *χi̯əp*, 給 *ki̯əp*;
弱 *ńźi̯ak* „ „ „ 溺 *niek*;
我 *ngâ* „ „ „ 義 *ngji̯ą*; etc.

Thus it is not only for the philologuist but also for the use of the average student of Chinese that this book is intended.

which contained a great number of important ideas. The fullest work on the subject is KARLGREN: Études sur la Phonologie Chinoise (1915, 16, 19, 700 pp.), where a complete reconstruction system is set forth with detailed reasons given for the various points in the reconstruction. Recently some of these things have been further discussed by MASPERO (B. E. F. E. O. 1920) and by KARLGREN (T'oung Pao 1922). Through all this the language of Ts'ie jün has been reconstructed in a definite way, except perhaps some questions of detail which can still be discussed.

I. Transcription system of the dictionary.

Consonants.

Bilabials	*p*	*pʿ*	*b*	*bʿ*	*m*								
Dentilabials					*m̥* (1)	*f*, *fʿ*	*v*						
Dentals	*t*	*tʿ*	*d*	*dʿ*	*n*	*s*	*z*	*ts*	*tsʿ*	*dz*	*dzʿ*	*l*	
Supradentals (2) . .	(*ṭ*)		(*ḍ*)			*ṣ*	*ẓ*	*ṭṣ*	*ṭṣʿ*	*ḍẓ*	*ḍẓʿ*		*r* (3)
Palatals (4)	*t′*	*t′ʿ*	*d′*	*d′ʿ*	*ń*	*ś*	*ź*, *j* (5)	*t′ś*	*t′śʿ*	*d′ź*	*d′źʿ*	*ńź*	
Gutturals	*k*	*kʿ*	*g*	*gʿ*	*ng*	*χ* (6)	*γ* (6)						
Laryngals	˙ (7)					*h*							

Vowels.

i, *e*, *ä*, *ü*, *ö*, *o*, *u* as for instance in German.

a: *a* "aigu", an open *a*, French p*a*tte.

a: *â* "grave", French *pâte* (not considering the length of the vowel).

å: a very open *o*, intermediate between *â* and *o*, something like Engl. l*aw*.

ɒ: Engl. b*u*t.

ə: Germ. Gab*e*.

ŭ: a very open *u*, with the tongue position of *ə* and half narrow labialisation (for details see Phon. Chin. p. 309); acoustically rather affinited to *ö* (a Cantonese *-ŭü* could in fact often with equal right be written *-öü*).

ĭ: there are really two varieties of this vowel, one after *s*, *z*, the other after *ṣ*, *ẓ*; acoustically they are very akin. Make an *z* — or in the latter case *ẓ* — and widen the passage just enough for making the sound a vowel.

ʷ: a subordinate labial vowel in Anc. Chin.

Long vowel in the interior of a syllable is marked by a stroke: *ā*, *ō*.

(1) The dentilabial *m* in Germ. K*a*mpher.

(2) The terms vary: supradentals, cerebrals, cacuminals, apicoalveolars. The tip of the tongue, pointing upwards, acts against the alveoli or the foremost part of the palatum; approximately the position in Eng. *dr*ag (*ḍ*), hea*rtsh*aking (*ṭṣ*).

(3) Neither the Mandarin *r* in *ör* nor the Japanese *r*- is identical with any European *r*. For their articulation see the detailed analysis in KARLGREN, Phonologie Chinoise pp. 275—276.

(4) The palatals are not simply mouillé dentals (as in Rus. ТИНЪ) but are formed with the dorsum against the alveoli and the prepalatum. Thus *t′ś* is the affricative of Ital. c*i*ttà and *t′* the first, occlusive element of the same affr.; *d′ź* is the affr. of Ital. *Gi*ovanni and *d′* its first occlusive element; *ń* is French ga*gn*er.

(5) *ź* is the second, fricative element of the affr. in Ital. *Gi*ovanni; *j* is the sonant prepalatal fricative of Germ. *j*a (when this is not pronounced with a subordinate vowel: *i̯a*) Thus *j* is not the Engl. *j*am.

(6) *χ* is the *-ch* of Germ. a*ch*; *γ* is the corresponding sonant (North Germ. Wa*g*en, Russian Бога).

(7) ˙ is the laryngal explosive of Germ. ˙*E*cke.

These vowel symbols give only an approximate idea of the sounds. There are for instance several varieties of *o* (it is more open in the dipht. *-ou* in Peking than in the *-ou* of Canton; a Peking *lo* is often pronounced with a dipht. *loă* etc.) and of *ə* (a higher tongue position and stronger tension in Pek. *ṭṣə* than in Pek. *ṭṣən*, *ṭṣəng*) etc. For these details see my Phonologie Chinoise; for the Peking pronunciation also KARLGREN: A Mandarin phonetic reader with an introductory essay on the pronunciation (1918).

The difference between *a* "aigu" and *â* "grave" is noted only for Ancient Chinese and Cantonese where it plays an etymological part; in Pekinese, where this is not the case, I write *a* for all shades of *a*.

In a few cases I transcribe, not according to the actual pronunciation, but according to etymology:

The Japanese *u* is quite different from the Mandarin and European *u*, especially after *s*; yet for etymological reasons I always write *u*.

Mandarin *t'śi* etc. is written *ki* or *tsi* etc., see p. 10 below.

„ *śi* „ „ „ *hi* „ *si* „ „ „ 10 „

Jap. words in *-n*, e. g. *san*, are written with *-n* for historical reasons, though the actual sound is a peculiar *-ng* sound (Phon. Chin. p. 289).

After the Sino-Japanese readings I often add in parenthesis the Kana spelling; this is given with the ancient phonetic values: *pa, pe, pi, po, pu* (not the modern *ha, he, hi* etc.), *ta, te, ti* (not the modern *chi*), *to, tu* (not the modern *tsu*) etc. Thus I write e. g. 八 *hatsu* (*patu*). In one respect I simplify the Kana spelling: when two *i* meet, I drop one. Thus I write 强 *kiō* (*kiau*), not 强 *kiō* (*ki-ya-u*).

Tones.

Ancient Chinese had eight tones:

1 High 平 聲 *pʿing ṣəng*: *ˌtâ*
2 Low „ „ *pʿing ṣəng*: *ˌdʿâ*
3 High 上 聲 *ṣang ṣəng*: *ʿtâ*
4 Low „ „ *ṣang ṣəng*: *ʿdʿâ*
5 High 去 聲 *kʿü ṣəng*: *tâˀ*
6 Low „ „ *kʿü ṣəng*: *dʿâˀ*
7 High 入 聲 *ẓu ṣəng*: *tât*
8 Low „ „ *ẓu ṣəng*: *dʿât.*

The *pʿing* (even), *ṣang* (rising) and *kʿü* (falling) inflexions are marked by hooks in the usual Chinese style. The *ẓu ṣəng* is characterized by the abrupt cutting off of the voice and recognized by final *-p, -t* or *-k*; there is no need of adding a hook (*tat̚*). The distinction between high and low tones is not marked as it depends on the

initial. The surd initials (*p, t, t', k, ·, p‘, t‘, t'‘, k‘, s, ṣ, ś, χ, ts, ṭṣ, t'ś, ts‘, ṭṣ‘, t'ś‘*) always carried with them high tones, the sonant initials (*b‘, d‘, d'‘, g‘, m, n, ng, z, ź, γ, dz‘, ḍẓ‘, d'ź‘, ńź, l,* and smooth vocalic ingress without explosion e. g. *i̯ang*) always low tones.

Pekinese tones.

The tone marks of the Anc. Chin. forms serve in the same time for the Pekinese forms. If there are no marks on the Pek. forms this conveys:

Pek. *ṣang p‘ing ṣəng* (Wade x^1) if A. Chin. had $_{\text{˳}}x$ with surd initial
„ *hia* „ „ („ x^2) „ „ „ $_{\text{˳}}x$ „ sonant „
„ *ṣang ṣəng* („ x^3) „ „ „ $^{\text{˳}}x$ „ surd and sonant initial
„ *k‘ü ṣəng* („ x^4) „ „ „ xˀ „ „ „ „ „

When the A. Chin. and Pek. tones do not agree, the latter are marked on the Pekinese forms in the following way:

ṣang p‘ing ṣəng (x^1): $_{\text{˳}}x$
hia p‘ing ṣəng (x^2): $_{\text{˳}}x$
ṣang ṣəng (x^3): $^{\text{˳}}x$
k‘ü ṣəng (x^4): xˀ

So for instance certain old *ṣang ṣəng* words e. g. 惰 *'d‘â* have got Pek. *k‘ü ṣeng* 惰 P. *to*ˀ; and all the old *ẓu ṣəng* words *tât, d‘ât* etc. are distributed over the four tones of Pekinese $_{\text{˳}}ta$, $_{\text{˳}}ta$, $^{\text{˳}}ta$, taˀ.

Cantonese tones.

The tone marks of the A. Chin. forms serve in the same time for the Cantonese. If there are no marks on the Cant. forms, this means:

Cant. *ṣang p‘ing ṣəng* (Eitel $_{\text{˳}}x$) if A. Chin. had $_{\text{˳}}x$ with surd initial
„ *hia* „ „ („ $_{\text{˳}}x$) „ „ „ $_{\text{˳}}x$ „ sonant „
„ *ṣang ṣang ṣəng* („ $^{\text{˳}}x$) „ „ „ $^{\text{˳}}x$ „ surd „
„ *hia* „ „ („ $^{\text{˳}}x$) „ „ „ $^{\text{˳}}x$ „ sonant „
„ *ṣang k‘ü ṣəng* („ xˀ) „ „ „ xˀ „ surd „
„ *hia* „ „ („ x^2) „ „ „ xˀ „ sonant „
„ *ṣang ẓu ṣəng* („ x_0) „ „ „ *-p, -t, -k* with surd initial
„ *hia* „ „ („ x_0) „ „ „ „ „ sonant „ .

When the Anc. and Cant. tones do not agree, the latter are marked on the Cant. forms ($_{\text{˳}}x$, $_{\text{˳}}x$, $^{\text{˳}}x$, $^{\text{˳}}x$ etc.) e. g. 惰 A. *'d‘â* Cant. *to*ˀ.

Cantonese has a third *ẓu ṣəng* (中 *ẓu ṣəng*) marked x_0 e. g. 夾 A. *kap* (high *ẓu ṣəng*) C. *kāp*$_0$ (*ṭṣung ẓu ṣəng*).

II. The phonetic system of Ancient Chinese (Ts'ie jün).

Without repeating here the elaborate proofs for my reconstructive system furnished in my larger work Phonologie Chinoise, I will give a short survey of the phonetics of Ancient Chinese and give some hints of its evolution into one of its daughter dialects, the Mandarin of Peking.

A. Ancient Chinese had a rich set of initials. Examples:

Gutturals: 于 *kân*; 坎 *k'ân*; 强 *g'i̯ang*; 岸 *ngân*; 漢 *χân*; 旱 *γân*.
Palatals: 張 *t'i̯ang*; 暢 *t''i̯ang*; 丈 *d''i̯ang*; 章 *t'śi̯ang*; 昌 *t'ś'i̯ang*; 射 *d'ź'i̯a*; 商 *śi̯ang*; 上 *źi̯ang*; 讓 *ńźi̯ang*.
Supradentals: 斬 *ʦ̣an*; 攙 *ʦ̣'an*; 讒 *ʣ̣'an*; 山 *ʂan*.
Dentals: 丹 *tân*; 坦 *t'ân*; 壇 *d'ân*; 難 *nân*; 贊 *tsân*; 慘 *ts'ân*; 殘 *dz'ân*; 散 *sân*; 祥 *zi̯ang*; 爛 *lân*.
Labials: 包 *pau*; 泡 *p'au*; 炮 *b'au*; 茅 *mau*.
Laryngals: 安 *·ân*; 羊 *i̯ang*.

Some of these initials, viz.: the gutturals *k*, *k'*, *g'*, *ng*, *χ*; the dentals *n*, *l*; the labials *p*, *p'*, *b'*, *m*, occured either yodicized (accompanied by a *j*), when followed by a consonantic medial *i*, or by *i* as head vowel (rhymes *-i*, *-i̯e*, *-i̯ei*); or not yodicized when followed by vocalic medial *i* or any other vowel:

甄 *kji̯än*, 疆 *kji̯ang*, 基 *kji* etc.; but
堅 *kien*, 干 *kân*, 古 *kuo*.

For shortness' sake, however, I make the typographical simplification not to write this *j* before *i̯*; the said initials being always yodicized before this *i̯*, already the *i̯* in itself is sufficient to indicate the yod with the preceding consonant: thus I write 疆 *ki̯ang* which means *kj-i̯ang*.

When there was no initial at all, the word could also begin with *j* or not: 羊 *i̯ang* : 炎 *ji̯äm*.

This system has undergone very radical changes:

1) Already early in the T'ang period dentilabials *f*, *f'*, *v*, *m̌* (the last was lost later on) were formed out of the old bilabials under certain conditions. This happened (with certain exceptions) when a yodicized bilabial was influenced by a following *u*, *w*:

分 Anc. *pi̯uən* > T'ang *fuən* > Mand. *fən*;
方 „ *pi̯^wang* > „ *f^wang* > „ *fang*;
but:
奔 „ *puən* > „ *pən*;
鞭 „ *pi̯än* > „ *pien*;
編 „ *pi^wen* > „ *pien*.

2) The sonant explosives $g^{\text{ʿ}}$, $d'^{\text{ʿ}}$, $d^{\text{ʿ}}$, $b^{\text{ʿ}}$, affricatives $d'ź^{\text{ʿ}}$, $ḍẓ^{\text{ʿ}}$, $dz^{\text{ʿ}}$ and fricatives γ, $ź$, z have lost their voice and become surds: $k^{\text{ʿ}}$ or k etc. (but in Shanghai for instance the voice is still preserved, g etc.). The aspiration remained in $p^{\text{ʿ}}ing$ $ṣəng$ words (*hia* $p^{\text{ʿ}}ing$ $ṣəng$) but was lost in $ṣang$, $k^{\text{ʿ}}ü$ and $ẓu$ $ṣəng$:

亭 Anc. $ḍ^{\text{ʿ}}ieng$ > Mand. $ṭ^{\text{ʿ}}ing$; 蒲 Anc. $ḅ^{\text{ʿ}}uo$ > Mand. $p^{\text{ʿ}}u$;
定 „ $d^{\text{ʿ}}ieng^{\text{ʾ}}$ > „ $ting^{\text{ʾ}}$; 部 „ $ḅ^{\text{ʿ}}uo$ > „ $pu^{\text{ʾ}}$;
河 „ $\gamma â$ > „ χo; 邪 „ $ẓi̯a$ > „ sie etc.

$d'ź^{\text{ʿ}}$, $ḍẓ^{\text{ʿ}}$ and $ź$ all as a rule have given $ṭṣ^{\text{ʿ}}$ in $p^{\text{ʿ}}ing$ $ṣəng$, $ṣ$ in the other tones.

3) The palatals t', $t'^{\text{ʿ}}$, $t'ś$, $t'ś^{\text{ʿ}}$, $ś$ (the original as well as those come from the sonants, see 2 above) all changed into supradentals, and the explosives became affricatives:

知 Anc. $t'i̯ę$ > Mand. $ṭṣī$; 張 Anc. $t'i̯ang$ > Mand. $ṭṣang$;
之 „ $t'śi$ > „ $ṭṣī$; 煮 „ $t'śi̯u$ > „ $ṭṣu$;
輸 „ $śi̯u$ > „ $ṣu$ etc.

4) There is no trace of the old distinction between pure and yodicized initials. But the Mandarin of Peking has been subject in recent times to another most radical palatalisation (yodisation). The gutturals k, $k^{\text{ʿ}}$, h (original or those frome sonants) as well as the dental affricatives and fricatives ts, $ts^{\text{ʿ}}$, s (original or those from sonants) — but not the dental explosives t, $t^{\text{ʿ}}$ — all have been palatalized before every modern i and $ü$:

基 Anc. kji > Pek. $t'ści$, 漸 Anc. $tsi̯än$ > Pek. $t'ścien$,
堅 „ $kien$ > „ $t'ścien$, 酒 „ $tsi̯ŭ$ > „ $t'ściu$,
捲 „ $ki̯^{w}än$ > „ $t'ścüan$, 聚 „ $tsi̯u$ > „ $t'śü$;

and:

鄉 „ $χi̯ang$ > „ $ściang$, 相 „ $si̯ang$ > „ $ściang$,
許 „ $χi̯^{w}o$ > „ $śü$, 須 „ $si̯u$ > „ $śü$ etc.

Of this modern phenomenon in Mandarin I take no notice in my transcription but write k or ts etc. and h or s according to etymology, following in this respect the judicious example of all French and many English sinologists.

5) In Mand. $ńź$ has lost its nasal first half, and the palatal $ź$ has turned supradental $ẓ$ in Peking (cf. 3 above):

人 Anc. $ńźi̯ĕn$ > Mand. $ẓən$.

All $ẓi$ (< $ńźi$, $ńźię$) have evolved thus: $ẓi$ > $ẓï$ > $\bar{ẓ}$ > $^{ə}ẓ$ > $ör$.

6) The initial ng has fallen before Mand. i, u and $ü$:

疑 Anc. $ngji$ > Mand. i; 吾 Anc. $nguo$ > Mand. u; 元 Anc. $ngi̯^{w}ɒn$ > Mand. $üan$.

B. Ancient Chinese possessed the final consonants *p, t, k, m, n, ng.* In Mandarin *p, t, k* have fallen and *m* has become *n*. The *n* and *ng* remain unchanged:

拉 Anc. *lâp* > Mand. *la*; 殺 Anc. *ṣat* > Mand. *ṣa*;
哭 „ *kʿuk* > „ *kʿu*; 三 „ *sâm* > „ *san.*

C. The vowel system of Ancient Chinese was very much richer than that of modern Mandarin. Many rimes which were strictly distinguished in the ancient language have become one in Mandarin. Besides the head vowel there were in large groups of words medial *i* (consonantic *i̯*: 甄 *ki̯ən* or vocalic *i*: 堅 *kien*) and medial *u̯* (consonantic *ʷ*: 關 Anc. *kʷan*, Cant. *kwan*, or vocalic *u*: 官 Anc. *kuân*, Cant. *kūn*). Medial *i* and *u* often coexisted.

The following tables give an approximate idea of the fate of the ancient rimes.

Anc. Chin.	Mand.
-â: 哥 *kâ*, 多 *tâ*	*ko, to*
-a: 家 *ka*, 巴 *pa*, 沙 *ṣa*	*kia, pa, ṣa*
-i̯a: 也 *i̯a*, 寫 *si̯a*, 者 *tśi̯a*	*ie, sie, ṭṣə*
-uâ: 果 *kuâ*, 破 *pʿuâ*, 妥 *tʿuâ*	*kuo, pʿo, tʿo*
-ʷa: 瓜 *kʷa*	*kua*
-i̯ʷa: 靴 *χi̯ʷa*	*hüe.*

The *-â* "grave" has become *-o*, and *-uâ* > *-uo*; *u* is dropped after certain initials.

The *-a* "aigu" is preserved; but after guttural and laryngal initials an *i* was inserted (palatalisation) already in Tʿang time: *ka* > *kia* etc.

-i̯a > *-ie*, *-i̯ʷa* > *-üe* through umlaut. But after the supradentals (old supradentals and palatals are all supradentals in Peking, see p. 10 above), which are very hostile to the tongue position of palatal vowels (*i, e, ä*), there was a special evolution: (*tʿśi̯ä* >) *ṭṣi̯ä* > *ṭṣä* > *ṭṣə* (there exist, however, Mand. dialects with the evol. *ṭṣä* > *tsä*).

Anc. Chin.	Mand.
-i: 基 *kji*, 李 *lji*, 尸 *śi*, 子 *tsi*	*ki, li, ṣï, tsï*
-i̯ę: 奇 *gʿji̯ę*, 離 *lji̯ę*, 皮 *bʿji̯ę*, 知 *tʿi̯ę*, 斯 *si̯ę*, 兒 *ńźi̯ę*	*kʿi, li, pʿi, ṭṣï, sï, ör*
-ę̯i: 機 *kję̯i*	*ki*
-ʷi: 規 *kjʷi*, 悲 *pjʷi*, 追 *tʿʷi*	*kuei, pei, ṭṣuei*
-ʷi̯ę: 虧 *kʿjʷi̯ę*, 碑 *pjʷi̯ę*, 吹 *tʿśʿʷi̯ę*	*kʿuei, pei, ṭṣʿuei*
-ʷę̯i: 歸 *kjʷę̯i*, 非 *pjʷę̯i*	*kuei, pei.*

The rimes *-i, -i̯ę, -ę̯i* all became *-i* in early Tʿang: *kji, lji, pji, śi, si* etc. But the supradentals had the same "hardening" effect as in the preceding group: *śi* > *ṣï*

etc. Even the dentals had the same effect here: *tsi* > *tsï*, *si* > *sï* (*ńźi* > *źi* > *ẓï* > *ör* see p. 10 above).

-ʷi, *-ʷiᵢ*, *-ʷẹi* all became *-uei* (in Peking often pronounced *ui*, especially in *pʿing ṣəng*); and the *u* of this *-uei* dropped after labials: *puei* > *pei*.

Anc. Chin.	Mand.
-âi: 該 *kâi*, 來 *lâi*	*kai, lai*
-ai: 皆 *kai*, 埋 *mai*, 齋 *ṭsai*	*kie, mai, ṭsai*
-āi: 丐 *kāi*, 大 *dʿāi*	*kai, ta*
-āi: 佳 *kāi*, 罷 *pāi*, 柴 *ḍẓʿāi*	*kia, pa, ṭṣʿai*
-i̯äi: 藝 *ngi̯äi*, 例 *li̯äi*, 敝 *bʿi̯äi*, 世 *śi̯äi*	*i, li, pi, ṣï*
iei: 雞 *kiei*, 低 *tiei*, 迷 *miei*	*ki, ti, mi*
-uâi: 瑰 *kuâi*, 堆 *tuâi*, 梅 *muâi*	*kuei, tuei, mei*
-ʷai: 乖 *kʷai*, 拜 *pʷai*	*kuai, pai*
-ʷāi: 掛 *kʷāi*, 派 *pʿʷāi*	*kua, pʿai*
-i̯ʷäi: 衛 *ji̯ʷäi*, 歲 *si̯ʷäi*	*uei, suei*
-iʷei: 圭 *kiʷei*	*kuei*
-i̯ʷɒi: 廢 *pi̯ʷɒi*	*fei*

The final *-i* often drops after long *ā*, *ā*: *dʿāi* > *ta*. Between gutturals and *a* "aigu" there arose an *i* just as in the first group: *kai* > *kiai*, and this *kiai* (preserved in certain Mand. dialects) > *kie* in Peking through umlaut.

-i̯äi and *-iei* have been monophthongized into *-i*, thus going together with the *-i* of our second group: *kji, lji, śi* etc.; and after supradentals the same evolution *śi* > *ṣï* etc. *-i̯ʷäi*, *-iʷei*, *-i̯ʷɒi* and even *-uâi* have become *-uei*, thus going together with the *-uei* of our second group: *kuei, suei* etc.; and after labials the same evolution: *fuei* > *fei*.

Anc. Chin.	Mand.
-ân: 干 *kân*, 丹 *tân*	*kan, tan*
-an (1): 艱 *kan*, 山 *ṣan*	*kien, ṣan*
-i̯än: 愆 *kʿi̯än*, 連 *li̯än*, 鞭 *pi̯än*, 戰 *tʿśi̯än*	*kʿien, lien, pien, ṭṣan*
-i̯ɒn: 建 *ki̯ɒn*	*kien*
-ien: 堅 *kien*, 天 *tʿien*, 扁 *pien*	*kien, tʿien, pien*
-uân: 官 *kuân*, 端 *tuân*, 般 *puân*	*kuan, tuan, pan*
-ʷan: 關 *kʷan*, 班 *pʷan*	*kuan, pan*
-i̯ʷän: 權 *gʿi̯ʷän*, 痊 *tsʿi̯ʷän*, 專 *tʿśi̯ʷän*	*kʿüan, tsʿüan, ṭṣuan*
-i̯ʷɒn: 元 *ngi̯ʷɒn*, 反 *pi̯ʷɒn*	*üan, fan*
-iʷen: 玄 *yiʷen*, 編 *piʷen*	*hüan, pien*

(1) Ts'ie jün distinguished two rimes 山 and 刪, of which the latter was probably longer: *-ān*; but as this reconstruction is not strongly proved, I write *-an* for both.