ON THE AUTHENTICITY OF
ON-READINGS IN SINO-JAPANESE*

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Introductory

The approach to the phonetic history of Chinese is inevitably conditioned by the nature of the ideographic script and must differ from the study of languages written with an alphabet. In the study of languages written with an alphabet a phoneme has been represented either directly by a Roman letter or by a so-called phonetic symbol which is as a graph identical with the form of a Roman letter. But whatever the definition of the term, the phoneme must establish itself as a unit of speech sound of a given language in terms of function. Naturally, the functional value of one and the same sound varies from language to language. When one uses the term phoneme, one must postulate the empirical antecedence of sound to phoneme on the one hand, and the logical antecedence of phoneme to sound on the other. Thus phonology can be independent of whether the phonetic value of a phoneme in the past can be reconstructed in the present. From the peculiar nature of the Chinese script we may understand how traditional Chinese scholars like Ch'en Li (in his Ch'ie yun k'ao) have reconstructed phonological systems purely by grouping and classifying characters. Basing themselves on the ancient rhyme-dictionaries, they were able, exclusively from the structural point of view, to diagrammatise every constituent part of each word, such as the opposition of the points of articulation, the

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* This paper was originally prepared for the Junior Sinologues' Conference at Roma, September 1953. Since only a few examples have been given, it was thought that copious notes should be added before publication. However, since full documentation is not the purpose of the article, I have preferred to avoid a disproportion of notes to the short text.

1 A phoneme can be symbolised with a conventional sign. In its nature this symbolisation should resemble that used for chemical elements (e.g., H for hydrogen) or vitamins (e.g., vitamin B), provided that the concept of a phoneme is understood in terms of human activities (as against nature). However, has the relation between a so-called phonetic symbol and a Roman letter not been tacitly understood as φονές? In my opinion, the concept of a phoneme in the tradition of Western scholarship should be seen against the background of the alphabet, since in the last analysis a phoneme is regarded as an abstraction in view of the ideal of the alphabet. So-called phonemics is nothing else but the study of the alphabet from the functional point of view. A phoneme in itself can be broken up into smaller units termed by modern phonologists 'distinctive features'. The historical background in China is different.

2 To translate this into the terms of phonology, 'every distinctive feature of a minimum prosodical unit'.

contrast between oral and nasal, aspirate versus non-aspirate and so on, together with the differentiation of tones. This may indeed be regarded as a brilliant achievement of phonological analysis combining the phonemic aspect and the prosodical. It is all the more remarkable as it was achieved long before phonology as a science of phonemes arose in the West. However, the phonological system of Chinese established in this way had basically nothing to do with the tangible realities of sounds, as a result of the fact that they are concealed behind characters. In other words, Chinese characters caused phonetic history to be left out of consideration in China. If we wish to advance towards the historical description of phonetic changes, we must tackle the problem by reducing each class of characters to its corresponding sound in each dialect and by comparing various sources for the Chinese pronunciation. It has long been recognised that for this reconstruction Sino-Japanese is a very important source. In his unprecedented work Karlgren has in fact taken into account this material. One can not praise too highly his pioneer effort, and by making some critical remarks I only hope to contribute to a closer collaboration between Sinologists and Japanologists.

The first item I want to touch upon is the different grammatical function of compounds in Sino-Japanese as compared with Chinese. In Chinese a minimum prosodical unit is as a rule throughout its history the smallest formal unit with its own meaning; thus each Chinese character as individually representing such a unit deserves to be called an ideograph. This is necessary if Chinese is to be termed a monosyllabic language. But this of course does not mean that the Chinese vocabulary consists only of monosyllables. On the contrary, many Chinese words were and are dissyllabic or polysyllabic. Even in modern Mandarin, however, the proportion of semantically indivisible dissyllabic words such as tungsi (東西), meaning ‘thing’, is exceedingly small in the vocabulary. The majority of dissyllabic

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8 In the Yün ching, in each chuan all phonemic features are classified on the horizontal rows and the prosodical on the vertical. Irrespective of the pronunciation in the past the reconstruction of which still remains open to argument in details, it is clear to the extent that the differentiation of i têng, êr têng, sâi têng and sî têng in each tone is of prosodical nature. Incidentally, the concept of prosody here, as opposed to that of phoneme, should be understood in terms of phonology.

4 It may be interesting to note that in spite of the unparalleled scrupulosity in his analysis Twaddell’s method (On defining the phoneme, 1935) resembles that of Chinese phonology. This may prove the wide scope of the latter, whether or not it was conscious of its own methodological significance.

5 Cf. tungsi which means ‘east and west’, provided that the chungnien or stress accent is given on the second syllable in contradistinction to tîngsi. Incidentally, in Sino-Japanese, toozai is not used in the meaning of ‘thing’, but ‘east and west’ only.
words are loose units which can be easily broken up into their constituent parts. A unit in terms of syntax is not necessarily identical with a unit in terms of morphology. In contrast to this, ninety-nine percent of Sino-Japanese words are written with two Chinese characters, but they are not at all compounds in the same way as Chinese. In fact, they are single units no less morphological than syntactical. Although it is true that from the etymological point of view, or if one has a fair knowledge of characters, toozai (東西) can be analysed into too and zai, there are no such independent words in Japan as too meaning ‘east’ and zai meaning ‘west’. We can only say that in the linguistic consciousness of Japanese speakers there are a number of words beginning with too and also a number of words ending with zai. Besides, Chinese si (西) as a single character is read sai or sei in Sino-Japanese and not sai or sei. In the case of toozai, however, original sai was welded into a morphological unit so that s of zai became voiced as a constituent part of a single word. This sonorisation is based on a regular rule which once operated in Ancient Japanese. This rule was that a voiceless initial became voiced if it was preceded by a nasal final, whether labial, dental or gutteral. Thus we may infer that even in Japan too in toozai was once pronounced with the nasal in some way.

This is not the time to list other examples, of which one may find any number. I hope, however, to have made it clear that we should distinguish between a Sino-Japanese word and the on-reading of each single character.

As is well known, Japanese, which is a language with a structure completely different from Chinese, was written with Chinese characters from about the sixth century onwards. However, not only were the purely Japanese words written—sometimes in a very arbitrary way—with Chinese characters, but at the same time a large number of Chinese words were learned by the Japanese together with the characters. Thus very often one single character was and is used to write both original Japanese words and Chinese loan-words. The pronunciation of each character as applicable to such loan-words is called on. Now it seems that Sinologists often believe

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1 Provided that it is permissible to use these traditional terms. Cf. my contributions to Question A (2) in the Proceedings to the seventh international congress of linguists.
2 The reader may take this figure as it is, viz. literally and not as rhetoric.
3 Words beginning with 唐一, 答一, 統一, 選一, 投一, 倒一, 等一, 燈一, 東一, 益一, 島一, 黨一, 頭一, 階一, 順一, 陶一, etc.
4 Hence, in the cases of the initial, e.g. seihoo (西方) saikojoodo (西方净土) etc.
5 For instance, cf. examples such as toojiiu (東西—tung kung) on the one hand, and such as chinesi (鎌西—chen si) on the other. There are hundreds of examples of this kind. In traditional scholarship in Japan, as early as in the Heian period, this kind of sonorisation was termed shindaku (新南) which itself roughly means sonorisation, in contradistinction to originally voiced sounds, termed kondaku (本南=“originally voiced”).
6 The pronunciation of the guttural final must once have been imitated in Japan as it appeared, but the ordinary Sino-Japanese pronunciation of toozai in the Heian period may have been toozai and toogoku (東國) tooygoku etc.
that the phonetic renderings\textsuperscript{12} of such on-readings as listed in modern dictionaries like the \textit{Daijiten} and the \textit{Daijirin} go directly back to the time that these loan-words were first introduced into Japan. However, as we may see from these dictionaries themselves, these phonetic renderings have been theoretically established by the compilers and their predecessors (like Shirai Hirokage) from the Chinese \textit{fanch'ie}.\textsuperscript{13} Thus these readings do not provide conclusive evidence for the historical study of Chinese pronunciation. They are a vulgarisation of the \textit{fanch'ie} given in the \textit{K'angsi-tsitien}. In fact, these dictionaries themselves are nothing else but Japanese versions of the \textit{K'angsi-tsitien}. One may find in both of them plenty of on-readings which have practically never been used in Japan. I should point out one other absurdity in these dictionaries. It is well known that two different phonetic systems of Chinese came to Ancient Japan in successive waves and that the pronunciation of the characters used for Chinese loan-words is accordingly differentiated into Kan-on and Go-on. However, any attempt to render all characters both in the Kan-on and the Go-on seems to be pointless, since in many cases either the Kan-on or the Go-on is exclusively chosen for reading all the words written with a particular character.\textsuperscript{14} It is needless to say that we are not at liberty to pronounce any Sino-Japanese word in both ways. On the contrary, there is no alternative form of \textit{toozei} for \textit{toozai}, nor \textit{chinzei} for \textit{chinzei} (鏡西).

I hope to have shown that one should not take the reconstructed on-readings but Sino-Japanese vocabulary as such as a source for the phonetic history of Chinese. Of course, not all Sino-Japanese words can serve this purpose. Setting aside new coinages, the vast majority of them have been revived in modern times in order to express Western ideas with the aid of Chinese characters. In these cases and even in the traditional vocabulary as well, there has been a tendency to change the pronunciation by attempts to read afresh a Sino-Japanese word character by character,\textsuperscript{15} or to replace the Go-on by the Kan-on,\textsuperscript{16} unless the former alone has been used from of old in the case of a specific character in question.

\textsuperscript{12} By this I mean the \textit{kana}-renderings, (which need not answer to the phonetic system of Modern Japanese).

\textsuperscript{13} Those who are not Sinologues and might not know what \textit{fanch'ie} is may consult Karlsgren's \textit{Philology and Ancient China} p. 67, where a clear explanation is given.

\textsuperscript{14} Cf. the contrast between \textit{ronri} (論理), \textit{rompak} (論駁), \textit{ronkyo} (論義), \textit{ronnan} (論難), \textit{rossoo} (論争), \textit{giron} (議論), \textit{meiron} (名論), \textit{guron} (論學), \textit{booren} (異論), etc. and \textit{rinri} (倫理), \textit{jinrin} (人倫), and \textit{gorin} (五倫), or \textit{chinrin} (沈論), and \textit{rinraku} (論高).

\textsuperscript{15} Cf. e.g. \textit{gatpei} (合併) versus \textit{goohoo} (合法). One of the funniest examples is the replacement in pronunciation of a word which is written \textit{shikitembattoo} > \textit{shichi-ten-battoo} > \textit{shichi-ten-kachi-too}. Of these four, nowadays, the first one is expressive, the second is quite common, the third is tolerable and the forth is more or less clumsy. Cf. spelling pronunciation.

\textsuperscript{16} Cf. e.g. \textit{hossoku} versus \textit{hassoku} (発足), \textit{ryakuge} versus \textit{riakkai} (略解) and a number of this kind. In many cases, however, the one form has already become obsolete. Thus, for instance, \textit{jinen}, the Go-on form of \textit{shizen} (自然) is now only preserved in \textit{jinenjoo} (自然生).
Here one may raise the question what Go-on and Kan-on really are. This is an important problem. The historical background of the Go-on and the Kan-on is well-known. The Go-on had already established itself in Japan so solidly before the Kan-on that continuous efforts were needed to gain currency for the Sino-Japanese pronunciation based upon the Kan-on. In the ninth century, imperial decrees were even promulgated for this purpose, which stated that the Kan-on ought to be standard. However, the Go-on were only replaced word by word over a long period. Finally, they receded into the background to such an extent that the proportion of remaining Go-on words is now considerably smaller than that of ever increasing Kan-on words. They no longer form a system of foreign loanwords, and have been able to be incorporated into the Japanese vernacular far more easily than the Kan-on words.

So far a very rough sketch of the historical background of Kan-on and Go-on. But the history in itself of the Kan-on as a system of Sino-Japanese pronunciation is a problem that has not received its due attention. From internal evidence in a number of ancient manuscripts and from external evidence as well, we find that scholars of the Heian period tried to standardise Sino-Japanese by means of the Ch'ieyin and their example has been followed in later centuries. It is because the Kan-on was derived from the Ch'ie-yilfe that the phonetic renderings in the Daijiten and the Daijirin normally agree with the old sources. In fact, these dictionaries based their phonetic renderings strictly upon a very marked historical principle. Theoretically, therefore, we are able to reconstruct the Kan-on from the moment of its introduction, from the Ch'ie-yilfe. But if we want to reconstruct the Ch'ie-yilfe language in its turn from the so-called Kan-on, we are moving in a vicious circle.

Between the Kan-on and the Go-on we may easily see a system of phonetic correspondence. However, phonetic laws cannot be applied mechanically, and there is no excuse for ignoring the evidence that exists on the pronunciation of individual characters. We cannot expect complete regularity in the alternation between Kan-on and Go-on. Actually, from the discrepancies between the Daijiten and the Daijirin, irregularities have been pointed out (see Grammata Serica, passim). However, here each dictionary

The data is collected by Yamada Yoshio (山田常雄) in his Kokugo no naka ni okeru Kango no Kenkyū (国語の中に於ける漢語の研究) pp. 136-137.

Of course, as a dictionary the Yüppien was perhaps more popular in old Japan. But, in reality, because of the simpler sound-system of Japanese, the discordance between the Yüppien and those in the Ch'ieyin did not produce any effect on the on-readings in Japan. Not only this, so far as the Yüppien are concerned, there are not many differences between the two dictionaries. Incidentally, although it is not my purpose here to discuss the Ch'ieyin, it may be correct to consider that the Ch'ieyin does not illustrate the whole picture of one given contemporary dialect as an actual linguistic system of a given linguistic community and that it was compiled to codify the Yüppien. The Yüppien thus established may not have been directly based upon colloquial usage. Cf. Ch'en Yin-k’o: Ts’ung shi shi lung Ch’ieyin, Lingyuanshupao IX2 pp. 1-18, (陳寅恪：從史論著論，語言學報第九卷第二期).
made an arbitrary compromise between traditional readings and theoretical renderings deduced from fanch'ie. Such things may also have already occurred in the past. Authentic material for the study of the Go-on is plentiful, e.g. in old dictionaries, glossaries to Buddhist texts and glosses in old manuscript copies. On the other hand, there was never a direct authority for the Go-on to depend on, like the Ch'ie-yün in the case of the Kan-on. Originally the Go-on was a separate system which was transmitted to Japan before the compilation of the Ch'ie-yün. For this reason, the study of the Go-on will attract our interest all the more. The history of the Go-on as a system of Sino-Japanese pronunciation is again a neglected problem. The establishment of the history of the Go-on would be a considerable contribution to the phonetic history of Chinese. Here I should add a few words about the tonal or tonemic correspondences between the Kan-on and the Go-on. In reality, a fair proportion of characters coincide so far as their phonemic features are concerned, but characters with the first tone of the Kan-on regularly belong in the Go-on system either to the class of the second tone or to that of the third tone, and similarly in the Kan-on system the first tone of the Go-on is differentiated either into the second or the third tone. This is rather a fundamental difference between the two phonological systems.19

II

Before the kana script was invented in Japan, Chinese characters were converted into 'phonographic' script to represent Japanese syllables and used as the predecessor of the kana. Characters used in this way are called mannyōgana. In these mannyōgana there are some remarkable readings about which nobody can tell how they were transmitted to Japan.20 E.g. the use of the character po 播 in the name of the province Harima (播磨).21 If this use of po for the Japanese syllables hari belongs to the same category as ch'in 鼓 in Suruka (駿河),21 II ch'in 群 in Heguru (平群)21,III and yün 雲 in Uruka (雲箇),21,IV it may be that the po still preserved its dental final in some way when it was first learned in Japan.

The kao 高 was used in the same peculiar way. Unless the kao preserved its guttural final, how could we explain that Kaguyama was tran-

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19 Here, I deliberately avoid the traditional use of level tone, rising tone and falling tone, since these uses give the impression that they stood directly for the tonal particularity of each of them.

20 The following examples are mere specimens among others.

21 I Harima 播磨——針関 (古事記, 日本書紀, 播磨風土記 etc.)

II Suruga 駿河——須流河 (万葉集)

III Heguri 平群——磐井理 (古事記)

IV Uruka 雲箇——宇留加 (播磨風土記)

Karlgren's reconstruction of 播 in his Grammata Serica (p.195) is *prwär, but I cannot agree with this assumption of r.
scribe as 高山21 and Kagami as 高見22

In the oldest inscriptions we find that the character 移 corresponds to a Japanese syllable　ya.21 宜 and 周 used for ga22,III,IV belong to the same rhyme-class. These readings help to solve the rhymes of the Chou period, especially those in the Shiching.24 The pronunciation ya for 移 also serves as evidence that the dental initial d- had disappeared before the vowel was palatalised.25 The use of these characters as mannyōgana for ya and ga respectively occurs only in very early days (as is seen on note 23). Already in the Kojiki dating from the early 8th century, the 宜 appears as a man-n'ōgana for ge2.26 In the Man'yōshū the 宜 is used both for ge2 and gi2.27

The character 義 differs from 宜 only in its tone. The other features are the same for both characters. Whether or not accidental, there are no examples of 義 being used for ga, but it appears as ge2 in the archaic mannyōgana.28 V Whereas 義 does not appear in the Kojiki, it is used in the

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21 I Kaguyama:—
　中大兄遠江守衛天皇三山歌一首
　高山波波宮雄雄志等耳梨与相訪賦次……
　反歌
　高山與耳梨山與相之時立見爾来之伊奈那国原（萬葉集 Lib. I nos. 13 et 14).

II Kagami:—
　著名公高見（日本書紀，後孝紀）
　大質當名公高見（id. 天武紀）
　卿詠……紫冠威奈鏡（Kagami）公之第三子也（威奈大村跡論語）
　ct. 木村正敬：万葉集字音弁証 下附録
　Karlgren’s reconstruction of 高 in his Grammata Serica (p. 421) is *hōg.

22 I 止 (to) 与 (yo) 矢 (mi) 箕 (ke) 舎 (ka) 殊 (si) 異 (ki) 移 (ya) 比爾天皇（元興寺丈六光背飾）等 (to) 已 (yo) 矢 (mi) 居 (ke) 加 (ka) 割 (si) 支 (ki) 移 (ya) 比爾乃顔已等（天寿国曼茶羅綬帳飾）
　有麻移 (yo) 刀等已 (yo) 矢矢乃顔已等（元興寺綬帳飾）
　［矢 (mi) 移 (yo) 居 (ke) （欽明紀）］

II 巻已 (ga) 名伊奈來大臣（元興寺綬帳飾）
　巻已（ga）名有明子大臣（id.）
　巻已（ga）名有明子大臣（id.）

III 巻春 (ga) 名伊奈來大臣（id.）
　巻春 (ga) 大臣名伊奈足尼（天寿国曼茶羅綬帳飾）

IV 奉寒 (ga) 波比羅（出雲風土記）
　Va 半義 (ge) 都国造（上宮記逸文）
　cf. 古事記：中宜都君
　日本書紀：身毛都君
　Vb 伊我留我乃，止美能井之美豆，伊加奈久爾，多義氏麻之母乃（T'ung-chou, the Nicolletian king）
　（上宮國史法王帝記）

23 This problem was thoroughly studied by Oya Tōru in his Shūdai-koin-hō (鎌倉古音考), who was instructed to undertake these studies by the Japanese Ministry of Education.

24 Karlgren formulates the shift in the case of 移 as follows： *dialjɛ̂jy̞s (Grammata Serica p. 126). We may postulate an intermediate stage, *ia. In passing, this reconstruction may contribute to T'ung-ch'ü-ho's critical comment on the assumption of Karlgren. Cf. 上古音 論表解 (史語集刊 Vol. XXVIII p. 94).

25 e after the Heian period was under certain conditions differentiated into i and e, in archaic Japanese. The phonetic value of e is unknown, but is not likely that we may assume that the phonetic value of the syllable ge2 was [gge]?

26 In archaic Japanese, i, parallel with e, was differentiated into i and e. The phonetic value of i, is also unknown, but as in the case of ge2, was gi not [gi] or [ggi]?
Mannōshū not for ge, but as a common character for gi, maintaining consistency, unlike 宜. Again, in the Nihon-shoki, it does not appear, but both 義 and 儀 are found. They stand for gi only. The compilers of the Nihon-shoki may have shunned the use of the character 義 for fear that this common character, traditionally used for gi, should be misunderstood if used for gi. Thus the table of the use of these characters is:

<table>
<thead>
<tr>
<th>Inscriptions etc.</th>
<th>宜</th>
<th>奇</th>
<th>義</th>
<th>儀</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kojiki</td>
<td>ge</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Mannōshū</td>
<td>gi</td>
<td>x</td>
<td>gi</td>
<td>x</td>
</tr>
<tr>
<td>Nihon-shoki</td>
<td>x</td>
<td>gi</td>
<td>gi</td>
<td>gi</td>
</tr>
</tbody>
</table>

(The cross x stands for 'is not used').

Although I cannot enlarge upon this subject here, these few examples will show how quickly the readings of characters changed in the course of only one or two centuries. These changes were caused by the efforts to conform to the standard of contemporary Chinese pronunciation. They are all the more important because they are fundamentally different from the changes which were brought about in later periods by the phonetic evolution of Japanese itself.

28 If this is so, the situation may have been the same in the Kojiki, mutatis mutandis. That is to say, the Kojiki tried to avoid fluctuation in the reading of 義 between ge and gi.

29 It would be advisable for me to give here in addition the table of all those characters for ge and gi which were used in each text.

<table>
<thead>
<tr>
<th>Kojiki</th>
<th>gi:</th>
<th>gi:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>義</td>
<td>義</td>
</tr>
<tr>
<td>ge:</td>
<td>下牙</td>
<td>宜 (氣)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nihon-shoki</th>
<th>gi:</th>
<th>gi:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>義</td>
<td>義</td>
</tr>
<tr>
<td>ge:</td>
<td>谓</td>
<td>宜 (氣)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mannōshū</th>
<th>gi:</th>
<th>gi:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>義</td>
<td>義</td>
</tr>
<tr>
<td>ge:</td>
<td>齒齶</td>
<td>宜</td>
</tr>
</tbody>
</table>

30 It is because such efforts came to an end before those in Korea that Sino-Japanese on the whole still retains archaisms in pronunciation more than Sino-Korean, while archaic usages were first introduced to Japan through Korea. Since Japan is severed from the Continent by the sea, the Japanese government, at the end of the ninth century, gave up sending delegations to China in view of the risk of such voyages in those days. After that, cultural contacts between the two countries became less close.
III

Now I shall content myself with making some general remarks on the study of Sino-Japanese.
1) Regardless of the Kan-on or the Go-on as a system, we should trace the pronunciation of each character individually.
2) As for Sino-Japanese words,
   (I) we must examine the pattern of compounds;
   (II) we should not neglect irregular cases;
   (III) the value of every-day pronunciations should be taken into consideration.
3) Special oral traditions of chanting and reciting some old Buddhist texts have been handed down to the present day; besides, valuable commentaries on these traditions have been published since the 17th century.