A Note on CJK Word-Roots

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In his very interesting and informative paper, Mr. Tucker outlines the numerous modifications and additions which have been necessary to transform the original Sinoterm machine into the RLG CJK system.

Although the original vocabulary of Chinese characters has been greatly expanded by the addition of simplified forms, Japanese kana, and Korean hangul, and although various other functions have been added, the basic concept of the 245 "word-roots," or "Sinoroots," has remained. It has seemed to me that it might be interesting to the readers of the CEAL Bulletin to see a few examples of the elements which are used in composing the Chinese characters, and some illustrations of how they are used. Mr. Tucker points out that to compose these characters requires from one to eight strokes, and that the average is 3.7 strokes. The following three pages, reproduced with the permission of the Transtech International Corporation, illustrate how this is done. Those of us who were present at the CEAL meeting in Chicago on April 1, 1982, will recall Mr. Tucker's presentation there, and also that he distributed to his audience a plan of the keyboard for the RLG CJK terminal, illustrating the point to which it had been developed at that time. As I recall it, there were still at that time some problems to be solved regarding the placement of the Korean hangul symbols. Nevertheless, the component-entry system for Chinese characters had much earlier been decided upon. In due course the users of RLG CJK terminals may expect to receive detailed instructions on the use of these terminals. The following pages are offered merely as illustrations of the applications of the 245 elements which are combined to produce Chinese characters.

It might also be mentioned that in 1982 several Library of Congress staff members visited Transtech to learn of progress and to see the product as it then stood. After using the existing terminal, one of these persons estimated that, with training, an operator would be able to produce between 20 and 25 characters per minute. This compares favorably with the speed at which these characters can be written by hand. We can expect that progress at the beginning will be much slower, and that various problems will arise. We can also expect, that with the application of time and effort, and with a period of adequate training, these problems can be solved.

(E. G. B.)
THE SET OF 245 SINORootS

Basic Strokes: 10

Examples: 一, 丿, 丶, 一

Chinese Numerals: 11

Examples: 一, 二, 三, 十

Frequently Used Characters/Character Substructures: 71

Examples: 大, 人, 夫, 尚

Subset of Classical Radicals: 153

Examples: 口, 日, 王, 馬
Character Composing Rules

Top to Bottom

(1). 由上而下之疊積形：
例；李、木、子
喜、士、口、欠、口
童、立、田、土

Left to Right

(2). 由左而右之併列形：
例；測、水、貝、刃
辦、辛、力、卒
謝、言、身、寸

Outside in (Enclosure)

(3). 由外而內之包含形：
例；周、門、士、口
圓、口、口、貝
廣、广、廿、由、八

Inside Out

(4). 由內而外之包含形：
例；建、聿、及
這、言、及
凶、凶、口
(5). 由外而內之交錯形：
例：來 - 木、午
      乘 - 禾、北
      衣 - 丕、匹

(6). 由外而內之相夾形：
例：旦 - 二、日
      辰 - 衣、口
      衛 - 行、韋
      衍 - 行、水

(7). 從中開始之併列形：
例：壁 - 言、系、系、弓
      樂 - 白、丷、丷、木
      率 - 一、丷、丷、丷、十

(8). 交相運用之綜合形：
即採取上述組合形式二種以上者
例：學 - 口、×、×、一、玉
      燕 - 十、北、口、火
      余 - 由、比、矢
      居 - 尸、士、山
      償 - 人、一、少、貝
      圍 - 侖、言、系、系、木
      擲 - 手、八、西、大、父
      壇 - 业、卒、耳、又
      離 - 帜、文、山、内、缶
      醞 - 西、爪、四、良、寸