A STUDY OF LU-PITCH NAME SIGNIFICATION: A TRANSLATION WITH COMMENTARY

THESIS

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The purpose of this thesis is to provide translation of documents on lu from two primary sources for a study of the theory of lu, with the main focus on the interpretation and the signification attached to each of the twelve lu-pitch names.

To establish the background information of the lu-lü system, an explanation of its acoustical properties is first presented. Based on the most important and widely used tonal system in ancient China -- the san-fen-sun-i system, the illustration is provided for the process of tone generation. Methods proposed by the main theorists who engaged in the discussion of the system of lu are presented. The introduction of the concept of yin and yang in reference to the twelve lu and the signification of the lu-lü system in relation to the human and natural world will also be discussed.

The main body of this study is devoted to the translation of written references on the meaning of the twelve lu. The first part is the translation of the selected passages from The Anthology of the Historical Document of Ancient Chinese Music, edited by Tsai-Ping Liang; the second part is the translation of a modern exegesis from an article written by Deh-I Liu. This translation offers a perspective to understand the concept of lu-pitch names from the ancient points of view in relation to philosophy, education, religion, and science.

The last part of the study summarizes the discussion of the twelve lü and their social, scientific and religious functions, and offers a brief comparison with the doctrine of ethos, a paralleling concept in Greece to the Chinese theory of lü. Both these ancient concepts of music were closely associated with numerology, philosophy, sociology and cosmology.

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CHAPTER I

INTRODUCTION

Among all ancient Chinese music theories of the tonal system, twelve lu is considered the most important. This system established the basic course for the evolution of the ancient Chinese tonal system and had the longest and the most consistent application in the development of Chinese music. The theory of lu not only had influenced the development of music in ancient China but also was applied to various other aspects such as education, sciences, philosophy, ritual ceremonies, among others, and had a great significance in the entire system of ancient Chinese societies.

To appreciate fully the concept of ancient Chinese tonal theories, one must understand two basic components: its acoustical constituent and its metaphysical signification. The first, the acoustical system, is based on tuned pitch pipes, determines the tuning of pipes, which in turn identify the twelve pitches, or semi-tones, within an octave. The method of tuning is called the system of san-fen-sun-i (三分損益), which calculates the lengths of the following pipes by dividing each preceding one into three parts, and subtracting and adding one part alternately to form the circle of fifths. According to this calculation, the twelve lu consists of six upper lu representing yang (陽), the male element, and six lower lü representing yin (陰), the female element. As a general reference, this set of twelve semi-tones is called twelve lu, combining both yang and yin.

The second aspect is the matter of the signification of lu-pitches. Unlike tones in the Western music system, each tone in the lu pitch series is given a specific name or names that have a connotation. From the

fundamental pitch huang-chung, all subsequent tones are generated through the process of san-fen-sun-i. These twelve tones, organized in an alternating order of yang and yin sounds, are given the following names: huang-chung (黃鐘) "yellow bell," ling-chung (林鐘) "forest bell," tai-t'su (太蔟) "great frame," nan-lü (南呂) "southern tube," ku-hsi (姑洗) "old purified," ying-chung (應鐘) "answering bell," jui-pin (蕤賓) "luxuriant vegetation," ta-lü (大呂) "great tube," i-tse (夷則) "equalizing rule," chia-chung (夾鐘) "pressed bell," wu-i (無射) "tireless" and chung-lü (仲呂) "mean tube." (see Chapter II, figure 1)

Each one of these twelve pitches has a specific name and connotes specific meaning and signification. For instance, according to the ancient Chinese historical chronicle Shih-Chi (史記), huang-chung signifies that the spirit of yang is ready to come out of the earth, as huang resembles the earth and chung implies the blossom. This is based on the ancient Chinese philosophy regarding the natural cycle of the universe in terms of birth, growth, maturity and dormancy, where yang represents the living or superior and yin represents the dying or inferior. In the Chinese lunar calendar, huang-chung is assigned to the eleventh month, the month of winter solstice, which is usually in December on the Western solar calendar. The eleventh month is the time when yang is at its nadir, or when the yang aspect is most completely stored inside the earth, the time when the yin is at its zenith. At this point, yang is ready for rebirth. For this reason, this month is also called the zi (子) month, the first month of the twelve terrestrial branches. Also, due to a phonetic similarity, this zi (子) can be identified with zi (滋), implying the growth of nature, which also conforms with the meaning of huang-chung.

Any attempt to locate and collect all various ancient references on lu would require tremendous time and effort, and will prove a difficult, if not nearly impossible, task. Fortunately, the Anthology of the Historical Documents of Ancient Chinese Music edited by Tsai-Ping Liang in 1971 and published in Taipei, Taiwan, gives the most complete collection of records of lu from a wide range of ancient books and documents. In this anthology, there are at least sixteen passages of various primary sources where the matter of lu is dealt with to various extents. In fact, this anthology is a facsimile of twenty six books of various ancient writings, such as Ch'u-Hsüeh-Chi (初學記) by Chien-Teng Hsu in Tang Dynasty, Shih-Wu-Kan-Chu (事物紺珠) by I-Tsen Huang in Ming Dynasty, Zi-Shih-Ching-Hua (子史精華) by Shi-Ch'ih Kang in Ch'ing Dynasty, just to name a few. These originals are from various public and private collections, especially the source from Professor Frederic Lieberman in Brown University. Among these books, the "Lu Section" from Chi-Tsuang-Yun-Hei (記纂淵海) edited by Tze-Mu Pan in Sung Dynasty, is exclusively devoted to the collection of all ancient passages on matter relative to lu-lü system. Since this source, in every respect, is a primary source of various ancient writings, this particular portion was chosen to represent the best record on the twelve lu.

Subsequent to the translation of the portion on lu, an article on the twelve lu and its interpretations, written by Deh-I Liu, a scholar in Chinese music, will also be translated. This article was originally selected as another primary source of the twelve lu representing a modern-day view of the lu-pitch names. However, after the translation, it was found that most passages in this article are mere paraphrases of

statements from the Anthology of the Historical Documents of Ancient Chinese Music. Nevertheless, the translation of this article will still be included in this study, with the understanding that it is not a new modern-day interpretation of the lu-pitch names but a statement incorporating partial translation of some primary source material and, thus, serving as a comparison with the present writer's translation.

Due to the complexity of the system of lu, and the archaic and highly symbolic language used in ancient time in recording these passages, the task of translation during the course of this study proved to be difficult and often frustrating, and at times seemed all but impossible. These two sets of translations, as a main part of this lu study, provide explanation of the origin, the meaning, the implication and the usages of each of the twelve lu in ancient China. One purpose of translations is to provide scholars interested in the ancient Chinese music theory, particularly those (e.g. western scholars) who do not have the necessary command of Chinese written language, a resource to understand the twelve lu names, and their social, educational and philosophical implications.

There are many ways that the concept of the twelve lu in China can be seen as similar to the doctrine of ethos in ancient Greece. The noteworthy similarities between twelve lu and ethos are that both doctrines maintained that music exerts strong influence on human beings, that it is a major contributing factor in refining the societies and the governments, and that it is associated with the mythical power of the universe. In ancient China, the theory of lu was considered to be more than an aesthetic consideration; it was seen as a means vitally expressing the interrelations between various aspects of life, expecially between

man and the forces of nature. Similarly, the doctrine of ethos in ancient Greece was held as an essential lesson in life, to reform people, to bestow respectable soul, and to achieve proper rhythm and harmony between man and universe and even in the cosmos itself.

It should be noted that there is a close parallel between the theory of lu and the doctrine of ethos. The process of ethos, suggested by the theory of mimesis, is regarded as the most imitative of the arts, because, like the soul, it echoes the harmony of the universe. Similarly, the ancient Chinese regarded musical sounds as an image of the universe, and therefore, they were capable of regulating the behaviors of men, educating their minds, and ideally, uniting human souls to the entire cosmos in perfect harmony.

This study, in essence, is an attempt at providing a translation of representative passages from two primary sources on the matter of lu-pitch name significations. These sources are the Anthology of the Historical Documents of Ancient Chinese Music edited by Tsai-Ping Liang and an article on the meaning of the lu-pitch names written by Deh-I Liu. To obtain a reading and interpretation of these ancient writings and to render a translation into idiomatic English which is as faithful to its original meaning as possible, a number of other written sources have been consulted, these inlcuding the following: Collection of Words (辭源), Dictionary of Origin of Phrases (辭海), History of Chinese Music, (中國音樂史), History of Ancient Chinese Music (中國古代音樂史) and Theory of Eastern and Western Music (東西樂制). In addition, opinions of a few scholars of ancient Chinese music theory who have established their scholarly reputation through notable publications have also been

incorporated into making the translation. These scholars are : Professor Ben-Li Zhuang of The Chinese Cultural University, Professor Deh-I Liu of The National Taiwan Normal University and Professor Kuang-Chi Wang.

During the course of this study, a number of supplemental investigations were also undertaken. These were done for the purpose of not only understanding archaic languages in these writings but also shedding light on matters which lie totally outside the normal realm of musical study, such as astrology, etymology, systems of divination, and historical events in ancient dynasties, just to name a few. One particular problem encountered in the course of this study was the interpretation of the Chinese "phonetic-loan" and "idiographic-loan" characters. The phonetic-loan character refers to character substituted for another character which has the same phonetic sound, such as zi (子) and zi (滋). The idiographic-loan character, on the other hand, refers to the substitution of another character which has a similar shape, such as chou (丑) and nu (狃). On a subject such as the present one, which is essentially metaphysical and philosophial in approach, extra meanings of lu-pitch names appeared to have been inferred through this particular etymological system, which perhaps is unique to Chinese written and spoken languages. Therefore, in making the translation, a considerable amount of effort has been expended to incorporate the phonetic-loan and idiographic-loan signification inference. It should be added that the meaning of the twelve terrestrial branches through the system of guah as presented in the Book of Changes (Yi-Jing) was found to be intimately associated with the process of naming and interpretating the signification of the twelve lu-pitch names.

CHAPTER II

THEORY OF LU

Acoustical Properties of the Lu-Lü System

Due to the close association between the lu-lü system and numerology, both of which, in turn, had influenced the system of education and philosophical thought, there are in essence two aspects, which are relevant to the theory of lu: 1) the acoustical properties and 2) the signification and the meaning attached to each lu.

Since the Period of Warring States (403-222 B.C.), the theory of tone generation and the system of scales had developed from five lu to seven lu and subsequently to twelve lu. Later, it is discovered that, based on the process of san-fen-sun-i, the resulting huang-chung is not the octave equivalent of the original huang-chung (i.e. the interval is slightly larger than a perfact octave -- the Pythagorean comma). Due to the problem of not being octave equivalent and the unsatisfactory result of shuang gong (旋宮) system (i.e. each of the twelve lu alternately becoming a fundamental gong pitch, i.e. "tonic" in the transposition system), various methods were proposed to reconcile the acoustical problem arising from this endless spiral of pure fifths and to discover the "point of return." The main theorists who discussed lu and the methods they proposed to resolve this problem are briefly described below.

1) Ching Fang's Sixty lu (45 A.D.). Ching Fang recognized the problem that the process of san-fen-sun-i would not produce the (octave equivalent of the) fundamental pitch of huang-chung. He believed that the

problem was caused by the use of bamboo pitch pipes. Therefore, Ching Fang proposed the use of strings to replace bamboo pipes, and invented the instrument called "chuen." Utilizing the same process of san-fen-sun-i in generating tones, he extended the process from a total of twelve pitches in the series to sixty which are all within an octave gamut. However, this system is very impractical and, therefore, quickly forgotten by later generations.

2) Chien Yueh-Chih's Three Hundred and Sixty lu (438 A.D.). In the Sung Dynasty, Minister Chien also employed the system of san-fen-sun-i and extended Ching Fang's Sixty lu to three hundred and sixty lu within an octave gamut. The only significance of this system is the coincidence of the number of lu with the number of days in a lunar calendar year.

3) Ho Cheng-Tien's Twelve Even-Tempered Lu (441-513 A.D.). By using the system of san-fen-sun-i but increasingly adding one lee (/厘, 0.01cm) to each successive tone from the fundamental pitch, Ho Cheng-Tien's system of tone generation developed a new ratio which allows the return of the fundamental pitch huang-chung. Therefore the twelve-pitch series was completed with lu of "even-temper" in its circular nature without distortion (i.e. to "even-out" the difference between the old pitch series and the new).

4) Tsai Yuan-Ting's Eighteen Lu (1135-1198 A.D.). Tsai Yuan-Ting considered the transposable gong improper (due to the fact that twelve lu itself was not an equal-tempered tonal system at that time; therefore, the transposition of twelve lu became problematic), and Ching-Fang's successive sixty lu overly complicated. Consequently, employing san-fen-sun-i, he derived six altered lu from the last pitch in the twelve

lu series to make a total of eighteen lu. Tsai Yuan-Ting's eighteen lu, while maintaining the principle of the system of san-fen-sun-i, allowed the extension of the range of transposable gong. This was later considered an improvement over the system of uneven-tempered lu.

5) Chu Tsai-Yu's Twelve Equal-Tempered Lu (1536 A.D.). Chu Tsai-Yu completely abandoned the conventional process of san-fen-sun-i for tone generation. Instead, he advocated a new acoustically correct theory. Surprisingly enough, this system, which is an acoustically justifiable equal-tempered system, was discovered by the numerological manipulation rather than by the theoretical calculation. The new theory, twelve equal-tempered lu, was derived by successively dividing the fundamental number of huang-chung by 12th root of 2. Noteworthy is the fact that Chu Tsai-Yu, who was well versed in both Chinese and Western tonal sciences, invented this system about one hundred years earlier than the similar theories formulated in Europe by, for instance, Marin Mersenne (1636), Andreas Werckmeister(1691) and J.G. Neihard(1706). His revolutionary theory of lu is not only formulated as a practical system for accomodating the process of transposition but also an attempt to correlate the Chinese and Western tonal systems.

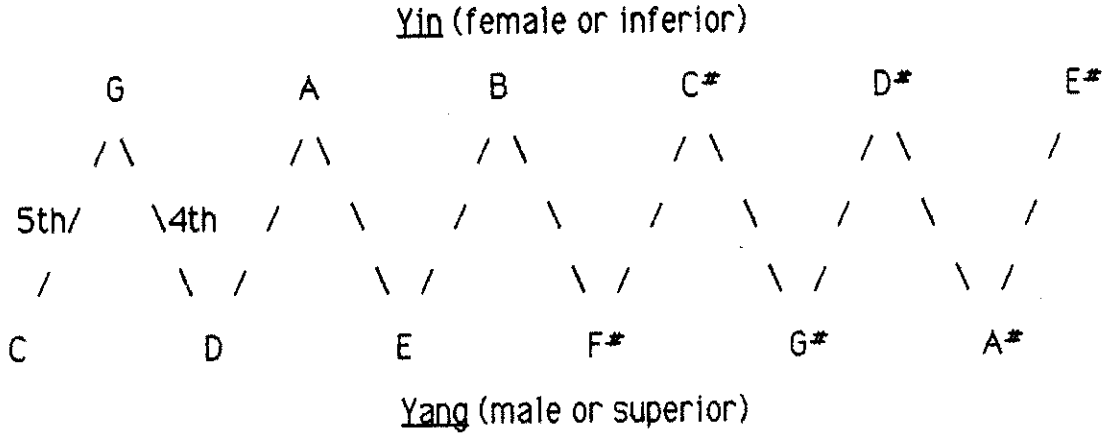
The above-mentioned acoustical properties and development of the theory of lu have been amply presented in a number of ancient and modern Chinese and Japanese treatises and, most recently, by Chen Whey-Fen in History and Development of Theory of Lu. A Translation of Selected Chapters of Hung Ti-Pei's Perspectives of Chinese Music (Master Thesis, North Texas State University, 1985).

It is apparent that throughout the evolution of tonal system in

ancient China, the process of san-fen-sun-i was held to be the most important among many methods of tone generation. Simply stated, it calculates the length of following pipe or string by dividing the preceding one into three parts and subtracting one part, i.e. shortening it by 1/3, to produce a pitch a fifth higher, then adding one part, i.e. lengthening it by 1/3, to produce a pitch a fourth lower. The formula may be represented as alternating multiplications by 2/3 and 4/3. In this process, the tone which is generated by 2/3 is referred to as inferior (yin), whereas that which is generated by 4/3, is called superior (yang). Therefore, in the system of lu, there are six yang tones obtained by superior generation on 4/3, and six yin tones obtained by inferior generation on 2/3. In this san-fen-sun-i system, twelve tones follow each other alternately as male (yang) and female (yin) tones in consecutive fifth/fourth. Figure 1 shows this process.

FIGURE 1

THE PROCESS OF TONE GENERATION



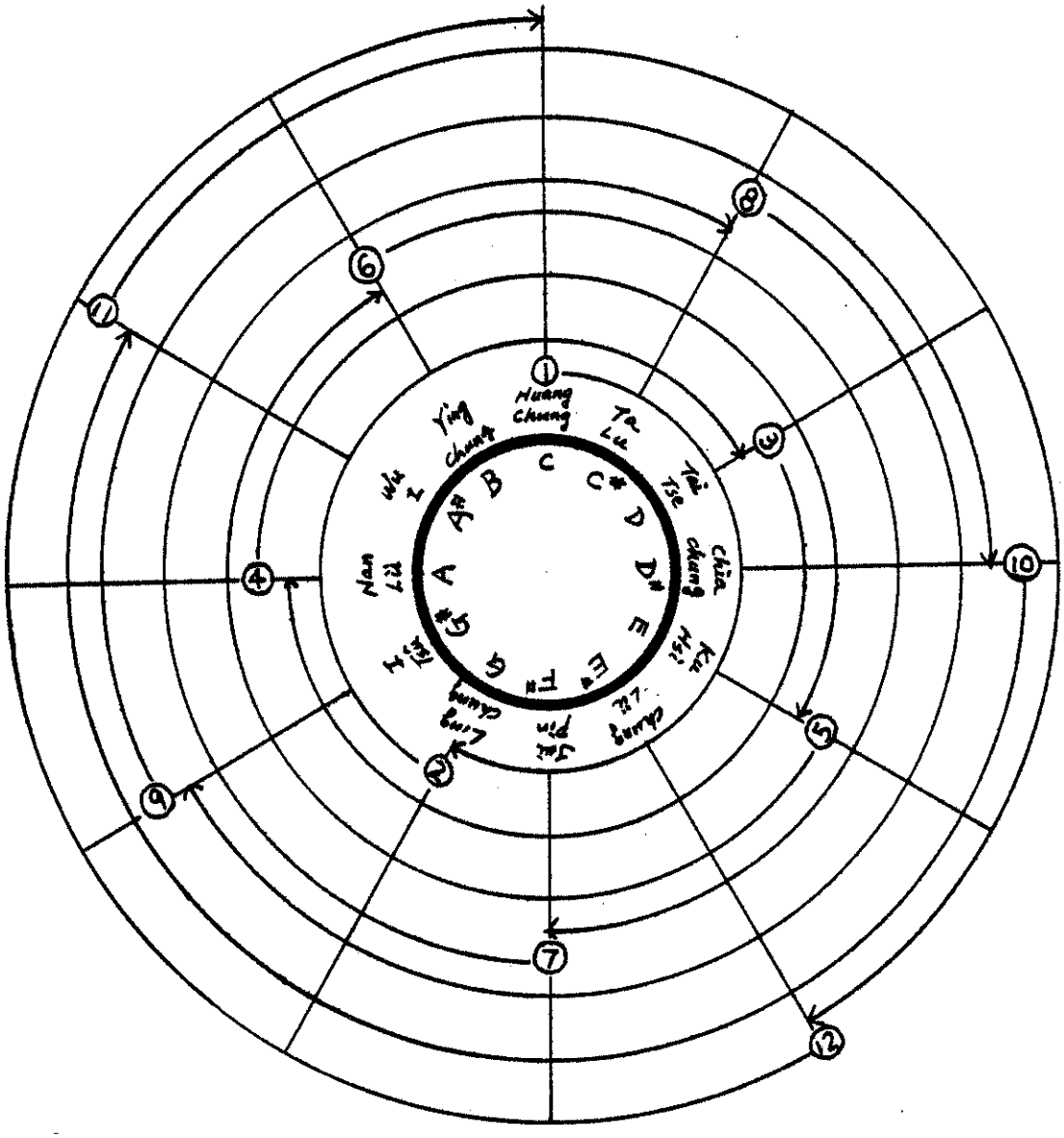
The earliest book that recorded the system of san-fan-sun-i is Kuan Tzu (4th century B.C.). In this work it is mentioned that "the way to obtain the five-tone scale is that one is used as the fundamental number and then multiplies 3 itself for 4 times (i.e. 3^4), and this gets the number as 9 x 9 (=81) which is the number for the principal gong pitch, the huang-chung." The calculation is represented as follows:

1 x 3 x 3 x 3 x 3 = 81, gong (宮), ascending, lengthened
81 x (1+1/3) = 81 x 4/3 = 108, zhi (徵), descending, shortened
108 x (1-1/3) = 108 x 2/3 = 72, shang (商), ascending, lengthened
72 x (1+1/3) = 72 x 4/3 = 96. yu (羽), descending shortened
96 x (1-1/3) = 96 x 2/3 = 64, chio (角), etc.

This calculation is based on zhi pitch as the lowest note in the five tone scale. Therefore, by using the system of san-fen-sun-i from huang-chung, all lu's are derived. The distance between two consecutive lu's is eight lu's (i.e. the interval contains eight tones with the total of seven semitones or a perfect fifth); therefore, this system is called the system of ke-ba-shaun-shen (隔八相生). Figure 2 illustrates the process of the system of ke-ba-shaun-shen (see next page).

FIGURE 2

THE SYSTEM OF KE-BA-SHAUN-SHEN



There are a great number of written documents in existence, which record various systems of twelve lu-lü measurements from ancient times. Based on the four most important documents, different measurements of tones (pipe-lengths) are shown in the table below (see next page):

TABLE I

THE COMPARISON OF MEASUREMENTS OF LENGTH OF PITCH PIPES

Pitch Names	Lu-Shih-Ch'un-Ch'iu	Shih-Chi (1)	Shih-Chi (2)	Hou-Han-Shih (3)	Hou-Han-Shih (4)	Hou-Han-Shih (5)	Li-Chi (6)
Huang-Chung	810 Lee	81Fen	Zi 1	177147	9Ts'un	9 Chih	9 Ts'un
Ling-Chung	$810\times\frac{2}{3}=540$	54	Ch'ou $\frac{2}{3}$	118098	6	6	6
Tai-Tsu	$540\times\frac{4}{3}=720$	72	Ying $\frac{8}{9}$	157464	8	8	8
Nan-Lü	$720\times\frac{2}{3}=480$	48	Mao $\frac{16}{27}$	104976	5.33^{+}	$5.3\frac{6561}{19683}$	$5\frac{1}{3}$
Ku-Hsi	$480\times\frac{4}{3}=640$	64	Cheng $\frac{64}{81}$	139968	7.11^{+}	$7.1\frac{2187}{19683}$	$7\frac{1}{9}$
Ying-Chung	$640\times\frac{2}{3}=426.6667$	$42\frac{2}{3}$	Sze $\frac{128}{243}$	93312	4.74^{+}	$4.7\frac{8019}{19683}$	$4\frac{20}{27}$
Jui-Pin	$426.6667\times\frac{4}{3}=568.8889$	$56\frac{2}{3}$	Wu $\frac{512}{729}$	124416	6.32^{+}	$6.3\frac{4131}{19683}$	$6\frac{26}{81}$
Ta-Lü	$568.8889\times\frac{4}{3}=758.5185$	$75\frac{2}{3}$	Wei $\frac{1024}{2187}$	165.888	8.43^{-}	$8.4\frac{5508}{19683}$	$8\frac{104}{243}$
I-Tse	$758.5185\times\frac{2}{3}=505.6790$	$50\frac{2}{3}$	Shen $\frac{4096}{6561}$	110592	5.62^{-}	$5.6\frac{3672}{19683}$	$5\frac{451}{729}$
Chia-Chung	$505.6790\times\frac{4}{3}=674.2387$	$67\frac{1}{3}$	Yeu $\frac{8192}{19683}$	147456	7.49^{+}	$7.4\frac{18018}{19683}$	$7\frac{1075}{2187}$
Wu-I	$674.2387\times\frac{2}{3}=449.4925$	$44\frac{2}{3}$	Shu $\frac{32768}{59049}$	98304	4.99^{+}	$4.9\frac{18573}{19683}$	$4\frac{6524}{6561}$
Chung-Lü	$449.4925\times\frac{4}{3}=599.3233$	$59\frac{2}{3}$	Hei $\frac{65536}{177147}$	131072	6.66^{-}	$6.6\frac{11642}{19783}$	$6\frac{12974}{19683}$

(1) "Number of Lu" Chapter, (2) "Records of Lu" Chapter, listing ratios of bell pitch, (3) fraction, (4) length of lu, (5) standard length of lu and (6) "Monthly Commentary" Chapter.

The Signification of the Lu-Lü System

The system of lu had been regarded as the principal theory of music in all ancient Chinese documents. Besides the acoustical properties discussed in the previous section, the twelve lu was considered to have great symbolic importance, having philosophical, cosmological and educational implications. This can be seen in the fact that matters concerning lu-lü were preserved in documents and books on history, rite, and philosophy, among others.

To appreciate the meaning of and to properly interpret these ancient Chinese documents concerning the lu-pitch names, two items of background information need to be understood: the philosophy behind the books written, and the methodology applied in their arguments.

From the most remote antiquity on, the idea that man and heaven are a unity has been conceived in the Chinese mind. It is believed that all phenomena occurring in nature between heaven and earth are reactions to men's deeds. When catastrophy occurs, for instance, it is believed to have been the result of human misconduct or political corruption. Conversely, human activities of any kind are believed to bring due consequence from the forces of heaven and earth. This thinking of unity between man and heaven found its fullest expression in the periods of the East and West Han Dynasties (206 B.C. - 218 A.D.). Therefore, most of the aforementioned documents and books were written during these periods in history, and the concept of associations between natural and human phenomena as they relate to the meanings of lu was greatly fostered.

During this period, lu was also considered as a representation or symbolism of each month in a year. Consequently, some philosophical signification between lu and the corresponding month was implied. Therefore, a system of lu was advocated that in a particular month one specific lu was to be played. Also, the records of the system of lu mentioned in the ancient documents also inevitably make reference to the spirit of two basic elements of lu: yin and yang. For the twelve lu is composed of six yang lu and six yin lu, each in turn having its corresponding month.

An extension of this philosophical thinking about the lu is the idea that the universe waxes and wanes according to the cycle of yin and yang. Yang represents the growth of all things in the universe, whereas yin represents the destruction. During the spring and summer times when living things are growing luxuriantly, yang becomes most powerful in the universe. Conversely, when lives are withering and perishing in fall and winter, the power of yin dominates.

The division of yin and yang, however, is not absolute, for they all have their own stages of progression and regression. When the power of the yin is at its apex and thus commences to wane, that of the yang begins to form and grow; likewise, by the time the power of yang reaches its zenith, that of the yin begins to return. Thus, the correspondence of the waxing of one to the waning of the other forever continues. An interesting example of this view of the universe in relation to human conduct is also found in the timing of the execution of criminals in ancient China, which took place only once a year in the fall, and was termed the "Autumnal

Execution"; for the autumn marks the beginning of destruction of all things in nature.

Also, according to the description of guah[1] for each month, the interaction of yin and yang in lu closely depicted the seasonal phenomena in that month. When people could not explain the abrupt changes in weather, they would further seek explanation in the symbolic deviation of lu. Therefore, it is apparent that lu was considered not only a representation of a complete law of natural behaviors but also a power affecting the movement in the whole universe. One example that is cited, for instance, is that on one summer day frost and snow were caused because someone accidentally played the tone of huang-chung which was supposed to be played only in the winter.

The great frequency with which the lu was mentioned in books and other writings on people's ethics, goverments' regulations, and nature's rules, clearly implies the great importance attached to twelve lu. In these passages, it is often mentioned that ancient emperors would regulate their goverments and institute laws according to the signification of lu; people would thereby improve their ethical and moral standards by following the principle of lu. All spirits would circulate properly in the universe under the influence of lu.

The material used to make lu pipes was also important to lu's

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1. The system of devination which is ascribed to Fu Hsi, a mythological emperor. The eight trigrams symbolize eight different combinations of solid and broken lines in groups of three. The solid line stands for yang, and the broken line, yin. See Chapter 3, Table II, p. 63.

quality. The lu pipe was first made of bamboo because of its natural roundness which symbolized the "completion of everything." Then, bronze was used because of the "purity" of the material and its strength to resist the changes in climates -- the quality which is also equated with the character of a noble man. Also, because of its "richness in quality" and its consistency, jade was often preferred by many emperors for making lu pipes.

After the proper material was selected for making lu pipes, the proper lengths of pipes become an important issue in order to produce music which was "concordant and beautiful." Therefore, for many dynasties, the matter of determining proper lengths of pitch pipes was the center of debate. For example, one emperor regarded the sound of ceremonial music to be too sad. Thereupon the master musician shortened the lengths of all lu pipes by one mee (unit for measuring length), and "all music became harmonious and pleasant." From the amount of effort that the ancients expended in search of the right materials and the proper lengths for lu pipes, it is easy to understand the degree of respect the twelve lu and their sacred properties had commanded in the minds of these ancient men.

Based on the records of lu in these documents, we find that lu was regarded as indispensable in ancient China for educating people, for regulating the orders in societies, for strengthening the power of ruling dynasties and, above all, for achieving harmony in nature and in the universe. On a much more profound level, lu was believed to be associated not only with innate character of people and nature, but also was organically integrated with the whole cosmological universe.

In order to gain an understanding of the system of lu-lü, it is important to investigate the aspects of signification and meanings associated with lu, in addition to its acoustical/mathematical aspect. The signigication and the metaphysical notions of lu are diversely narrated in numerous passages in the ancient documents. However, these passages are all in the archaic language which is often highly esoteric. Many interpretations of the meanings of lu given in various ancient writings are, at best, vague. The manner in which ancient writers explained twelve lu are often dubious. These differing viewpoints seemed to have been caused by the fact that when these writers discovered that a specific word did not yield to conventional explanations, they would introduce words that had similar sounds or shapes to the words in question. On the basis of this relationship, the words in question and the words introduced were construed as synonymous and then the interpretation would follow the words newly introduced.

Here The problem resides in the usage of the archaic Chinese characters which were so simplistic and yet liberal in their definitions of meaning that they often were used interchangeably. Under this circumstance, it is conceivable that without an etymologically correct way of tracing back to the origins of those words in doubt, one can never be certain whether these newly added words are truly synonymous with the original ones, or they were regarded as synonyms simply on the basis of some questionable surface relationship such as sounds or shapes of written characters. All we know is that the people had applied the foregoing method to explain very archaic words. Therefore, questions such as whether there is any basis for applying such a method, or if words can

be properly interpreted in this manner, still remain. However, these questions are beyond the scope of the present study.

CHAPTER III

THE SIGNIFICATION OF LU NAMES:

Translation of "Lu Section" From Chi-Tsuang-Yun-Hei

Introduction

This chronicle selected from Chi-Tsuang-Yun-Hei and edited by Tze-Mu Pan in Sung Dynasty, contains exclusively the passages from various historical documents where matters related to the lu-lü system are mentioned. These historical documents are Jing (經, Classics), Shih (史, History), Zi (子, Philosophy), Chi (集, Anthology), and Chuan Chi (傳記, Biography) which are all combined in Tsi-Ku-Chuan-Shu (四庫全書, Encyclopedia Sinica). The various passages from these documents are, therefore, independent sources and are not always closely related to one another. The sources from which the passages are drawn are identified by the title in parentheses. The following is a listing of important historical books which are most often referred to in the above-mentioned five documents in the "Lu Section."

Ch'ien-Lu-Li-Chih (前律歷志) -- Records of Lu and calendar Book I
Chin-Chih (晉史) -- Records of Tsin Dynasty
Chiu-Tang-Shih (舊唐書) -- Old Book of Tang Dynasty
Chou-Li (周禮) -- The Rites of Chou Dynasty
Han-Shu (漢書) -- Chronicles of Han Dynasty
Huai-Nan-Zi (淮南子) -- The title of the book on Philosophy

Hou-Lu-Li-Chih (後律歷志) -- Records of Lu and calendar Book II

Hui-Yao (會要) -- Records of Social Background of Dyansty

Kuo-Yü (國語) -- The Source Book of the Nation

Lieh-Zi (列子) -- The title of the book on Philosophy

Li-Chi (禮記) -- The Book of Rites (One of the Confucian Classics)

Li-Yi-Chih (禮儀書) -- Records of Rituals

Lu-Shu (律史) -- The Book of Lu

Pei-Shih (北史) -- History of Northern Dynasty

Shih-Chi (史記) -- The Records of the Historian

Sui-Li-Yüeh-Chih (隨禮樂志) -- Records of Rites and Music of Sui Dynasty

Tang-Li-Yüeh-Chih (唐禮樂志) -- Records of Rites and Music of Tang Dynasty

Tso-Chuan (左傳) -- The Famous Commentary by Tso Chiu-Ming in The Spring and Autumn

Tung-Tien-Chu (通典注) -- The Commentary of Tung Tien (Encyclopedia)

In the followig portion, the Translation of documents, the footnote identificaiton numbers refer only to names and terms with corresponding numbers in the Glossary section at the end of this Chapter.

Translation

Lu-Lü

The Classics Lu-lü is a type of measurement. It is used to measure the concordance of interval of tones and to understand the six lu, five sounds[1], and eight pitches[2] (Pin-Shu). Master musicians combine six lu (律), six lü (呂), five sounds, and five pitches to compose great ensemble works (Chou-Li). Master musicians regulate the six lu and six lü to produce yin and yang tones. Yang sounds are the following tones: hunag-chung, tai-tsu, ku-hsi, jui-pin, i-tse, and wu-i, while yin tones are ling-chung, nan-lü, ying-chung, ta-lü, chia-chung, and chung-lü. By using the lu pitch against the sound of an army, an officer can predict the outcome of war. Master musicians determine the consonance of the six lu and six lü (same as the previous source). Any one of the five sounds, six lu, and twelve pipes can alternately become the fundamental gong pitch (Chou-Li). Accordingly, the six lu, seven pitches[3], eight winds[4],and nine songs[5] are produced (Tso-Chuan).

Philosophy Shih Kwong[6] realized that without the six lu, the five pitches could not be produced accurately. With great effort, Shih Kwong, an ancient saint, used six lu to correctly regulate the five pitches (Ping-Chi). The ancient saint combined the six lu to regulate the five pitches (Huai-Nan-Zi). Each lu could produce five pitches and, therefore, twelve lu produced sixty pitches. Because the multiplication of six and six is thirty six, consequently, three hundred and sixty is the total number of

days in a year[7]. In this way, the association of lu and the calendar is in accordance with numbers and follows the rules within heaven and earth (same as the previous source). One man asks whether five sounds and twelve lu are to be used in ceremonial or vulgar music. If the tones are virtuous and unbiased, they can be used in the ceremonial music; if the tones contain too much impure or indecent sound, then they are vulgar (Yang-Zi). To regulate lu, the ancient emperor gathered all phoenixes and utilized their sounds to standardize musical tones (Pou-Po-Zi).

History Emperors established laws and regulations to govern all matters and instituted all regulations based on six lu. Six lu is the fundamental source of everything in the universe. It is more so in the matters of warfare. It is said that one would know the possibility of winning a war by seeing your enemies , and know the outcome of the war by hearing their sounds(Shih-Lu-Shu). Emperor Chou Wu[8], in conquering his enemy foretold the outcome of war by listening to the sounds produced on his lu (Shih-Lu-Shu). There are twelve lu in total; six yang sounds are lu, and six yin sounds are lü. Lu is to centralize all spirits and collect all matters, whereas lü is to counter the yang, to dissipate all spirits and to disassemble the universe (Ch'ien-Lu-Li-Chih). Emperor Huang Ti[9] ordered Ling Lung[10] to go to the north of Kwen-Lung mountain in the west of Ta-Hsia. Ling Lung selected a section of bamboo with appropriate thickness, cut it between two nodes, blew upon it and considered the sound as the gong pitch of huang-chung. Then, he set up twelve pipes which were derived from the singing of six male phoenixes and six female phoenixes. Therefore, these pitches, which were regulated

in relation to the fundamental gong pitch in huang-chung sound, were produced. The length of huang-chung pipe is nine ts'un[11]. Shortening huang-chung's length by one third produces ling-chung. Extending ling-chung's length by one third produces tai-tsu. Shortening tai-tsu's length by one third produces nan-lü. Extending nan-lü's length by one third produces ku-hsi. Shortening ku-hsi's length by one third produces ying-chung. Extending ying-chung's length by one third produces jui-pin. Shortening jui-pin's length by one third produces ta-lü. Extending ta-lü's length by one third produces i-tsé. Shortening i-tsé's length by one third produces chia-chung. Extending chia-chung's length by one third produces wu-i. Shortening wu-i's length by one third produces chung-lü. This system, which determines the various length of the twelve lu, is called the san-fen-sun-i[12] system. The instrument used in producing lu is made of bronze. Among all things, the quality of bronze is pure and the shape is not affected by conditions of the climate such as dryness or humidity, coldness or hotness, windy or stormy weathers. Thus, bronze's character is like a noble man, and is used as the instrument to determine the twelve lu (Shih-Lu-Chih). Emperor Han Wu[13] assigned Li Yan-Nieu to be a minister in charge of lu and also the coordination of lu-lü with the intonations of eight sounds (Li-Yüeh-Chih). Fu Hsi[14] wrote Yi-Jing (Book of Changes), which was the beginning of the system of yin and yang, and served as the law of lu by dividing the calendar into a multiple of sixty days as an unit (Hou-Lu-Li-Chih). According to the legend, pipes were cut and blown to determine the sound of lu which was used to examine all natural and astronomical matters and also their behaviors within the universe. Five pitches were derived from yin and yang. From each of these five

pitches, twelve tones were divided and, therefore, there are sixty pitches. The system of five sounds and twelve lu thus corresponds with the principle of heaven and earth. Emperors, from time to time, instituted lu according to the solstices of winter and summer. The winter solstice is the time of the birth of yang and, thus, the yang produces the music with pure and tranquil quality. The time of winter solstice has the longest night time. Huang-chung is usually associated with the earth and coal; therefore, it has much clearer sound and its reverberation always drifts upwards. Summer solstice belongs to yin, and its musical tone tends to be lower and impure in resonance. At the time of summer solstice, it has the shortest night time. Jui-pin pitch is also associated with the earth and coal but, with the seasonal effect, the quality of the tone is heavy and low. The way people related lu to seasons or months was that they first set up tables with slant tops in different directions in a closed room. Then, they would put a lu pipe stuffed with the ashes of chia-fu (葭莩)grass on each of the tables in the room. Depending on the time or month of the year, the ashes in one of the corresponding lu pipes would vanish, thus determining the relationship of lu and month (same as the previous source). When Emperor Ming[15] went to the astronomical observatory, he would play the lu of the corresponding month and observe all the changes in nature (Bem-Chi). While Emperor Huang was establishing the lu, he first made a pipe from jade, with the length of one chih[16] and six ts'un. He then used the pipe to determine the lu of the twelve months (Jing-Lu-Li-Chih). Shih Wan Mu[17] presented a jade pipe to Emperor Shun[18] as a gift. Jade was used because of its richness in quality. The reason bamboo was used at first to set up the lu was because

of its natural round and hollow shape. The natural laws of the universe are very profound and subtle. All these laws have their origins rooted in the principle of yin and yang. The delicate principle which formulated the seasons of nature was established before the system of lu-lü. Also, the system of lu-lü can proclaim and regulate all ethical and moral rules in the world. Thus the great music produces the righteous rules for government, and it is said that lu was utilized to institute laws. When yang started, it is said that yang gives origin to all regulations. Lu is to assist yin and produce yang (same as the previous source). Shyun Hsu[19] regarded the lu-lü system instituted by Du Khuei[20] as inaccurate. Therefore, he reproduced an ancient measurement to make a new lu-lü system to correct the tonal system (Yüeh-Chih). Shyun Hsu made twelve new pipes to correctly adjust the lu-lü system. This is a standardization of all ceremonial music. However, music critics disagreed with Shyun Hsu and believed that his assertion was erroneous. In the meanwhile, a contemporary named Rang Sheng was considered to be well schooled in all instruments and to have a true understanding of lu-lü system. Rang Sheng often derided Shyun Shu and thought that his new lu pitch system was too high, connoting too sad a mood, and was not concordant enough. But Shyun Hsu did not agree with Rang Sheng's opinion. However, after Rang Sheng went to Shih-Ping (始平) and became prime minister, a farmer found a jade ruler from the Chou Dynasty. Then Shyun Hsu compared this ruler with his measurements and he discovered that all his metal percussion instruments, lithophones, stringed instruments, and woodwind instruments were one mee[21] too short. Since then, Shyun Hsu began to respect Rang Sheng and admire his intelligence (same as the previous

source). Chen Yi, Niu Hong, and Hsing Yen Chih[22] derived the 360 lu by multiplying the Chin Fang's 60 lu by six. Each of the 12 lu set has 7 pitches; and because each pitch is equivalent to a tonic, 12 lu produce 84 keys in total (Tang-Li-Yüeh-Chih). Once a person name Lü Tai made twelve different sizes of ruler, and their lengths were the same as those of lu set. Lu is the basis for obtaining the standard pitch. A millet (黍) is the unit of measurement in producing the lu. The length of a millet determines the system of length measurement (分寸); the number of millets determines the system of quantity measurement (龠合); the weight of millets determines the system of weight measurement (銖兩). All these systems of measurement are essential in producing lu. Accordingly, the length is represented by doo (度), quantity by liang (量), and weight by chuang-hung (權衡). Then, all these measurements are combined and become numbers. Because all these measurements are derived from the huang-chung, the system of lu coincides with the systems of measurement. When these four different systems of measurement are in agreement, musicians are able to make melody and music (same as the previous source).

Biography Li (立) is "to form" or "to establish." Music that produces pitches would be able to "distinguish" things. According to the ancient records, lu pipes can be used to distinguish the weather (Erh-Ya). Emperor Gin[23] asked Ling Chou-Chu[24] about the lu, and he replied that "In ancient time, lu was tuned by the blind and was used to make measurements. In the system of lu, huang-chung is the first one. Based on astrology, the officers form the12 days' relationship" (Kuo-Yü). Sages cut 12 pipes to

investigate the clearness and vibration of the sound, then called them "lu-lü" (Tai-Li). Family names were bestowed by the sound produced on lu which was used also to register family members (Pai-Hu-Tung). In the country of Yan ( ) there was a piece of fertile corn field. However, when winter came, the land could not produce any grains. Zhou Yen thereby played the lu and warmed up the temperature (Liu-Hsiang-Pieh-Loo). Emperor Liang[25] was well versed in lu and made four instruments[26] (Tung-Tieh). During the Tang Dynasty, Chang Wen-Mu cut the bamboo and used them as lu pipes to play music, and his pipes already embraced the principle of hsüan-gong (Tung-Tieh). Emperor Wen of Suey Dynasty used the lu pipes filled with the ash of chia (葭) grass to determine the weather. He asked Niu Hong about this, and he replied "If half of the ashes is blown away, it produces a consonant sound; if all the ashes are blown away, it produces a strong pitch; and if the ashes are not blown away at all, it produces a soft pitch (Koo-Ching-Yüeh-Ping).

Anthology Because of lu, which brings the warmer weather, a paddy in the cold valley became fertile (Tso-Su-Fu). After listening to the five consonances with clear and obscure sounds, musicians started to regulate the chung-lü (Yang-Ch'üan-Lu-Li-Lun). The instrument regulating the lu is made up of bamboo from Kwen Lun mountain (Tu-Shih). It is a pity that nobody would understand lu and make music fit my poems (Yo-Liu).

The Present Dynasty (本朝) The first emperor of this Dynasty thought that the sound of ceremonial music was too sad, therefore, he summoned Ho Sheng and asked him to make a new measurement for lu based on the

ancient method. He decided that the length of the huang-chung pipe was nine ts'un and ordered all workers to tune huang-chung sound accordingly. As would be expected, the new pipe was one lu lower than Wong Pu's pipe. To prove the new length, they went out and found black millets grown on Sheephead mountain. By putting together one hundred millets, the length of one chih was defined, and it corresponded with the length of lu pipe. Since then, all ceremonial music became consonant and beautiful (Hui-Yao). The measurement of the Li Chao's stone bell was made according to the measurement of fabrics used in the Ta Fu temple[27]. Based on this Ta-Fu temple's ruler, a chih is about three ts'uns longer than Wong Pu's measurement. Therefore, officials of the imperial court believed that Li Chao's measurement, which was used in the temple, was not correct. According to Li Chao's measurement, the stone bell for huang-chung is actually the subordination of nan-lü. Based on the old system, huang-chung is nine ts'un and falls between tai-ts'u and chia-chung (Sung-Jing-Yi-Yüeh). The length of lu pipes has been determined and, therefore, the pipe should be buried under the ground waiting for the proper season to verify whether or not it matches the airs of seasons. The problem of matching five tones, two altered tones and sixty keys is no longer a primary concern (Chu-Wen-Kong-Chi). The principles regarding the determination of the spirt of the season indicates that even though the depths in which pipes were buried are very close to each other, the depth is the only factor which is actually controlling the order of the spirit but not the pipe orientation (same as the previous source).

Huang-Chung

Classics During the ceremony of worshiping the gods of heaven, the great master musician[28] would sound the huang-chung (Chou-Li). The master says that huang-chung represents the sound of yang. Accordingly, the status of huang-chung belongs to the airflow formed in zi[29] (子) and also huang-chung is established in the eleventh month. According to Li Shih's[30] measurements of sound, the fundamental gong pitch is in the tune of huang-chung (same as the previous source). Earth is believed to be in the middle of the five basic elements[31]; and its matching sound would be in the tune of gong pitch in huang-chung, which has the longest pipe length (Pin-Chi). In the second month of winter, the music played should be in the tune of huang-chung. Accordingly, among the twelve standard pitch pipes, huang-chung is the first one produced and the length of its pipe is nine ts'un (same as the previous source).

Philosophy It is said that once a man named Shih Wen[32] was playing chin[33] on a summer day and when he plucked the yu (羽) string to form the tune of huang-chung, it suddenly started frosting and snowing, and the rivers froze immediately (Lieh-Zi). The literal meaning of huang-chung is that the bell has turned yellow (Huai-Nan-Zi). From huang-chung, all other tones were generated accordingly and, therefore, huang-chung is the basis of all music (Yan-Zi).

History Huang-chung is the flow of yang springing out from the earth (Lu-Shu). The length of the standard pitch pipe for huang-chung is eight

ts'un 7.1 fen[34], and the tone is the fundamental pitch -- gong ( ) (Lu-Shih). The five basic notes were all determined according to huang-chung (Ch'ie-Lu-Li-Chih). To explain the meaning of huang-chung: Huang stands for the yellow color, and yellow was regarded as the color that has the character of the neutrality, and it is also the formal color for emperor's dresses; chung stands for "seeds." The middle number of the heaven is five[35]. Therefore, there are five tones; among them gong is the fundamental one and is the supreme of the five tones. The middle number of the earth is six[36]; thus, there are six lu, and all the pipes of lu have different shapes and colors. Of all colors, yellow is most highly esteemed. The flow of yang is seeded in the earth and it will make all matters in heaven and earth start growing and prospering, which is the beginning of the six prevailing spirits[37]. The color yellow also stands for vitality. The sound of gong is produced from the system of tone generation, which is a combination of both six and nine[38]. However, there is no fixed combination of yin and yang in gong. Gong circulates in the whole cosmos, and every cycle of yin and yang begins at zi in the eleventh month. According to the symbolic system of Yi-Jing, the eleventh month is represented by the lowest stroke in the diagram of chen[39] (乾). This is when the previously concealed yang first started to reveal itself, and everything on earth began to sprout. This is the reason why the music of huang-chung can be used to rule over the heaven. The length of the standard pitch pipe of huang-chung is nine ts'un , and the number nine is regarded as the representation of the ultimate of the mean (中) and the origin of all living things. When huang-chung corresponds with vitality, it is an expression of lu. The core (中) of tai-chi (太極) is filled with

vitality and is represented by huang-chung. That the length of the standard pipe multiplied by itself is eighty-one, complies with the traditional measurement of the seasons[40]. Based on this principle, people constructed different systems of measurement and, consequently, all ritual music was initiated. The generation of two opposite yin and yang starts with huang-chung. Huang-Chung, which is the lowest stroke in the diagram of chen guah, represents the first tune of all lu, and it starts the initial movement of yang. The shifting from yang to yin is called the downward movement, and the shifting from yin to yang is called the upward movement. The upward movement cannot exceed the clearness of huang-chung; the downward movement must have the same level of fullness as huang-chung (same as the previous source). When Fu Shi first drew the eight diagrams to record the rising of the force of yang, he set the rule of matching the sound used at the winter solstice with the fundamental gong pitch in huang-chung (Hou-Lu-Li-Chih). In order to match with the number of heaven[41], the length of the standard pitch pipe for huang-chung is set as nine ts'un (same as the previous source). At the time of the winter solstice, the most appropriate tune is that of huang-chung (Li-Yi-Chih). Yellow is the color that represents the equilibrium (中) between the forces of yin and yang. Another saying is that, at the winter solstice, the characteristic airflow clings to the earth, and the color of the earth is yellow, therefore huang-chung is chosen for the winter solstice (Pu-Chih). Huang-chung is the fundamental gong pitch for the emperors (Pei-Shih). Ling Lung cut a bamboo pipe of three ts'un 9 fen in length. He produced the fundamental gong pitch of huang-chung and called this pipe by the name of han-shao () (Sui-Li-Yueh-Chih). In the

early Sui Dynasty[42], among twelve bells, people only struck the bell of the fundamental gong pitch of huang-chung. The rest of the bells were set up but were never struck; therefore these bells were called the mute bells (ya-chung). In the Tang Dynasty[43], a man named Chang Wen-Soul cut the bamboo and made twelve pitch pipes. When he and another man, Tsu Shao-Suen, played on them, five of the mute bells reverberated with music. Since then people started to use all the twelve bells (Tang-Li-Yueh-Chih). Once, Tai Chang[44] could not find the huang-chung bell, and no one knew how to reproduce it. When Li Szu-Chen heard the bells of a carriage making beautiful sound, he said "this is the sound of gong." Later he took these bells home and struck them on the ground. When he heard the echoing sound from underground, he dug the earth and discovered the huang-chung bell. After the recovery of this bell, the music became harmonious again (Chiu-Tang-Shih).

Biography The music of huang-chung is used to civilize the world and to cultivate people's virtues[45] (Kuo-Yü). Once a man named Huang Pu played pee-pa[46] near a small pond. Though he was playing it in the tune of huang-chung, the sound that came out was in the tune of jui-pin. But when he tried playing the same elsewhere, the sound was correctly in tune. That night, he returned to the pond and played the instrument again; this time he sensed something striking the water, like fish agitating. He thereby had the water in the pond depleted and found a piece of metal at the bottom. When he struck the metal and it chimed, he realized that it was actually a bell for jui-pin (Chia-Chih).

Anthology After people abandoned the traditional bells, earthen pots made a great deal of clamourous sound[47] (Ch'u-Tsu-Pu-Chü).

Ling-Chung

Classics During the ceremony of worshiping the gods of mountains and rivers, the great master musician would sing the songs in the tune of han-chung ( ) which is another name for ling-chung (Chou-Li). The master said that ling-chung represents the sound of yin. Accordingly, the status of ling-chung belongs to the airflow of wei[48] ( ), and ling-chung is established in the sixth month (same as the previous source). In the second month of summer, the music played should be in the tune of ling-chung. Accordingly, ling-chung is derived from huang-chung and the length of its standard pitch pipe is six ts'un (Li-Chi). It is said that Chi Wu-Zi made the bell for ling-chung from the metal he acquired in Chi[49]; and he engraved on it the name Loo-Kung (龜𠂤) (Tso-Chuan).

Philosophy Ling-chung means "to stretch to the end" (Huai-Nan-Zi).

History The meaning of ling-chung is that, before everything is about to wither, the whole world takes on an appearance of prosperity (Shih-Lu-Shu). The length of the standard pitch pipe for ling-chung is five ts'un 7.4 fen, and its corresponding note in the five-tone scale is chiao (角) (same as the previous source). The word ling means "to lead" or "to rule"; this name, therefore, implies how the force of yin, which leads the force of jui-pin, is to take up the responsibility of assisting in growing

plants and making them prosperous. This phenomenon happens at wei in the sixth month (Ch'ien-Lu-Li-Chih). The sixth month is also represented by the lowest stroke in the diagram of the kuen-guah[50] (坤卦). This is when the force of yin takes the command from yang to carry on the task of maturing and cultivating all creatures and making them grow luxuriantly. Thus everything on earth is firmly rooted and amply developed. This is the reason why the music of ling-chung can be used to rule over the earth. The length of its standard pitch pipe is six ts'un, because six is the total number of all directions[51] in the material universe; therefore, this describes how ling-chung, with the assistance of the force of yang, has spread vitality throughout the whole universe and has made everything belong to its proper category. Ling-chung represents the first note of all lü and also the initial movement of yin (same as the previous source).

Biography The music of ling-chung can pacify everything; therefore, the whole universe would become tranquil and serene (Kuo-Yü). Ling means "exuberant" or "flourishing." The sixth month is the time when everything grows exuberantly in the field. This is why it is called ling-chung, or ling-jong(林衆). Therefore, the name ling-chung connotes how everything has been born and grown in abundance of varieties (Tung-Tien-Chu).

Tai-Tsu

Classics During the ceremony of worshiping the gods of the earth, the great master musician would play the music in the tune of tai-tsu (Chou-Li). Tai-tsu represents the sound of yang. Accordingly, the status

of tai-tsu belongs to the airflow of ying[52] (寅) and it is established at ying in the first month (same as the previous source). In the first month of spring, the music played should be in the tune of tai-tsu. Also, accordingly, tai-tsu is derived from ling-chung and the length of its standard pitch pipe is eight ts'un (Li-Chih).

Philosophy Tai-tsu means "clustering together without bursting out" (Huai-Nan-Zi).

History Tai-tsu means everything sprouts out in a clustering way (Shih-Lu-Shu). The length of the standard pitch pipe for tai-tsu is seven ts'un and 7.2 fen, and its matching note in the five-tone scale is chiao (角) (same as the previous source). Tai-tsu means to form a cluster, therefore, this name implies the force of yang circulating on the earth, bringing everything into a cluster of life forms. And this phenomenon occurs at ying in the first month (Ch'ien-Lu-Li-Chih). The first month is represented by the third stroke in the diagram of the chen guah (乾卦). This is when all things are clustered and related to each other by the force of yang, and then this cluster bursts out at the direction of yin. It is human beings who took over the task of creation. They nurtured all creatures with the virtue of benevolence and accomplished this in accordance with justice. Therefore, the whole world would meet the satisfaction of one and all. Ying means wood, it represents the virtue of benevolence, and its matching note in the five-tone scale is shang (商) which is the sound of justice. For this reason, the music of tai-tsu can be used to rule over human beings. Its length of standard pitch

pipe is eight ts'un. Because eight is the total numbers of the divination in the diagrams (卦), Fu Shi used these eight diagrams so that the principle of heaven and earth will have preeminence over all, thus communicatng with the holy spirits and classifying all living creatures according to their kinds (same as the previous source). Tsu means "to gather around." Therefore, this name implies that creatures gather around the force of yang to take their life forms (Pu-Chih).

Biography The music of tai-tsu is used to remove anything that impedes the flow of yang so that it can run smoothly (Kuo-Yü).

Nan-Lü

Classics During the ceremony of worshiping the gods of all four views[53], the great master musician would sing the songs in the tune of nan-lü (Chou-Li). The master says that nan-lü represents the sound of yin. Accordingly, nan-lü belongs to the airflow of yu[54] (酉) and is established in the eighth month (same as the previous source). In the second month of autumn the music played should be in the tune of nan-lü. Accordingly, nan-lü is derived from t'ai-ts'u, and the length of its standard pitch pipe is five ts'un and 3.1 fen (Li-Chi).

Philosophy It is said that once a man named Shih Wen was playing chin in the spring, when he plucked the string to make the sound of shang (商) in order to start the tune of nan-lü. Suddenly a chilly gale came and all

the plants became ripe (Lieh-Zi). Nan-lü means "to comprise a great deal" (Huai-Nan-Zi).

History Nan-lü means that the circulation of yang has come to a latent position (Shih-Chi-Lu-Shu). The length of the standard pitch pipe for nan-lü is four ts'un and 7.8 fen, and its matching sound in the five-tone scale is zhi (徵) (same as the previous source). The word nan means "to accomplish." So this name can be used to describe the force of yang aiding the airflow and to accomplish all creations on earth; it is established at yu (酉) in the eighth month (Ch'ien-Lu-Li-Chih). The word nan means "to contain." It connotes that all seasonal plants have come to a full bloom, and the whole world appears to contain numerous new lives (Pu-Chih).

Biography The music of nan-lü can be used to aid the force of yang in making plants bloom. Accordingly, "to bloom" is "to put forth" flowers without fruit. The word nan also means to take up the responsibility of cultivation for yang (Kuo-Yü). The eighth month is the time when all the plants are in bud and the flowers have not yet blossomed At this time the force of yin is to take over the task of yang and to help yang achieve its final goal (Tung-Tien- Chih).

Ku-Hsi

Classics During the ceremony of worshiping the gods of all four views, the great master musician would play the music in the tune of ku-hsi (Chou-Li). The master says that Ku-Hsi represents the sound of

yang. Accordingly, ku-hsi belongs to the airflow of cheng[55] (辰) and is established in the third month (same as the previous source). In the third month of spring the music played should be in the tune of ku-hsi. Accordingly, ku-hsi is derived from nan-lü; therefore, the length of its standard pitch pipe is seven ts'un and 9.1 fen (Li-Chi).

Philosophy Ku-hsi means to get rid of the old and to welcome the new (Huai-Nan-Zi).

History The name ku-hsi connotes that all living creatures have been washed away and the old has been given a new life (Shih-Chi-Lu-Shu). The length of the standard pitch pipe for ku-hsi is six ts'un and 7 fen , and its matching note in the five-tone scale is yu (羽) (same as the previous source). Ku-hsi also means to "rinse," so this name is used to describe the flow of yang going through everything on earth, giving them a brand new life. And this movement of yang is located at cheng (辰) in the third month (Ch'ien-Lu-Li-Chih). The word ku is synonymous with ku (枯) which means "a withered old tree," and the word hsi simply means "to cleanse." Together, these two words connote how everything withered has been washed away, all the old branches are removed, and all the old leaves have now been replaced by the new ones (Pu-Chin).

Biography The music of ku-hsi is used to purify all creatures in order to prepare them as sacrifices for the gods. Accordingly, ku means "to purify," and hsi means "to cleanse." Therefore, together, the whole name means everything has been purified and cleansed. This is the reason why

they can be used as sacrifices, for they will be gladly received by the gods (Kuo-Yü).

Ying-Chung

Classics During the ceremony of worshiping the gods of the earth, the great master musician would sing the songs in the tune of ying-chung (Chou-Li). The master says that ying-chung represents the sound of yin. Accordingly, ying-chung belongs to the airflow of hei[56] (亥) and is established in the tenth month (same as the previous source). In the first month of winter the music played should be in the tune of ying-chung. Accordingly, ying-chung is derived from ku-hsi; therefore, the length of its standard pitch pipe is four ts'un and 20/27 fen (Li-Chi).

Philosophy Ying-chung means to respond to the bell chimes (Huai-Nan-Zi).

History The term ying-chung means it is the time the force of yang moves into a prevailing position but is not yet in power (Shih-Chi-Lu-Shu). The length of the standard pitch pipe of ying-chung is four ts'un and 2.32 fen , and its matching note in the five-tone scale is yu (羽) (same as the previous source). The name ying-chung describes how the force of yin reponds to the airflow of wu-i (無射) and encloses every creature inside. At this time the impure force of yang has turned underground into a place to seed future new lives. This phenomenon occurs at hei in the tenth month (Li-Chih-Ch'ien-Lu). The word ying means "to be in concordant

with," therefore it implies how all seasons are in concordance with the flow of yang. Therefore, yang can succeed in gathering things (Pu-Chih). The music of ying-chung is used to have all things utilized in such a compatible way that they all may wait for the new cycle of the world (Chuan-Chi).

Jui-Pin

Classics During the ceremony of worshiping the gods of the mountains and the rivers, the great master musician would play the music in the tune of jui-pin (Chou-Li). Accordingly, jui-pin belongs to the airflow of wu[57] (午) and is established in the fifth month (same as the previous source). In the second month of summer, the music played should be in the tune of jui-pin. Accordingly, jui-pin is derived from ying-chung, and the length of its standard pitch pipe is six ts'un 26/81 fen (Li-Chi).

Philosophy It is said that once a man named Shih Wen was playing chin in the winter, when he plucked the string of zhi (徵) to begin the tune of jui-pin, the sun suddenly became glaringly hot and all the thick ice began to dissolve (Lieh-Zi). Jui-pin means "to pacify and to yield concession" (Huai-Nan-Zi).

History The name jui-pin is chosen because at this time the force of yin is still young and tender, which matches the meaning of jui, and the force of yang has already declined to a subordinate position, which matches the meaning of pin (Shih-Chi-Lu-Shu). The length of the

standard pitch pipe for jui-pin is five ts'un and 6.31 fen (same as the previous source). The word jui means "to continue," and the word pin means "to guide," therefore, this name implies how the force of yang guides the force of yin to continue the task of maturing all living creatures. This phenomenon happens at wu in the fifth month (Ch'ien-Lu-Li-Chih). The word jui describes an appearance of descending, and the word pin (賓) means "to respect." Therefore, this name indicates the time when the flow of yang descends to earth and yin starts to pay its respects to yang (Pu-Chih).

Biography The music of jui-pin is used to pacify gods and men, so that there can be a social communication between them (Kuo-Yü). It is said that once a man named Huang Pu-Chih found a metal that is used for the bell of jui-pin.

Ta-Lü

Classics During the ceremony of worshiping the gods of heaven, the great master musician would sing the songs in the tune of ta-lü (Chou-Li). The master says that ta-lü represents the sound of yin. Accordingly, ta-lü belongs to the airflow of ch'ou[58] (丑) and is established in the twelfth month (same as the previous source). In the third month of winter the music played should be in the tune of ta-lü. Accordingly, ta-lü is derived from jui-pin, and its standard pitch pipe is eight ts'un 4/243 fen. Note: the length of this pipe is derived from diminishing one-third of the length

of the pipe for jui-pin, so its length should be four ts'un and 52/243 fen. What is recorded here is actually twice its length (Li-Chi).

Philosophy The term ta-lü means "to travel away in a large group" (Huai-Nan-Zi).

History The length of the standard pitch pipe for ta-lü is seven ts'un and 5.31 fen (Shih-Chi-Lu-Shu). The word lü is synonymous with lü (旅) which means "to travel," therefore, this name implies that the flow of yin has traveled a long way to help bring out the air flow that is developed by huang-chung in order to make things sprout. It happens at the chou in the twelfth month (Ch'ien-Lu-Li-Chih). The word lü means "to assist," therefore, this name implies the time when the force of yang has begun to form, and the force of yin gives its assistance (Pu-Chih). The term ta-lü also represents the status of a queen (Pei-Shih).

Biography The music of ta-lü is used to assist in bringing forth new things (Kuo-Yü).

I-Tse

Classics During the ceremony of offering sacrifices to the emperor's deceased mother, the great master musician would play the music in the tune of i-tse (Chou-Li). The master says that i-tse represents the sound of yang. Accordingly, i-tse belongs to the airflow of shen[59] (申) and is established in the seventh month (same as the previous source). In the first month of autumn the music played should be in the tune of i-tse.

Accordingly, i-tse is derived from ta-lü, and the length of its standard pitch pipe is five ts'un and 451/729 fen (Li-Chi).

Philosophy The term i-tse can be interpreted as "to change one's principle" (Huai-Nan-Zi).

History The name i-tse implies that this is the time when the force of yin begins to cause harm to living creatures (Shih-Chi-Lu-Shu). The length of the standard pitch pipe for i-tse is five ts'un and 4.32 fen , and its matching note in the five-tone scale is shang (商) (same as the previous source). The word tse also menas "to restrain," therefore, this name implies that the force of yang sets up the laws to restrain the force of yin from decaying the living creatures too fast. And this phenomenon occurs at shen in the seventh month (Chih-Ch'ien-Lu-Li). The word i means "to equalize," therefore, this name implies how everything is equalized and attains their own status.

Biography The music of i-tse is used to praise the nine laws of the country, so that all subordinates would not conceive mutiny. Accordingly, since everything has been accomplished, this law is appropriate and should be followed. This is the reason why at this time the emperor can exalt the laws to remove any doubt or rebelliousness in the minds of his subordinates (Kuo-Yü). The seventh month is the time when everything has grown equally ripe and, since each has its own law to follow, the music played in this month is therefore named i-tse. Another explanation is that the word i also means "to harm," and in autumn all things begin to

be harmed by the changing weather which is governed by the law of nature. This is the reason why the name is used for the music in the seventh month (Tung-Tien-Chu).

Chia-Chung

Classics During the ceremony of offering sacrifices to the emperor's ancestry, the great master musicians would sing the songs in the tune of chia-chung. The master says that chia-chung represent the sound of yin. Accordingly, the music of chia-chung belongs to the airflow in mao[60] (卯) and is established in the second month (same as the previous source).
In the second month of spring the music played should be in the tune of chia-chung. Accordingly, chia-chung is derived from i-tse, and the length of its standard pitch pipe should be seven ts'un and 75/2187 fen. Note: the length of this pipe is derived from diminishing one-third of the length of the pipe for i-tse; therefore its actual length should be three ts'un and 1630/2187 fen, and, according to the commentary, what is recorded here is twice its length (Li-Chi).

Philosophy It is also said that once a man named Shih Wen was playing chin in autumn and, when he plucked the string of jiao in order to begin the tune of chia-chung, a gentle warm breeze suddenly began to encircle, and all the plants began to bloom (Lieh-Zi). The name chia-chung means that the seeds begin to husk (Huai-Nan-Zi).

History The name chia-chung also implies that the force of yin and that of yang come in between each other (Shih-Chi-Lu-Shu). The length of the

standard pitch pipe for chia-chung is six ts'un and 1.31 fen (same as the previous source). The name chia-chung implies how the force of yin aids the force of yang, which is developed in the tai-tsu to bring out the airflows from all four directions and to help plants grow. This phenomenon occurs at mao in the second month (Chih-Ch'ien-Lu-Chih). The word chia also means "to assist," therefore, this name implies that all the seasonal things have not quite appeared, and yin has the character of assisting yang in bringing forth these things (Pu-Chih).

Biography The music of chia-chung can be used to bring out all the tender things that grow between the four seasons. Accordingly, this name means to bring out all the air flows that are weak and tender at the shifting of the seasons. The airflow of the four seasons are all initiated at spring time, and which is the reason why the music of chia-chung can be used to bring them out (Kuo-Yü). The word chia sometimes can also mean "to sprout," therefore, it implies about how everything in nature has sprouted out, each to its own category.

Wu-i

Classics During the ceremony of offering sacrifices to the emperor's ancestry, the great master musician would play the music in the tune of wu-i (Chou-Li). The master says that wu-i represents the sound of yang. Accordingly, the music of wu-i belongs to the airflow of hsü[61] (林) and is established in the ninth month (same as the previous source). In the last month of autumn the music played should be in the tune of wu-i.

Accordingly, the length of the standard pitch pipe for wu-i is derived from chia-chung, and it is four ts'un and 6524/6561 fen long (Li-Chi). When the great emperor Gin wanted to have someone cast a bell for the sound of wu-i, his musician Ling Chu-Chou asked "Does my king not fear the sudden death of his heart? Music is indeed the responsibility of the emperor, while sound is the vehicle of music and bells are the instruments for sound. The emperor always observes the current changes in the universe in order to have the appropriate music played. Among them, bells are the instruments to play and their sound is the vehicle to convey the music. The basic principle of playing the music is that what is low should not be too loud, and what is high should not be too harsh. Following this principle, all music will be harmonious. In this manner everything will be blessed and can be accomplished. And when one hears harmonious music, his heart would keep this harmony inside. If the sound is soothing, then the heart is pleased; if it is too loud, then the heart cannot be at peace, and the response of the heart to the sound will come immediately. Now if the chime of this bell is too harsh, I dare say that the heart of my King cannot bear it for long." (Tso-Chuan)

Philosophy The term wu-i means to enter without ceasing (Huai-Nan-Zi).

History The name wu-i signifies how the force of yin has become powerful and dominating, and there is almost no remains of the force of yang (Shih-Chi-Lu-Shu). The length of the standard pitch pipe for wu-i is four ts'un and 4.31 fen (same as the previous source). The word i means "to come to an end," therefore, this name is used to describe that after the

force of yang has completed creation of all creatures and depleted the force of yin, the whole cycle is renewed again, and this circulation will go on without ever coming to an end. This new cycle is originated at wu in the ninth month (Ch'ien-Lu-Li Chih). The i also means "to come out," therefore, this name implies that at this time the force of yang has risen upwards, and all living creatures gradually go into hibernation and would not come out again (Pu-Chih).

Biography The music of wu-i is used to proclaim the great virtues of wise men, to demonstrate a moral paradigm to the general public. Accordingly, the ninth month is represented by the highest stroke in the diagram of chen guah; this implies that the force of yang has gradually risen upwards, and all the living creatures are well hidden without being detected. This is the time to cultivate everyone in the great virtues of those ancient sages and to show them what moral laws they should obey (Kuo-Yü). The word i means "to end" and, therefore, the name signifies that all creatures have followed yang to a latent position and followed yang to rise up again, and that this process will never come to an end. This is the reason why this name is used for the music in this month (Tung-Tien).

Chung-Lü

Classics During the ceremony of offering sacrifices to the emperor's deceased mother, the great master musicians would sing the songs in the tune of chung-lü. Accordingly, shiao-lü (小呂) is another name for chung-lü (Chou-Li). The master says that shiao-lü represents the sound of

yin. Accordingly, the music of chung-lü belongs to the airflow of sze[62] (巳) and is established in the fourth month (same as the previous source). In the second month of summer the music played should be in the tune of chung-lü. Accordingly, the length of the standard pitch pipe for chung-lü is derived from wu-i, and it is six ts'un and 12974/19683 fen. Note: The length of this pipe is derived from diminishing one-third of the pipe for wu-i, it should therefore be three ts'un and 6487/19683 fen. What is recorded here is actually twice its length (Yüeh-Chi).

Philosophy The term chung means "to be ample inside"(Huai-Nan-Zi).

History The name chung-lü describes that everything is travelling to the west (Shih-Chi-Lu-Shu). The length of the standard pitch pipe for chung-lü is five ts'un and 9.32 fen, and its matching note in the five-tone scale is zhi (徵) (same as the previous source). The name chung-lü is used to describe the time when the slender force of yin first rises and has not quite formed, it only manifests itself inside to assist the force of yang to exalt the spirit and to set all things in order. This phenomenon happens at sze in the fourth month (Li-Chih-Ch'ien-Lu). When the flow of yang descends, yin rises up; when the flow of yin rises up, yang comes out. The whole circulating process between these two forces is completed at the sound of chung-lü, which is also the end of the twelve lu. The word lü means "to assist," therefore, this name implies how the force of yang has come to flourish and prosper with the assistance of yin (Pu-Chih).

Biography Chung-lü is to bring out the force that is hidden inside (Kuo-Yü).

Glossary

Under Lu-Lü

1 five-sound (五聲)

Tones in pentatonic scale: gong, shang, chiao, zhi and yu.

2 eight-pitch (八音)

Eight kinds of musical sound (timbre), resulting from the material in making musical instruments: calabash, earthenware, stretched hides, wood, stone, metal, slik(string) and bamboo.

3 seven pitches (七音)

Heptatonic scale: gong, shang, chiao, pien chih, chih, yu and pien gong.

4 eight winds (八風)

Eight directions of wind: east, northeast, southeast, south, southwest, west, northwest, and north; this also implies the whole universe.

5 nine songs (九歌)

A set of "nine" (actually eleven) songs originated in the feudal states during 740-330 B.C., played in the ceremony of worshiping the gods.

6 Shih Kwong (師曠)

A famous musician in ancient China, who was born blind and had a talent for distinguishing music by merely hearing it.

7 a year

One lunar year, which consists of twelve lunar months of 30 days each, thus, has 360 days.

8 Emperor Chou Wu (周武王)

Emperor Chou Wu in A.D.1122, had a war with and defeated Emperor

Shang Chou (商紂) of the Shang Dynasty, becoming the first emperor of Chou Dynasty.

9 Huang Ti (黃帝)

The legendary first emperor of China, said to have reigned around 2750 B.C.

10 Ling Lung (伶倫)

The man said to be the minsiter of the legendary Emperor Hunag Ti and the one who was the first to establish the fundamental huang-chung pitch for twelve lu pipes.

11 ts'un (寸)

Approximately one inch in length.

12 san-fen-sun-i (三分損益)

An ancient system of generating tones by dividing the length of lu pipe into three parts and then subtracting and adding one part alternately to produce the next.

13 Emperor Han Wu (漢武帝)

An emperor in Han Dynasty, reigned between A.D. 140-187.

14 Fu Hsi (伏羲)

A legendary demigod said to have lived five thousand years ago and was the first to draw the eight guahs, which later evolved and were embodied in Yi-Jing (Book of Changes).

15 Emperor Ming (明帝)

An emperor of Tung Han Dynasty, reigned between A.D. 58-75.

16 chih (尺)

Approximatly one foot in length.

17 Shih Wan Mu (西王母)

Possibly the name of an ancient state in China.

18 Emperor Shun (舜帝)

A legendary emperor, said to have reigned between 2255-2208 B.C..

19 Shyun Hsu (荀勗)

A person, who lived in the Wei-Jin Dynasty, approximately in late third to early fourth century A.D..

20 Du Khuei (杜夔)

A person who lived in the early third century A.D..

21 mee (米)

A grain of rice; the smallest unit in Chinese measuring system.

22 Chen Yi, Niu Hong and Hsing Yen Chih (鄭譯, 牛弘, 辛彥之)

Students of Chin Fang, who in 589 B.C. were commissioned to investigate the history of acoustic and other meteorological standards.

23 Emperor Gin (周景王)

An emperor who reigned in the Chou Dynasty between 544-520 B. C..

24 Ling Chou-Chu (伶鮈州)

An acoustic adviser.

25 Emperor Liang (梁武帝)

An emperor of Liang Dynasty who reigned between A.D.502-549.

26 four instruments (四器)

Four musical instruments created by Emperor Liang Wu, generally called "Tong" (similarly constructed as a resonant box). Each tong has three strings, therefore, there are 12 silk strings (or pipes) for standardizing the twelve lu.

27 Ta Fu temple (大府寺)

A goverment organization.

Under Huang-Chung

28 great master musician (大司樂)

The chief court musician whose office is to regulate the ritual music in the Chou Dynasty.

29 zi (子)

a) The first of the twelve terrestrial branches (a Chinese zodiac system).

b) The time period from 11pm-1am.

30 Li Shih (廩氏)

A person, according to Chou-Li, who made vessels as standard measures of volumn to produce specific pitches.

31 five basic elements (五行)

The concept that the universe is made of five basic elements and the earth is located in the center of these. The five elements are, traditionally, gold (matel), wood, earth, water, and fire.

32 Shih Wen (師文)

A person's name with the surname of Shih, or it may refer to a certain Master Wen as well.

33 chin (琴)

An ancient Chinese string instrument. It has seven strings and in some ways is similar to a zither.

34 fen (分)

Approximately 0.1 inch in length.

35 five

The ancient Chinese used numerical systems to symbolize the heaven and earth. THe heavenly numbers are 1 3 5 7 9 (with 5 in the middle).

36 six

Earthly numbers are 2 4 6 8 10 (with 6 in the middle).

37 six prevailing spirits (六炁)

They are cloud, sun, wind, rain, night (dark), and day (bright).

38 six and nine

Number nine represents yang, and number six represent yin.

39 diagram of chen (乾卦)

A guah is a sign in the system of eight trigrams for use in divination. Each guah consists of various combination of two groups of three solid or broken strokes. According to Yi-Jing (Book of Changes), chen guah is regarded as a pure yang sign representing heaven.

40 traditional measurement of the seasons

There are 81 days between the winter solstice and spring equinox.

41 number of the heaven

According to Yi-Jing (the "Book of Changes"), the number of heaven is 9.

42 Sui Dynasty (隋朝)

A.D.581-618.

43 Tang Dynasty (唐朝)

A.D. 618-906.

44 Tai Chang (太常)

The officer who is in charge of rites and music.

45 people's virtues (六氣九德)

There are six breaths and nine virtues.

Six breaths: blowing, exhaling, laughing, yawning, hissing and weeping; Nine virtues: loyalty, honesty, respect, steadfastness, gentleness, harmony, strength, chastity and obedience.

46 pee-pa (琵琶)

A plucked stringed insturment(lute) with a fretted fingerboard.

47 This is quoted from a poem in which the poet was lamenting the fact that the wicked politicians are in power instead of the virtuous ones.

Under Ling-Chung

48 Wei (未)

a)The eighth of the twelve terrestrial branches (Chinese zodiac system).

b)The time period from 1 - 3 pm.

49 Chi (齊)

The name of a dynasty flourishing between A.D. 479-502.

50 kuen guah (坤卦)

According to the book of Yi-Jing, it is a pure yin (cf.No.38).

51 all directions

There are six cardinal directions: east, west, south, north, up (heaven), and down (earth).

Under Tai-Tsu

52 ying(寅)

a) The third of the twelve terrestrial branches.

b) The time period from 3-5 am.

Under Nan-Lü

53 four views

Sun, moon, stars, and seas.

54 yu (酉)

a) The tenth of the twelve terrestrial branches.

b) The time period from 5 - 7 pm.

Under Ku-Hsi

55 cheng (辰)

a) The fifth of the twelve terrestrial branches.

b) The time period from 7 - 9 am.

Under Ying-Chung

56 hei (亥)

a) The last of the twelve terrestrial branches.

b) The time period from 9 - 11 pm.

Under Jui-Pin

57 wu (午)

a) The seventh of the twelve terrestrial branches.

b) The time period from 11am - 1 pm.

Under Ta-Lü

58 ch'ou (丑)

a) The second of the twelve terrestrial branches.

b) The time period from 1 - 3 am.

Under I-Tse

59 shen (申)

a) The ninth of the twelve terrestrial branches.

b) The time period from 3 - 5 am.

Under Chia-Chung

60 mao (卯)

a) The fourth of the terrestrial branches.

b) The time period from 5 - 7 pm.

Under Wu-I

61 hsü (戌)

a) The eleventh of the twelve terrestrial branches.

b) The time period from 7 - 9 pm.

Under Chung-Lü

62 sze (巳)

a) The sixth of the twelve terrestrial branches.

b) The time period from 9 - 11 am.

Translation of A Modern Exegesis

Translation

Each lu has its own corresponding month. For example, huang-chung belongs to the eleventh month, tai-lü belongs to the twelfth month, etc.. The meaning of the name of each lu may have derived from historical documents such as Shih-Chi (史記), Kuo-Yü (國語), Lü-Shih-Ch'un-Ch'iu (呂氏春秋), Huai-Nan-Zi (淮南子), etc.. The following is the interpretation of signification of each lu's name, according to these ancient writings.

The lu for the tenth month is called yin-chung. The name yin-chung implies that the spirit of yang is in a subordinate position and therefore not predominant. In the twelve terrestrial branches, it belongs to hi (亥). Hi is the phonetic-loan character of gai (豭), which means "root of grass," implying that the spirit of yang is like the roots of the grass hiding under the ground. For this reason, the word gai was chosen. In Yi-Jing, it corresponds to the kuen guah (坤卦).

The lu for the eleventh month is huang-chung. The name huang-chung means that the spirit of yang is coming out of the earth. In the twelve terrestrial branches, it belongs to zi (子). Zi is the phonetic-loan character of zi (滋) which means "developing" and implies that everything is nourished on the earth. In Yi-Jing, it corresponds to the fu guah (復卦).

The lu for the twelfth month is called tai-lü. The name tai-lü implies that the spirit of yang is weary and because the spirit of yin is still abundant, the spirit of yang is not allowed to come out of the earth. Lü means "to refuse." In the twelve terrestrial branches, it belongs to chou

(丑). Chou is the idiographic-loan characterof nu (紐), which means "to tangle" and implies that the spirit of yang is tangled up. Therefore, the growth of things is hindered. In Yi-Jing, it corresponds to the tuen (屯).

The lu for the first month is called tai-tsu. The name tai-tsu implies that all things come together. In the twelve terrestrial branches, it belongs to ying (寅) and means that the whole universe begins to grow. Ying is the ideographic-loan character of yan (螾) which means the appearance of moving things. In Yi-Jing, it corresponds to the tai guah (泰卦).

The lu for the second month is chia-chung. The name chia-chung implies that all things are growing luxuriantly and ready to come out of the ground. In the twelve terrestrial branches, it belongs to the mou (戊). Mou is the phonetic-loan character of mou (茂), which means flourishing; and it implies that everything is growing luxuriantly. In Yi-Jing, it corresponds to jai guah (解卦).

The lu for the third month is called ku-shi. The character ku means "old," and shi means "to wash out." Therefore, this name implies washing out the old things and putting forth a new feature. In the twelve terrestrial branches, it belongs to the cheng (辰). Cheng is the phonetic-loan character of cheng (蜄), which means all things are moving and changing. In Yi-Jing, it corresponds to the shueng guah (升卦).

The lu for the fourth month is chung-lü. The name chung-lü implies that all things are completed and travel toward the west. In the twelve terrestrial branches, it belongs to gi which means the spirit of yang has been completed. In Yi-Jing, It corresponds to the chen guah (乾卦).

The lu of the fifth month is called jui-pin. At this time, the spirit of yin is in a low and weak position, similar to that of a host. This situation is what go guah (姤卦) describes: the only yin stroke is at the bottom. In contrast, the spirit of yang, meanwhile, is in a high and strong position, similar to that of a guest. It is described in go guah that the top five are yang strokes. Therefore, the lu for the fifth month is called jui-pin. In the twelve terrestrial branches, it belongs to wu (午), which means that yin and yang meet again. In Yi-Jing, it corresponds to the go guah.

The lu for the sixth month is called ling-chung. At this time everything has grown to maturity and there are a great number of varieties. This is the reason for naming it ling-chung. In the twelve terrestrial branches, it belongs to wei (未) which implies that all things have come to their completion and have developed their own status of maturity. In Yi-Jing, it corresponds to the foun guah (豐卦).

The lu for the seventh month is called i-tse. The name i-tse says that the spirit of yin is rising, which causes things such as vegetation to wither. The word i means "hurting," and tse means "restraining" or "regulating." In the twelve terrestrial branches, it belongs to shen (申), which means the spirit of yin is in power and destroying all things. In Yi-Jing, it corresponds to the min-yi guah (明夷卦).

The lu for the eighth month is nan-lü. The name nan-lü signifies that the spirit of yang travels to the south and gradually becomes hidden. In the twelve terrestrial branches, it belongs to the yu (酉). Yu is the phonetic-loan character of shou (秀), which means that all things begin to blossom. In Yi-Jing, it corresponds to the duei guah (兌卦).

The lu for the ninth month is called wu-i. The name wu-i implies that the spirit of yin has increased to its maximum and is in power, whereas the spirit of yang is waning. In the twelve terrestrial branches, it belongs to the hsü (戌), which means that everything has been destroyed. In Yi-Jing, it corresponds to the bo guah (剝卦). I (射) is the phonetic-loan character of i (亦), which means "without an end." It implies that all things are ended but will return repeatedly as a new life. In Yi-Jing, the bo guah shows the last yang stroke on the top which implies that the spirit of yin is continually rising up from the low position. This is the reason why the name wu-i is used.

Besides those mentioned above, twelve lu are also called by other names. There are two other names for ling-chung: 1) han-chung (函鍾) and 2) bai-chung (百鍾). The word han implies "embracing a great quantity and having it all." Therefore, the meaning of han-chung is that it contains everything. As to the word bai, it means "hundreds of things." All in all, the meanings for ling, han and bai are similar. If one says that ling-chung is just a notation of the sound and does not connote any meaning, then why is it that any word other than ling, han or bai are chosen for this chung? Therefore, we know that a name such as ling-chung has its own particular meaning and should be interpreted properly.

Another example is chia-chung. It is also called hueng-chung (黃鍾). Hueng implies the symbolic phenomena of heaven. It is the second month in the summer; at this time, the airflow of yang has already come out of the earth. Everything follows the flow of yang and starts growing on the ground. This is the reason why it is called hueng-chung.

Sometimes, the meanings of those pitch names are equivalent to that of the lu names. There are three pitches with equivalent lu names, as described below:

1) If the music is based on the fundamental gong pitch in hueng-chung (黃鐘) (another name for chia-chung), this gong pitch is then called ten-gong (天宮) or heavenly gong, for heaven corresponds to the word hueng. It is said in Yi-Jing that chen guah represents the heaven and also connotes the meaning of hueng.

2) If the music is based on the fundamental gong pitch in han-chung (函鐘) (another name for ling-chung), this gong pitch is called ti-gong (地宮) or earth gong The word han (函) also has similar meaning. Therefore, the meaning of han is implied in the kuen guah - "embracing a great quantity" and it connotes the "earth gong."

3) If the music is based on the fundamental gong pitch in huang-chung this gong pitch is called zen gong (人宮) or men's gong, for the word men resembles the word huang. Huang means in the middle. (In ancient times, people believed that yellow was a sacred color and represented justice. This is the reason why all emperors were dressed in yellow.) Man is positioned between heaven and earth. The center point in yi guah (易卦) is man; therefore, the gong pitch in huang-chung belongs to man gong.

As to the reasons behind the matching of twelve lu-lü and the article in this hexagram (a divination, 9 and 6 diagrams), the author (Professor Liu) consulted Huai-Nan-Houn-Le-Gi-Gei (淮南三鴻烈集解). (This table, showing the pairing of lu and guah, is formulated by the present writer, based on information gathered from Professor Liu's article being translated here): (see next page)

TABLE II

THE ASSOCIATION OF LU NAMES AND GUAHS

WITH THE CORRESPONDING HEXAGRAMS

Month	Lu name	Guah	Symbol of Yin or Yang	Stroke	Hexagram
11	Huang-Chung	Chen	9	1	
12	Ta-Lü	Kuen	6	4	
1	Tai-Tsu	Chen	9	2	
2	Chia-Chung	Kuen	6	5	
3	Ku-Hsi	Chen	9	3	
4	Chung-Lü	Kuen	6	6 (All)	
5	Jui-Pin	Chen	9	4	
6	Ling-Chung	Kuen	6	1	
7	I-Tse	Chen	9	5	
8	Nan-Lü	Kuen	6	2	
9	Wu-I	Chen	9	6 (all)	
10	Ying-Chung	Kuen	6	3	

Note: The hexagrams are counted from the bottom up. Number nine represents yang (陽) ; six represents yin (陰). 9/1 (chen guah) means the lowest line is yang; 6/2 (kuen guah) means the lowest 2 lines are yin; 9/5 (chen guah)means the lower 5 lines are yang; etc.

The correlations of items in the above table are subtle and abstruse, and a proper comprehension is often difficult. The following narrative interpretation may serve to clarify the implied connotations:

The 9/1 of the chen guah is described as "hiding dragon," which implies that the airflow of yang is hiding under the ground. This is the reason why huang-chung belongs to the 9/1 of the chen guah.

The 6/4 of the kuen guah is described as "embracing." It implies that everything has just begun to sprout but is still hidden under the earth and cannot be observed. This situation is similar to that of ta-lü. Thus, ta-lü belongs to the 6/4 of the kuen guah.

The 9/2 of the chen guah is described as "the dragon being seen in the field," which implies that all creatures begin to appear on the earth. Therefore, it belongs to the lu of the first month.

The 9/3 of the chen guah is described as continuous and vigorous improving of one's knowledge and morality and as constant striving for improvements. This is like when spring arrives, and trees are shedding the old leaves and growing new ones. Therefore, it corresponds to the lu of the third month -- ku-shi.

The 6/5 of the kuen guah is described as the center point, which fills up the inside and appears on the outside. It implies that everything is excluding the yin and embracing the yang, which begins to formulate and grow (harmony between heaven and earth). This is why 6/5 belongs to the lu of the second month (chia-chung).

The 6/6 (all 6) of the kuen guah is described as "the dragon is fighting in the field." It resembles chung-lü which implies that the

airflow of yang has come to an end and the airflow of yin begins to fill in. The 6/6 belongs to the lu in the fourth month.

The 9/4 of chen guah is described as "jumping to the deep water." If it jumps, it will go into the next chen guah, which is 9/5. Deep water means yin. It is indicated in go guah that five yang strokes are above and one yin is below. Thus, 9/4 belongs to the lu of the fifth month--jui-pin.

In the sixth month, all things are growing exuberantly. As soon as they reach their extremities, they start reversing their courses and gradually disappear. All this means that everything is formed slowly and gradually. The 6/1 of kuen guah implies "when one steps on the frost on the ground, he knows ice will soon be here." This is the reason why 6/1 belongs to the lu of the sixth month.

The 9/5 of chen guah is described as "flying dragon in the heaven." In the ancient time, people said that "When a saint is in power, the whole world would be in harmony." This implies that yang is regulating all laws and prohibiting things from being harmed by yin. Thus, 9/5 belongs to the lu of the seventh month.

In the 6/2 of kuen guah, yin is at the gentle position which symbolizes the justice and the gentleness of the earth. It corresponds to the timing when heaven grows all things smoothly and naturally. This is why 6/2 belongs to the lu of the eighth month -- nan-lü.

In the 9/6 (all 9) of chen guah, yang air has developed to the highest point. It will be regreted if it moves. It is like the bo guah (剝卦) that the 9/6 or yang will eventually come off and be taken over by yin and the cycle would start again. This is the reason why it belongs to the lu of the ninth month -- wu-i.

In the kuen guah of 6/3, it is described as "embracing the beauty." It implies that all things are gathered and hidden. This is the meaning of the lu for the tenth month which is yin-chung.

CHAPTER IV

THEORY OF LU AND DOCTRINE OF ETHOS

Summary of Lu Name Signification

Music has always played an important role in various aspects of Chinese life and culture. In ancient China, twelve lu was not only the foundation of music theories but also was one of the influential principles of education, science, philosophy, and ritual ceremonies. According to the historical documents as discussed in Chapters Two and Three, the twelve lu was given highly important significance and versatile applications in various aspects of ancient society.

During the development of twelve lu, many theorists engaged in various calculations to generate the lu pitch series. The main theories, given chronologically, are Ching Fong's "sixty lu," Chien Yueh-Chih's "three hundred and sixty lu," Ho Cheng-Tien's "twelve even-tempered lu," Tsai Yuan-Ting's "eighteen lu," and Chen Tsai-Yu's "twelve equal-tempered lu." The basic procedure behind most of these methods of tone generation is the system of san-fen-sun-i which, simply described, is a process of alternately adding and subtracting one-third of the length of the previous pipe to generate the next. The manipulation of numbers to establish correct lu had its inspiration from the ancient "science" of numerology in China.

The significance of twelve lu rests not only in terms of its acoustical constituents but, to the ancient Chinese, also in its metaphysical connotations. For example, twelve lu is associated with the

relationship between man and the universe. In order to bestow harmony between the human and natural worlds, the music which is performed must be in the lu corresponding properly to the time and month of the year.

Musical tones are classified into yin and yang sets, each comprised of six tones. The waxing and waning of yin and yang, in turn, affects the growth and decay of lives in nature as well as the seasonal phenomena in each month. This belief in the intimate cause-and-effect relationship between musical tones and the natural world was so deeply held that the twelve lu was also cited in a number of chronicles to explain the sudden changes in weather that result from playing inappropriate lu. Therefore, twelve lu was thought to have a supernatural power influencing the phenomena of nature. Also twelve lu was believed to affect human society. Therefore, as explicitly stated in many documents, the system of lu-lü was also a system to regulate all ethical and moral codes in a society. The belief was that the uplifting music would produce the righteous laws of a goverment and thereby bring peace to the society.

Among twelve different lu, huang-chung is the most important. Not only is it the first lu but also it signifies the time when everything on the earth begins to sprout. Huang-chung was also the source of all other tones. According to ancient documents, the music of hunag-chung is utilized by the emperor to civilize the nation and to uphold and exalt the virtues of the populace. Each one of the twelve lu has its own meaning and significance. For example, the second lu, ling-chung, is established in the sixth month, signifying that everything has been given birth and has grown in abundance of varieties. The music of ling-chung would therefore bring tranquility and serenity to the whole earth.

While each lu has a unique meaning and function and occupies a particular position in the rotation of twelve lu, all twelve lu are in turn closely related to one another. Therefore, the significance of each lu is not unto itself but, rather, in the context of the entire system of lu-lü; it is the combination and integration of twelve lu which improves the ethical and moral standards of the people, establishes the goverment's regulations, pacifies the world and, eventually creates harmony between man and the universe.

The history of attaching nomenclatorial significance to musical tones may be traced back to the time of Huang Ti. During succeeding generations, not only these archaic names and abstruse meanings were transmitted and preserved with little alteration in many official court documents and other historical, scholarly and ritual writings, but also with many later additional comments and supplemental connotations. Thus, all these writings with respect to lu-pitch names and their significations have become more complex and, due to their archaic and highly esoteric languages, nearly impossible to decipher. To study these ancient writings proved to be difficult even for the modern-day scholars of Chinese classics, let alone western scholars who are interested in theories of ancient Chinese music but with little or no knowledge in the symbolic written language of ancient China.

In recent years there have been a number of investigations into the meaning of these lu-pitch names by Western scholars, and the course these studies have taken is by and large by way of speculative interpretations based on acoustical properties of these tones. None, to this writer's knowledge, had attempted to consult the ancient writings on this subject.

The reason for this is clearly understandable: the highly esoteric languages where manifold interpretation is possible will no doubt become the chief obstacle for anyone -- oriental and occidental scholars alike -- attempting to understand the meaning and exact inferences of these ancient writings. As the result, some findings in these studies by Western scholars may involve considerable "second-guessing" on their part, reflecting more of Western interpretation than shedding light on the accurate meaning of these musical terms. The following table mentions one example of Western studies, done by Fred Fisher in his article "Chinese Music," on the signification of lu-pitch names (see next page).

TABLE III

EXAMPLE OF A WESTERN STUDY

ON THE SIGNIFICATION OF LU-PITCH NAMES

Pitch Names	pitch	Translation	Meaning
Huang-Chung	C	Yellow Bell	Yellow was the Emperor's color. By common consent, this name signifies the great importance of the system's fundamental pitch.
Ling-Chung	G	Forest Bell	The presence of trees or columns tends to bring out the overtone of the twelfth, i.e. C-g.
Tai-Tsu	D	Great Frame	?
Nan-Lü	A	Southern Tube	?
Ku-Hsi	E	Old Purifed	This refers to the problem of the syntonic comma and thus tuning of the major third, C-E.
Ying-Chung	B	Resonating Bell	This phenomenon tends to occur in connection with rectangular spaces closed on three of four sides. C would be heard as B (half step flat).
Jui-Pin	$F^{\#}$	Luxuriant Vegetation	The important word here seems to be "luxuriant." $F^{\#}$ is indeed the key which, on modern pianos, has the most luxuriant sound. Why?
Ta-Lü	$C^{\#}$	Great Tube	Since huang-chung is a bell, this would be longest of the tubes.
I-Tse	A^{D}	Equalizing Rule	Piano tuners know about this tone. It marks the usual shift from sharps to flats (moving outward from C in the opposite direction). The medieval musicians called it *ton de chevre*. it "bleated"!
Chia-Chung	E^{D}	Press Bell	This name suggests knowledge of the acoustic difference between $D^{\#}$ and E^{D}. Apparently, forceps were applied to thin the walls of this bell and lower its pitch accordingly.
Wu-I	B^{D}	Not Terminated	?
Chung-Lü	F	Mean Tube	In length, this tube marks the exact center of th C-C octave

A Comparison of Two Ancient Musical Concepts, East and West

It is noteworthy that a number of concepts and beliefs found in ancient China have their counterparts in other ancient civilizations, such as that of Greece. In Greece, a concept similar to the ancient Chinese theory of lu is the doctrine of ethos. Ethos is an ancient Greek philosophy in which an intimate relationship between music and human welfare is perceived. It is also an aspect of a modal theory which attaches expressive, ethical, and moral values to particular modes.

For instance, various modes were defined by Aristotle in Metaphysics 8:5 as follows: " The music modes differ from one another, and those who hear them are differently affected by each; some of them depress, as the so-called Mixolydian, others enfeeble the mind, as the 'relaxed' ones; others, again, produce a settled, moderate mood, which appears to be the peculiar effect of Dorian, while the Phrygian inspires enthusiasm."[2] At the same time, other writers would give different connotations: the Dorian is regarded as virile and bellicose, the Hypodorian majestic and stable; the Mixolydian, pathetic and plaintive; the Phrygian, agitated and bacchic; the Hypophrygian, active; the Lydian, mournful; the Hypolydian, dissolute and voluptuous[3].

Although, for the ancient Greeks, mode can be merely arrangements of tones of differing intervals, the effects and responses of man and State

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2 Aristotle, Metaphysics, cited by Curt Sachs, The Rise of Music in the Ancient World (New York: The Norton Library, 1943), 248.

3 Curt Sachs, Our Musical Heritage (New Jersy: Prentice-Hall, Inc.), 31.

to modes are the most fundamental essences of ethos. On the other hand, Greek modes connote specific human feelings and responses; and also the doctrine of ethos emphasizes the proper hamonious relationship and effect of music between human behaviors, the state of welfare of the society and cosmos to music. In contrast, the Chinese theory of lu has a much more subtle and specific implication; it assigns different tones to different months or even days in a year and thereby stresses the meanings more emphatically on the relationship between mankind and natural world.

However, there is one factor which is common to both the East and the West regarding the implication of musical intervals with the seasons -- the numbers. In China, the four seasons were separated from one another, not only by definite amounts of time but also by musical intervals: following the up-and-down principle, there was a fifth interval from autumn to spring, a fourth back to winter and a fifth to summer, which can be shown as (F)-Autumn, (C)-Spring, (G)-Winter and (D)-Summer. Similarly in the West, each season has a corresponding musical interval. According to Plutarch in his commentary on the Timaeus of Plato, Chaldaeans connected musical intervals with the seaons, i.e. fourth (3:4)-Autumn, fifth (2:3)-Winter, octave (1:2)-summer and tonic (1:1)-Spring. This is the cornerstone in the doctrine of the ethos.

An essential concept common to both the doctrine of ethos and the theory of lu in both acoustical and metaphysical aspects is the belief in numerology. In many ancient civilizations, numbers were believed to possess an active force and to have properties that were considered to be sacred. This is also true in ancient Greece. According to Philo Judaeu, "The law of the Chaldean, taken symbolically, is mathematical speculation,

and, these people, by availing themselves of the principle of music, had imagined the most perfect harmony existing throughout the universe."[4] Apparently, the ancient Greeks believed that numbers and their ratios could account for the harmonious reality in an orderly universe.

In the kosmo (cosmos) of a balanced system, the seven planets were believed to move in an orderly circular orbits and, therefore, were described in terms of the harmonic principle that Pythagoras had discovered in the vibration of strings. These seven planets were, according to the concept of the harmony of the spheres, considered to be connected with the seven pitches (i.e. heptatonic scale) in modes, which represent the will of the gods. These planets which revolve in heaven emit sounds so consonant as to produce the most exquisite music in which certain intervals in modes are capable of representing the harmony in the universe. As late as the seventeenth century, astronomer Kepler, for example, believed that there was music in the spheres which produced harmonic tones, and he also conceived that the motions of the planets could be explained in terms of laws of simple numerical ratio, similar to the ancient view of the universe in terms of harmony in music.

The number symbolism also had greatly influenced the ancient Chinese culture. The numbers of heaven or yang are believed to be 1, 3, 5, 7, 9; the numbers of earth or yin are 2, 4, 6, 8, 10. Each number has a "quality" which is determined by its abstract derivation. For example, five, a number of three plus two, has the nature of "fiveness," which means

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4 Egon Wellesz, The New Oxford History of Music, 11 vols., (London: Oxford University Press), I, 247.

the state of containing both yin and yang (i.e. three, a yang plus two, a yin). Since five is the combination of yin and yang, it is the number for heaven and earth. Five is also associated to five elements, five-tone scale, five planets, five laws. The archaic way of writing number five in Chinese is " 𝕏 ." The top stroke stands for heaven and the bottom earth. The heaven and earth are connected by " × ," intersecting in the middle and thus symbolically denoting the meaning of five.

In addition to five, the numbers six and nine were also emphasized. In the book of Yi-Jing (Book of Changes), for instance, natural phenomena in the universe could be explained by the diagrams of divination which were in turn described in terms of six (i.e. kuen) and nine (i.e. chen). Six is two groups of three, and nine is three groups of three--the first complete number of threes and therefore is also the number for huang-chung. Three, in acoustical calculation of the system of lu-lü, is most important. The generation of tones is based entirely on a division by three, either in the form of 2/3 or 4/3 (i.e. the process of san-fen-sun-i). Also 3^2 or 9 and 3^4 or 81 were the lengths used for the huang-chung pipe and the fundamental gong pitch respectively.

In contrast to the concept of numbers in China, ancient Greeks believed their music, according to Pythagoras, could be associated with numbers in such a way that music was numbers made audible and demonstrable in sound. Ancient Greeks also believed that some numbers had greater efficacy than others; the numbers four and seven were among them. For the number seven has its potency in the planetary system. According to Philo Judeau, seven (three plus four) has three intervals ratios (i.e.1:2-octave, 2:3-fifth, 3:4-fourth) and four boundaries (of human

learning: arithmatic, astronomy, geometry and music). Thus, the heptatonic scale was reasonably formulated and linked to the planetary system. Pythagoras expressed this thinking when he stated that "There is geometry in the humming of the strings. There is music in the spacing of the spheres." [5]

Therefore, in ancient Greece, music was considered to be the best training tool, because the rhythm and harmony, which are all manifestation of and associated with numbers, will find their ways into the inner part of soul, imparting grace and resounding with the same harmonies as that of the cosmos. This philosophy is similar to that in ancient China, which holds that twelve lu affect people's ethical and moral standards and regulate the natural laws and phenomena in the universe.

Similarly, twelve lu in ancient China was believed to be reflective of the many changes in nature, and also the means of establishing harmony between man and natural phenomena in universe. For instance, huang-chung was employed to civilized the world and to cultivate people's virtues, and ling-chung was used to pacify all things thereby, the whole universe would become tranquil and serene as a result. Therefore, in both Chinese and Greek music concepts, the ethical consideration was the primary concern in music making. Both doctrines believed that the music represented the ideal order and is an image of the universe and of the harmony between heaven and earth.

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5 Evans G. Valens, The Number of Things (New York: E.P. Dutton & co., Inc.), 178.

記纂淵海卷之三
律歷部
律呂
經 同律度量衡 律和聲 予欲聞六律五聲八音 書益稷 大
司樂以六律六同五聲五音大合樂 周禮 大師掌六律六同
以合陰陽之聲陽聲黃鍾太簇沽洗蕤賓夷則無射陰聲
大呂應鍾南呂函鍾小呂夾鍾 掌執同律以聽軍聲而
詔吉凶 典同掌六律六同之和 上同 五聲六律十二管還
相為宮也 禮記 為六律七音八風九歌以相成也 左傳
子 師曠之聰不以六律不能正五音 聖人既竭耳力焉
繼之以六律正五音 並孟子 參合六律調五音 淮南子 一律而生

五音十二律而為六十音因六六之六六三十六故三百
六十日以當一歲之日律歷之數天地之道也 上同 或問交
五聲十二律或雅或鄭何也曰中正則雅多哇則鄭 揚子
軒候鳳鳴以調律 抱朴子
史 王者制事立法物度軌則一稟於六律六律為萬事根
本焉其於兵械尤所重故云望敵知吉凶聞聲效勝負 史記
書 武王伐紂吹律聽聲 上同 律有十二陽六為律陰六為呂
律以統氣類物呂以旅陽宣氣 漢律歷志 黃帝使伶倫自大夏
之西崑崙之陰取竹之嶰谷生其竅厚均者斷兩節間而
吹之以為黃鍾之宮制十有二筩以聽鳳之鳴其雄鳴為六
雌鳴亦六比黃鍾之宮而皆可以生之 黃鍾之長九寸
三分損一下生林鍾參分林鍾益一上生太簇參分太簇

損一下生南呂參分南呂益一上生姑洗參分沽洗損一
下生應鍾參分應鍾益一上生蕤賓參分蕤賓損一下生
大呂參分大呂益一上生夷則參分夷則損一下生夾鍾
參分夾鍾益一上生無射參分無射損一下生中呂參分
律用銅者銅為物之至精不為燥濕寒暑變其節不為風
雨暴露改其形介然有常有似士君子之行是以用銅也
上同 武帝以李延年為協律都尉畧論律呂以合八音之
調 隋樂志 伏羲作易紀陰陽之初以為律法以六十律分蒂
之 晉律歷志 截管為律吹以考聲 紀斗氣效物數 五音
生於陰陽分為十二律轉生六十天効以景地効以響即
律也 天子常以冬夏至候鍾律冬至陽氣應則樂均清
景極長黃鍾通土炭輕而衡仰夏至陰氣應則樂均濁景

極短蕤賓通土炭重而衡低 候氣之法布緹縵室中以
木為案每律各一內庳外高從其方位加律其上以葭莩
灰抑其內端案曆而候之氣至者灰去 上並 明帝升靈臺
吹時律觀物變 紀本 黃帝作律以玉為管長尺六寸為十二
月音 晉律歷志 西王母獻舜以昭華之琯以玉為之取其體
潤也 律之始造以竹為管取其自然圓虛也 神道廣
大妙本於陰陽形氣精微數先於律呂 遂八風而宣九
德和大樂而成政道 律之為言法也言陽氣始生各有
法也呂之為言助也所以助陰成陽也 上並 荀勖以杜夔
所制律呂乖錯乃制古尺作新律呂以調聲韻 晉樂志 荀勖作
新律笛十二枚以調律呂而雅樂正然論者猶謂勖暗解
時阮咸妙達八音論者謂之神解咸常心譏勖新律聲高

近哀思不合中和蓋以為異也乃出咸為始平相後有司
又得周時玉尺遍以校之所治鍾鼓金石絲竹皆短於一
米於是伏咸之妙（同上）鄭譯牛弘辛彥之徒依京房六十
律因而六之為三百六十律以一律為七音音為之調凡
十二律為八十四調（會稽志）呂才制尺十二枚長短與律黙
契　始求聲者以律而造律者以黍自一黍之廣積而為
分寸一黍之多積而為龠合一黍之重積而為銖兩此造
律之本也故為之長短之法而著之於度為之多少之法
而著之於量為之輕重之法而著之於權衡又總其法而
著之於數使其分寸龠合銖兩皆起於黃鍾然後律度量
衡相為表裏四者既同而聲必至而後樂可作矣（上同）
【事類】之謂之分注云律管可以分氣（周禮）景王問律於伶州

鳩對曰古之成曾考中聲而量之以制度律均鍾百官軌
儀平之以六成於十二天之道也（同上國語）聖人截十二管察八
音之清濁謂之律呂（大戴禮）黃帝命呂者律（制誓）吹律定姓以記其
族（白虎通）燕有黍谷地美而寒不生五穀鄒衍吹律而溫氣
至（劉向別錄）梁武帝素善音律遂自制四器（通典）唐張文收截竹
為律吹之備旋宮之義（上同）隋文帝取律呂管葭灰以候氣
問於牛弘對曰灰飛半出為和氣全出為猛氣不出為衰
氣（隋志）

【標題】寒谷豐黍吹律以暖之（左思賦）聽清濁五聲之和然後制
為鍾律（律書）律比崑崙竹（杜詩）惜無協律者（韓昌黎）窮助絃吾詩（文粹）

【本朝】太祖每謂雅樂聲近於哀思因詔和峴依古法別造
新尺并黃鍾九寸管令工人校其聲果下於王朴所定管
一律特又丙降手頭山秬黍累尺校律亦相符合自此雅
音和暢（會要）李照所造鍾磬當時只是將太府寺布帛尺一
面定法其尺約長王朴尺三寸便朝廷以不法之器遂見
郊廟只如照所定黃鍾之管乃是南呂陪磬舊黃鍾九寸
正聲却降在大簇夾鍾之間（宋景文公）律之分寸既定便
當埋管候氣以驗其應否至於播之五聲二變而為六十
調者乃其餘耳（宋文公）候氣之說五埋管雖相近而自管之
長短入地深淺有不同故氣之應有先後耳非以方位而
為先後也（同上）衆絃排律呂金石次第名（陸放翁）

黃鍾

【事類】大司樂奏黃鍾以祀天神（周禮）太師陽聲黃鍾注云黃鍾

子之氣也十一月建焉　鼎氏為量其聲中黃鍾之宮（同上）
中央土律中黃鍾之宮注云黃鍾之宮最長也　冬仲律
中黃鍾注云黃鍾者律之始也九寸（五記）

【事類】師文鼓琴當夏而叩羽絃以召黃鍾霜雪交下川池暴
冱（列子）黃鍾者鍾已黃也（淮南）黃鍾以生之注云黃鍾為音
律之本（易）

【標題】黃鍾者陽氣鍾黃泉而出也（律書）黃鍾長八寸七分一宮
（同上）五聲之本生於黃鍾之律（漢律曆志）黃鍾者黃者中之色君
之服也鍾者種也天之中數五五為聲聲上宮五聲莫大
焉地之中數六六為律律有形有色色上黃五色莫盛焉
故陽氣施種於黃泉孳萌萬物為六氣元也以黃色名元
氣律者著宮聲也宮以九唱六（上同）變動不居周流六虛始於

子在十一月　十一月乾之初九陽氣伏於地下始著爲一萬物萌動鍾於太陰故黃鍾爲天統律長九寸九者所以究極中和爲萬物元也　黃鍾紀元氣之謂律　太極中央元氣故爲黃鍾其實一龠以其長自乘故八十一爲日法所以生權衡度量禮樂之所繇出也　陰陽相生自黃鍾始　黃鍾初九律之首陽之變也　陽生陰曰下生陰生陽曰上生上生不得過黃鍾之清濁下生不得及黃鍾之實（上同）　伏羲作易紀陽氣之初爲律法建日冬至之聲以黃鍾之宮（律歷志）　黃鍾應天之數而長九寸（上同）　冬至黃鍾之音調君道得（禮記）　黃者陰陽之中色也或曰冬至德氣爲上土色黃故曰黃鍾（晉志）　黃鍾者天子之宮也（史記）　伶倫斷竹長三寸九分而吹之以爲黃鍾之宮曰含少（前漢律歷志）　初陽

記纂淵海　卷之三　五

用黃鍾一宮惟擊一鍾其十一鍾設而不擊謂之啞鍾（唐書）　張文收乃斷竹爲十二律與孝孫吹調五鍾叩之而應由是十二鍾皆用（禮樂志）　太常缺黃鍾鑄不能成李嗣真逢車有鐸聲甚麗曰宮聲也取以歸振以空地若有應者掘之得鍾衆樂遂和（唐書）

【雜記】黃鍾所以宣養六氣九德也（國語）　皇甫直臨小池彈琵琶本黃鍾而聲入蕤賓彈於他處則黃鍾也因夜復彈於池上覺有物擊水如魚躍逐竭池索之得鐵一片乃方響蕤賓鐵也（雜俎）

【懸】黃鍾毀棄瓦釜雷鳴（楚辭卜居）

林鍾

【經】大司樂歌函鍾以祭山川注云函鍾一名林鍾（周禮）　太師陰聲函鍾注云林鍾未之氣也六月建焉（上同）　季夏律中林鍾注云林鍾者黃鍾之所生也長六寸（禮記）　季武子以其所得於齊之兵作林鍾而銘魯功焉（左傳）

【子】林鍾者引而止也（淮南）

【史】林鍾者言萬物就死氣林林然（史書）　律林鍾長五寸七分四角（上同）　林君也言陰氣受任助蕤賓君主種物使長大楙盛也位於未在六月（前漢律歷志）　六月坤之初六陰氣受任於太陽繼養化柔萬物生長楙之於未令種剛強大故林鍾爲地統律長六寸六者所以含陽之施楙之於六合之內令剛柔有體也（上同）　林鍾呂之首陰之變也（上同）

【傳記】林鍾和展百事俾莫不任肅純恪也（國語）　林者茂也盛也六月物皆茂盛積於林野故謂林鍾又林衆也言萬物成就種類衆盛也（通典注）

記纂淵海　卷之三

太簇

【經】大司樂奏太簇以祀地示（周禮）　太師陽聲太簇注云太簇寅之氣也正月建焉（上同）　孟春律中太簇注云太簇者林鍾之所生也長八寸（禮記）

【子】太簇者簇而未出也（淮南）

【史】太簇者言萬物簇生也（史書）　律太簇長七寸七分二角（上同）　太簇簇奏也言陽氣大奏地而達物也位於寅在正月（律歷志）　正月乾之九三萬物棣通族出於寅人奉而成之仁以養之義以行之令萬物各得其理寅木也爲仁其聲商也

爲衆故太簇爲人統律長八寸象八卦容義氏之所以順天地通神明類萬物之情也同上簇者簇也謂萬物隨於陽氣太簇而生也晉志

按記　太簇所以金奏啓陽出滯也同上

南呂

經　大司樂歌南呂以祀四望同上禮太師陰聲南呂注云南呂者太簇之所生也長五寸三分寸之一記

史　師文鼓琴當春而叩商弦以召南呂涼風忽至草木茂實列南呂者任也大也淮南

史　南呂者言陽氣之旅入藏也言萬物旅助天則任成萬物也位於酉在八月同上律南者任也謂時物皆秀有懷任之象也晉志

按記　南呂賛陽秀也注云楙而不貫曰秀南任也陰任陽事助成萬物同上記八月物皆含秀懷吐之象陰任陽功助陽成功也通典

沽洗

經　大司樂奏姑洗以祀四望同上禮大師陽聲姑洗注云姑洗辰之氣也三月建焉同上孝春律中姑洗注云姑洗者南呂之所生也長七寸九分寸之一記

注　姑洗者陳去而新來也淮南

按記　姑洗者言萬物洗生故律姑洗長六寸七分羽同上姑洗

潔也言陽氣洗物姑潔之也位於辰在三月同上律姑枯也洗濯也謂物生新潔洗除其枯改柯易葉也晉志

按記　姑洗所以修潔百物考神納賓也注云姑潔也洗濯也考合也言百物修潔故用之饗宴可以合神納賓也同上

應鍾

經　大司樂歌應鍾以祭地示同上禮太師陰聲應鍾注云應鍾亥之氣也十月建焉同上孟冬律中應鍾注云應鍾者姑洗之所生也長四寸二十七分寸之二十記

注　應鍾者應其鍾也淮南

史　應鍾者陽氣之應不用事也言史律應鍾長四寸二分三分二同上應鍾言陰氣應無射藏萬物而雜陽閉種也

位於亥在十月同上律歷志應者和也謂啟功皆應和陽功收而裹之也晉志

按記　應鍾均利萬用俾應侯也

蕤賓

經　大司樂奏蕤賓以祭山川同上禮太師注云蕤賓午之氣也五月建焉同上仲夏律中蕤賓注云蕤賓者應鍾之所生也長六寸八十一分寸之二十六史記

注　師文鼓琴及冬而加徽弦以激蕤賓陽光熾烈堅冰立散則蕤賓者安而服之也淮南

史　蕤賓者言陰氣幼少故曰蕤賓陽不用事故曰賓史律蕤賓長五寸六分三分一同上蕤繼也賓導也言陽始導陰

氣使繼養物也位於午在五月（前漢律曆志）蕤葳蕤垂下貌也賓敬也謂時陽氣下降陰氣始起相賓敬也（晉志）

【傳記】蕤賓所以安靖神人獻酬交酢也（國語）皇甫直得方響蕤賓鐵（酉陽雜俎）

大呂

【經】大司樂歌大呂以祀天神（周禮）太師陰聲大呂注云大呂丑之氣也十二月建焉（同上）季冬律中大呂注云大呂者蕤賓之所生也長八寸二百四十三分寸之百四（禮記月令注）按一寸生大呂大呂長四寸二百四十三分寸之五十二月令注蓋大呂之倍數也

【子】大呂者旅旅而去也（淮南）

【史】大呂長七寸五分三分一（史記律書）呂旅也言陰大旅助黃鍾宣氣而牙物也位於丑在十二月（前漢律曆志）

記纂淵海 卷之三 九

大呂助也言陰氣助黃鍾宣氣而牙物也（晉志）大呂者皇后之位（史記正義）

【傳記】大呂助宣物也（國語）

夷則

【經】大司樂奏夷則以享先妣（周禮）太師陽聲夷則注云夷則申之氣也七月建焉（同上）孟秋律中夷則注云夷則者大呂之所生也長五寸七百二十九分寸之四百五十一（禮記）

【子】夷則者易其則也（淮南）

【史】夷則言陰氣之賊萬物也（史記律書）夷則長五寸四分三分二商（同上）則法也言陽氣正法度而使陰氣夷當傷之物也位於申在七月（前漢律曆志）夷平也謂萬物將成平均皆有法則也（晉志）

【傳記】夷則者所以詠歌九則平民無貳也注云言萬物既成可法則也故可詠歌九功之則使民無疑貳也（國語）七月萬物將成平均結實皆有法則故謂之夷則一云夷者傷之義言秋之時萬物始被刑法而傷其性故以為名（通典）

夾鍾

【經】大司樂歌夾鍾以享先祖（周禮）太師陰聲夾鍾注云夾鍾卯之氣也二月建焉（同上）仲春律中夾鍾注云夾鍾者夷則之所生長七寸二千一百八十七分寸之千七十五（禮記月令注）按夷則下生夾鍾夾鍾長三寸六百一十三分寸之一千六十三月令注蓋夾鍾之倍數也

【子】師文鼓琴及秋而叩角弦以激夾鍾溫風徐迴草木發榮（列子）夾鍾者種始莢也（淮南）

記纂淵海 卷之三 十

【史】夾鍾者言陰陽相夾廁也（史記律書）夾鍾長六寸一分三分一（同上）夾鍾言陰夾助太簇宣四方之氣而出種物也位於卯在二月（前漢律曆志）夾佐也謂時物尚未盡出陰佐陽而出物也（晉志）

【傳記】夾鍾出四隙之細也注云出四時之閒氣微細者四時之氣皆始於春故夾鍾出四時之氣也（國語）夾者孚甲也言萬物孚甲種類分也（通典）

無射

【經】大司樂奏無射以享先祖（周禮）太師陽聲無射注云無射戌之氣也九月建焉（同上）季秋律中無射注云無射者夾鍾

之所生長四寸六千五百六十一分寸之六千五百二十
四 記 天王景王將鑄無射伶州鳩曰王其以心疾死乎夫樂
天子之職也夫音樂之宗也而鍾音之器也天子省風以
作樂器以鍾之輿以行之小者不窕大者不槬則和於物
物和則嘉成故和聲入於耳而藏於心心億則樂窕則不
咸槬則不容心是以感感實生疾今鍾槬矣王心弗堪其
能久乎 左傳
子 無射者入無厭也 淮南
史 無射者陰氣盛用事陽氣無餘也 史記律書 無射長四寸四
分三分一 同上 射厭也言陽氣究物而使陰氣畢剝落之終
而復始亡厭射也位於戌在九月 前漢律曆志 射者出也言時陽
氣上升萬物收藏無復出也 晉志

記纂淵海 律樂卷之三 十一

總論 無射所以宣布哲人之令德示民軌儀也 注云九月
乾上九也陽氣上升收藏萬物無得見者可徧布前哲之
令德示民尊法 國語 射終也言萬物隨陽而復又隨陽而起
無有終極故以爲名 通典

中呂

經 大司樂歌中呂以享先妣 注云小呂一名中呂 周禮 太師
陰聲小呂 注云中呂巳之氣也四月建焉 同上 孟夏律中中
呂 注云中呂者無射之所生長六寸萬九千六百八十三
分寸之萬二千九百七十四 禮記月令 ○疏 無射三分損一下生中呂實長三寸萬九千六百八十三分寸之六千四百八十七 月令注 言中呂小陰收也
子 中呂者中充大也 淮南

史 中呂者言萬物盡旅而西行也 史記律書 律中呂長五寸九分
三分二徵 同上 中呂言微陰始起未成著於其中旅助姑洗
宣氣齊物也位於巳在四月 前漢律曆志 陽下生陰陰上生陽終
於中呂十二律畢矣 同上 呂助也謂陽氣盛長陰助成功也
晉志
傳記 中呂宣中氣也 國語

度量

律度量衡附

經 同律度量衡 虞書 內宰凡建國出其度量淳制 周禮 質人
同其度量 合方氏一其度量 大行人十有一歲同度
量 並同上 仲春日夜分則同度量 禮記 周公頒度量而天下大
服 明堂位 立權度量 大傳 宮室得其度量鼎得其象 仲尼燕居 正度

記纂淵海 卷之三 十二

量夷民者也 左傳 謹權量審法度 論語
論 法制度量王者典憲也 晉書 仲春令關市同度量仲秋一
度量 淮南 法者天下之度量也 同上
史 同律度量衡所以齊遠近立民信也 前漢律曆志 審度嘉量以
臨兆民 凡律度量衡用銅者名自名也所以同天下而
齊風俗也 並同上 度量所以禁暴止邪也 漢景帝紀 律度量衡公
私不同所宜一之也 史記秦紀 王律度量衡相用爲表裏使得律
者可以制度量衡因度量衡亦可以制律也 唐禮樂志 太史卿
以二法權物量度權衡也 百官志
傳記 先王之鑄鐘也律度量衡於是乎生 國語
語 齊律度量衡使天下咸得其用人曰明我者舜也齊我
者舜也資我者舜也

十二律名的涵義

十二律名有其所配的月份，例如黃鐘配子月，大呂配丑月皆是。每一律名的涵義，散見史記、漢書、國語、呂氏春秋、淮南子等古書。茲將其釋示如下：

十月之律曰應鐘。應鐘者，陽氣之應不用事也。其於十二支為亥。亥者，該也，言陽藏於下，故該也。於易為坤。

十一月之律曰黃鐘。黃鐘者，陽氣踵黃泉而出也。其於十二支為子。子者，滋也，言萬物滋於下也。於易為復。

十二月之律曰大呂。大呂者，言陽氣欲出，陰不許也，呂、拒也。其於十二支為丑。丑者，紐也，言萬物厄紐，未敢出也。於易為屯。

正月之律曰泰簇。泰簇者，言萬物簇生也。其於十二支為寅。寅者，言萬物始生螾然也。於易為泰。

二月之律曰夾鐘。夾鐘者，萬物解孚甲而出也。其於十二支為卯。卯者茂也，言萬物茂也。於易為解。

三月之律曰姑洗。姑，故也；洗，濯也，言陽氣發生，洗濯枯稾，改柯易

葉也。其於十二支為辰，言萬物之蜄振也。於易為噬嗑。

四月之律曰仲呂。仲呂者，言萬物盡旅而西行也。其於十二支為巳。巳者，言陽之已盡也。於易為乾。

五月之律曰蕤賓。此時陰氣萎蕤在下似主人，即姤卦所謂"一陰在下"是也，陽在上似賓客，即姤卦所謂"五陽在上"是也，因此五月之律被稱為蕤賓。其於十二支為午。陰陽交，故曰午。於易為姤。

六月之律曰林鐘。此時萬物成熟，種類眾多也，故曰林鐘。其於十二支為未。未者，言萬物皆成而有滋味也。於易為豐。

七月之律曰夷則。夷則者，言陰氣之賊萬物（百果草木）也。夷，傷也，則，刑法也。其於十二支為申。申者，言陰用事申賊萬物。於易為明夷。

八月之律曰南呂。南呂者，言陽氣之旅入藏也。其於十二支為酉，酉

者，秀也，秀者，物皆成也，於易為兌。

九月之律曰無射。無射者，陰氣盛用事，陽氣無餘也，其於十二支為戌。戌者，言萬物盡滅也，於易為剝。射音亦，無射為無有窮盡之意，言萬物盡而復生，無窮已也，見易經剝卦之上九。無射之律名，殆源出於此。

十二律名，除以上所述之外，尚有其別名。林鐘之別名有二，一曰"函鐘"，二曰"百鐘"。函之為言，含弘廣大，無物不有也，故函鐘二字之涵義，乃百物俱備之謂也。至於百者，猶言如百物之眾多也。總之，林、函、百三字，其義相近，如謂林鐘為記音聲之一種符號，而無字義可解，則鐘字之上，可任意取一字而冠之，何必以林函百三字，冠于其上哉？由是可知林鐘等律名，各有其字義可解也。

易有夾鐘一律，其別名曰"圜鐘"，圜者，天之象徵也，謂仲春之月，陽氣已露地

上，此時萬物隨陽而出于地，叢生于其上，故曰圜鐘也。

又有調名與律名上一字之意義相當者，計有三調，茲分述如下：

一，凡樂以圜鐘為宮者，其宮稱之曰天宮，天與圜相配，此即易經所謂："乾為天為圜"是也。

二，凡樂以函鐘為宮者，其宮稱之曰地宮，地與函字之涵義相似，所謂函者，即坤卦所云："含弘廣大"是也，故以之配地宮。

三，凡樂以黃鐘為宮者，其宮謂之人宮，以人與黃字相配合，蓋黃，中也，人位於天地之中，易卦中央為人位，故黃鐘之宮為人宮。

近人謂："我國十二律名，乃古代記音聲之一種符號，本無字義可解"斯說也，作者實未敢苟同云。按漢書律曆誌對黃鐘二字之釋義頗詳，其

中有云："黃者，中之色也，君之服也。鍾者，種也，陽氣施種於黃泉孳萌萬物，為六氣元也"，以上所述皆有來歷。例如黃者，中之色也，君之服也，似源于易經坤卦（坤六五云："黃裳元吉"，先儒注云：黃，中色，裳下飾），所不同者，此處多一"服"字耳。"陽氣施種于黃泉"與太玄經所注："陽氣始種於黃泉"一句相近，其淵源可知也。至於"為六氣元也"，殆源于"為萬物元也"一句。再看淮南鴻烈集解時則訓云："黃鍾者，陽氣聚于下"，此殆源于坤卦之黃裳二字，此二字以人事言之，中德在內也，若就陰陽論之，則可謂為初陽聚於地中也。根據以上所述，可見漢書對黃鍾二字之釋義，並非出于古人之臆見，而是各有所本，實堪採信也。吾人不能因為不明律義（樂律全書稱律名之字義為律義），即強調律名乃記音聲之一種符號，

祇能怪自己對國學無深刻研究之故，應該多讀古書多向高明之士請教，方不致對律義發生如此之誤會。

十二律名中鍾為中字之假借，其考證有三，茲陳述如次：

一、淮南鴻烈集解云："夫六中之色也，故命之曰黃鍾。韋昭云：六者天地之中，天有六氣，降生五味，天有六母，地有五子，十一而天地畢矣，而六為中，黃，中之色也，鍾之言陽氣鍾聚于下也，說文云：黃，地之色也，从田从炗，炗古文光，然則六亦地也，陽氣鍾于地中，故黃坤六五黃裳"。

作者按坤卦所云："黃裳，黃，中文在中也"等字句，字異義同。上文所云："夫六中之色也，故命之曰黃鍾"，可知黃鍾即為黃中之意。黃中二字同時亦為"五在中"之文象。

二、通典卷一曰："黃鍾者，是陰陽之中，若天有六氣，降為五味，

天有六甲地有五子，總十一而天地之數畢矣，故以六為中，黃鐘者，是六律之首，故以黃鐘為名。

作者按上文把鐘解釋為中字之義，才講得通。中鐘古音同，根據聲韻學之原則，聲義同源，故同音之字，往往同義，常多通假。

三，增廣詩韻集成－東宮字以下注：

"陽氣潛萌于黃宮，楊雄太玄經土為宮，位中央，其色黃，萬物之母，故曰潛萌中者，冬至之節日起，牛宿一度，斗建子，律應黃鐘，夏之十一月，萬物萌芽于黃鐘之宮，即易乾元資始之義"。

作者按上文黃鐘宮，分開來說，黃者中也，鐘為中字之假借，宮為中，故上文云："潛萌中者"。

根據以上所述的三個考證，可知鐘為中字之同音假借，此乃無可置疑的，質之海內碩學通儒，不知亦以為然否？

茲再把中字之義，補充說明于下：中者，土也，聚也（土性聚，故云）萬物之聚也，陽之和也，純陽之剛中者也，中和之氣也。百果草木之在中者也。陰陽之和也；中亦可解為陽聚于下也，因中陽也，聚也，地中也，故云亦為陰之柔中，故中呂，亦曰小呂。又因陰陽二氣，化生萬物，因而陰陽二字被人解釋為萬物之意，試觀鵬鳥賦上句「陰陽為炎冬」等數字，被人釋為"萬物為銅"之意，即其證明。中字之被人解作萬物，殆以此故歟？反過來說，萬物亦可解為陽氣，如史記卷二十五云："四月也，律中仲呂，言萬物盡旅而西行也。"其中萬物二字，當解作陽氣，才講得通。又中與仲通，仲呂亦曰中呂，中者南方日中氣也，日中曰正陽，蓋四月

之時，陽散于外，純乾用事，陰閉藏于內，故出而助陽成功也。又中之為言，陽未大也，呂中（中，會合也，侶也）于陽，助其成功也。仲呂之別名為小呂，小謂陰，旅助陽成功也。此外，中字亦即易乾元資始之義，謂乾元為萬物之始，易曰："首出庶物"是其義也。

黃中二字，如用易經數理來說，則黃為六，中為五，六，陰也，五，陽也，冬至之象也。此時地下陽氣上升，因而地窖如春，井水溫暖，回到春天的形態。而黃鐘之宮，則謂宮為土，位中央，其色黃，是則猶言中央土也，亦即季夏六月之謂也，於易為中孚之卦。上述"黃鍾之宮"四字，見禮記訓纂卷六所載。另有詩韻集成一東宮字以下所云："萬物萌芽於黃鐘之宮"，則猶言萬物萌芽于黃土之中也，因中為土，而宮亦可解釋為中也。文字之解釋，因時地之不

同，而有分別。本文上述，就是一個證明。

易經泰卦"小往大來"先儒皆解大為陽，而陽常被人稱作萬物，因此大亦被釋為萬物之意，如太簇二字，史記云："萬物簇生也"。大蔟讀作泰，與太泰通，太簇亦曰泰簇。

十二律名中，以蕤賓二字較為費解，此一律義，已如上文所述，茲再將其另行說明如下：蕤賓者，言陰陽如賓主之相敬相親，精誠合作，以化育萬物者也，倘陰陽不調，如坤卦上六所謂"龍戰于野"，則不能化育萬物矣。孟子不云乎？"一日暴之，十日寒之，未有能生者也"，此即陰陽失調之所致也，可見古人命五月之律為蕤賓，良有以也。

時至今日，陰陽五行之說，人多不喜研究，但我們如欲對律名的字義，有所徹底瞭解的話，則不能不先研究陰陽五行之說，否則，不但對於律名的意義，不能明白通曉，甚至對其發生誤會，而以為律名，乃古代記音聲的一種符號，謂其無字義可解，此乃大錯特錯，不可饒恕的過失，亟應糾正

過來，此欲為我音樂界同仁陳述者也。希勿河漢斯語！

此外，欲一談者，即為關於律呂名義之配九六爻象此說作者曾於淮南鴻烈集解一書見之，其書云："十一月黃鍾，乾初九也。十二月大呂，坤六四也。正月太簇，乾九二也。二月夾鍾，坤六五也。三月姑洗，乾九三也。四月中呂，坤上六也。五月蕤賓，乾九四也。六月林鍾，坤初六也。七月夷則，乾九五也。八月南呂，坤六二也。九月無射，乾上九也。十月應鍾，坤六三也。

以上所述，意義稍涉玄妙深奧，恐讀者不盡瞭解，故特說明如下文。

按乾初九為"潛龍"，此猶陽氣伏于下也，故為黃鍾之名義，因以配乾之初九也。坤六四為括囊，譬猶萬物之潛萌地中，而未達見也，此與大呂之名義相合，故以大呂配

坤之六四也。乾九二為"見龍在田"，猶萬物始湊地而出也，故為正月之律（太簇）。乾九三，終日乾乾，進德修業，使德業日新，譬猶樹木逢春，洗濯枯穢，改柯易葉也，故為三月姑洗。坤六五為中順之德，充諸內而見諸外也，譬猶萬物去陰夾陽，聚地而生，故為二月之律（夾鍾）。坤上六，龍戰于野，猶中呂（一作仲呂）之名義，所謂"陽氣將極，中究大"是也，故為四月之律。乾九四，"或躍在淵"，按躍則進九五，淵猶陰也，此即姤卦所謂：五陽在上，一陰在下是也，故為五月蕤賓。六月萬物眾盛，然盛極必衰，終于消滅，此言事物之由逐漸形成者也。坤初六，履霜堅冰至，就是說明這個道理，故為六月之律。乾九五為飛龍在天，蓋謂聖人在王位，治平天下也。此猶陽正法度而使陰氣更當傷之物也，故為七月夷則。坤六二陰爻柔位，象地道柔順中正，配合天時，發育萬物，自然順利，故為八月南呂。乾上九言陽極于上，動必有悔，猶剝卦之上九，將為羣陰所剝落，終而復始，無窮已也，故為九月無射。坤六三，內含章美，猶萬物斂藏也，此乃十月之律義，故為應鍾。

讀者可取屬于易經一類的古書，與上文對照參考之，當更瞭解。

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