Formation and Function of Three Lineages in Hunan

(湖南三家族的形成與功能)

Ts'ui-jung Liu*

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摘要

本文以湖南三個家族：衡陽魏氏、清泉(湘東桃橋)李氏、邵陽李氏的族譜為基本資料，由家族人口的動態來探討家族形成的過程以及功能的發揮。本文的結論主要有三點：(1)一個家族形成的必要條件是由一位共同的祖先所繁衍的子孫達到相當大的數目。在中國傳統的分家習慣下，同一祖先的後代可能隨時分成支派，但要將共同祖先的族人結合起來，形成有組織的家族團體，就必須有相當多的人口方才可能，而要具備此一人口條件則需經相當長的時間。(2)一個家族能夠推動集體活動，一方面固然需具有利的人口數目和結構，另一方面則需有一些具社會聲望且富而好義的人士出而領導。這些人在家族人口中只是少數，但其角色極為重要。(3)一個家族絕不可能孤立在地方社會之外，家族功能的適當發揮不但有利於家族本身，對於地方社會的穩定也有助益。在中國傳統帝制末期，家族團體的蓬勃活躍反映的正是當時的社會和政治環境極有利於這種發展。

INTRODUCTION

This paper is attempted to analyze the formation and function of three lineages in Hunan: the Heng-yang Wei衡陽魏, the Ch'ing-ch'uan Li清泉李, and the Shao-yang Li邵陽李. According to a definition given by Watson and commonly accepted by historians, "A lineage is a corporation in the sense that members derive benefits from jointly-owned property and shared resources; they also join in corporate activities on a regular base. Furthermore, members of a lineage are highly conscious of themselves as a group in relation to others whom they define as outsiders. A lineage is not, therefore, a loosely-defined collection of individuals."[1] This definition, however, is a rather static description about organizational form of a lineage as long as it is already in existence. Any descent group could not be called a "lineage" strictly by this definition throughout all the time tracing from the beginning of its common ancestor. In other words, a lineage should be formed through a dynamic process. This paper

* Research Fellow, the Institute of Economics, Academia Sinica.

[1] P. Ebrey and J. Watson eds., *Kinship Organization in Late Imperial China, 1000-1940* (Berkeley: University of California Press, 1986), p. 5.

will try to investigate this dynamic process with the data organized from the genealogies of the three lineages in Hunan.

The Heng-yang Wei genealogy had been compiled five times in 1724, 1797, 1844, 1882 and 1914.[2] The Ch'ing-ch'uan Li genealogy was complied twice, the one in 1858 and the other in 1893.[3] The Shao-yang Li had several old records for individual branches since 1691, but the joint lineage genealogy was compiled first in 1869 and again in 1904.[4] This paper uses the last compilation of the three genealogies.

Each of the three genealogies started records from the ancestor who first moved to Hunan where their descendants became prolific. From the prefaces of these genealogies, we can gather the origins of the three lineages. The founding father of the Heng-yang Wei, named Ch'ing-she 請社 (1120-1201), was a native of Chu-lu 鉅鹿, Hopei. He moved to south with the Sung court and was dispatched to Lung-li-wei 龍里衛 in Kueichow by Emperor Sung Kao-tsung 宋高宗 in 1152 as a Commander (Chih-hui-shih 指揮使); and in 1170, Emperor Sung Hsiao-tsung 宋孝宗 ordered him to move to Heng-yang to cultivate a piece of land as a military colonist. The Heng-yang Wei genealogy provided records of Ch'ing-she's descendants down to the twenty-ninth generation with those from the fifth generation onwards dividing into five branches.

The Ch'ing-ch'uan Li's first ancestor, Hsiu-te 秀德 (1364-1431), was a native of Lu-ling 廬陵 in Kiangsi. He was a Manager of Affairs in the Board of Rites (Li-pu chu-shih 禮部主事) during the Ming Chien-wen reign (1399-1402), but he discarded his position and moved to the eastern part of Heng-yang where Ch'ing-ch'uan county was located. Hsiu-te had one son who, in turn, had seven sons and the Ch'ing-ch'uan Li genealogy recorded the descendants of five of these seven sons (with brothers 5 and 6 missing afterwards) from the third generation to the twenty-first generation in five branches.

The Shao-yang Li lineage traced its founders to two brothers, Yun 雲 (1296-1388) and Shih 什 (1298-1384), who moved from Chi-chou 吉州 in Kiangsi to northern part of Shao-yang at the end of the Yuan dynasty. Yun had four sons and one of them became heirless, thus form the third generation onwards the descendants were divided into three branches. Shih had one son and one grandson who, in turn, had three sons, thus the descendants were also divided into three branches from the fourth generation onwards. Altogether, the Shao-yang Li lineage records consisted of

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[2] *Heng-yang Wei-shih tsung-p'u* 衡陽魏氏宗譜 (The genealogy of the Heng-yang Wei lineage, 1914). 41 chuan.

[3] *Hsiang-tung T'ao-ch'iao Li-shih tsung-p'u* 湘東桃橋李氏宗譜 (The genealogy of the Ch'ing-ch'uan Li lineage, 1893). 9 chuan.

[4] *Hu-nan Shao-i Li-shih tsu-p'u* 湖南邵邑李氏族譜 (The genealogy of the Shao-yang Li lineage, 1904). 40 chuan.

six branches down to the twenty-fourth generation. (See Appendix A for a list of number of males in each generation and the birth years recorded.)

Since a lineage could be formed only when the descendants of a common ancestor became quite proliferated, this paper will try to trace formation of these three Hunan lineages by analyzing the dynamics of their populations. In addition to demographic aspects related to the formation of these lineages, this paper will also try to discuss functions of these lineages through their collective activities. The following paper will first provide information related to the social background, then present some information related to the population dynamics, and finally discuss the functions of these three lineages. With these data and discussions, this paper may provide some relevant facts for enhancing our understanding of relations between the lineage and politics in late imperial China.

1. SOCIAL BACKGROUND

From the three genealogies, we can organize information related to social status of male members in these lineages as shown in Tables 1abc. The social status was indicated by several categories presenting a simplification of the original records. The first four categories related to the degree holders of traditional examination system, Sheng-yuan 生員, Kung-sheng 貢生, Chu-jen 舉人, and Chin-shih 進士, who might also became an official, representing a formal channel of upward social mobility. The purchased titles included all kinds of civil service titles purchased by these lineage members, representing an informal channel of upward social mobility. The military merit titles included all ranks belonging to category of Chun-kung 軍功, some might be obtained through actual military contribution, some might just through purchasing. The local sub-officials included all positions below the magistrate, such as Hsien-chen 縣丞, Hsun-chien 巡檢, Chiao-yu 教諭, and Hsun-tao 訓導. The local military officers included all military positions, such as Yu-chi 游擊, Tu-ssu 都司, Shou-pei 守備, in local areas. The category of officials in Peking referred to positions in central government offices. These categories of local and central government official positions were retained only for those who did not have any record about formal degrees. The honor bestowed included civil and military honorary titles which one might obtained due to have distinguished offspring or simply due to reaching very old age. Other categories, such as merchant, soldier, teacher, medical experts, and monk were some professional status that could be identified. The category of literate referred to those who were known of being an expert in writing or painting but without earning any formal degree. The graduates from the new school system in the beginning of the twentieth-century were identified with separate categories. The last category contained those who had no remark.

With the above explanation of different categories, the headings of the 19 columns in Tables 1abc are as follows:

(1) Sheng-yuan
(2) Kung-sheng
(3) Chu-jen
(4) Chin-shih
(5) Purchased titles
(6) Military merit titles
(7) Local sub-officials
(8) Local military officials
(9) Officials in Peking
(10) Honor bestowed
(11) Merchant
(12) Soldier
(13) Literate
(14) Teacher
(15) Medical profession
(16) Monk
(17) Graduates of elementary and middle schools
(18) Graduates of vocational schools and colleges
(19) No remark

We can thus proceed to investigate the social status of males in these lineages. From Table 1a, we can see that there was no Chin-shih (col. 4) among the Heng-yang Wei males. There were five men who became Chu-jen (col. 3) in 1681, 1779, 1799, 1807, and 1822 respectively.

Table 1a: Social Status of Males in the Heng-yang Wei Lineage

Gen.	N of Males	Birth Years	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G1	1	1120	0	0	0	0	0	0	0	0	0	0
G2	2	?	0	0	0	0	0	0	0	0	0	0
G3	2	1201-?	0	0	0	0	0	0	0	0	0	0
G4	4	1241-?	0	0	0	0	0	0	0	0	0	0
G5	5	1279-?	0	0	0	0	0	0	0	0	0	0
G6	11	1311-1314	0	0	0	0	0	0	0	2	0	0
G7	21	1333-1385	0	0	0	0	0	0	1	0	0	0
G8	22	1351-1408	0	0	0	0	0	0	0	2	0	0
G9	29	1382-1432	1	0	0	0	0	0	1	0	0	0
G10	44	1413-1471	2	1	0	0	0	0	0	1	0	0
G11	69	1430-1532	3	1	0	0	0	0	3	1	0	0
G12	86	1434-1574	7	0	0	0	0	0	0	0	0	0
G13	98	1466-1582	2	1	0	0	0	0	0	0	0	2
G14	113	1490-1655	4	0	0	0	0	0	0	0	0	1
G15	132	1517-1671	8	0	0	0	0	0	1	0	0	20
G16	190	1531-1722	2	0	0	0	0	0	0	0	0	32
G17	315	1574-1761	2	0	1	0	0	0	1	0	0	41
G18	548	1588-1792	4	0	0	0	1	0	0	0	0	76
G19	821	1607-1833	10	1	0	0	0	0	0	0	0	121
G20	1183	1634-1881	7	1	0	0	1	1	0	0	0	195
G21	1512	1669-1913	12	1	2	0	3	0	0	0	0	273
G22	1860	1697-1914	21	3	2	0	12	7	0	1	0	230
G23	2258	1736-1914	27	7	0	0	29	14	5	2	0	160
G24	2146	1755-1914	26	2	0	0	46	6	5	1	0	57
G25	1714	1782-1914	10	1	0	0	9	6	3	2	0	19
G26	948	1806-1914	3	0	0	0	2	0	0	0	0	4
G27	360	1828-1914	0	0	0	0	0	0	0	0	0	0
G28	108	1873-1914	0	0	0	0	0	0	0	0	0	0
G29	13	1897-1914	0	0	0	0	0	0	0	0	0	0
Total	14615		151	19	5	0	103	34	20	12	0	1231

Table 1a (continued)

Gen.	N of Males	Birth Years	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	% of (19)
G1	1	1120	0	0	0	0	0	0	0	0	1	100
G2	2	?	0	0	0	0	0	0	0	0	2	100
G3	2	1201-?	0	0	0	0	0	0	0	0	2	100
G4	4	1241-?	0	0	0	0	0	0	0	0	4	100
G5	5	1279-?	0	0	0	0	0	0	0	0	5	100
G6	11	1311-1314	0	0	0	0	0	0	0	0	9	82
G7	21	1333-1385	0	0	0	0	0	0	0	0	20	95
G8	22	1351-1408	0	0	0	0	0	0	0	0	20	91
G9	29	1382-1432	0	0	0	0	0	0	0	0	27	93
G10	44	1413-1471	0	0	0	0	0	0	0	0	40	91
G11	69	1430-1532	0	0	0	0	0	0	0	0	61	88
G12	86	1434-1574	0	0	0	0	0	0	0	0	79	92
G13	98	1466-1582	0	0	0	0	0	0	0	0	93	95
G14	113	1490-1655	1	0	0	0	0	0	0	0	107	95
G15	132	1517-1671	0	0	0	0	0	0	0	0	111	84
G16	190	1531-1722	0	0	0	0	0	0	0	0	159	84
G17	315	1574-1761	0	0	0	0	0	0	0	0	273	87
G18	548	1588-1792	1	0	2	1	0	1	0	0	467	85
G19	821	1607-1833	1	0	0	0	0	0	0	0	700	85
G20	1183	1634-1881	8	1	2	0	1	0	0	0	985	83
G21	1512	1669-1913	6	0	4	0	0	1	0	0	1249	83
G22	1860	1697-1914	11	3	10	0	2	0	0	0	1580	85
G23	2258	1736-1914	11	6	9	0	0	1	0	1	1998	88
G24	2146	1755-1914	8	6	4	0	1	0	3	3	1982	92
G25	1714	1782-1914	7	1	0	0	0	1	3	3	1648	96
G26	948	1806-1914	5	2	0	0	0	0	1	0	931	98
G27	360	1828-1914	1	0	0	0	0	0	0	1	358	99
G28	108	1873-1914	0	0	0	0	0	0	0	0	108	100
G29	13	1897-1914	0	0	0	0	0	0	0	0	13	100
Total	14615		60	19	31	1	4	4	7	8	13034	83

The highest official position held by these men was a Sub-prefect (T'ung-chih 同知) in Tan-shui 淡水, Taiwan, held by Wei Ying 魏瀛 (1775-1845) in 1840 after serving as a magistrate at various counties in Shantung and Fukien. Another four men only held a magistrate office at various counties in Chihli, Honan, Shansi, and Szechwan. In addition to Chu-jen, there were 19 Kung-sheng and 151 Sheng-yuan among the Wei males; altogether, these 175 men accounted for only 1.2% among all males in records. There were 103 persons who purchased at least a civil title, and 20 who served as sub-officials below the magistrate; these 123 men accounted for only 0.8% among all males. There were 34 men who had military merit titles, 12 men served as local military officers, and 19 men who were soldiers; these 65 men related to military career accounted for only 0.4% among all males. Moreover, there were 60 merchants, 31 literate, 1 teacher, 4 medical experts, 4 monks, and 15 graduates from the new school system. It is notable that there were 1,231 men (or 8.4%) who had obtained honorary titles, most of these were due to an honor bestowed for old age such as Teng-shih-lang 登仕郎 for those above age 70 and Hsiu-chih-lang 修職郎

for those above age 80. these simple statistics tended to suggest that the Heng-yang Wei could be quite influential at local community as it had quite a number of members who were rather eminent or rather wealthy, but a great majority of the Wei males were just common people.

From Table 1b, we see that three men from the Ch'ing-ch'uan Li lineage became Chin-shih. They were Li Ch'ao-i 李朝儀 (1813-1881, G14), Li Tuan-fen 李端棻 (1833-1907, the genealogy did not record his year of death), and Li Tuan-chu 李端榘 (1849-?); they became Chin-shih in 1845, 1863, and 1886 respectively. It is notable that Ch'ao-i was the uncle of Tuan-fen and the father of Tuan-chu.

Table 1b: Social Status of Males in the Ch'ing-ch'uan Li Lineage

Gen.	N of Males	Birth Years	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(10)	(11)	(12)	(16)	(19)	% of (19)
G1	1	1363	0	0	0	0	0	0	0	0	0	0	0	1	100
G2	1	1381	0	0	0	0	0	0	0	0	0	0	0	1	100
G3	7	1399-1408	0	0	0	0	0	0	0	0	0	0	0	7	100
G4	9	1418-1429	0	0	0	0	0	0	0	0	0	0	0	9	100
G5	14	1433-1455	0	0	0	0	0	0	0	0	0	0	0	14	100
G6	20	1450-1503	0	0	0	0	0	0	0	0	0	0	0	20	100
G7	32	1480-1524	0	0	0	0	0	0	0	0	0	0	0	32	100
G8	46	1509-1564	0	0	0	0	0	0	0	0	0	0	0	46	100
G9	89	1535-1615	0	0	0	0	0	0	0	0	0	0	0	89	100
G10	129	1565-1657	0	0	0	0	0	0	0	0	0	0	0	129	100
G11	171	1612-1700	0	1	0	0	0	0	0	2	4	0	0	164	96
G12	299	1635-1747	0	0	0	0	0	0	0	0	4	0	0	295	99
G13	459	1667-1779	2	0	0	0	0	0	0	0	20	0	0	437	95
G14	722	1684-1825	3	0	1	1	0	0	1	0	52	0	0	664	92
G15	949	1712-1868	5	0	6	2	1	0	1	1	47	0	0	886	93
G16	986	1734-1892	7	0	0	0	0	0	0	1	32	3	1	942	96
G17	930	1756-1893	11	0	1	0	4	1	0	3	17	3	0	890	96
G18	676	1778-1893	9	1	1	0	4	0	1	1	6	0	1	652	96
G19	389	1813-1893	4	0	0	0	1	0	0	1	0	0	1	382	98
G20	115	1839-1893	0	0	0	0	0	0	0	1	0	0	0	114	99
G21	2	1879-1889	0	0	0	0	0	0	0	0	0	0	0	2	100
Total	6046		41	2	9	3	10	1	3	10	182	6	3	5776	96

There were nine men who became Chu-jen but did not succeed in becoming a Chin-chih. Of these nine men, one was Li Ch'ao-hsien 李朝顯 (1791-1837), the eldest brother of Ch'ao-i, who earned his degree in 1816, one was Li Tuan-yuan 李端源 (1826-1884), the nephew of Ch'ao-i, who earned his degree in 1851; five were Ch'ao-I'sons who respectively earned their degrees in 1875, 1885, 1888, and 1891 (two in the same year); and the other two men, who belonged to different branches, earned their degrees in 1851 and 1873 respectively. It is also notable that Ch'ao-i moved to Kueichow with his mother and brothers after the death of his father. (The father was buried locally while the mother was buried in Kueichow as the genealogy recorded). Because Li Ch'ao-i served at various positions in Chihli for 37 years and

was a very successful local official, the Governor-General of Chihli, Li Hung-chang 李鴻章 (1823-1901), memorialized to have Chao-i's' biography included in the official Ch'ing History. (Li Hung-chang's memorial was included in the first chuan of the Li genealogy). Li Tuan-fen, who was a scholar at the Han-lin-yuan 翰林院, was born in Kueichow, lived in Peking, and never returned to his ancestor's native land in Hunan (see his preface to the Li genealogy). These examples showed that the Ch'ing-ch'uan Li lineage gained its importance through some distinguished members who actually had moved out. In addition to Chin-shih and Chu-jen, there were also 2 Kung-sheng and 41 Sheng-yuan; altogether these 55 men succeeded in examinations accounted for 0.9% among all males in the record. Moreover, there were ten men who had purchased a civil title, one who had military merit title, three who were local sub-officials, ten who had been bestowed honorary titles, six literate and three monks. It is notable that there were 182 merchants who counted for 3% among all males. As in the case of Heng-yang Wei, most males in the Ch'ing-ch'uan Li lineage were just common people.

From Table 1c, we see there was only one Chin-shih in the third generation of the Shao-yang Li lineage.

Table 1c: Social Status of Males in the Shao-yang Li Lineage

Gen.	N of Males	Birth Years	(1)	(2)	(4)	(5)	(6)	(8)	(9)	(10)	(11)	(12)	(19)	% of (19)
G1	2	1296-1298	0	0	0	0	0	0	0	2	0	0	0	0
G2	4	1322-1342	0	0	0	0	0	0	0	3	0	0	1	25
G3	5	1353-1387	1	1	1	0	0	0	0	1	0	0	1	20
G4	11	1370-1424	1	0	0	0	0	0	1	4	0	0	5	45
G5	18	1401-1449	1	0	0	0	0	0	0	5	0	0	13	72
G6	24	1425-1481	1	1	0	0	0	0	0	0	0	0	22	92
G7	35	1447-1521	1	0	0	0	0	0	0	5	0	0	30	86
G8	45	1475-1543	1	0	0	0	0	0	0	2	0	0	43	96
G9	69	1503-1567	0	0	0	1	0	0	0	1	0	0	67	97
G10	91	1512-1631	0	0	0	0	0	0	0	4	0	0	87	96
G11	122	1542-1646	1	0	0	0	0	0	0	2	0	0	121	99
G12	183	1567-1704	0	0	0	1	0	0	0	1	0	0	181	99
G13	235	1592-1732	0	0	0	0	0	0	0	9	0	0	227	97
G14	420	1609-1789	0	0	0	1	0	0	0	10	1	0	408	97
G15	676	1626-1836	3	0	0	1	0	0	0	15	1	0	657	97
G16	928	1662-1869	0	0	0	1	0	2	0	12	2	1	911	98
G17	976	1697-1884	3	0	0	3	1	2	0	5	3	1	958	98
G18	1071	1722-1904	2	0	0	0	1	0	0	8	1	3	1056	99
G19	943	1749-1904	4	0	0	0	0	0	0	6	0	0	934	99
G20	687	1790-1904	1	0	0	1	1	0	0	2	0	2	682	99
G21	482	1810-1904	0	0	0	0	0	0	0	0	0	0	482	100
G22	253	1847-1904	0	0	0	0	0	0	0	0	0	0	253	100
G23	55	1867-1903	0	0	0	0	0	0	0	0	0	0	55	100
G24	12	1891-1903	0	0	0	0	0	0	0	0	0	0	12	100
Total	7343		20	2	1	9	3	4	1	95	8	7	7207	98

This man, named Li Hsien 李憲 (1360-1437), probably earned his degree through special election rather than through examination as the Li genealogy said he was elected (hsuen 選) a Chin-shih in 1407. He was a Sub-prefect of Cheng-tu 成都 Prefecture in Szechwan and died while still at incumbent. There were only 2 Kung-sheng and 20 Sheng-yuan; altogether, the 23 men who had formal degrees account for merely 0.3% among all males in this lineage. Moreover, there were nine men who had purchased civil titles, three who had military merit titles, four who were local military officers, one who was a police-master of the Court of Censors (Tu-ch'a-yuan Tien-shih 都察院典史) in Peking, eight merchants and seven soldiers. There were 95 men (or 1.3%) had been bestowed with honorary titles. It is notable that a sixteenth-generation man, Li Ch'en-tien 李臣典 (1838-1864), who was a Brigade-General (Tsung-ping 總兵), died after being injured at the battle that recovered Nanking from the Taiping rebels in 1864. Not only that he himself was bestowed with great honor by the Kuang-hsu Emperor in 1895 but his father, uncle, grandfather and great grandfather were all bestowed with honors. Thus this event promoted the social status of the Shao-yang Li lineage. However, a great majority of the Shao-yang Li males was just common people as in the cases of other two lineages.

In short, each of the three lineages could be recognized as a group of some importance because it did have some distinguished members whose achievements conformed to cultural values of traditional China. These distinguished men accounted for less that one percent among their fellow lineage members if only the formal ladder of success was considered. But a lineage was formed and functioned not just for this very small number of men. A great majority of lineage members was just common people whose involvement made it possible for a lineage to emerge and function as a social group.

2. DYNAMICS OF LINEAGE POPULATION

The dynamics of a lineage population may be investigated from aspects of marriage, fertility, mortality, migration, and population growth if its genealogy provides enough useful records. If a genealogy recorded only the lineage members' names without providing their vital dates, we may just count the number of males recorded in each generation as shown in Appendix A. With these numbers, we can still see that, for each branches, the number of males increased generation by generation up to a certain point and then decreased. However, this pattern of change is actually due to the fact that the records of these genealogies ended in the year of compilation, and thus the decline in number after certain generation was simply because those who born after that particular year did not have a chance of being recorded. With the reference of birth years in record, we can see that generations are over-lapping each

other in time.[5] The span of a generation (the interval between the first and the last birth year in each generation), becomes longer and longer until the last birth happened to be in the year when the genealogy was compiled. The difference of the first birth year between the neighboring two generations reflects more or less the time gap between the father and the son.[6] It is quite clear that a genealogy without records of vital dates is not very useful for the study of lineage population.

As a matter of fact, most of the genealogies did not provide the vital dates of all persons in records. A survey over 49 genealogies belonging to families and lineages in 12 provinces showed that on the average, 80 percent of the male birth date, 68 percent of the female (in-married women) birth date, and 39 percent of both male and female death date were known.[7] For the three Hunan lineages studied in this paper, the available male birth date accounted for 90%, 76%, and 87% for the Heng-yang Wei, the Ch'ing-ch'uan Li, and the Shao-yang Li respectively; the male death date for 47%, 46%, and 36%; the female birth date for 81%, 72%, and 83%; and the female death date for 45%, 46%, and 41%. Thus, the three Human genealogies provided quite good data for investigating the dynamics of lineage populations.

The follow paper will not repeat the details about out-migration of the members of these lineages as those related to the Heng-yang Wei and the Shao-yang Li had been discussed elsewhere. It was found that out-migration had help relieve the population pressure within these lineages and there was a tendency for members of the same branch to move in the same direction, reflecting a push and pull effect among the lineage members.[8] The discussion below will concentrate on statistics about marriage, fertility, mortality, and growth of the three lineage population. These demographic analyses may help in revealing the process of formation of these lineages.

(1) Marriage

Statistics related to martial status of members in the three lineages are listed in Table 2abc. Heading of columns in Table 2abc are as follows:

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[5] For a discussion on the nature of generation overlapping see, John C. H. Fei and Ts'ui-jung Liu, "The Growth and Decline of Chinese Family Clans," *Journal of Interdisciplinary History*, XII: 3 (Winter 1982), pp. 375-408.

[6] It should be noted that a deviation from this regularity can be found in second branch of the Wei lineage during G17-G20. Here we see that the first birth year of these generations are very close to each other. Checking the original records, I found that there were lots of blanks across these generations and these available dates happened to be there. Thus I would think that this is simply a result due to missing records.

[7] These percentages are calculated from the genealogies under investigation for presenting in a book on lineage population by this author.

[8] Liu Ts'ui-jung 劉翠溶, "Ming-Ch'ing jen-kou chih tseng-chih yu ch'ien-i 明清人口之增殖與遷移 (Population Growth and Migration during the Ming and Ch'ing Periods)," in Cho-yun Hsu *et al*., (eds.), *Papers from Seminar on Chinese Social and Economic History* (Taipei, 1983), pp. 303-314.

(1) Number of the First Wife = Number of Male Married

(2) Number of the Second Wife

(3) Number of the Third Wife

(4) Number of the Fourth Wife and above

(5) Number of Concubine

(6) Total Number of Consort

(7) Number of Male Betrothed

(8) Number of Male Unmarried

(9) Number of Male Unmarried with Age at Death Unknown

(10) Number of Male Unmarried with Age at Death above 50

(11) Number of Consort Remarried out of the Lineage

(12) % of Male Remarried Once = (2)/(1) x 100

(13) % of Male Remarried Twice = (3)/(1) x 100

(14) % of Concubine = (5)/(6) x 100

(15) % of Consort Remarried Out = (11)/(6) x 100

(16) % of Male Unmarried above Age 50 = (10)/N Male x 100

Table 2a: Marital Status of Lineage Members: Heng-yang Wei

Gen.	N Males	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
G1	1	1	0	0	0	0	1	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
G2	2	2	0	0	0	0	2	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
G3	2	2	0	0	0	0	2	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
G4	4	4	0	0	0	0	4	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
G5	5	5	0	0	0	0	5	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
G6	11	10	0	0	0	0	10	0	1	1	0	0	0.0	0.0	0.0	0.0	0.0
G7	21	18	0	0	0	0	18	0	3	3	0	0	0.0	0.0	0.0	0.0	0.0
G8	22	19	0	0	0	0	19	0	3	3	0	0	0.0	0.0	0.0	0.0	0.0
G9	29	24	0	0	0	1	25	0	5	5	0	0	0.0	0.0	4.0	0.0	0.0
G10	44	38	1	0	0	1	40	0	6	6	0	0	2.6	0.0	2.5	0.0	0.0
G11	69	66	0	0	0	1	67	0	3	3	0	0	0.0	0.0	1.5	0.0	0.0
G12	86	63	3	0	0	1	67	0	23	19	2	0	4.8	0.0	1.5	0.0	2.3
G13	98	75	0	0	0	0	75	0	23	21	1	1	0.0	0.0	0.0	1.3	1.0
G14	113	83	5	1	0	1	90	0	30	27	1	2	6.0	1.2	1.1	2.2	0.9
G15	132	101	11	1	0	3	116	0	31	30	1	4	10.9	1.0	2.6	3.5	0.8
G16	190	176	8	0	0	0	184	0	13	8	4	3	4.6	0.0	0.0	1.6	2.1
G17	315	278	16	1	1	3	299	0	35	25	3	16	5.8	0.4	1.0	5.4	1.0
G18	548	407	23	4	0	0	434	0	139	95	26	16	5.7	1.0	0.0	3.7	4.7
G19	821	548	54	7	0	5	650	1	232	160	52	39	9.3	1.2	0.8	6.0	6.3
G20	1183	800	69	7	1	7	884	1	382	253	73	86	8.7	0.9	0.8	9.7	6.2
G21	1512	983	107	10	0	7	1107	4	525	296	132	107	10.9	1.0	0.6	9.7	8.7
G22	1860	1231	127	14	3	23	1398	7	621	280	171	129	10.3	1.1	1.7	9.2	9.2
G23	2258	1382	148	16	1	46	1593	8	864	499	148	140	10.7	1.2	2.9	8.8	6.6
G24	2146	1229	140	15	2	28	1414	10	904	690	54	144	11.4	1.2	2.0	10.2	2.5
G25	1714	873	87	7	1	13	981	10	831	728	17	91	10.0	0.8	1.3	9.3	1.0
G26	948	438	56	6	3	0	503	2	506	461	11	51	12.8	1.4	0.0	10.1	1.2
G27	360	166	17	0	0	1	184	1	191	183	2	19	10.2	0.0	0.5	10.3	0.6
G28	108	39	1	0	0	0	40	2	67	65	0	2	2.6	0.0	0.0	5.0	0.0
G29	13	2	0	0	0	0	2	0	11	11	0	0	0.0	0.0	0.0	0.0	0.0
Total	14615	9099	873	89	12	141	10214	55	5449	3872	698	850	9.6	1.0	1.4	8.3	4.7

Table 2b: Marital Status of Lineage Members: Ch'ing-ch'uan Li

Gen.	N Males	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
G1	1	1	0	0	0	0	1	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
G2	1	1	0	0	0	0	1	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
G3	7	5	0	0	0	0	5	0	2	2	0	0	0.0	0.0	0.0	0.0	0.0
G4	9	9	0	0	0	0	9	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
G5	14	9	0	0	0	0	9	0	5	5	0	0	0.0	0.0	0.0	0.0	0.0
G6	20	15	1	0	0	0	16	0	5	5	0	0	6.7	0.0	0.0	0.0	0.0
G7	32	24	0	0	0	0	24	0	8	8	0	0	0.0	0.0	0.0	0.0	0.0
G8	46	43	3	0	0	2	48	0	3	3	0	0	7.0	0.0	4.2	0.0	0.0
G9	89	67	6	1	0	0	74	0	22	14	7	0	9.0	1.5	0.0	0.0	7.9
G10	129	94	2	0	0	1	97	0	35	27	4	0	2.1	0.0	1.0	0.0	3.1
G11	171	139	6	0	0	2	147	0	31	22	6	0	4.3	0.0	1.4	0.0	3.5
G12	299	206	9	0	0	3	218	0	94	71	12	0	4.4	0.0	1.4	0.0	4.0
G13	459	321	21	1	0	2	345	0	137	108	13	0	6.5	0.3	0.6	0.0	2.8
G14	722	488	39	2	0	3	532	0	235	163	42	0	8.0	0.4	0.6	0.0	5.8
G15	949	525	51	5	0	9	590	0	421	291	71	0	9.7	1.0	1.5	0.0	7.5
G16	986	532	76	14	0	11	633	0	453	271	90	0	14.3	2.6	1.7	0.0	9.1
G17	930	453	57	6	2	4	522	0	477	315	53	0	12.6	1.3	0.8	0.0	5.7
G18	676	324	42	2	0	1	369	1	350	296	11	0	13.0	0.6	0.3	0.0	1.6
G19	389	172	16	1	0	1	190	1	217	195	0	0	9.3	0.6	0.5	0.0	0.0
G20	115	26	0	0	0	0	26	0	89	84	0	0	0.0	0.0	0.0	0.0	0.0
G21	2	0	0	0	0	0	0	0	2	2	0	0	0.0	0.0	0.0	0.0	0.0
Total	6046	3454	329	32	2	39	3856	2	2586	1882	309	0	9.5	0.9	1.0	0.0	5.1

Table 2c: Marital Status of Lineage Members: Shao-yang Li

Gen.	N Males	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
G1	2	2	0	0	0	1	3	0	0	0	0	0	0.0	0.0	33..3	0.0	0.0
G2	4	4	0	0	0	1	5	0	1	1	0	0	0.0	0.0	20.0	0.0	0.0
G3	5	5	0	0	0	1	6	0	0	0	0	0	0.0	0.0	16.7	0.0	0.0
G4	11	11	1	0	0	0	12	0	0	0	0	0	9.1	0.0	0.0	0.0	0.0
G5	18	16	1	0	0	0	17	0	2	2	0	0	6.3	0.0	0.0	0.0	0.0
G6	24	21	1	0	0	2	24	0	3	3	0	0	4.8	0.0	8.3	0.0	0.0
G7	35	32	2	0	0	0	34	0	3	3	0	0	6.3	0.0	0.0	0.0	0.0
G8	45	44	6	1	0	1	52	0	1	0	0	0	13.6	16.7	1.9	0.0	0.0
G9	69	55	4	0	0	0	59	0	15	14	0	0	7.3	0.0	0.0	0.0	0.0
G10	91	75	5	0	0	0	80	0	16	14	1	0	6.7	0.0	0.0	0.0	1.1
G11	122	101	2	0	0	3	106	0	21	16	2	0	2.0	0.0	2.8	0.0	1.6
G12	183	143	9	0	0	1	153	0	40	32	3	0	6.3	0.0	0.7	0.0	1.6
G13	235	188	7	0	0	0	195	0	47	41	1	0	3.7	0.0	0.0	0.0	0.4
G14	420	315	15	1	1	2	334	0	104	98	5	0	4.8	6.7	0.6	0.0	1.2
G15	676	476	32	2	0	2	512	0	198	161	22	4	6.7	6.3	0.4	0.8	3.3
G16	928	581	39	1	0	5	626	0	346	292	35	22	6.7	2.6	0.8	3.5	3.8
G17	976	606	50	7	0	9	672	0	369	290	39	50	8.3	14.0	1.3	7.4	4.0
G18	1071	614	60	7	0	2	683	0	457	386	37	36	9.8	11.7	0.3	5.3	3.5
G19	943	508	47	3	0	3	561	1	432	362	25	24	9.3	6.4	0.5	4.3	2.7
G20	687	364	32	2	1	2	401	4	318	282	7	19	8.8	6.3	0.5	4.7	1.0
G21	482	235	14	0	0	3	253	3	243	230	1	10	5.9	0.0	1.2	4.0	0.2
G22	253	83	4	0	0	1	88	2	168	161	0	3	4.8	0.0	1.1	3.4	0.0
G23	55	19	0	0	0	0	19	3	33	33	0	0	0.0	0.0	0.0	0.0	0.0
G24	12	0	0	0	0	0	0	2	10	10	0	0	0.0	0.0	0.0	0.0	0.0
Total	7348	4499	331	24	2	39	4895	15	2827	2431	178	168	7.4	0.5	0.8	3.4	2.4

From these tables, facts about marriage may be summarized as follows:

The number of the first wife in column 1 equaled the number of men who had married. When this number was compared with the total number of consort in column 6, we can see that on the average, each married man had more than one consort. On the average, the Heng-yang Wei and the Ch'ing-ch'uan Li had 1.12 and the Shao-yang Li had 1.09 consorts. In other words, remarriage of men was not unusual. The percentage of men remarried once (column 12) in the three lineages was 9.6%, 9.5%, and 7.4% respectively, and that for men remarried twice (column 13) was only 1.0%,

0.9%, and 0.5%. (Note that if the percentage of remarried twice is counted against those who remarried once, the result is 10.2%, 10.0%, and 7.3% respectively.) In addition to get remarried after a wife's death, men in traditional Chinese society could also have concubines. Comparatively, concubines of these three lineages in Hunan were not large in number (column 5) as they accounted for only about one percent among the consort (column 14). This percentage was smaller than an average of four percent calculated from 23 lineages in south China.[9] In any case, remarriage and concubinage of men was mainly for the sake of preventing from becoming heirless. For instance, the family instructions of the Wei lineage included one item that encouraged men over age 30 while still sonless to get concubines for producing offspring.[10]

As for the unmarried male, they can be counted from the genealogy with those who did not have any record about consort as shown in column 8. But this counting apparently exaggerated the situation of unmarried for most of these men had no record of age at death as shown in column 9 and many of them belonging to later generations were still rather young when the genealogy was compiled. Thus, we may count only those who died above age 50 and unmarried listed in column 10 as being not married at all and they accounted for about 4.8%, 5.1%, and 2.4% among all males (column 16) in the three lineages respectively. When we look at column 16 generation by generation, it is notable that men of the earlier generations all got married, while in later generations in which the number of males gradually became large, the percentage of unmarried also increased and was larger than that calculated by the total number. For instance, the percentage reached 9.2% in the 22nd generation of the Heng-yang Wei as well as 16th generation of the Ch'ing-ch'uan Li lineage. The increasing unmarried ratio in later generations would influence the speed of lineage population growth.

As for the remarriage of women, we can see from Tables 2a and 2c that in the cases of Heng-yang Wei and Shao-yang Li, the consort remarried out of the lineage accounted for 8.3% and 3.4% respectively. Since the Heng-yang Wei and the Shao-yang Li genealogies set out a rule that in-married women who got remarried should be remarked as *kai-shih* 改適, the counting for these two lineages should be quite reliable. As for the case of Ch'ing-ch'uan Li, its genealogy set out a rule that a woman remarried should not be recorded unless she brought her son along and under the son's name a remark of *sui-mu-ch'u* 隨母出 was made. There was such a case recorded in the Ch'ing-ch'uan Li genealogy in the 12th generation. No matter recorded or not, remarriage of woman was not at all prohibited even though the

[9] Ibid., p. 288.
[10] *Heng-yang Wei-shih tsung-p'u*, chuan shou: 2/5b.

society cherished chastity. Since most of the remarried women had their husbands died rather young at age, a consideration over support might be rather crucial for their remarriage although it was not clearly stated. It is also notable that a woman remarried out of the Wei lineage while her husband (a 25th generation man) had committed shameful behavior and his birth and death dates were purposefully omitted as a punishment by the Wei genealogy. Moreover, since quite a large number of men got remarried, a demand for re-marriageable women must be existed there in the marriage market.

The above investigation on marriage based on records generation by generation included everyone regardless whether the vital dates were available. Because the life span of members in different generations overlapped in time, it is rather difficult to trace changes through time by taking generation as a periodization unit. Thus, in the following, investigations on fertility and population growth, observations will be grouped by birth cohorts.

(2) Fertility

Since the Chinese genealogies usually did not record vital dates of daughters and the number was usually under-recorded, statistics organized for analyses on fertility and population growth should be based only on male births. Here, the fertility will be investigated simply in terms of average number of son per father without going through the process of estimating age specific fertility rate. The fathers observed were grouped into nine broad cohort groups from 1300 to 1849, the first three groups each consisted of 100 years, the next four each 50 years, and the last two each 25 years. This arrangement is taken simply because the number in observation was rather small for the first three hundred years. The cohorts after 1850 were not taken into consideration to avoid bias of low estimates as most of them did not complete their reproductive period when the three genealogies were compiled. The statistics for the three lineages are listed in Tables 3abc.

In Table 3abc, the number of fathers was distributed with number of sons that one had. For instance, in the case of Wei, 6 fathers belonging to the 1300 cohorts had no son (NS=0). The largest number of sons that a father had in these three lineages was 10, but fathers who had more than three sons were rather small in number. Since some men remarried, the number of mother was larger than the number of father and thus, the average number of sons per father and per mother differed proportionately.

Table 3a: Average Number of Son: Heng-yang Wei Lineage

	Cohort Groups of Fathers									
N Son	1300	1400	1500	1600	1650	1700	1750	1800	1825	Total
NS = 0	6	11	19	24	73	278	420	193	208	1232
NS = 1	1	30	44	56	111	278	366	235	225	1346
NS = 2	9	28	39	54	122	260	319	164	215	1210
NS = 3	4	10	19	39	89	210	256	123	142	892
NS = 4	0	5	9	16	83	128	172	95	111	619
NS = 5	2	0	3	10	47	67	82	47	58	316
NS = 6	1	0	1	4	23	41	40	25	27	162
NS = 7	0	0	1	4	11	7	13	5	9	50
NS = 8	0	1	0	0	2	1	1	3	3	11
NS = 9	0	0	0	0	0	0	2	1	3	6
NS =10	0	0	0	0	0	0	0	1	1	2
Total NS	47	144	243	447	1420	2578	3227	1775	2101	11982
Total DS	0	0	1	0	11	45	223	184	279	743
N Father	22	85	135	207	561	1270	1671	892	1002	5845
N Mother	22	91	148	227	611	1401	1881	1017	1202	6601
NS/Father	2.04	1.69	1.80	2.16	2.53	2.03	1.93	1.99	2.10	2.05
NS/Mother	2.04	1.58	1.64	1.97	2.32	1.84	1.72	1.75	1.75	1.82
% NS = 0	26.09	12.94	14.07	11.59	13.01	21.89	25.13	21.64	20.76	21.07
% DS	0.00	0.00	0.41	0.00	0.77	1.75	6.91	10.37	13.28	6.20

Table 3b: Average Number of Son: Ch’ing-ch’uan Li Lineage

	Cohort Groups of Fathers									
N Son	1300	1400	1500	1600	1650	1700	1750	1800	1825	Total
NS = 0	0	1	17	21	25	93	172	113	131	573
NS = 1	2	11	15	24	49	125	179	105	83	593
NS = 2	0	7	17	15	48	107	183	80	57	514
NS = 3	0	3	21	8	50	77	125	34	52	370
NS = 4	0	4	6	15	30	77	69	39	28	268
NS = 5	0	0	3	5	25	22	45	12	12	124
NS = 6	0	0	1	6	8	11	9	9	3	47
NS = 7	1	2	2	0	6	3	6	3	0	23
NS = 8	0	0	0	0	0	2	1	0	2	5
NS = 9	0	0	0	0	0	0	0	1	0	1
NS =10	0	0	0	1	0	0	0	0	0	1
Total NS	9	64	171	209	630	1091	1525	667	559	4925
Total DS	0	0	0	0	0	0	0	0	0	0
N Father	3	28	82	95	241	517	789	396	368	2519
N Mother	3	29	89	102	268	566	905	463	441	2866
NS/Father	3.00	2.29	2.09	2.20	2.61	2.11	1.93	1.68	1.52	1.96
NS/Mother	3.00	2.21	1.92	2.05	2.35	1.93	1.69	1.44	1.27	1.72
% NS = 0	0.00	3.57	20.73	22.11	10.37	17.99	21.80	28.54	35.60	22.75
% DS	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Table 3c: Average Number of Son: Shao-yang Li Lineage

N Son	Cohort Groups of Fathers									
	1300	1400	1500	1600	1650	1700	1750	1800	1825	Total
NS = 0	1	3	10	19	30	140	174	110	116	603
NS = 1	6	32	82	45	51	153	229	125	118	841
NS = 2	5	23	44	39	67	170	159	97	89	693
NS = 3	1	9	32	21	64	123	124	58	81	513
NS = 4	1	3	12	11	53	69	81	42	48	320
NS = 5	0	1	4	3	25	29	29	21	28	140
NS = 6	0	0	1	4	9	10	11	5	11	51
NS = 7	0	0	0	3	3	6	6	1	4	23
NS = 8	0	0	0	0	0	0	0	0	0	0
NS = 9	0	0	0	0	0	0	0	1	1	2
NS =10	0	0	0	0	0	0	0	0	0	0
Total NS	23	122	340	290	783	1385	1496	812	974	6231
Total DS	0	0	1	0	3	9	20	25	44	102
N Father	14	71	185	145	302	700	813	460	496	3186
N Mother	17	81	200	154	322	747	896	530	571	3518
NS/Father	1.64	1.72	1.84	2.00	2.61	1.98	1.84	1.77	1.96	1.96
NS/Mother	1.35	1.51	1.70	1.88	2.45	1.85	1.67	1.53	1.71	1.77
% NS = 0	7.14	4.23	5.41	13.10	9.93	10.00	21.40	23.91	23.39	18.93
% DS	0.00	0.00	0.29	0.00	0.38	0.65	1.34	3.08	4.52	1.64

It is notable that average number of sons per father (mother) reached a peak with the 1650 cohorts in the three lineages. This suggests that from about 1675 to about 1750 when these cohorts were well in their reproductive ages, the fertility of these lineage populations reached a peak; a remarkable recovery after the Ch'ing dynasty was solidly established. This high fertility of the 1650-99 cohorts was also found with the estimates of age specific fertility and total fertility in terms of male births by using data of families which had complete vital dates of their members.[11] This fact of increasing fertility supported the decision of K'ang-hsi Emperor to relieve all adult males born after 1711 from paying a ting 丁 (adult male) tax.[12] Other than this peak of fertility of 2.5 sons per father, the average was around 2 sons for other cohorts in the three lineages. It is also notable that the percentages of sonless fathers fluctuated; however, about one fifth of the fathers belonging to cohorts after 1700 had no son at all, while the 1650 cohorts had the smallest percentage of sonless father.

Furthermore, in the case of Heng-yang Wei and Shao-yang Li, sons who died young (DS) were recorded to some extent. It should be noted that the genealogies did not follow the same rule consistently to record child death. For example, the Heng-yang Wei genealogy recorded those who died young with a remark of *shang* 殤 below his name listed under his father; the Ch'ing-ch'uan Li genealogy did not record

[11] Liu Ts'ui-jung, "Ming-Ch'ing chia-tsu te hun-yin hsing-t'ai yu sheng-yu-lu 明清家族的婚姻型態與生育率 (Pattern of marriage and fertiliy of families and lineages in the Ming and Ch'ing periods)," paper presented at the Internation Conference on Social and Cultural History in Early Modern China, Taiepi, Institute of History and Philology, Acdemia Sinica, July, 1990, Table 21.

[12] Ping-ti Ho, *Studies on the Population of China, 1368-1953* (Cambridge, 1959), p.25.

those who died young (*shang-che-pu-shu* 殤者不書); and the Shao-yang Li genealogy set a rule in the last compilation that even those who died very young should be recorded (*yu-shang pi-shu* 幼殤必書). The statistics showed that the percentage of sons died young in the Shao-yang Li lineage was much smaller than that in Heng-yang Wei lineage for fathers from the 1650 cohort onwards. It is difficult to decide whether the case of Wei was an accurate record about male child death, but it is quite certain that the record of the Shao-yang Li tended to be too low. This finding about the sons who died young could be explained in two ways. On the one hand, it could be that the records became more and more complete as time was closer to the last compilation of the genealogy; on the other hand, it could be that the child mortality was actually increasing especially in the nineteenth century. Since our knowledge about child mortality of the Chinese historical population was still rather vague, it may be just right to keep this hypothesis for future study.

The above investigation on fertility suggested that a crucial period of population growth in Ch'ing China was around the last quarter of the seventeenth century and the first quarter of the eighteenth century. This could be further investigated with the estimated male population of the three lineages.

(3) Mortality

The male population of a lineage can be estimated with the records of births in different years and a set of survival ratios at different ages. Using the data of persons whose vital dates were recorded, we may organize the number of male births in five-year intervals according to the year of birth and the number of male deaths at five-year age groups according to the age at death. The number of male births in five-year intervals can be derived simply by counting (see Appendix B), while the survival ratios should be obtained through estimation of mortality.

With the distribution of number of deaths at each age group, we may construct a life table for a cohort, and from the life table we can derive a set for survival ratio. For this study, a life table was constructed for the male of each lineage based on a set of Qx (the probability of dying at age x), which was derived from a summation of number of deaths at each age of various cohort groups.[13] As can be seen from appendix C, the age at death of the earliest three cohort groups tended to be at higher age groups, while that of the latest cohort groups tended to be at lower age groups. Thus, a combination of all cohort groups may avoid bias to either too low or too high estimate of the mortality. Life tables thus constructed for males of the three lineages

[13] A polynomial regression formula: $\log Qx = a + bx + cx^2$ is applied to graduate the observed Qx, see I-chin Yuan, "Life Tables for a Southern Chinese Family from 1365-1849," *Human Biology*, 3: 2 (May 1931), p. 1161. For formulas of calculating other variables of a life table, see Ansely Coale and Paul Demeny, *Regional Model Life Tables and Stable Populations* (Princeton, 1966), Part I, p. 20.

are listed in Table 4abc.

Table 4a: Life Table of Males: Heng-yang Wei

Age	Obs. Qx	Gra. Qx	lx	dx	Lx	Tx	Ex
15	0.01891	0.02505	10000	251	49373.7	398333.9	39.83
20	0.03869	0.03251	9749	317	47955.0	348960.2	35.79
25	0.04769	0.04221	9433	398	46167.2	301005.2	31.91
30	0.05738	0.05482	9034	495	43933.7	254837.9	28.21
35	0.07527	0.07123	8539	608	41175.0	210904.2	24.70
40	0.09757	0.09259	7931	734	37818.5	169729.2	21.40
45	0.11869	0.12041	7197	867	33816.3	131910.7	18.33
50	0.15181	0.15665	6330	992	29171.1	98094.4	15.50
55	0.19919	0.20338	5338	1088	23971.2	68923.3	12.91
60	0.24009	0.26546	4250	1128	18429.7	44952.2	10.58
65	0.32732	0.34578	3122	1079	12910.6	26522.4	8.50
70	0.43794	0.45059	2042	920	7911.2	13611.9	6.66
75	0.55960	0.58741	1122	659	3962.7	5700.7	5.08
80	1.00000	1.00000	463	463	1157.4	1736.0	3.75

Table 4b: Life Table of Males: Ch’ing-ch’uan Li

Age	Obs. Qx	Gra. Qx	lx	dx	Lx	Tx	Ex
15	0.02273	0.02788	10000	279	49303.0	401830.6	40.18
20	0.04079	0.03460	9721	336	47765.1	352527.6	36.26
25	0.04452	0.04325	9385	406	45909.3	304762.5	32.47
30	0.05907	0.05444	8979	489	43672.6	258853.3	28.83
35	0.07339	0.06899	8490	586	40986.4	215180.7	25.34
40	0.08445	0.08803	7904	696	37782.5	174194.3	22.04
45	0.11673	0.11312	7209	815	34004.2	136411.8	18.92
50	0.13156	0.14636	6393	936	29626.3	102407.6	16.02
55	0.19022	0.19069	5457	1041	24685.3	72781.2	13.34
60	.023322	0.25018	4417	1105	19321.2	48096.0	10.89
65	0.33589	0.33049	3312	1094	13822.5	28774.8	8.69
70	0.46952	0.43960	2217	975	8649.4	14952.3	6.74
75	0.53106	0.58884	1243	732	4383.5	6302.8	5.07
80	1.00000	1.00000	511	511	1277.2	1919.3	3.76

Table 4c: Life Table of Males: Shao-ynag Li

Age	Obs. Qx	Gra. Qx	lx	dx	Lx	Tx	Ex
15	0.00733	0.01243	10000	124	49689.2	427594.5	42.76
20	0.02488	0.01833	9876	181	48926.0	377905.3	38.27
25	0.03349	0.02669	9695	259	47826.6	328979.3	33.93
30	0.04703	0.03838	9436	362	46274.4	281152.7	29.80
35	0.05887	0.05452	9074	495	44132.2	234878.3	25.89
40	0.07590	0.07649	8579	656	41254.9	190746.2	22.23
45	0.11100	0.10599	7923	840	37515.1	149491.3	18.87
50	0.12878	0.14504	7083	1027	32847.4	111976.2	15.81
55	0.16067	0.19605	6056	1187	27310.8	79128.9	13.07
60	0.25574	0.26172	4869	1274	21157.3	51818.0	10.64
65	0.30864	0.34508	3594	1240	14870.9	30660.8	8.53
70	0.45238	0.44938	2354	1058	9q25.5	15789.9	6.71
75	0.53804	0.57797	1296	749	4608.0	6664.4	5.14
80	1.00000	1.00000	547	547	1367.6	2056.4	3.76

These life tables showed that the expectation of life at age 15 was 39.83, 40.18, and 42.76 years respectively for males of the three lineages. These estimates are comparable to levels 8-10 of the west model life tables (E15 = 39.18, 40.47, 41.74).[14] These estimates of the expectation of life for the three lineages in Human were the highest among some southern Chinese lineages that had been investigated.[15] This finding about a lower mortality among these Hunan males would not be a surprise if we take into consideration the favorable agricultural resources along the Hsiang湘and Tzu資 river basins where these lineage people spent their lifetime.[16]

From a life table, the survival ratio can be obtained by taking Lx/50000. It should be noted here that the above three life tables are constructed using only the data with age at death known. As can be seen from Appendix C, there are quite a number of males whose ages at death were unknown. We may apply different methods to do repairs.[17] Here, since only those data with vital dates known are used, for the sake of simplification, we may derive survival ratios for ages below 15 by deducting the ratio of recorded deaths from 1. For instance, as listed in Appendix C, there are 2 deaths at ages 0-5 in the Wei lineage, these 2 men accounted for 0.00031 among 6574 men known to be survived at that age, thus, the survival ratio of this age group is 0.99969. Thus, a complete set of survival ratios from age 0 to age 80 can be obtained (see Table 5). But, the survival ratios for ages below 15 so derived are higher than those derived by extrapolating from age 15 using a model life table as a base.[18] Since we are using only the data with vital dates known, we may take a risk to make a high estimation of male population by using this set of survival ratios.

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[14] Anseley Coale and Paul Demeny, *Regional Model Life and Stable Populations*, Part I, pp. 11-13.

[15] Liu Ts'ui-jung, "The Demographic Dynamics of some Clans in the Lower Yangtze Area, ca. 1400-1900," *Academia Economic Papers*, Vol. 9 No. 1 (March 1981), pp. 152-156; Ts'ui-jung Liu, "I Kuang-tung Hsiang-shan Hsu-chih tsung-p'u wei-i shih-lun Chung-kuo chia-tsu ch'eng-chang chih kuo-ch'eng chi ch'i kung-neng chih fa-hui 以廣香山徐氏宗譜為例試論中國家族成長之過程及其功能之發揮 (A discourse on the growth and functions of a Chinese lineage: the case of Hsu lineage in Hsiang-shan, Kwangtung)," in *The Proceedings of the Third Conference on Asian Clan Genealogy* (Taipei, 1987), pp. 393-394; Liu Ts'ui-jung, "I-huang Pei-shan Huang-shih chih ch'eng-chang yu she-hui ching-chi huo-tung 宜黃北山黃氏之成長與社會經濟活動 (The growth and socio-economic activities of the Huang lineage of Pei-shan in I-huang)," in *The Proceedings of the Second International Conference on Sinology, Section of the Ming, Ch'ing and Modern History* (Taipei, 1989), pp. 256-257.

[16] Peter Perdue, *Exhausting the Earth: State and Peasant in Hunan 1500-1850* (Cambridge, Mass., 1987), pp. 25-39.

[17] Ts'ui-jung Liu, "The Demography of Two Chinese Clans in Hsiao-shan, Chekiang, 1650-1850," in Susan B. Hanley and Arthur P. Wolf (eds.), *Family and Population in East Asian History* (Stanford, 1985), p. 45. Stevan Harrell, "The Rich Get Children: Segmentation, Stratification, and Population in three Chekiang Lineages, 1550-1850," in Susan Hanley and Arthur Wolf (eds.), pp. 84-85. Ted Telford, "Patching the Holes in Chinese Genealogies: Mortality in the Lineage Population of Tongcheng County, 1300-1880," *Late Imperial China*, 11.2 (1990), pp. 116-136.

[18] See Ts'ui-jung Liu, "The Demographic Dynamics of some Clans in the Lower Yangtze Area, ca. 1400-1900," *Academia Economic Papers*, Vol. 9 No. 1 (March 1981), pp. 152-156.

Table 5: Survival Ratios of Males in the Three Lineages

Age	Heng-yang Wei	Ch'ing-ch'uan Li	Shao-yang Li
0	0.99969	0.99451	0.99809
5	0.99985	0.99632	0.99693
10	0.99817	0.99224	0.99654
15	0.98747	0.98606	0.99378
20	0.95910	0.95530	0.97852
25	0.92334	0.91819	0.95653
30	0.87867	0.87345	0.92549
35	0.82350	0.81973	0.88264
40	0.75637	0.75565	0.82510
45	0.67633	0.68008	0.75030
50	0.58342	0.59253	0.65695
55	0.47942	0.49371	0.54622
60	0.36859	0.38642	0.42315
65	0.25821	0.27645	0.29742
70	0.15822	0.17299	0.18251
75	0.07925	0.08767	0.09216
80	0.02315	0.02554	0.02735

(4) The Growth of Male Population

With a set of survival ratios for each lineage and the counting of male births in each five-year interval, we can estimate the male population for a certain year. For example, for the year 1390, we take the number of male births in a set of 17 five-year intervals from 1310 to 1390 and multiply each number by a survival ratio of corresponding age group from age 80 down to age 0, then sum up the 17 products of multiplication we obtain an estimate of male population. The estimation is done for every five year from 1310 to 1890. To save the space, details of branches and distribution by age are omitted, only the estimated male population in every ten year of the entire lineage and the annual growth rate are listed in Table 6 and the age structure represented by three broad age groups are listed in Table 7.

As mentioned in the introduction, the Heng-yang Wei started with an ancestor born in 1120, the Ch'ing-ch'uan Li with an ancestor born in 1364, and the Shao-yang Li with two ancestors born in 1296 and 1298. We can see from Table 6, in 1390 there were 21 Wei males, 2 Ch'ing'-ch'uan Li males, and 10 Shan-yang Li males. It took 270 years for the Wei to grow from one man to 21 men, 26 years for the Ch'ing-ch'uan Li to grow from one man to two men, and 92 years for the Shao-yang Li to grow form two men to 10 men. The annual growth rate for the males was 1.14%, 2.67%, and 1.75% for the three lineages respectively for the time before 1390. In the early stage of the formation of a lineage, the population growth rate should be higher than just for the replacement, otherwise, since the number was still very small the risk of being perished would be rather high and a lineage might never be formed.

Table 6: Estimated Male Population and Growth Rate

Year	Est. MP	GR %	Est. MP	GR %	Est. MP	GR %
1360	11		1		8	
1370	13	0.67	1	-0.08	9	4.14
1380	17	2.72	2	13.64	9	-1.10
1390	21	-0.04	2	-0.52	10	-1.36
1400	20	-0.37	6	14.18	11	2.26
1410	24	2.04	6	-0.46	15	1.65
1420	27	-0.63	9	1.62	17	2.64
1430	32	3.35	11	1.05	23	0.88
1440	37	1.52	11	-1.09	28	1.40
1450	41	1.19	13	1.86	32	1.01
1460	43	0.54	13	-0.03	35	0.68
1470	53	2.29	13	1.23	40	0.32
1480	53	0.07	16	2.35	43	0.99
1490	59	2.00	17	0.96	48	0.29
1500	60	0.11	18	0.81	52	1.77
1510	61	0.29	23	1.49	58	0.07
1520	60	0.25	30	2.48	64	1.26
1530	61	0.83	29	0.14	71	2.25
1540	60	-0.21	30	0.11	82	1.79
1550	60	0.12	34	0.85	88	0.80
1560	61	-0.17	36	1.87	98	0.79
1570	66	0.77	49	4.00	114	0.93
1580	79	2.33	49	-0.55	121	0.23
1590	87	1.52	58	1.53	127	0.55
1600	107	2.52	71	2.12	143	1.34
1610	126	0.98	81	1.64	151	0.71
1620	142	2.35	87	0.79	170	1.01
1630	179	2.90	96	1.38	178	0.64
1640	221	2.24	112	1.76	179	0.09
1650	241	1.45	122	1.14	182	0.67
1660	294	1.87	143	1.72	219	2.51
1670	365	2.28	167	1.83	230	0.23
1680	436	2.05	205	2.21	257	1.67
1690	575	2.50	254	2.31	313	1.96
1700	725	2.47	310	1.97	373	2.04
1710	903	2.42	391	2.18	475	2.51
1720	1162	2.42	469	2.07	598	2.05
1730	1343	1.49	544	1.62	702	1.55
1740	1552	1.51	632	1.26	823	1.99
1750	1785	1.28	716	1.45	949	1.19
1760	2022	1.03	803	1.29	1094	1.54
1770	2252	0.87	909	1.23	1181	0.66
1780	2446	0.93	1020	1.14	1257	0.64
1790	2662	0.80	1124	0.90	1337	0.71
1800	2772	0.31	1207	0.61	1443	0.78
1810	2864	0.19	1301	0.87	1509	0.51
1820	2954	0.28	1361	0.27	1565	0.14
1830	2991	0.07	1386	0.10	1576	0.02
1840	3098	0.37	1419	0.20	1621	0.19
1850	3219	0.37	1431	0.06	1675	0.23
1860	3331	0.16	1403	-0.55	1751	0.51
1870	3479	0.39	1354	-0.23	1850	0.39
1880	3684	0.51	1327	-0.46	1947	0.55
1890	3876	0.44	1257	-0.81	2012	0.45

Table 7: Age Structure of Male Populations of the Three Lineages in Human

	Heng-yang Wei			Ch'ing-ch'uan Li			Shao-yang Li		
Year	0-14	15-64	65+	0-14	15-64	65+	0-14	15-64	65+
1360	45.98	54.02	0.00	100.00	0.00	0.00	39.66	60.32	0.00
1370	23.36	76.64	0.00	100.00	0.00	0.00	33.30	66.70	0.00
1380	40.32	57.86	1.82	51.01	48.99	0.00	33.00	67.00	0.00
1390	42.02	57.77	0.22	53.18	46.82	0.00	20.40	75.86	3.73
1400	10.07	86.53	3.40	69.93	30.07	0.00	26.66	71.23	2.11
1410	33.95	63.08	2.96	61.84	38.16	0.00	47.96	48.55	3.49
1420	40.86	54.86	4.27	33.57	66.43	0.00	35.77	60.65	3.38
1430	31.19	66.27	2.34	35.93	62.51	1.56	48.28	50.39	1.33
1440	45.44	51.64	2.92	18.19	81.57	0.23	32.62	64.87	2.51
1450	33.84	61.26	4.90	29.72	68.99	1.29	31.35	66.32	2.33
1460	28.06	70.48	1.46	29.56	68.20	2.25	28.20	70.44	1.36
1470	39.24	58.97	1.79	22.74	70.53	6.73	30.01	66.61	3.38
1480	30.03	65.36	4.59	44.66	50.73	4.60	27.62	70.09	2.29
1490	30.71	67.17	2.12	40.49	54.27	5.24	33.33	61.49	5.18
1500	34.77	60.96	4.28	28.16	68.16	3.68	28.88	66.89	4.23
1510	26.04	70.08	3.88	43.30	53.80	2.90	37.66	58.63	3.71
1520	25.00	71.67	3.33	43.00	54.35	2.65	27.92	68.68	3.40
1530	29.45	65.55	5.00	24.28	74.63	1.09	32.54	63.52	3.95
1540	30.05	65.06	4.89	26.10	70.87	3.03	40.24	56.86	2.90
1550	26.85	69.60	3.55	29.54	66.60	3.85	32.86	63.23	3.91
1560	29.73	64.42	5.85	24.69	72.90	2.41	31.56	65.99	2.45
1570	33.07	62.73	4.20	50.52	45.69	3.79	34.26	61.50	4.25
1580	39.36	57.80	2.84	36.71	58.38	4.91	28.10	68.88	3.03
1590	38.10	59.18	2.73	32.35	65.29	2.36	25.13	72.50	2.37
1600	41.90	55.29	2.81	39.32	58.45	2.23	32.75	63.51	3.75
1610	40.52	57.36	2.12	36.79	59.90	3.31	31.67	64.54	3.79
1620	31.68	66.02	2.30	31.86	66.55	1.59	33.96	62.36	3.69
1630	44.63	53.25	2.13	31.17	65.51	3.32	29.13	66.24	4.63
1640	44.33	53.67	2.00	39.04	57.44	3.52	25.07	70.51	4.41
1650	34.00	63.98	2.04	35.03	62.11	2.86	24.60	71.87	3.53
1660	39.47	58.36	2.18	37.49	59.22	3.29	39.22	57.03	3.75
1670	41.61	55.84	2.55	38.69	58.25	3.06	36.49	59.53	3.98
1680	40.10	58.51	1.39	41.32	56.19	2.49	31.40	64.26	4.35
1690	45.03	53.16	1.81	42.28	55.85	1.87	41.10	55.62	3.28
1700	43.02	54.89	2.09	40.79	56.93	2.28	38.51	59.08	2.41
1710	41.93	56.65	1.41	41.68	56.40	1.93	41.79	56.63	1.58
1720	43.52	54.95	1.53	38.79	59.29	1.91	42.02	55.89	2.09
1730	36.89	61.34	1.77	36.74	61.27	1.99	35.68	61.83	2.49
1740	34.65	63.60	1.75	36.04	61.75	2.21	34.28	64.03	1.69
1750	35.61	62.11	2.29	33.73	63.74	2.53	35.41	62.19	2.40
1760	34.54	63.01	2.45	34.68	62.55	2.77	33.27	64.34	2.39
1770	33.15	64.26	2.58	35.35	61.49	3.16	31.16	65.90	2.95
1780	31.46	65.28	3.26	34.79	62.14	3.07	27.78	68.38	3.84
1790	32.62	64.22	3.16	33.17	63.75	3.08	29.00	67.26	3.73
1800	29.27	67.61	3.12	30.66	65.86	3.49	30.96	65.64	3.40
1810	27.56	68.75	3.69	30.43	66.30	3.26	29.27	66.39	4.34
1820	28.07	67.81	4.12	30.03	66.45	3.52	28.16	67.48	4.36
1830	27.97	67.63	4.41	26.33	69.56	4.11	24.61	70.68	4.71
1840	29.29	66.56	4.15	27.40	68.05	4.55	26.08	69.66	4.26
1850	30.76	64.73	4.51	27.52	67.62	4.87	27.69	67.94	4.37
1860	30.00	65.64	4.36	25.37	69.60	5.04	29.05	66.10	4.85
1870	29.27	66.66	4.05	21.96	72.83	5.21	30.95	64.37	4.68
1880	30.79	65.33	3.88	26.01	68.04	5.96	29.24	66.04	4.73
1890	30.50	65.72	3.78	22.55	71.73	5.72	27.71	68.16	4.13

From Table 6, we can see that when the number of a lineage population was still rather small, the growth rate was much subject to irregular events. For example, in the case of Ch'ing-ch'uan Li, seven sons were born in the third generation (see Table 1b) and the number of males increased from 2 to 6 during 1390-1400, thus the growth rate was as high as 11%. In a rather long period before 1650, although the male populations of the three lineages were increasing, the trends of growth were quite irregular, a high growth rate around 2% usually did not last for more than 20 years and sometimes a negative growth rate was found. It is rather difficult to interpret all fluctuations during this long period before 1650 as the three lineage populations did not fluctuate with the same momentum. Some fluctuations, however, were concurrent in time with occurrences of natural disaster. For instance, a low growth rate of the Heng-yang Wei and Ch'ing-ch'uan Li during 1530s-1540s was concurrent with a flood in 1534, a famine during 1537-38, and an epidemic in 1544 in the Heng-yang area where Ch'ing-ch'uan also located.[19]

A low growth rate of the Shao-yang Li in the 1590s was concurrent with consecutive years of famine in 1592-95; a very low growth rate in the 1640s was concurrent with a crop failure in 1641, a serious famine in 1642, a drought in 1646 and another serious famine in 1647 in Shao-yang.[20] These coincidences suggested that short term population fluctuation in traditional agricultural society was indeed affected by natural disasters to some extent. But, as the number of male populations in the three lineages under investigation was still rather small, the trends of growth could be subjected to irregular factors.

After 1650, however, a trend of upward population growth could be more clearly perceived for all the three lineages and a peak was commonly found around 1690. A rather high growth rate around 2% lasted until about 1720, and then the growth rate decreased continuously until 1890. This finding of rapid population growth rate in 1650-1750, particularly in 1690-1720, was conforming to the peak of fertility rate found for the 1650 cohorts as mentioned above (see Tables 3abc). It should be noted that the growth rate estimated from the survival male populations of the three lineages must be higher than a rate that the population in general could actually have achieved. For example, estimates of the population in Hunan in 1685 was 2,870,000 and in 1724 was 3,381,000; implying a growth rate of 0.42% per annum during these 39 years.[21] These estimates for the Hunan population during early Ch'ing were perhaps too low. In any case, this investigation over the three lineages in Hunan suggests that a crucial period of the population growth could be

[19] *Heng-yang hsien-chih* 衡陽縣志 (Gazetteer of Heng-yang county), (1872), chuan 2.

[20] *Shao-yang hsien-chih* 邵陽縣志 (Gazetteer of Shao-yang county), (1884), chuan 1.

[21] Chao Wen-lin 趙文林 and Hsieh Shu-chun 謝淑君, *Chung-kuo jen-kou shih* 中國人口史 (A history of Chinese population), (Peking, 1988), pp. 595-597.

clearly marked out. This finding can be helpful for our understanding of the population growth in early Ch'ing as there was no reliable registration except for the ting figures kept for the fiscal purpose.[22]

From 1760 on, the growth rates of the three lineages male populations all tended to decline. The number was still increasing but the speed of growth was slowing down. The growth rate during the years after 1800 was only about a half or a third of that of 1760. It is notable that in the 1830s, the three lineages all witnessed a very low rate of growth which was concurrent with a famine in both Heng-yang and Shao-yang in 1834, an epidemic in 1836 in Shao-yang and a flood in 1839 in Heng-yang. The low growth rate in the 1860s was concurrent with some disasters such as, a famine in 1862 in both Heng-yang and Shao-yang, a drought in 1865 in Heng-yang and another famine in 1869 in Shao-yang.[23] The number of male population of the Ch'ing-ch'uan Li reached a peak in the 1850s and then declined. The same pattern was not found in the other two lineages. This peak of the Ch'ing-ch'uan Li seemed to be right in time as the available national data and some lineages in the lower Yangtze area also peaked around that year.[24] But after 1850 a negative growth rate lasted over 40 years for the Ch'ing-ch'uan Li lineage seemed to be a bias due to the fact that this lineage genealogy was compiled in 1893 and records about newly born males around that year were not yet complete.

A lineage could be formed only if descendants of a common ancestor became prolific. The above investigation on the growth of lineage male population testified this basic condition. An event of branching could take place in very early stage of a lineage population growth as long as there were more than two males in a certain generations. For example, the Heng-yang Wei was segmented into five branches in the fifth generation; the Ch'ing-ch'uan Li was divided into five branches in the third generation; the Shao-yang Li's elder branch was subdivided into three in the second generation and its younger branch was subdivided into three in the third generation. Under the tradition of family division in Chinese society, the process of segmentation could go on forever as long as a generation had more than two males; however, it took several hundred years for a man's descendants to increase to a large number. It was only when the number of descendants became rather large that some measures were taken to bring them together.[25] This process of fusion was most concretely

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[22] Ping-ti Ho, *Studies on the Population of China, 1368-1953*, pp. 24-35.

[23] *Heng-yang hsien-chih*, chuan 2; *Shao-yang hsien-chih*, chuan 1.

[24] Ping-ti Ho, *Studies on the Population of China, 1368-1953*, pp. 281-282; Chao Wen-lin and Hsieh Chu-chun, *Chung-kuo jen-kou shih*, p. 542; Ts'ui-jung Liu, "The Demographic Dynamics of Some Clans in the Lower Yangtze Area," pp. 126-128.

[25] Segmentation and fusion of a lineage are subjects that have invited many studies, see for instance, Maurice Freedman, *Lineage Organization in Southeastern China* (London, 1958); Jack Potter, "Land and Lineage in Traditional China," in Maurice Freedman (ed.), *Family and Kinship in Chinese Society* (Stanford, 1970), pp. 121-127; Maurice Freedman, "Ritual Aspects of Chinese Kinship and

demonstrated in the compilation of a genealogy. It is notable that for the three lineages under studied, it was only when the male members were well over one thousand that the lineage genealogies were first compiled. For example, the Heng-yang Wei's genealogy was first complied in 1724 while the males estimated in the 1720s were 1,162; the Ch'ing-ch'uan Li tried twice but failed to compile a genealogy during the Ch'ien-lung and Tao-kuang periods before the first compilation was finally successful in 1858 when it had well over 1,400 males; the Shao-yang Li first compiled its joint genealogy in 1869 when is male members were more than 1,700 persons.

The sheer number was important because expenditures of compiling a genealogy were shared by all males. For example, the Wei genealogy required each male to share a fee (*ting-fei* 丁費) when it was compiled and this fee increased along with the time of compilation: 0.06 tael of silver in the first time, 100 copper cast in the second time, 160 cash in the third and the forth time, and 200 cash in the fifth time.[26] The Shao-yang Li lineage set up a rule that at a banquet held annually on the 15th of the lunar eleventh month, heads of lines (*fang-shou* 房首) should bring with them records about new male births, marriages, and deaths; for each new male birth and marriage an amount of 48 cash and for each death an amount of 24 cash should be paid and these money were reserved for the purpose of compiling the genealogy.[27]

Moreover, not only the number was important but the age structure would affect the efficiency of a lineage to perform its functions. It also took a long time for the age structure of a man's descendants to adjust to a pattern that would be more favorable for a lineage to perform its functions. The age structure of males in the three lineages could be seen from Table 7. We can see that in early years of a lineage, the age structure of its male population could be rather bias to young ages. For example, the Ch'ing-ch'uan Li with its first ancestor born in 1364, while in 1410 a large proportion of its male population was still below age 15 and none was above age 65. The age structure of these lineage populations was not at all maintained stable during 500 years under observation. This can be seen from fluctuations in the percentages of three broad age groups in all these three cases. It is quite clear that in the years of a higher growth rate, there would be a higher percentage for those below age 15. This was commonly found in the three lineages during 1690s-1720s when the growth rate was the highest. It is also notable that the percentage of adult males, represented by the age group 15-64, was mostly above 50% throughout the long period under

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Marriage," in Ibid., p. 168. But these studies have not tried to discuss the process from the population aspect. For a study of segmentation and lineage population see Stevan Harrell, "The Rich Get Children," pp. 81-109.

[26] *Heng-yang Wei-shih tsung-p'u*, chuan shou.

[27] *Hunan Shao-i Li-shih tsu-p'u*, chuan 6: "Chi-ssu-chih 祭祀志".

observation except for a few decades in each case before 1580. This meant that the dependency ratio, calculated with the percentage of age group 15-64 as a denominator and the sum of other two age groups as a numerator, was usually less than one. This was a favorable demographic indicator for a lineage to perform its functions.

3. PERFORMANCE OF LINEAGE FUNCTIONS

Except for compiling a genealogy to help reinforcing consciousness of membership, the three lineages also had some kinds of collective activities that identified them as a corporate group. With documents available in the three genealogies, these collective activities may be discussed below.

Ancestral worship was one of the important collective activities of any lineage. Individual lines might separately worship their direct ancestors; however, a joint ancestral hall for a lineage was usually established long after the death of the first ancestor. For example, three sub-branches of the Heng-yang Wei, resided at Yu-t'ang 畬堂, proposed to build a joint ancestral hall in 1816 and completed it in 1817; a lag of 616 years after the death of their founding ancestor. In 1866, the Wei lineage used a corporate fund to purchased an estate with buildings in five courtyards in Heng-yang city and made it into a family shrine (*chia-miao* 家廟) for the entire lineage. The Ch'ing-ch'uan Li lineage constructed the main part of their ancestral hall in 1707, a lag of 276 years after the death of their founding ancestor; and it took another hundred more years to complete the supplementary parts to the right and left of the main building in the 1820s and in 1856. The Shao-yang Li lineage completed a joint ancestral hall for its elder branch in 1802, a lag of 414 years after the death of their first ancestor; and in 1899 the hall was rebuilt. It is not clear whether there was a joint ancestral hall for the younger branch or one for the entire Shao-yang Li lineage. These evidences suggested that collective ancestral worship was an activity that a lineage performed only when descendants were already quite large in number and it took times.

Moreover, to construct a joint ancestral hall required members of a lineage to share expenditures. For example, the Heng-yang Wei ancestral hall "spent more than one thousand tales" to complete construction in 1817. In addition to fees allocated to males and private lands (*ting-fei*丁費, *t'ien-fei*田費), an amount of 458,340 cash was contributed by 127 individual members. It is notable that individual contributions ranged from 100 to 119,600 cash with the largest amount contributed by a twenty-second generation member, Wei Chin魏晉 (1759-1831), who was a Chu-jen in 1779 and 100,000 cash of his contribution was made when he served as a

magistrate in Cheng-p'ing鎮平, Honan, in 1819.[28]

It was not clear how much money was spent in constructing the Ch'ing-ch'uan Li ancestral hall, but it was said that when the ancestral hall was first built there were quite a number of wealthy members in the lineage, yet only the main hall was built because those who were in charge of the affair would like to set a model for later generations to follow.[29] The Shao-yang Li's elder branch ancestral hall completed in 1802 used more than 500 tales and the rebuilding in 1895 used 1,130,000 cash. In both occasions, many individual members contributed to help constructions.[30]

In addition to constructing the ancestral hall, the lineage also had some kinds of corporative funds. For example, the Heng-yang Wei and the Ch'ing-ch'uan Li had their corporate funds known as *kung* 公 (public), while the Shao-yang Li lineage had some funds known as *hui*會 (association). It was known that the three Wei sub-branches at Yu-tang each had a fund raised from rents of public land (*kung-tsu* 公租). In 1816 when the ancestral hall was built, these public funds were pooled together. Moreover, the three sub-branches also set up an agreement that each member participating in annual sacrifice should contribute 60 cash three days in advance of the ceremony. Furthermore, as the sacrifice was joined, they agreed to set up a fund of 30,000 cash for helping performing services as local headmen, such as Pao-cheng保正 and Chia-chang甲長, so that a previous practice of taking these services in turn could be abolished.[31] When the Wei lineage shrine was established in 1866, a public fund (*kung-t'ang*公帑) was set up with 12 columns (*chu*柱), each consisted of certain sub-branches and each was allotted with 200,000 cash.[32] After paying the price of estate with 1,200,000 cash, the balance amount was used in money lending and in the early Kuang-hsu period (1875-1908) a shop house to the left of the shrine was purchased with 169,000 cash. A note dated in 1882 said that rents collected from two shop houses in the front and one to the left of the shrine were used for reparations of these houses and the shrine. As for the expense of annual sacrifice at the shrine, during the first 24 years from 1866 to 1889, it was shared by the 12 columns; from 1890 onwards, an amount of 12,000 each would be provided by the public fund and the column in duty of the year should be responsible for extra expenses. Managers were elected to take charge of the public fund and its accounting. The incumbent for mangers was five years and the account should be checked publicly on the date of

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[28] *Heng-yang Wei-shih tsung-p'u*, "Tz'u-t'ang pei-chi 祠堂碑記" and the biography of Wei Chin in chuan 19.

[29] *Hsiang-tung T'ao-ch'iao Li-shih tsung- p'u*, "Tz'u-t'ang –chi 祠堂記".

[30] *Hunan Shao-i Li-shih tsu-p'u*, "Jung-Hua erh-kung tz'u-t'ang chi 榮華二公祠堂記".

[31] *Heng-yang Wei-shih tsung-p'u*, "Ho-ssu ho-Ch'ai ho-yueh 合祀合差合約".

[32] Among the 12 columns, 6 belonged to the three sub-branches of the first branch residing at Yu-t'ang. This suggested that the Wei lineage was in fact quite differentiated among its branches and sub-branches due to the number of males each had contained and the wealth each had owned.

sacrifice (the 21st of the lunar tenth month) at time of transference.[33]

The Ch'ing-ch'uan Li had a corporate fund affiliated with the ancestral hall (*Tz'u-kung*祠公) which contained several pieces of land purchased by the name of the ancestral hall or contributed by certain members of the lineage. This Li lineage corporate fund was managed by six persons; two of them were in charge of the accounting and four of them the expenditures. It was agreed that if any fault was found with the management, those who were in charge should be dismissed at once.[34] The Ch'ing-ch'uan Li lineage also had a corporate fund affiliated with the chartable school which also consisted of several pieces of land contributed by the lineage members.[35] Moreover, from a biography of a lineage member, named Li Ao李鰲 (1827-1881), we could gather that a public fund was set up for male births and sacrifice (*jen-ting chi-ssu kung* 人丁祭祀公) in a particular line.[36]

The Shao-yang Li lineage had a *hui* set up mainly for the purpose of compiling genealogy and some others for sacrifices. Most of these *hui* held land estates.[37] Although it was not clear how these estates were managed, the Li lineage rules regulated that these estates should not be sold by any individual and some fellowships were provided from these *hui* to help poor yet smart members in taking examinations.[38]

It is notable that money lending was a common method of managing the lineage public funds. It was not clear how much interest rate was charged by the Wei lineage shrine public fund just mentioned above, however, from other funds of smaller scale we could gather the level of interest rate. For example, a certain sub-branch of the Wei lineage sold out a piece of public mountain land in 1785 for an amount of 22,000 cash and after lending for one year the amount was increased to 26,500 cash, thus the compound interest rate per month was 1.5%.[39] Another fund of 8,000 cash collected from four lines in 1825 for the purpose of sacrifice was put into lending and the amount was increased to 34,000 cash after eight years, thus the compound interest rate per month was 1.5%.[40] Moreover, there were other public funds which were increased through lending although details were not enough for estimating the interest rate.[41] Even those lines moved to Chu-ch'i竹谿 in Hupei had set up a public fund and managed it through lending since 1812 for the purpose of building a branch

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[33] *Heng-yang Wei-shih tsung-p'u,* "Heng-ch'eng chia-miao kung chi 衡城家廟公記".
[34] *Hsiang-tung T'ao-ch'iao Li-shih tsung- p'u,* chuan: "Tz'u-kung Chiu-kui 祠公舊規".
[35] Ibid., chuan 2.
[36] Ibid., "Hu-pang shien-sheng hsing-ludh 虎榜先生行略".
[37] *Hunan Shao-i Li-shih tsu-p'u,* chuan 6.
[38] Ibid., chuan 7.
[39] *Heng-yang Wei-shih tsung-p'u,* "Yuan-shan-ch'ung hsin-tsu-shan shan-tien chi 元山沖新祖山山田記".
[40] Ibid., "Chi-han-kung ssu-t'ien chi 季含公祀田記".
[41] Ibid., "Tzu-hsueh-kung kung-chi 子學公公記"; "San-t'an hsueh-kung ho-yueh 三灘學公合約".

ancestral hall.[42] These evidences demonstrated that money lending was a common method of managing public funds and the interest rate was about the same level regulated by the Ch'ing government.[43]

It was not clear how the Shao-yang Li lineage managed their *hui*. Perhaps it was operated similarly to mutual financing associations (*ho-hui* 合會) in Chinese society,[44] as some of the Shao-yang Li lineage *hui* had limited number of participation.[45] It is quite certain that this method of mutual financing association was practiced by the Wei lineage. For example, it was said that the corporation fund of a certain sub-branch had accumulated its money through lending since 1822. Once they had tried to buy a piece of land but the fund was not enough, so that they raised money through mutual financing association (*chu-chin-ch'eng-hui*醵金成會) for a supplement.[46]

Besides for ancestral worship, corporate funds were also raised for the purpose of education and philanthropy activities. For example, the Wei lineage's sub-branch at San-t'an had a fund accumulated to more than 300,000 cash in 1882, it was agreed to use this amount as a school fund.[47] In 1880-1881, members of sub-branches at T'ang-fu contributed lands for a charitable school.[48] In 1893, the Wei lineage corporate estate for the charitable school and philanthropic hall was accumulated up to 4,316 shih of land.[49] Moreover, in 1894 an amount of 500 taels was contributed by a member to set up a public fund for storing grain which would be loaned out to the lineage members at an interest rate of 1% such as the community granary did.[50] It is notable that this particular member, named Wei Lin-hsien 魏嶙先 (1832-1898), had served under Tseng Kuo-fan曾國藩 (1811-1872) during the campaign against the Taipings and later was in charge of affairs related to the government salt monopoly in Yang-chou. He used his earnings to purchase land gradually in Heng-yang and the total amount was equivalent to more than 900 tan of rent. After his death, his sons used his legacy of land equivalent to 562 tan as a permanent sacrifice land.[51]

Compared with the Wei lineage, the corporate activities of the Ch'ing-ch'uan Li

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[42] Ibid., "Chu-ch'i hsien tz'u-t'ang pei-chi 竹谿縣祠堂碑記".
[43] Lien-shang Yang, *Money and Credit in China: A short History* (Cambridge, Mass., 1952), p. 98.
[44] Ibid., p. 75.
[45] *Hunan Shao-i Li-shih tsu-p'u*, chuan 6: "Chi-ssu-chih 祭祀志".
[46] *Heng-yang Wei-shih tsung-p'u*, "tsu-hsueh-kung kung-chi 子學公公記".
[47] Ibid., "San-t'an hsueh-kung ho-yueh 三灘學公合約".
[48] Ibid., "T'ang-fu i-hsueh-kung chi 唐福義學公記".
[49] Ibid., "I-hsueh T'ung-jen liang-kung pei-chi 義學同仁兩公碑記". It should be noted that in Human, the unit of land was usually counted in terms of rent by tan 擔 or shih 石 rather than in terms of mou 畝. From some corporate lands of the Ch'ing-ch'uan Li lineage, we could gather that the rrent was about 80% of the shoots (*yang* 秧)that were planted to a piece of land. For example, a piece of land planted with 10 tan of shoots and its rent was 8 tan. See *Hunan Shao-i Li-shih tsu-p'u*, chuan 2.
[50] *Heng-yang Wei-shih tsung-p'u*, "Chi-ku-kung chi 積穀公記".
[51] Ibid., "Chih-t'ien-kung ssu-t'ien chi 祉田公祀田記".

and the Shao-yang Li lineages were rather small in scale. The Ch'ing-ch'uan Li lineage set up a charitable school with a rent of 100 tan and a small charitable estate of 10 tan by 1858.[52] From a list of contributions to this Li lineage charitable school, a total amount of 180,400 cash and 60.3 tan was collected.[53] The Shao-yang Li genealogy did not include any special document related to lineage collective activities except for compiling genealogy and ancestral sacrifices. However, from biographies of individual members we could gather that some collective activities also existed. For example, it was said that a man of the 18th generation, named Li Jung-kun 李榮崑 (1822-1885), was very fair in managing the lineage granary and corporate *hui*.[54] Another man, named Li Tse-chang李澤長 (1740-1816), contributed his earning from trading to purchase land equivalent to 100 shih of rent for establishing a *hui* for branch sacrifice and provided fellowships to some brilliant youths.[55]

In short, the three lineages all had some corporate properties and performed some kinds of collective activities that the members identified themselves as a group. These collective activities were made possible partly due to the fact that the lineage members had already grown to quite a large number and partly because there were at least some wealthy, generous, and eminent members who played the role of leaders in these activities. The lineage corporate activities would indeed benefit its members to some extent. It would be more important, if the local community as a whole could be benefited due to functioning of lineages and their eminent members. For this aspect of interactions between lineage and community, a few more words should be added.

A lineage could not isolate itself from the community. The family or lineage instructions (*chia-hsun* 家訓, *tsung-kuei* 宗規) usually included principles not only valuable for the lineage as an individual group but also for its relations to the society and the state. For example, the three Hunan lineages all had included in their lineage instructions that the land tax should be paid in due time, that neighbors should be kept friendly, that everyone should not be idle and jobless, and that female infanticide should be prohibited. Although it is hard to tell how effective these instructions would influence the behavior of the lineage members, it should not be taken just as being mere paper talks. Moreover, it is notable that short biographies included in the genealogies often stressed those who were generous in supporting activities, such as famine relief, road construction, bridge building, and other charitable deeds, that were beneficial for the local community.

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[52] *Hsiang-tung T'ao-ch'iao Li-shih tsung- p'u*, "I-hsueh-chi 義學記"; I-t'ien- chi 義田記".
[53] Ibid., "I-hsieh chuan-hiang ming-mu 義學捐項名目".
[54] *Hunan Shao-i Li-shih tsu-p'u*, chuan 14.
[55] Ibid., chuan 14.

CONCLUDING REMARKS

The above discussions based on the three Hunan lineage genealogies tried to convey a few points that may be helpful for our understanding of the family process and political process in late imperial China. First, a lineage could be formed only when descendants of a common ancestor had become rather proliferous and it took times to lay up this necessary condition. Furthermore, a lineage could perform some collective activities not only because it had a population with favorable age structure but also it had some eminent, wealthy, and generous members who would serve as leaders in these activities. Finally, a lineage could not be isolated from the community; proper functioning of a lineage would benefit not only the lineage itself but also the community as a whole. The development of lineage organizations in late imperial China was just a reflection to the situation that was favorable for its formation and operation.

Appendix A: Number of Males classified by Generation and the Birth Year Known

(1) The Heng-yang Wei Lineage

	I: Ta-ch'ieh			II. Shu-ch'ieh			III: T'ung-ch'ieh		
Gen.	NM	N BYK	BY	NM	N BYK	BY	NM	N BYK	BY
G1	1	1	1120	--	--	--	--	--	--
G2	2	0	?	--	--	--	--	--	--
G3	2	1	1201	--	--	--	--	--	--
G4	4	1	1241	--	--	--	--	--	--
G5	1	0	?	1	0	?	1	0	?
G6	4	0	?	1	0	?	2	0	?
G7	5	0	?	2	1	1385	4	0	?
G8	3	1	1366	3	1	1408	3	0	?
G9	5	1	1417	5	1	1432	4	0	?
G10	10	2	1437-1467	8	3	1463-1471	4	0	?
G11	21	5	1471-1532	12	7	1490-1507	5	0	?
G12	28	12	1490-1574	18	3	1514-1539	3	3	1434-1440
G13	22	13	1517-1612	28	5	1540-1582	7	5	1466-1484
G14	27	13	1548-1655	31	9	1575-1610	19	8	1490-1558
G15	30	15	1579-1681	34	20	1608-1640	23	9	1527-1594
G16	42	39	1602-1722	57	37	1624-1693	34	22	1556-1641
G17	86	80	1619-1761	106	76	1604-1731	52	40	1580-1693
G18	144	138	1644-1792	169	127	1602-1763	99	84	1630-1725
G19	271	246	1679-1838	203	162	1607-1784	165	143	1663-1763
G20	424	380	1700-1881	238	221	1634-1817	242	208	1684-1792
G21	583	546	1720-1913	277	264	1669-1844	233	213	1714-1821
G22	805	782	1749-1914	297	276	1697-1891	211	209	1729-1862
G23	1073	1063	1773-1914	381	377	1725-1914	167	166	1782-1898
G24	1151	1127	1799-1914	334	318	1755-1914	166	163	1826-1914
G25	999	940	1828-1914	274	266	1782-1913	95	91	1852-1914
G26	415	348	1849-1914	215	211	1806-1913	47	46	1875-1913
G27	86	82	1879-1914	156	146	1828-1914	3	3	1904-1912
G28	8	7	1910-1914	72	67	1873-1913	0	0	
G29	0	0		13	13	1897-1914	0	0	
Total	6252	5843		2935	2611		1589	1413	

Appendix A: (continued)

(1) The Heng-yang Wei Lineage

	IV: Ti-ch'ieh			V: Tse-che			Total		
Gen.	NM	N BYK	BY	NM	N BYK	BY	NM	N BYK	BY
G1	--	--	--	--	--	--	1	1	1120
G2	--	--	--	--	--	--	2	0	?
G3	--	--	--	--	--	--	2	1	1201
G4	--	--	--	--	--	--	4	1	1241
G5	1	0	?	1	1	1279	5	1	1279
G6	2	0	?	2	2	1311-1314	11	2	1311-1314
G7	2	0	?	8	8	1333-1355	21	9	1333-1385
G8	1	0	?	12	11	1351-1391	22	13	1351-1408
G9	1	0	?	14	12	1382-1420	29	14	1382-1432
G10	3	0	?	19	15	1413-1447	44	20	1413-1471
G11	5	0	?	26	15	1430-1463	69	27	1430-1532
G12	5	0	?	32	19	1450-1495	86	37	1434-1574
G13	10	1	1521	31	15	1466-1536	98	39	1466-1612
G14	14	0	?	22	11	1497-1574	113	41	1490-1655
G15	26	10	1565-1611	19	13	1517-1600	132	67	1517-1681
G16	34	23	1573-1647	23	21	1531-1626	190	142	1531-1722
G17	46	31	1633-1687	25	22	1574-1645	315	249	1574-1761
G18	102	83	1646-1737	34	28	1588-1692	548	460	1588-1792
G19	112	85	1678-1746	70	56	1621-1723	821	692	1607-1838
G20	136	114	1715-1790	143	111	1654-1756	1183	1034	1634-1881
G21	174	170	1740-1836	245	201	1689-1785	1512	1394	1669-1913
G22	180	180	1759-1887	367	325	1714-1861	1860	1772	1697-1914
G23	249	246	1792-1909	388	324	1736-1850	2258	2176	1725-1914
G24	164	157	1823-1914	331	304	1783-1877	2146	2069	1755-1914
G25	36	31	1867-1912	310	307	1804-1911	1714	1635	1782-1914
G26	2	2	1908-1911	269	260	1840-1914	948	867	1806-1914
G27	0			115	104	1863-1914	360	335	1828-1914
G28	0			28	19	1887-1914	108	93	1873-1914
G29	0			0	0		13	13	1897-1914
Total	1305	1133		2534	2204		14615	13204	

Appendix A (continued)

(2) The Ch'ing-ch'uan Li Lineage

	I: Mao-kung			II: Ming Kung			III: T'ai-kung		
Gen.	NM	N BYK	BY	NM	N BYK	BY	NM	N BYK	BY
G1	1	1	1364	--	--	--	--	--	--
G2	1	1	1381	--	--	--	--	--	--
G3	1	1	1399	1	1	1401	1	1	1402
G4	1	1	1419	1	1	1426	1	0	?
G5	1	1	1437	1	1	1448	1	0	?
G6	1	1	1461	2	2	1470-1472	1	1	1476
G7	1	1	1480	7	7	1495-1515	7	1	1508
G8	3	3	1510-1520	12	6	1522-1548	1	1	1548
G9	5	3	1547-1567	24	19	1548-1580	1	1	1567
G10	10	7	1588-1601	35	25	1582-1617	2	2	1601-1607
G11	15	6	1621-1636	31	22	1612-1657	11	10	1622-1643
G12	32	22	1635-1689	62	28	1646-1686	7	6	1659-1694
G13	79	50	1667-1725	94	54	1669-1736	17	8	1683-1714
G14	150	105	1700-1774	143	95	1692-1777	22	9	1723-1774
G15	200	140	1726-1794	185	138	1714-1817	28	8	1709-1793
G16	276	204	1749-1840	210	182	1734-1840	21	9	1746-1816
G17	224	177	1786-1883	287	253	1756-1855	15	11	1789-1854
G18	132	119	1811-1893	282	243	1778-1890	22	21	1817-1884
G19	60	56	1846-1892	200	189	1813-1892	29	29	1863-1893
G20	5	5	1872-1891	88	86	1839-1893	1	1	1887
G21	0	0		1	1	1879	0	0	
Total	1198	904		1666	1353		188	119	

Gen.	IV: Jen-kung			V: Chih-kung			Tota1		
	NM	N BYK	BY	NM	N BYK	BY	NM	N BYK	BY
G1	--	--	--	--	--	--	1	1	1364
G2	--	--	--	--	--	--	1	1	1381
G3	1	1	1404	3	1	1408	7	5	1398-1408
G4	2	2	1418-1424	4	1	1429	9	5	1419-1429
G5	3	3	1433-1454	8	1	1455	14	6	1433-1455
G6	7	4	1450-1487	9	4	1488-1503	20	12	1450-1503
G7	11	4	1481-1519	6	2	1520-1524	32	15	1480-1524
G8	18	5	1509-1570	12	7	1541-1564	46	22	1509-1570
G9	33	10	1535-1615	26	11	1573-1605	89	44	1535-1615
G10	39	13	1565-1657	43	20	1597-1649	129	67	1565-1649
G11	56	28	1618-1706	58	33	1619-1700	171	99	1612-1706
G12	96	50	1640-1737	101	75	1634-1747	298	181	1634-1747
G13	149	86	1654-1779	120	98	1656-1767	459	296	1654-1779
G14	220	143	1684-1825	187	138	1688-1813	722	490	1684-1825
G15	303	195	1713-1839	233	186	1712-1868	949	667	1709-1868
G16	271	228	1745-1885	209	183	1747-1892	987	806	1745-1892
G17	242	199	1762-1893	162	142	1780-1886	930	782	1756-1893
G18	147	125	1789-1892	93	88	1789-1893	676	596	1778-1893
G19	56	53	1828-1891	44	41	1821-1893	389	368	1813-1893
G20	11	10	1862-1893	10	9	1851-1892	115	111	1839-1893
G21	0	0		1	1	1889	2	2	1879-1889
Total	1665	1159		1329	1041		6046	4576	

Appendix A (continued)

(3) The Shao-yang Li Lineage

	I: T'ien-jung			II: T'ien hua			III: T'ien-kui			Yun Branch: Total		
Gen.	NM	N BYK	BY	NM	N BYK	BY	NM	N BYK	BY	NM	N BYK	BY
G1	1	1	1296	--	--	--	--	--	--	1	1	1296
G2	1	1	1322	2	1	1331	1	1	1342	4	3	1322-1342
G3	2	2	1358-1360	1	1	1353	1	1	1387	4	4	1353-1387
G4	3	3	1395-1406	1	1	1388	4	4	1408-1424	8	8	1388-1424
G5	7	4	1423-1431	1	1	1435	6	6	1426-1449	14	11	1423-1449
G6	5	2	1455-1461	1	1	1467	12	10	1449-1481	18	13	1449-1481
G7	5	3	1487-1521	3	3	1503-1509	19	15	1468-1514	27	21	1468-1521
G8	6	3	1513-1530	5	3	1537-1543	21	16	1493-1543	32	22	1493-1543
G9	8	5	1537-1567	3	2	1566-1567	31	21	1516-1577	42	28	1516-1577
G10	12	5	1567-1601	9	5	1599-1616	42	28	1541-1631	63	38	1541-1631
G11	20	6	1596-1630	17	8	1624-1665	41	30	1561-1646	78	44	1561-1665
G12	22	10	1623-1674	32	16	1660-1704	61	47	1575-1702	115	73	1575-1704
G13	19	8	1654-1710	49	30	1678-1746	103	85	1612-1732	171	123	1612-1746
G14	26	19	1662-1735	82	73	1732-1789	199	156	1647-1769	307	248	1647-1789
G15	55	41	1681-1783	82	75	1759-1836	339	294	1682-1807	476	410	1681-1807
G16	93	82	1709-1820	95	92	1782-1869	453	369	1708-1851	641	543	1708-1869
G17	143	137	1727-1862	97	95	1813-1900	380	344	1730-1884	620	576	1727-1900
G18	259	247	1748-1895	67	66	1844-1904	393	372	1758-1902	719	685	1748-1904
G19	336	316	1770-1903	12	12	1887-1903	281	270	1810-1904	629	598	1770-1904
G20	240	219	1791-1903	0	0		157	155	1839-1904	397	374	1791-1904
G21	138	128	1818-1903	0	0		38	32	1870-1904	176	160	1818-1904
G22	65	65	1866-1903	0	0		3	2	1900-1903	68	67	1866-1903
G23	9	9	1890-1903	0	0		0	0		9	9	1890-1903
G24	0	0		0	0		0	0		0	0	
Total	1475	1316		559	485		2585	2258		4619	4059	

	IV: Hsing-jen			V: Hsing-yi			IV: Hsing-chih			Shih Branch: Total		
Gen.	NM	N BYK	BY	NM	N BYK	BY	NM	N BYK	BY	NM	N BYK	BY
G1	1	1	1298	--	--	--	--	--	--	1	1	1298
G2	1	1	1322	--	--	--	--	--	--	1	1	1322
G3	1	1	1347	--	--	--	--	--	--	1	1	1347
G4	1	1	1370	1	1	1373	1	1	1378	3	3	1370-1378
G5	2	2	1407-1410	1	1	1418	1	1	1401	4	4	1401-1418
G6	3	3	1439-1443	2	2	1436-1439	1	1	1425	6	6	1425-1443
G7	4	4	1464-1470	2	2	1458-1459	2	2	1447-1451	8	8	1447-1470
G8	4	3	1487-1492	4	3	1482-1486	5	5	1475-1516	13	11	1475-1516
G9	10	5	1509-1531	4	4	1505-1510	13	5	1511-1561	27	14	1505-1561
G10	12	7	1536-1566	6	6	1522-1536	10	10	1548-1600	28	23	1522-1600
G11	11	11	1566-1587	15	13	1542-1567	18	14	1575-1628	44	38	1542-1628
G12	26	24	1587-1636	16	16	1567-1601	26	17	1595-1668	68	57	1567-1668
G13	19	18	1624-1671	17	9	1592-1632	28	19	1628-1706	64	46	1592-1706
G14	45	39	1645-1703	14	9	1609-1686	54	37	1652-1750	113	85	1609-1750
G15	110	95	1675-1739	27	16	1626-1711	63	45	1676-1781	200	156	1626-1781
G16	184	129	1700-1789	36	31	1662-1752	67	45	1706-1806	287	205	1662-1806
G17	243	182	1722-1825	60	43	1697-1795	53	44	1741-1834	356	269	1697-1834
G18	216	188	1754-1867	80	59	1722-1836	56	46	1775-1872	352	293	1722-1872
G19	173	164	1790-1902	83	79	1749-1868	58	54	1815-1904	314	297	1749-1904
G20	164	157	1812-1904	79	76	1790-1884	47	45	1840-1904	290	278	1790-1904
G21	152	152	1835-1904	103	94	1810-1903	51	49	1872-1904	306	295	1810-1904
G22	59	59	1852-1904	118	115	1847-1904	8	7	1891-1903	185	181	1847-1904
G23	9	9	1869-1902	37	35	1867-1903	0	0		46	44	1867-1903
G24	0	0		12	12	1891-1903	0	0		12	12	1891-1903
Total	1450	1255		717	626		562	447		2729	2328	

Appendix B: Number of Male Births in Five-year Intervals: Three Lineages in Hunan

Year	Heng-yang Wei	Ch'ing-ch'uan Li	Shao-yang Li	Year	Heng-yang Wei	Ch'ing-ch'uan Li	Shao-yang Li	Year	Heng-yang Wei	Ch'ing-ch'uan Li	Shao-yang Li
1310	2	0	0	1500	5	2	8	1700	119	45	55
1315	0	0	0	1505	5	5	10	1705	114	59	66
1320	0	0	2	1510	6	3	4	1710	146	60	78
1325	0	0	0	1515	3	5	6	1715	174	53	89
1330	1	0	1	1520	6	5	8	1720	186	70	85
1335	2	0	0	1525	4	0	3	1725	145	59	81
1340	0	0	1	1530	8	2	12	1730	165	72	85
1345	2	0	1	1535	5	4	9	1735	173	82	80
1350	3	0	1	1540	5	2	12	1740	200	75	118
1355	2	0	1	1545	5	7	8	1745	219	74	115
1360	0	1	1	1550	6	1	9	1750	217	94	104
1365	2	0	0	1555	7	2	12	1755	253	84	119
1370	1	0	2	1560	5	6	10	1760	229	102	142
1375	3	0	1	1565	9	7	17	1765	273	107	116
1380	3	1	0	1570	8	12	12	1770	245	114	111
1385	5	0	2	1575	9	4	13	1775	243	119	115
1390	1	0	0	1580	14	2	9	1780	282	124	124
1395	0	1	1	1585	7	9	11	1785	293	126	124
1400	1	3	2	1590	12	8	12	1790	294	125	141
1405	3	1	3	1595	14	9	16	1795	267	126	149
1410	4	0	2	1600	19	11	19	1800	251	121	158
1415	6	2	1	1605	19	8	13	1805	284	128	135
1420	1	1	3	1610	13	11	16	1810	255	149	150
1425	2	2	6	1615	8	8	22	1815	287	141	161
1430	7	1	2	1620	24	9	20	1820	288	121	131
1435	5	1	4	1625	22	8	14	1825	280	126	135
1440	5	0	3	1630	34	13	18	1830	269	120	123
1445	4	2	4	1635	29	14	13	1835	314	136	156
1450	5	2	3	1640	35	17	14	1840	325	135	145
1455	3	1	4	1645	16	11	11	1845	333	131	166
1460	4	1	3	1650	31	15	20	1850	333	130	154
1465	8	0	6	1655	42	18	25	1855	361	139	170
1470	9	2	3	1660	43	21	41	1860	306	89	186
1475	3	2	4	1665	50	19	24	1865	362	96	207
1480	4	3	5	1670	59	25	19	1870	351	114	181
1485	4	2	7	1675	50	27	24	1875	399	134	191
1490	10	2	4	1680	66	33	38	1880	385	99	199
1495	6	1	3	1685	97	34	44	1885	407	111	166
				1690	96	41	47	1890	391	75	194
				1695	97	41	42				

Appendix C: Distribution of Male Death by Cohort

(1)Heng-yang Wei

Cohort	1300	1400	1500	1550	1600	1650	1700	1750	1800	1825	1850	Sum	SURV
Age Unkn.	10	16	8	7	29	203	575	726	268	484	1049	3375	9949
Age0	0	0	0	0	0	0	0	0	0	0	1	1	6574
Age1	0	0	0	0	0	0	1	0	0	0	0	1	6573
Age5	0	0	0	0	0	0	0	0	0	1	0	1	6572
Age10	0	0	0	1	0	0	0	3	3	2	4	12	6571
Age15	0	0	0	0	0	4	7	28	17	24	43	124	6559
Age20	0	1	0	0	1	12	28	47	46	52	62	249	6435
Age25	0	0	0	2	4	17	30	55	54	63	70	295	6186
Age30	0	1	0	0	3	17	44	78	50	62	83	338	5891
Age35	0	2	0	4	13	18	59	96	62	52	112	418	5553
Age40	2	0	1	2	10	21	87	125	67	81	94	501	5135
Age45	0	2	1	3	12	33	113	137	73	97	79	550	4634
Age50	1	5	3	6	15	33	89	186	103	122	63	620	4084
Age55	1	13	5	12	20	43	104	201	118	134	39	690	3464
Age60	3	14	9	23	18	55	113	198	119	101	13	666	2774
Age65	2	17	6	10	24	53	110	234	120	114	0	690	2108
Age70	5	7	5	9	28	55	121	201	122	67	0	621	1418
Age75	2	5	8	8	17	32	88	152	85	49	0	446	797
Age80	1	11	6	4	25	24	72	134	58	16	0	351	351

(2)Ch’ing-ch’uan Li

Cohort	1400	1500	1550	1600	1650	1700	1750	1800	1825	1850	Sum	SURV
AgeUnkn.	2	9	10	13	35	112	163	193	409	478	1424	4154
Age0	0	0	0	0	0	0	0	0	0	3	3	2730
Age1	0	0	0	0	0	0	0	3	2	7	12	2727
Age5	0	0	0	0	0	0	1	0	4	5	10	2715
Age10	0	0	0	0	1	0	1	5	6	8	21	2705
Age15	0	0	0	0	0	7	16	10	15	13	61	2684
Age20	0	0	0	0	4	13	27	27	16	20	107	2623
Age25	1	0	1	4	5	20	25	27	19	10	112	2516
Age30	1	1	1	3	10	33	37	31	11	14	142	2404
Age35	1	0	0	6	8	29	47	29	38	8	166	2262
Age40	2	0	0	2	13	33	60	33	32	2	177	2096
Age45	6	0	8	3	16	37	75	46	33	0	224	1919
Age50	3	3	4	4	19	41	82	37	30	0	223	1695
Age55	0	4	5	6	19	61	113	51	21	0	280	1472
Age60	4	3	5	11	32	62	104	47	10	0	278	1192
Age65	2	6	7	13	24	56	146	51	2	0	307	914
Age70	7	4	13	14	31	58	117	41	0	0	285	607
Age75	0	3	4	9	24	42	68	21	0	0	171	322
Age80	0	2	2	22	33	45	39	8	0	0	151	151

(3) Shao-yang Li

Cohort	1300	1400	1500	1550	1600	1650	1700	1750	1800	1825	1850	Sum	SURV
AgeUnkn.	0	2	9	23	21	82	441	584	297	401	753	2613	5226
Age0	0	0	0	0	0	0	0	0	0	0	0	0	2613
Age1	0	0	0	0	0	0	0	0	1	0	4	5	2613
Age5	0	0	0	0	0	0	1	0	2	1	4	8	2608
Age10	0	0	0	0	1	0	0	2	2	2	2	9	2600
Age15	0	0	1	0	0	1	2	3	2	5	5	19	2591
Age20	0	0	0	0	0	1	7	13	14	18	11	64	2572
Age25	0	1	0	1	3	4	9	20	16	13	17	84	2508
Age30	0	2	1	1	8	6	13	20	22	16	25	114	2424
Age35	0	1	0	4	4	9	16	30	18	24	30	136	2310
Age40	0	0	4	2	5	10	15	41	30	30	28	165	2174
Age45	0	0	4	4	11	15	42	52	42	36	17	223	2009
Age50	0	5	7	11	14	18	36	56	26	35	2	230	1786
Age55	0	4	7	10	16	13	39	73	36	52	0	250	1556
Age60	1	11	16	29	20	40	40	90	47	40	0	334	1306
Age65	3	13	10	18	15	32	43	80	57	29	0	300	972
Age70	3	19	11	8	17	36	57	89	45	19	0	304	672
Age75	5	4	7	6	10	30	44	56	32	4	0	198	368
Age80	2	10	3	4	15	27	47	36	26	0	0	170	170