

Original Materials for the Economic History of National Defence  
in the *Ho-hsi* (河西) Prefecture during the *T'ien-pao*  
(天寶) Period of the *T'ang* (唐) Dynasty

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In the course of the three hundred years of the *T'ang* (唐) Dynasty (A.D. 618—907), the military system changed three times. The first was the prefectural military system, called *fu-ping-chih* (府兵制). 634 prefectural armies with a total of 600,000 soldiers guarded the interior of the Empire. Every frontier garrison was composed of corps, *chün-t'uan* (軍團), divisions, *chün* (軍), observation-posts, *shou-cho* (守捉), look-out men, *ch'êng* (城), etc. In the *K'ai-yüan* (開元) period (A.D. 713—741), the total frontier guards numbered 700,000.

Since General *Ho-pa-yen-ssu* (賀拔延嗣) was appointed chief commander, *Liang-chou-tu-tu* (涼州都督), of *Liang-Chou* (涼州) and commander-in-chief, *Ho-hsi-chieh-to-shih* (河西節度使), of *Ho-hsi* (河西), in the second year of *Ching-Yün* (A.D. 711 景雲), all the national defence of the *T'ang* (唐) Empire was in the hands of the commanders-in-chief (節度使). The archives of the *T'ien-pao* (天寶) period, which contain original historical material concerning the armies, and which are now in the possession of the National Library in Paris (Document No. 2657), show that the natives were in public service as members of the observation-post, or look-out men.

Since the beginning of the *T'ien-pao* (天寶) period, the prefectral military system fell into decay. Therefore, when the disturbance of *An-lu-Shan* (安祿山) occurred, the *T'ang* Government (唐朝廷) barely maintained the Empire by levied troops, *i-yung-ping* (義勇兵). On the other hand, the defence of the frontier was rather strong.

The government expense for clothing, rations, munitions, war-horses, and military preparations of defence was enormous. The expense only of rations in the tenth

year of *K'ai-yüan* (開元) period, for 400,000 to 500,000 soldiers, was six million *hu* (斛) for a year. My research on the original document of the *Tou-lu* (豆盧) division (Archive No. 3348 in the National Library in Paris) in the fourth or sixth year of *K'ai-yüan* (A.D. 716 or 718 開元) of the *T'ang* dynasty, shows that the rations of each soldier on frontier defence cost 1,770 *wén* (文), and the total 385,000 *Kuan-wén* (貫文). One *Kuan* (貫) is one thousand *wén* (文).

The *Tou-lu* (豆盧) division belongs to the jurisdiction of the commander-in-chief (節度使) of *Ho-hsi* (河西) and its fixed members were 4,300 soldiers. Its headquarters was situated in the town of *Sha-chou* (沙州). Originally, the fixed number of the frontier guards of *Ho-hsi* (河西) was 73,000. It was the second largest corps in defence of all the frontiers of the *T'ang* Empire in the *K'ai-yüan* (開元) - *T'ien-pao* (天寶) period. A detailed calculation of expenses which maintained the defence, both interior and frontier, is not given in the authentic histories of the *T'ang* dynasty, and therefore, we cannot tell what was its economic activity.

We can understand the economic activities of that period through documents of the *K'ai-yüan* (開元) period, which are in the National Library in Paris (Documents No. 5529 and No. 2862). Document No. 2862 gives a calculation of the income of the public offices in the *T'oung-Houang* (敦煌) district, and also an account of the domestic animals of the five fortresses, such as *Kuang-Ming* (廣明) etc., situated along the boundaries of *Sha-chou* (沙州) as far as the frontier of *Kua-chou* (瓜州). These are described minutely in a geographical book called *Sha-chou-tu-tu-fu-t'u-ching* (沙州都督府圖經), belonging to the *tou-lu* (豆盧) division.

In this original document, No. 2826 in Paris, we find all sorts of granted things, such as silk, wheat, Chinese millet, peas; domestic animals, such as cows, camels, asses, etc. —about thirty sorts of things. In addition, Document No. 2803 has an account of a calculation of expenditures on horse-rations, such as wheat, peas and Chinese millet in those fortresses. In Document No. 3664, we can find economic conditions of those five fortresses from the fifth to the twelfth year of the *T'ien-pao* period (A. D. 746-753 天寶).

The most interesting materials found in the documents is a list of forty members of the frontier garrison of *Tou-lu* (豆盧軍). Each member is allowed military clothing such as we cannot find mentioned in any other historical books in China. These clothes were made of silk and hemp. In that period, there was no cultivated cotton in China, and therefore we cannot find any clothes made of cotton mentioned in these documents. Cotton clothes are mentioned later in the *T'ang* dynasty, but they were imported goods and very expensive.

In Document No. 3348, which contains an account-book of the *Tou-lu* (豆腐) division, we can find the current price of wheat, peas, and Chinese millet in the fifth or sixth year of the *T'ien-pao* (天寶) period (A. D. 746 or 747). Document No. 2862 also contains one paragraph relating to the current prices of grain in the same period. From these current prices, we can calculate the current price of silk, etc. in the *T'ien-pao* period. The total cost of clothing for 4,300 soldiers of the *Tou-lu* (豆腐) division is 28,382 *Kuan-wên* (貫文) for one year, and the total cost of clothing for 73,000 members of the frontier garrison in the *Ho-hsi* (河西) prefecture is about 400,000 *Kuan-wên* (貫文).

These original materials for the economic history of national defence in the *Ho-hsi* (河西) prefecture are the most valuable documents for the study of Chinese history.

In regard to this economic history, I have studied some new topics, for example, the interpretation of *ts'ao-shih* (草市). *Ts'ao-shih* (草市) means a new market in the *T'ang* (唐) and *Sung* (宋) dynasties which was held outside the city-wall (*ch'êng-pi* 城壁), but, until now, no investigators have yet been able to interpret the designation of *ts'ao-shih* (草市). Now, I have tried to explain the meaning of *ts'ao-shih* by means of the popular designation in the *T'ang* (唐) age. *Ts'ao-shih* (草市) is not a grass or fodder market; *Ts'ao* (草) is a popular designation for a pack-horse in the *T'ang* (唐) age, and *ts'ao-shih* (草市) is a market where a great many pack-horses assemble from all parts of the country, carrying products. I shall omit from this translated summary other topics which I have taken up in this treatise.

# A "Log" Study of Children's Time

## An environmental comparison in the Kyoto Prefecture

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**I. Purpose :** The Kyoto Prefecture contains one great city, several small cities, many rural towns, and also many villages including farm, mountain, or seashore. They represent some typical styles of Japanese living. However, they do not vary much in educational system and customs, as they are all located in the same administrative section and communication is comparatively easy. We can then consider that, if there be any difference in the distribution of time spent by children, it is largely due to the difference of actual environmental-social pressure on the children's activities, and this will show to a certain extent the social demands in those living conditions. Under these considerations we have made an attempt to investigate how school children spend their time in the Kyoto Prefecture, and to compare their environmental differences.

### **II. Procedure :**

A. Subjects: All the children of the 6th grade in the Kyoto Prefecture—about 36,000 in number—were made to write an account of a single day, according to the "Log" method. The following samples were selected from the data for statistical arrangement:

#### **1. Urban districts (Kyoto City)**

- a. Shopping and Business Districts : B. 175, G. 175
- b. Residential Quarters : B. 135, G. 150
- c. Manufacturing Districts : B. 160, G. 170
- d. Slum Quarters : B. 110, G. 105

es and Medians of Time spent by rural children.

Girls																								
Seashore Village					Town				Farm Village				Mountain Village				Sheashore Village							
AV	% of AV	Md	% of None	% of None	AV	% of AV	Md	% of None	% of None	AV	% of AV	Md	% of None	% of None	AV	% of AV	Md	% of None	% of None	AV	% of AV	Md	% of None	% of None
730.7	50.8				710.3	49.4				678.2	47.1				689.4	47.8				691.5	48.0			
622.5					601.5					585.0					581.0					580.0				
3	70.5	4.9	52.5	23.6	114.0	7.9	87.6	5.7		116.0	8.0	82.5	2.4		120.0	8.3	94.5	5.0		112.5	7.8	94.0	1.5	
	442.5	30.7			420.0	29.3				396.0	28.0				447.0	31.0				441.0	31.0			
	48.0				48.0					36.0					67.5					52.5				
	283.0				249.0					244.0					261.0					285.0				
	84.5				79.5					73.0					76.5					67.5				
	27.0				43.5					43.0					42.0					36.0				
0	23.0	1.6	12.9	52.2	56.7	3.9	41.1	14.2		54.5	3.8	51.6	8.2		34.2	2.4	23.0	33.9		33.0	2.3	14.7	42.5	
	21.0				51.0					35.0					30.0					30.0				
	2.0				5.7					19.5					4.2					3.0				
6	117.0	8.1	89.5	9.2	70.0	4.8	61.0	8.8		70.0	4.8	53.3	9.2		71.0	4.9	50.1	17.0		80.0	5.5	68.1	12.5	
	58.5				24.0					22.5					24.0					30.0				
	31.5				27.0					25.5					22.5					25.5				
	24.0				13.0					19.0					19.5					21.0				
	3.0				6.0					3.0					5.0					3.5				
	21.9	1.5			37.5	2.6				45.8	3.2				36.0	2.5				30.0	2.1			
	13.5				22.5					30.0					22.5					22.5				
	7.5				9.0					15.0					10.5					7.5				
	0.9				6.0					0.8					3.0					0.0				
	34.5	2.5			31.5	2.2				33.5	2.3				42.0	2.9				52.0	3.5			

y at home.

Table I. Averages and Medians of Time spent

Environment Activities	Boys															
	Town				Farm Village				Mountain Village				Seashore Village			
	AV	% of AV	Md *	% of * None	AV	% of AV	Md *	% of * None	AV	% of AV	Md *	% of * None	AV	% of AV	Md *	% of * None
Physiological necessities	717.3	49.7			730.0	50.7			686.6	47.7			730.7	50.8		
Sleeping	603				607.0				588.5				622.5			
Helping and Work at home	72.0	5.0	53.0	12.3	82.5	5.7	57.6	13.8	102.0	7.1	73.4	10.3	70.5	4.9	52.5	23.6
School life	412.5	28.6			382.5	26.6			444.0	30.9			442.5	30.7		
Time required on the way	42.0				33.0				51.0				48.0			
Lessons	252.0				240.0				273.0				283.0			
Play	87.0				76.5				88.5				84.5			
Other things	31.5				33.0				31.5				27.0			
Study at home and preparation	62.0	4.3	43.4	16.0	42.0	2.9	21.6	31.4	25.0	1.7	16.2	49.0	23.0	1.6	12.9	52.2
Homework, review,	58.0				36.0				24.0				21.0			
Others	4.0				6.0				1.0				2.0			
Play at home	112.0	7.8	93.0	6.2	115.0	8.0	73.0	8.5	97.0	6.8	59.7	11.6	117.0	8.1	89.5	9.2
Outdoor	51.0				70.0				42.0				58.5			
Indoor	34.5				21.0				30.0				31.5			
Reading	19.5				15.0				15.0				24.0			
Other	7.5				9.0				10.0				3.0			
Amusements	28.7	2.0			36.6	2.5			37.5	2.6			21.9	1.5		
Chat with family members	18.0				19.5				21.0				13.5			
Radio, newspaper	10.5				16.5				12.0				7.5			
Cinema	0.2				0.6				4.5				0.9			
Doing nothing	22.5	2.3			52.5	3.6			49.5	3.4			34.5	2.5		

\* Medians and Percentages of Non-participants are mentioned only with Helping, Study and Play at home.

Medians of Time spent by Urban children,

				Girl															
Slum Quarters				Shopping Quarters				Residential Quarters				Manufacturing Quarters				Slum Quarters			
% of AV	Md	% of None	% of None	AV	% of AV	Md	% of None	AV	% of AV	Md	% of None	AV	% of AV	Md	% of None	AV	% of AV	Md	% of None
51.8				699.0	48.5			701.0	48.5			715.0	49.6			735.0	5.1		
				595.0				598.5				624.0				618.0			
4.3	29.2	26.2		81.0	5.6	58.7	4.7	93.5	6.5	81.9	7.9	96.0	6.7	77.5	6.4	102.0	7.1	60.2	5.7
24.2				407.0	29.5			399.0	27.7			370.0	25.7			384.0	26.7		
				36.0				42.0				39.0				46.5			
				242.0				253.5				208.5				241.5			
				84.0				70.5				94.0				69.0			
				45.0				33				28.5				27.0			
2.0	13.4	49.5		75.5	5.2	98.1	7.1	78.0	5.4	102.5	14.5	52.5	3.7	73.3	10.5	24.5	1.7	28.3	51.4
				65.5				69.0				39.0				21.0			
				10.0				9.0				13.5				3.5			
9.3	112.5	3.7		69.0	4.8	38.5	16.5	75.0	5.2	58.6	16.4	99.0	6.9	75.4	8.2	94.5	6.6	79.8	4.7
				10.5				21.0				33.0				30.0			
				19.5				18.0				33.0				25.5			
				22.5				22.5				21.0				28.5			
				16.5				13.5				12.0				10.5			
2.1				45.0	3.1			51.0	3.5			60.0				31.0			
				21.0				27.0				31.5	4.2			19.5	2.2		
				22.5				21.0				19.5				10.5			
				1.5				3.0				9.0				1.0			
1.4				9.0	0.6			33.0	2.3			15.0	1.0			18.0	1.3		

Table I. Averages and Medians of Ti

Environment Activities	Boy															
	Shopping Quarters				Residential Quarters				Manufacturing Quarters				Slum Quarters			
	AV	% of AV	Md	*% of None	AV	% of AV	Md	*% of None	AV	% of AV	Md	*% of None	AV	% of AV	Md	*% of None
Physiological necessities	715.0	49.6	.		714.0	49.5			729.0	50.5			747.0	51.8		
Sleeping	609.0				615.5				631.5				643.5			
Helping and Work at home	43.0	2.9	26.0	24.3	77.5	5.4	43.0	9.9	78.0	5.4	52.8	20.6	61.5	4.3	29.2	
School life	453.5	31.5			376.5	26.1			342.0	23.8			349.0	24.2		
Time required on the way	25.5				36.0				40.5				19.5			
Lessons	273.5				240.0				202.5				226.5			
Play	114.0				69.5				72.0				76.0			
Other things	40.5				31.0				27.0				27.0			
Study at home & preparation	63.0	4.4	51.3	20.3	47.0	3.3	26.9	23.6	46.5	3.2	33.5	23.8	23.5	2.0	13.4	
Homework, review,	48.0				42.0				33.0				21.5			
Other	15.0				5.0				13.5				7.0			
Play at home	61.5	4.3	43.1	15.3	102.0	7.1	87.6	2.3	142.5	10.0	126.3	6.2	133.5	9.3	112.5	
Outdoor	18.0				42.0				72.0				60.0			
Indoor	19.5				27.0				33.0				28.5			
Reading	18.0				27.0				22.5				34.5			
Other	6.0				6.0				15.0				10.5			
Amusements	42.0	2.9			46.5	3.2			51.0	3.5			30.0	2.1		
Chat with family	19.5				21.0				24.0				15.0			
Radio, newspaper	19.5				22.5				21.0				13.5			
Cinema	3.0				3.0				6.0				1.5			
Doing nothing	17.0	1.2			18.0	1.3			18.0	1.3			19.5	1.4		

\* Medians and Percentages of Non-participants are mentioned only with Helping, Study and Play at home.



2. Rural districts	
a. Towns :	B. 490, G. 420
b. Farm Villages :	B. 150, G. 130
c. Mountain Villages :	B. 160, G. 160
d. Seashore Villages :	B. 160, G. 145
3. Total :	B. 1540, G. 1450

B. Date: One week day in the autumn of 1947 was set for each school, avoiding days of special events, such as school holidays for helping on the farm, and days on which school meetings and excursions were held, and so on.

**III. Main Results:** The children's activities are classified in the following categories; (1) physiological necessities (including sleeping, eating, bathing, evacuation, medical treatments, etc.), (2) helping and work at home, (3) school life (including the time required on the way to and from school and recess hours at school, etc.), (4) study at home, (5) play at home and neighborhood (including reading, outdoor play, indoor play, quarrels, etc.) (6) amusements (including chatting with family members, reading newspapers, listening to radio, attending cinema, etc.), (7) doing nothing.

Table I and II show the averages and medians of the time spent in these activities. They also contain the percentages of non-participants, showing what percent of children do not work, play, or study at home.

The distribution of frequencies in percentage is shown in Fig. I in the Japanese section (p. 28). These figures show only the urban samples. The figures in the upper two rows are for "Helping and Work", the middle two for "Study at Home", the lower two for "Play at Home". For each activity the upper row is for boys, the lower for girls. The first column shows the "Shopping" quarters, the second the "Residential", the third the "Manufacturing", the last the "Slum Quarters". In each figure the abscissa shows the time spent in the unit of a quarter, the ordinate shows the percentage of the frequencies.

(1) About 50% of a day is spent for physiological necessities, and about 30% for school life. These do not show much environmental and sex difference, though the urban children—especially of manufacturing and slum districts—sleep more, and the rural children spend more time in attending school.

(2) Main environmental differences are found in the proportions between helping, study, and play at home.

Table III shows these proportions: In the urban slum quarters, the rural mountain- and fishing-villages children study least at home, only about 20—30 minutes in the average and 10 minutes in the median. The time for play and helping does not differ in the various districts, so the proportion of these to study is double or treble in these districts compared to those of the other districts.

Table III. Proportions of Time spent in Helping and Play to Study at home.

			Boy			Girl		
			Study at home	Helping at home	Play at home	Study at home	Helping at home	Play at home
Rural	Town	AV	1	1.16	1.80	1	2.01	1.23
		Md	1	1.2	2.1	1	2.1	1.5
	Farm	AV	1	1.97	2.34	1	2.13	1.28
		Md	1	2.7	3.4	1	1.6	1.0
	Mountain	AV	1	4.08	3.95	1	3.23	1.85
		Md	1	4.5	3.8	1	4.2	2.2
	Seashore	AV	1	3.07	5.09	1	3.41	2.42
		Md	1	4.1	6.9	1	6.4	4.7
Urban	Shopping	AV	1	0.68	0.97	1	1.07	0.91
		Md	1	0.5	0.8	1	1.0	0.7
	Residential	AV	1	1.65	2.17	1	1.20	0.96
		Md	1	1.8	3.3	1	1.6	1.1
	Manufacturing	AV	1	1.68	3.07	1	1.83	1.89
		Md	1	1.6	3.8	1	1.7	1.7
	Slum	AV	1	2.15	4.70	1	4.15	3.86
		Md	1	2.2	8.4	1	5.0	0.66

(3) As a result of comparison of the medians and distributions of each activity, we can conclude that the proportion in the urban residential districts and the rural farm districts can be said to be the standard. Compared with these, children in the shopping districts play and help less, those in the manufacturing and the slum districts play most and the slum districts study least. The mountain villages are more helped by children, especially by boys, and

they permit children less time for study. The fishing villages let their children act more freely (less study and much play).

(4) The environmental differences come out more conspicuously in boys than girls.

(5) All the distribution of frequencies, excepting the physiological necessities and school life which are firmly regulated biologically and socially, are J typed or asymmetrically skewed to the shorter time. The standard deviations amount almost to the averages. The statistical estimation of the reliability of the differences can not be computed.

(6) Analysis of the data concerning the intelligence and the school records show that the study hours at home and reading are more in proportion to the level of intelligence and school records, and this gradient is steeper with the latter in the rural children. With the other living activities, no significant regularity was found as to the difference of IQ and school achievements.