

《論 文》

# Morphological, Anatomical and Statistical Analyses on The Four Ancient Mesopotamian Law Codes Including The Hammurabi Law Code:

— Part VII Overall summarization of the study :  
Solved and Unsolved Problems —

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## Contents

- VII -1 Introduction
  - 1.1 Scope of the study of this part
  - 1.2 Unsolved targets in the studies published until now
  - 1.3 Some simple interrogations on ancient laws when author started this study
- VII -2 Methodology employed in this study
  - 2.1 Primary material for the further analysis
  - 2.2 Methodology
- VII -3 Results and Discussions
  - 3.1 Fact-Findings(F-F) obtained in this study
    - 3.1.1 (Part 0) Introductory remarks or the past research:  
Present status of the study on the ancient Mesopotamian laws: Appraisal of Mesopotamian society and culture: Methodology of the research.
    - 3.1.2 (Part V ) Prehistoric northern sites in Mesopotamia

- 3.1.3 (Part I ) Survey of size, contents, and transfer
- 3.1.4 (Part II ) Social class and development of professions
- 3.1.5 (Part III ) Legal litigation, penal law code, and civil law code.
- 3.1.6 (Part IV ) The written contracts and commercial laws
- 3.1.7 (Part VI ) Agricultural law and law of retaliation

3.2 Comparative study of the four ancient Mesopotamian law codes : A statistical analysis

- 3.2.1 Identity, similarity and correlations
- 3.2.2 Comparison of the four law codes
- 3.3 Hypothesis and theories proposed in this study
- 3.4 New concept on the Hammurabi law code

VII -4 Conclusion

VII -5 Reference

Appendix A

Appendix B

## VII -1 Introduction

### 1.1 Scope of the study of this part

In the previous sections 1-9 the comprehensive and systematic analysis (i.e., morphological, anatomical and statistical analyses) were performed for the four ancient Mesopotamian law codes (i.e., Ur-Nammu (UN), Lipit-Ishtar (LI), Eshnunna (E), and Hammurabi (H) law codes) on the following topics:

(Part 0)<sup>1</sup> Introductory remarks : Very preliminary examination of the books and the book chapters, published before, on the ancient Mesopotamia, of the four code, including the Hammurabi law codes ; Present status of the studies.

(Part I )<sup>2</sup> Survey of size, contents, and transfer.

(Part II )<sup>3</sup> Social class and development of professions.

(Part III )<sup>4</sup> Legal litigation, penal law code, and civil law code.

(Part IV )<sup>5</sup> Written contents and commercial Laws.

(Part V )<sup>6</sup> Analyses on the fundamental data base of prehistoric Mesopotamian sites.

(Part VI )<sup>7</sup> Agricultural law and law of retaliation.

During analytical study a cautious attention was paid in close connection with the archaeological knowledge accumulated by extensive excavation of the ruins in Mesopotamia.

The methods employed here are evidently the very scientific method, which enables us to carry out evidence-based discussion and in consequence, an acquisition of reliable knowledge (fact-findings, **see 3.1**).

## 1.2 Unsolved targets in the studies published until now

1. **Social class** in the ancient Mesopotamia has not yet been decisively determined (see, **0-1.5**).
2. **Blood (DNA) relationships** have not yet been studied extensively and thoroughly between the ancient Mesopotamia laws such as the UN, LI, E and H laws and the laws of contemporary society including Japan.
3. **Fundamental Human rights** (legal status) of ordinary people in the ancient Mesopotamia not yet been studied (see, **Part II** ).
4. Legal support against the social misfortune (criminal victims, malpractice, product liability and regal relief to support social misfortune) in the Hammurabi law codes had not been studied in detail (see, **Part III** ).
5. To our surprise, we cannot, even now, have any information on **exhaustive survey**(this does not mean to prepare simply a list a law code) of the ancient Mesopotamian law codes (see, **Part I ~Part VI** ).

## 1.3 Some simple interrogations on ancient laws when author started the study

1. What was described about Sumer(or Mesopotamia) in the textbook of world history ? (**0~2.1**)
  2. On what points except 'Justice' are the Hammurabi (H)law highly estimated? ( **I -1(1)**).
  3. How closely relates the Hammurabi law to the preceding (but excavated later than the H law) three law codes; Ur-Nammu (UN), Lipit Ishtar(LI), and Eshnunna (E) laws? Is the H law code a simple collection of UN, LI, and E codes? ( **I -1(2)**).
  4. Is the H code a direct heir of the preceding codes? ( **I -7**).
- Is the H law one of traditions made in the past as status law ? ( **I -1(3)**,

**Table I -12, Figure I -1).**

5. is the H law sterner than the preceding three laws? ( I -1(4)).
6. What is the second social class in that time? ( I -1(5)).
7. What is a main target of the Hammurabi law? ( II -3.3.2).
8. What is awilum? ( II -3.3.3).
9. What is mushkenum? ( II -3.4.1).
10. Was ancient Mesopotamia the servitude-system society? ( II -3.6.2).
11. What job did medical doctor emerge from? ( II -4.2).
12. Is the Hammurabi law a genuine law code? ( II -4.2).
13. Had divine judge been existed in Old Babylonian period?( III -4.3.1).
14. Is the Hammurabi law code a code simply codified from the past customs and laws? (Q 1B), ( III -4.5.1).
15. Are all the articles in the Hammurabi laws consistent with each other? ( III -4.5.3).
16. Did the Mesopotamian farmers become rich thanks to successful development which enriched the ruling class? ( VI -3.1.2).
17. What is the basic character of Old Babylonian dynasty? ( VI -3.1.2).
18. Was the Hammurabi law code the retaliation law? ( VI -4.1.).
19. Is the law code of retaliation (lertalionis) cruel? ( VI -4.3).

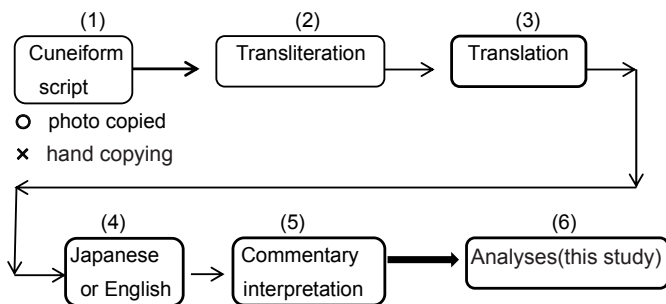
**VII -2 Methodology employed in this study****2.1 Primary material for the further analysis**

We employ as the primary materials the Iijima's works ,which are described briefly as follows:

To each cuneiform script (1), its corresponding phonetic alphabet (i.e., transcription) (2), and Japanese word (3), both corresponding to (1), are concurrently given first. Then, cuneiform sentence in individual article is

translated literally from Sumerian (LI) or Akkadian (E and H) into Japanese (4). Iijima succeeded to build-up a collection of Japanese articles of the Lipit-Ishtar, Eshnunna, and Hammurabi law codes. (1)~(4) are the indispensable materials. To the translated materials commentary interpretation (5) is given.

On the basis of the materials we can now examine comprehensively particularities of the individual articles. **The further scientific analysis (6) is the purpose of this study.** Flow of the research is demonstrated below :



Note that to our surprise, **we cannot , even now, have any information on exhaustive survey at level of (6).** (see, Part 0, 1.7.2.e)

In addition, the articles of the Ur-Nammu code law, translated by Kobayashi from Sumerian, to Japanese sentences are also used.

The accuracy and reliability of the Iijima's procedure and their results were confirmed by Kamide (see, **Part I** ): Van de Mieroop (2005) demonstrated in his book that the full sentences of the two articles, Eshnunna law code no.54 (hereafter abbreviated as **E54**) coincides with the Hammurabi law code no.251 (hereafter abbreviated as **H251**), showing **E54 = H251** (Note that Van de Mieroop did not indicate the article numbers).

Corresponding Iijima's articles (in Japanese) (2002), which are translated

by Kamide, are absolutely the same as those of Van de Mieroop (2005). That is, the following two equations hold their validity: **E54** (Van de Mieroop) = E54 (Iijima) for the E law code and **H251** (Van de Mieroop) = **H251** (Iijima) for the H law code.

Note that Iijima's book was published three years earlier than Van de Mieroop was.

The above primary materials can confidently be regarded as the experimental database in science study. The materials are subjected to further rigorous and comprehensive analysis. First, we extract the needed data from the materials.

Among the literature cited in Part 0 (**ref.1-47**) only three (unbelievably few) table is ref 2 (G. R. Driver and J.C. Miles) are discovered :

In the past studies it seems to me that any effort of visualization of the results had not been paid. In this study as many as tables, figures, and maps will be demonstrated for easy understudying of the results.

## 2.2 Methodology

**New methods are invented and utilized in the study as follows:**

### 2.2.1 Morphological size :

Number of overall, legible and analyzed article numbers were chosen as parameters representing law code ( **I -5**). Size of the law code is estimated from the number of the of eligible articles.

### 2.2.2 The area where the Hammurabi law code was effectively promulgated :

All cities and towns referred in the prologue of the Hammurabi law code could be considered to be the area where law code was effective. ( **I -3**). Prologue refers to Babylon, Nippur, Eridu, Ur, Sippar, Larsa, Uruk, Ishtar,

Ishin, Kish, Kutû ,Borsippa, Dibat, Kesh, Lagash, Girsu, Zabala, Karkara, Adab, Mashnanshapir, MAlgium, Mari, Tuttul, Assur, Nineveh, (from M. T. Roth ; Law Collections, p76-81: G. Iijima, H law code, p21-22).

### **2.2.3 Who was an eligible person in ‘Prologue’ of the Hammurabi law code?**

The main target of the laws is unquestionably awilum (Among 248 legible articles, 156 articles are regarded as the articles on awilum (according,  $156/248 = 62.9\%$  is its portion) (102 articles, strictly start with the sentence ‘Summa awilum...’, and other about 54 articles are concerned with awilum) ( I -5).

### **2.2.4 The most reliable method for evaluating the nature of awilum:**

(1) Collect the articles starting with [takumbi lu ...] in the UN and LI law codes and [Šumma awilum ...] in the E and H codes and (2) to determine the dead or to speculate job of the subject [i.e., lu or awilum in this case ] in the above articles (Table II -5a, 5b, 6a, 6b).

### **2.2.5 Total number of the articles which are classified in to eleven categories and their article numbers :**

This is used as a method for estimation of the important domain, on which the laws, such as the Ur-Nammu, Lipit-Ishtar, and Hammurabi, put their serious attention.

**2.2.6 Method of determination of the degree of intimacy** (i.e., identity, similarity, and correlation) between the two law codes, in particular, between the H code and preceding code ( I -7 : seven steps)( Table I -8~ I -13, Fig.1).

### **2.2.7 Construction of the family tree :**

Construction of the family tree of development profession by analysis on the four law codes (Table II -13, II -14).



## VII -3 Results and Discussions

### 3.1 Fact-Findings(F-F) obtained in this study

#### 3.1.1 (Part 0) Introductory remarks or the past research: Present status of the study on the Ancient Mesopotamian laws: Appraisal of Mesopotamian Society and Culture: Methodology of the research.

##### F-F(0-1) : Number of fully-translated articles

Forty seven books on the ancient Mesopotamia, varying from treatises to popular books, were subjected for preliminary examination. Number of articles,  $n_t$ , of the Hammurabi law code, fully translated in the main text, is shown in **Table 0-3**. Top three has  $n_t = 269$  (**ref.30**), 249 (**ref.3**), and 248 (**ref.39**), respectively. Average  $n_t (< n_t >)$ , except the above three references, is approximately 4.

##### F-F(0-2) : Social class

Even at present the final judgement on the status of awilum and mushkenum have not yet been established (**Table 0-4**). A significant change seems to have occurred in interpretation on awilum around 1992 (**Table 0-4**).

##### F-F(0-3) : Three books

Roth (**ref.30**), Driver and Miles (**ref.3**), and Iijima (**ref.9**) are selected for the further analysis of the Hammurabi code (**Table 0-6**).

##### F-F(0-4): Categories

Categories covered by the reference books are collected in **Table 0-5**.

#### **F-F(0-5) : Methodological problem**

Some methodological problems found in the literature are pointed out : Narrow category range, lack of sufficient concrete evidence, psychological trauma, less quantitative discussion ,extremely small number of tables and figures (only 3 among the total 47 references) (1.7.1)

#### **F-F(0-6) : Unsolved target**

Unsolved targets of studies were shown : Social class ; blood relations among the four law codes : human right ; legal support. (1.7.2).

#### **F-F(0-7) : Evaluation of ancient Mesopotamia society**

Negative evaluation (by Kishimoto, Kuroda, Van de Mieroop) , and positive evaluation (by Bottéro, Roux and Kriwaczek) are demonstrated(2.2).

### **3.1.2(Part V) Prehistoric northern sites in Mesopotamia**

#### **F-F(V-1) : Geological distribution**

Geological distribution of sites in the Hassuna-Sammara and Halaf periods is shown in Maps **V-3** and **V-4**, respectively, only Hassuna→Sammara occurred and reverse (i.e.,Sammara →Hassuna never happened.

#### **F-F(V-2) : Altitude**

As time passed over an average altitude of the sites in the period became lower until the Halaf period (**V.4.1.3B** and **Fig.V-1**).

#### **F-F(V-3) : Location of sites**

The number of sites located in the inner circle (50km radius) of the Hassuna-color area in 10and the number of sites located in the outer circle (100km radius) is 12. These number did not change

throughout the Hassuna-Sammarra period and the Halaf period. The sites are not homogeneously spread, but are strongly concentrated to the central area at Hassuna and Samarra, respectively numerous sites are more densely located in the central are of the Hassana culture and of the Samarra culture and the existence of long-distance communication between sites are not certificated (**V-4.1.6(b)**).

#### **F-F(V-4) : Map of sites**

In the Maps of ancient Mesopotamia giant sites (**Table V-7b**), new sites (**Table V-13**), sites located on the bank of the rivers (**Table V-6**), and the sites on the rainfall of 200mm isohyet (**Table V-14**) and the modern 200mm isohyet line (dotted line) are shown for comparison.

#### **F-F(V-5) : Halaf sites(1)**

The Halaf sites had already reached to the riverside of the Diyala valley in the Hassuna period and the sites continued for the whole Halaf period and since then.

#### **F-F(V-6) : Halaf sites(2)**

The Halaf sites spread far-reaching from the eastern to the western (see **Map4**).

#### **F-F(V-7) : Location of sites**

The several sites are nearly located on the banks of the Euphrates (see **Table V-6**).

#### **F-F(V-8) : Conversion of territory**

Of course, the ex-Hassuna–Samarra region was converted very continuously and gradually to the Halaf territory(**V-4.1.4(5)**, **(V.4.1.4(8))**).

#### **F-F(V-9) : Euphrates basin**

The Euphrates basin was still a not-fully developed land until this time.

#### **F-F(V-10):Economical difficulty**

At the later Halaf period there was, no more, sufficient room for development and the economy of Mesopotamia met a critical difficulty, which seemed not to be easily overcome (**V-4.1.4(9)**).

#### **F-F(V-11) : Growth process**

In the growth process a large number of small sites were absorbed into larger site and then, emerging another giant site(**V-4.1.4(10)**).

#### **F-F(V-12) : Movement of sites**

In an extremely wide spun the sites moved from the mountains → highland plain → foothill → low plain (**Fig. V-1**).

#### **F-F(V-13) : Spread of Halaf site**

In the Halaf period the sites spread, far beyond the ex- Hassuna-Samarra area, to the westmost area.

#### **F-F(V-14) : Banks**

In the Halaf period the banks of the Euphrates , as well as the Tigris, were equally employed (**Table V-6**).

#### **F-F(V-15) : Size of sites**

The size of site varied from less than 1ha to 18ha.

#### **F-F(V-16) : Gigantic sites**

The gigantic sites emerged in the Halaf period, except Ganzi Dareh, Asiab, and Abu Hüreya (**21**), all of which were formed in the EH (early Holocone) periods.

#### **F-F(V-17) : Giant sites**

Five giant sites with space larger than 12ha are found in the Halaf

period.(Table V-7c).

#### **F-F(V-18) : Life spun of sites**

Now it is clear that people lived at some sites for some hundred years ~ one thousand or more long years(Table V-7d).

#### **F-F(V-19) : House Materials**

All house materials are locally-made products. Basically, the above materials are made of soil, and weeds(Table V-8a or V-8c).

#### **F-F(V-20) :Evolution of houses**

Houses evolved from the hut, built by digging its pillar into soil or rock, to the house built on the ground stone(Table V-9a).

#### **F-F(V-21) : House equipment**

House (Çayönü) was equipped with air circular system (for storage of food) and the heating system (for room in winter)(Table V-8a or V-8b).

#### **F-F(V-22) : Domestication**

Domestication of wheat and barley occurred, as expectedly by mutation(V.4-2.1.(a)). Emergence of domesticated cereals enabled farming on a large scale in former place of gathering (V-4.2.1.(a)).

#### **F-F(V-23) : Cereals**

Careful watching or observation of the wild cereals and quick application of newly born domestic species opened the road leading to farming food production.

### **3.1.3 (Part I ) : Survey of size contents, and the transfer**

#### **F-F( I -1) : Total number of articles in the H law**

Total number of the H articles in 282 and H66~H99 (sub-total, 34 articles are omitted. Then, 282-34=248 articles are legible and

subjected to further analysis. Among 248 legible articles , 102 articles strictly start with the sentence “ Summa awilum , ...,” and in addition other about 54 articles are concerned with awilum. Then  $102+54=156$  articles are regarded as the articles on awilum (Accordingly,  $156/248=62.9\%$  is its portion)(**Table I -5** and **I -5(4)**).

#### **F-F( I - 2) : Size of the four laws codes**

The size of the H code expressed by the total number of articles, is much larger than three preceding codes: 8.8 times, 15.5 times and 4.2 times than UN, LI and E, respectively. Arithmetic summation of the total number of the three preceding codes occupies only 42% ( $103/248$ ) strongly suggesting that H code is predominant in size as compared with a simple accumulation of the preceding laws.

The H law is not a simple accumulation of three preceding laws.

#### **F-F( I - 3) : Portion of awilum**

The portion of awilum related articles in the laws are in the range 47%~70% and any significant difference among the laws is not observed. That the main target of these is awilum is unquestionable(**Table I -5**).

#### **F-F( I - 4) : Categorization**

The results of categorization of the four law codes are collected in **Table I -6~Table I -6(continued 5)**.

#### **F-F( I - 5) : Modern legal ideas**

Modern legal ideas emerged evidently first from, except category 2, the Hammurabi law (**Table I -7**).

#### **F-F( I - 6) : Transfer to the H code**

About 30~50% of the article in the three preceding law codes is

transferred to the H code (**Table I -12**). The transferred articles occupy only 13% (=32/248) (**Table I -13**) of the total articles of the H code : The degree of influence of the preceding codes to the H code is very restrictive (**Table I -13**).

#### **F-F( I - 7) : Corelationship**

Any significant corelation is not observed between the Ur-Nammu and Lipit- Ishtar law and between Lipit-Ishtar and Eshnunna law codes(**Fig. I -1**).

#### **F-F( I -8 ): Connection**

Some small connection (mainly through penal for body injury) is detected between the Ur-Nammu and Eshnunna law codes(**Table I -11**).

#### **F-F( I -9) : Donner and acceptor**

In the transfer, an original article in the donor often brings about two or more acceptor articles : two from **E17** (marriage portion) and **E54** (death by ox) ; six from **E42** (injury of tooth, bone) (**Table I -11**).

#### **F-F( I -10 ) :Three preceding codes**

The above three preceding codes were almost isolated, independently formulated, and transferred individually to the Hammurabi code(**Table I -12, Fig.1**).

### **3.1.4(Part II ) Social class and development of professions**

#### **F-F( II -1): Social class**

At ancient Mesopotamia, two or three social classes including king existed, each differing the legal status(**Table II -1**).

**Note 1**

In the Ur-Nammu and Lipit-Ishtar law codes, both written by Summerian, any words corresponding to king (in this case lugal) are not discovered. In the Eshnunna law the two articles(**E48** and **E58**) contain word Šar (Šarru, lugal) and the Hammurabi code has seven with Šar (rarrum) (**H26, H27, H28, H33, H35, H51 and H129**) (**Table II -2**) .

Then, the these codes there are four classes : Šarru, awilum mushkenum (mašenkak, mušenkak) and waradu (wardum, wardu) or antum.

**F-F( II -2):King**

Kings whose authority was entrusted by the gods, has the supreme judgment (**E58, E56**) and the right to give amnesty (**H129**).

In the prologue of his law code Hammurabi wrote : ‘ In order to make people happy and to give the satisfaction the god Enlil (see, **Table II -3**) nominated me (Hammurabi).

**Note 2**

In prologue of the law code Hammurabi promised people in his state to provide abundant food and offer security, in other words, to make people prosperous and safe. The above promise may be realized by civil engineering of canal [not only simple digging down of single waterway, but also construction of canal-network and it's maintenance and actual operations] and city-wall. To these should be added as the third target.



**F-F( II -3): Other three classes**

Other three classes are, for convenience, simply expressed in terms of awilum, mushkenum, and warudam, respectively. The second social class, found in the E and H codes, was not existed in the UN and LI codes, and was expressed as mushkenum in the E code and as museskak( transcript of Sumerian from Semitic (Akkadian)) in the H code, respectively.

**F-F( II -4): Awilum's job**

Awilum's job can be reasonably estimated from an analysis on the articles, of the UN and LI law codes, starting with [takumbi lu...] or of the E and H laws, starting with [Summa awilum...] (**Table II -5a~ II -6**).

**F-F( II -5): Coverage (1)**

Jobs summarized in **Table II -5~ Table II -6** seems to cover almost whole range of jobs of the society at that time.

**F-F( II -6): Coverage (2)**

Awilum covers the lower and middle classes, and validity of eqs.

$$\left\{ \begin{array}{l} \text{awilum} = \text{noble man ( II -3) (Kraus and Kishimoto)} \\ \text{awilum} = \text{elite citizen ( II -5)(Nakata)} \end{array} \right\}$$

is evidently denied. There is no article exclusively applied to the noble man alone. The awilum is ordinary people, including lower and middle classes(see, also **F-F( II -9)**).

**F-F( II -7): Coverage (3)**

In the Ur-Nummu and Lipit-Ishtar law codes no article on the upper awilum was detected(**Table II -13a**).

**F-F( II -8): Mulla poena sine legé**

Hammurabi's kingdom (almost an entire Mesopotamia) is , in this

sense, the first *mulla poena sine legé*).

#### **F-F( II -9): Change in homogeneity of awilum**

Awilum seems to have been consisted of the citizens or the 'freeman', covering from the upper elite sub-class to the poor or ordinary sub-class. ( II -6) The transfer of rather homogeneous awilum class to highly heterogeneous and broad class occurred during the period (**Table II -13a** and **Table II -13b**).

#### **F-F( II -10): Legal status of awilum**

Awilum had, irrespective of his job, the property (poor or rich), the social position and so on, absolutely equal legal (criminal, civic and commerce) status. Any awilum had also right of charge against some awilum(i.e., the right of accusation to court, becoming a suitor in law court (**H1, H2, H3, H4**)), although detailed proceeding are not disclosed in the articles(see, **Figure III -2**)(i.e., the right of accusation to the court). Needless to say, a charge accompanies a gave responsibility( **II 3.4.4**).

#### **F-F( II -11) : Muskenum**

There is no article on muskenum in the Ur-Nammu and the Lipit-Ishtar codes. In the Sumer society muskenum was not existed as one of social classes with particular status (**Table II -1**).

#### **F-F( II -12): Legal status of muskenum**

**(A)Equivalent to the awilum** : A1.property (real state, **E12, E13**) and movables) right (ownership) (**E24, E50, H219**) ; A2, home and family

**(B)Advantage of muskenum:**

(legal protection to muskenum) B1.the offense by the assailant against

Muskenum (E12, E13, E24, H12, H13, H15); B2. the embezzlement (E50, H8) ; B3. the cost of medical treatment (H222).

**(C) Disadvantage compared with awilum:**

C1. bodily injury (H196, H197, H198, H200, H201, H203); C2. medical malpractice (H201, H211, H212); C3. compensation (Table II -8).

**F-F( II -13): Significant disparity between muskenum and waradu**

1. Muskenum can have his own slave (E50, H175, H176, H219).
2. If a muskenum kills a slave this is not homicide :  
If he has some responsibility for death of slave, he compensates or equivalent slave or money as replacement of the dead slave (E55, E57, H231).

**F-F( II -14): Lex talionis ( II -3.5.1)**

Lex Talionis is rigorously applied (see, Table II -8), only to the cases of both the assailant and victim are awilum (case 2,9,11, and 13 in Table II -8). Exceptional case in H207 (death caused by the injury (beating) during quarrel → silver 1/2 mana).

**F-F( II -15): Slave ( II -3.5.1)**

Ir<sub>11</sub> and geme<sub>2</sub> in the UN and LI law codes and warudu and amtu in the E and H law codes correspond to the male slave and the female slaves, respectively. Ir<sub>11</sub> = warudu and geme<sub>2</sub> = amtu.

**F-F( II -16): Supply route of slave ( II -3.5.3)**

- (1) Slave was purchased from domestic market of by personal deal (H278, H279), or from foreign market (H280, H281).;
- (2) Debtor default (debtor slave) (H54, H117) ;
- (3) Human traffic (trafficking) ;
- (4) Kidnapping (H14) ;
- (5) War prisoner (H27, H28, H29, H32) ;
- (6) Slave's child (H146) ;
- (7) Hostage (H117, H118) ;

(8) Offender ; there is no clean description in the articles.

**F-F( II -17): Ownership of slave ( II -3.5.4)**

Individual, together with private and public institutions, had the ownership of the slave.

- (1) Master (beki<sub>2</sub>) (**H16, H18**) ; (2) Palace(ekalim) (**H15**) ; (3) Muskenum (mushkenkuk)(**H15**) ; (4) Merchant (tamukarm) (**H18**) ; (5) Wife (former num) (lukur) (**H147**).

**F-F( II -18): Slave's legal right ( II -3.5.6)**

(1) the property right

Slave has the property right (**UN5, H176**) to make his own immovable and movable ; house and fortune. Slaves have the right of possession on the house they build after marriage and fortune they accumulated.

(2) the right of marriage

Case A: slave can get marry to female slave he loves (**UN8**).

(slave husband –slave wife)

Case B: slave can get marry formally to awilum girl (**H175**).

(Slave husband- awilum wife).

(3) the right of inheritance

In (2) (case B), after slave husband died the widow receives as well as marriage portion , half of the house they built and the fortune they accumulated during the matrimony for the child. The another half of the house and the fortune, goes to his master (**UN5, H176**).

(4) medical treatment, penalty and compensation

Slave receives the medical care at smaller expense (see, **Table II -10(1)**). Slave's crime is punished more severely ? (**Table II**

-10(2)). Slave as the victim receives smaller compensation (Table II -10(3)).

#### F-F( II -19): Servitude-system society

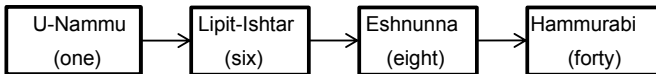
Was ancient Mesopotamia the servitude –system society ?

The agricultural sector of Mesopotamia needed highly expertise for work, and the slaves could not find their suitable roles. This is a great contrast to Latifundium in the Roman times, where major labor was the slaves imported from the conquered countries (Part II -6-2)

#### F-F( II -20): Development of job specialization

The pattern of development of professions revealed from analysis on the four law codes are shown bellows.

(Table II -13a, II -13b, and Table II -11~14)



( ) : number of jobs cited in the law codes.

In the Old Babylonian period job specialization progressed remarkably. The first occupation in the law history is farmer. The distinction between the carpenter (bānu) (H232) and the ship builder (malahu) (H234) is clear, but both the ship builder (H234, H235) and sea captain (H236, H237) are ascribed by malahu probably due to not-yet matured specialization of above occupations. It should be noticed that both bānu and amelu alla appeared in the same article (H274), suggesting that bānu and amelu alla had somewhat different meanings.

### **3.1.5 (Part III ) Legal litigation, penal law code, and civil law code**

#### **F-F( III -1): Written law**

The emergence of written-law as preconditions of inventions and their improvement of writings and their popularization of the writings in daily( III -3, III -3.1).

(**Note**: tokens and their descendants (cuneiform script) were formed from practical demand, mainly, in agriculture(**Figure III -1**).

#### **F-F( III -2):Tokens**

Except the E law code which was the shortest life (14years~) the life-span of ancient law codes ranges in 90~160 years(**Table III -2**).

#### **F-F( III -3): Priest**

Priest in the Hammurabi laws did not play or were not allowed to play an important role in the court.

#### **F-F( III -4): Courts**

There were a variety of courts differing the status and function.

#### **F-F( III -5): Legal processing**

In the three proceeding laws (UN, LI and E laws) no article in the legal processing is discovered.

#### **F-F( III -6): Nine terms**

Nine terms concerning to the legal processing are discovered in the Hammurabi law code (**Table III -7**). These terms, such as ① suit, (daiānu), ② judge(daanu), ③ plaintiff (muubbin), ④ testimony(uktiin), ⑤ evidence(šibi), ⑥ deed(rikisu), ⑦ witness(kattūm), ⑧ clay plate (dub)(i.e.,document) and ⑨ fine (ruguum) are , even at the present , constituting major elements in the legal processing . The Hammurabi law is evidently based on the principle of evidence, and is absolutely differed from divine

judge (Table III -7),(5.1,1)).

#### **F-F( III -7): judge**

First appearance of judge is observed in the H law(5.2.1)

#### **F-F( III -8):Qualification of judge**

Qualification of judge is : (1) king's official respective. (2) person appointed by king (mayor). (3) members of assembly ( III -4.3.3). (4) members of summary court ( III -5.3).

#### **F-F( III -9): Duty of judge**

Duty of judge is: (1) to open trial court(H11). (2) to investigate evidence (H9, H18, H58, H172, H177). (3) to investigate ground (H168), (4) to confirm something (H106, H108) ; to confirm, in front of god, the fact (H112, H113, H124), (5) to make decision (H1, H3, H5, H172) , (6) to give permission of disown (H168) ; of remarriage (H177) ; to give adjuration without trial (E54~E57),(H251, H252).

#### **F-F( III -10): From accusation to judgement**

Step 1~10 for accusation ~judgement is shown in the Hammurabi law code (see, Figure III -2).

#### **F-F( III -11): Oath**

Oath, appeared first in the Hammurabi law, continued for some thousand years to the present (Table III -6).

The Hammurabi law demonstrates the cases, where the oath was made in front of god(Table III -6). Even at present time, before giving evidence, witness in court has to take oath.

#### **F-F( III -12):Perjury**

In the Hammurabi law perjury was the capital crime.

#### **F-F( III -13): Double jeopardy**

The H law codes have an article with an original form of the

prohibition of double jeopardy (**H5**), which is now one of the fundamental principles at present law system.

See, the article 39 of Constitution of Japan (CJ)(prohibition of double jeopardy).

**F-F( III -14):Plaintiff's responsibility of proof and defendant's right of disproof are written clearly**

Summarizing, the legal processing in the Hammurabi law code is characterized by (1) testimony, evidence and witness, (2) plaintiff's responsibility of proof and defendant's right of disproof, and (3) first appearance of judge.

**F-F( III -15): God**

Name of god appears frequently in both prologue (27 times)and epilogue (25 times) in the Hammurabi law.

In the main text of three preceding laws no word of shrine (bitu), palace (ékallu) and god (ilu) is discovered(**Table III -5**).

**F-F( III -16):Divine judge**

There is no article, except **H2** and **H132**, on divine judge in the four codes.

**F-F( III -17):Priest**

The priest in the Hammurabi law did not play an important role in the court, or were not allowed to play(**Table III -5**).

**F-F( III -18):Summary court**

The name and function of Summary court (SC) are shown in (**E54, E55, E57, E58, and H124, H126, H143, H251, and H252**).

**F-F( III -19):Penalty**

The four categories of the penalty were found in Hammurabi law code. (1). Death ( **III 6-2**): (2). Bodily punishment (**Table III 1-16**):



(3). Fine (**Table III 12~18**), (**Table III -8,9 and 17**): (4). Banishment (**H5, H154, (Table III -14) ( III -6.1)**).

#### **F-F( III -20): Death penalty ( III -6.2)**

The crimes serious enough to be punished by death are four (articles) in the Ur-Nammu, zero in the Lipit-Ishtar, five in the Eshnunna , and 34 in the Hammurabi articles, respectively(**Table III -8~9(continued), and 10**). Note that in the Hammurabi law code there is neither an article on murder nor article on rebellion. The article, in the H law code, enough to be punished by death contain the four articles about dishonesty in the legal process. The number of articles on death penalty is eleven % of the total penalty code, and 4.4 % of the total legible articles of the H law code. Those values are not very significantly different from the corresponding value (3.3%) of the E law code. If all for the legal process are excluded, the portion of death penalty reduces to 2.8%. The UN code is the most closely connected to the death penalty (**Table III -10**).

#### **F-F( III -21) :Execution**

The methods of execution, exceptionally described in laws are (1) stake, (2) crucifixion, (3) downed with arms and legs tied up, (4) downed with arms legs free(**Table III -11**). Popular procedure at that time is probably hanging(not shown in **Table III -11**).

#### **F-F( III -22) : Compensation or fines**

The compensation or fines for bodily injuries (nose, eye, tooth, ear, cheek, leg, and bone) in the UN, E and H law codes are tabulated (**Table III -12**). In the table all possible combinations are (assailant) x(victim) x ( injury positions) = 3 x 3 x 7 = 63. Table covers only 4/7

for the UN, 3/7 for the E and 10/63 for H laws, respectively. It is clear that the Eshnunna law is sterner than the Ur-Nammu laws and the Hammurabi-law is sterner than the Eshnnuna law (Table III -12).

(In medieval England loss of life is roughly equivalent to loss of two eyes or to loss of five fingers).

#### **F-F( III -23) : Penalty for thief**

Penalty for thief varies between fine silver 5 siqlu (H260) and capital punishment (H11)(Table III -16). Invasion of theft into temple or palace (H6) and selling of the stolen goods were looked upon as serious crime (grand larceny) and felonies were severely punished (capital punishment).

#### **F-F( III -24) :Domestic violence**

Domestic violence by son to father and illegal exchange of babies, which we often experience and read in newspaper, were not also rare the Old Babylonia period.

#### **F-F( III -25) : Criminal victims**

Two law articles (H23 and H24) are the world first law (H202~214) (Table III -14). which aims to afford public support against criminal victims ( III -4.4.1.A).

#### **F-F( III -26) :Malpractice(1)**

The compensation for malpractice are legislated(see, also, F-F( III -31)).

#### **F-F( III -27) :Illegal damage**

Illegal damages to the misfortunes, such as house and ship, were recognized to be the object, which should be compensated (Table III -19). (for house H229~H233), (for ship H235~H238) ( III

## 4.4.1),

**F-F( Ⅲ -28) :Legal relief**

Legal relief was attempted to support the social misfortune. For war prisoner's family **H27, H28, H29** ; for ransom of war prisoner **H32** ; for flood victims **H24**.

**F-F( Ⅲ -29):Human rights**

Embryonic ideas of the human rights are observed in the H law code ( Ⅲ 4.4.2). (1)Marriage (**H128, H152, H172, H175, H176**), House (**H21, H22, H23, H24, H36, H37, H38, H39, H41, H46**), Child (**H14**): (2) Ownership and property right (buying and selling); values (**H7**) ; domestic animals; (**H8**), slaves(**H15 – H20**) ; real estate: (3) Right of succession (**H150, H162, H163, H165 H166, H167, H170, H171, H174, H177~H183**)(**H6, H8**): (4) Liberty of contract ; **H47( Ⅲ -4.4.2)**.

**F-F( Ⅲ -30) : Japan penalty code**

The close correlations between the four ancient Mesopotamia law codes and the contemporary Japanese laws are discovered(**Table Ⅲ -4** and **Table Ⅲ -20**). The fifteen articles in japan Penalty code (JPC) inherited from one article (**UN-1**) in the Ur-Nammu, one article (**LI 1**) in the Lipit- Ishtar and twenty five articles (**H1, H3, H6, H8, H14, H21, H22, H33, H34, H114, H130, H196~208, H210**) in the Hammurabi law codes (in total twenty seven articles).

**F-F( Ⅲ -31) :Malpractice(2)**

The penalty for the malpractice committed by medical doctors and veterinarians is collected in **Table Ⅲ -18 (H218, H219, H220, and H225)**.

Malpractice is not a contemporary crime in our modern society,

where the human right have authorized in public. The medical doctor's work was, and even now, is a job of high risk high return. In contrast, veterinarian' penalty is much small (1/4 of the animal risks) as compared with that of medical doctor(dismemberment).

**F-F( III -32) : Product liability ( III -4.4.1(C)).**

The illegal damages to the important immovable and movable such as house and ship were recognized to be the object, which should be compensated(Table III -19).(H229, H230, H231, H232, and H233 for house and H235, H236, H237, H238, and H290 for ship).

**F-F( III -33) : Legal relief to social misfortune ; ( III -4.4.1(D))**

1. war prisoner's family ; H24, H27, H30, H32, H133, H134, H135.
2. war prisoner's child ; H28, H29.
3. flood victim, and draught victim ; H48
4. wife; disease (leprosy) ; H148, inheritance, H156, H171, H172, remarriage, H172, H177 .

**F-F( III -34) : Marriage and divorce (1)**

Typical process of marriage arrangement was taken root (Table III -21).

**F-F( III -35) : Marriage and divorce (2)**

The requisites for formal marriage in the UN, Li, E, and H law codes progressed as follows :

Cohabitation (UN) →cohabitation for some period(LI) → wedding reception (E) → written oath (H)(Table III -22).

One-sided divorce by husband or by wife was not recognized. Divorce money was regulated in the Hammurabi law code (Table III -25).

**F-F( III -36) : Rejection of marriage**

When girl (wife) dislikes (antipathy toward husband) (H142) or refuse the cohabitation with husband in the house husband made (H149) she had the right of rejection of marriage (often examination by the local committee)(Table III 24).

**F-F( III -37): Family ; Family type**

Some typical types of the family, all deduced from analysis on the Ur-Nammu, Lipit-Ishtar, Eshnunna, and Hammurabi laws are illustrated :. Three types in the UN laws (Fig. III -3), four types in the LI law (Fig. III -4), one family type in the E law (Fig. III -5), and five types or four teen sub-types in the H law (Fig. III -6) were discovered(see, also, Table II -4).

A wide variety of family types in those days reflect well the complexity of the society.

**F-F( III -38) : Constitution of family in the Old Babylonian period**

The smallest unit consisting ancient Mesopotamia society is monogamy formed by a combination of husband and wife. A family was, in principle, formed with husband, wife and their children only. Differences of social class (awilum, mushkenum, and slave in the Hammurabi law code) do not bring about legal problems, and any combinations (theoretically, 9 types) of husband and wife are approved regardless of their social classes.

**F-F( III -39): Monogamy (1)**

It's official stand is monogamy. But the special cases, when one husband can have two wives at the same time, are legally acknowledged. Then, the society is based on a monogamy, partly mixed with polygamy(H141, LI 28).

**F-F( III -40): Monogamy (2)**

Child , to whom slave gave birth, is recognized by his father, he(child) has equal share of inheritance to other formal wife's children (father consanguines) (see, III .7.3)(H170).

**F-F( III -41): Monogamy (3)**

If husband did not recognize the above-mentioned slave's child, the child and his mother are liberated from slavery(H171).

**F-F( III -42): Gift inter vivos (1)**

Husband denotes a gift inter vivos with dead.

**F-F( III -43): Mistress (1)**

Husband can have mistress besides the first wife (H145, H146)

**F-F( III -44): Mistress (2)**

Awilum girl became mistress with her will(H183, H184).

**F-F( III -45): Family size**

Family size in the H laws seems to be consistent with the agricultural characteristic at that time . Only by using this style of agriculture they could to keep high yield, resulting in large surplus.

**F-F( III -46): Inheritance (1) ; Right of inheritance**

Personal (husband) property is succeeded to his wife and children(H172).

**F-F( III -47): Inheritance (2) ; Equal share in succession (1)**

Distribution of the property is actually based on the two principles. Equal share succession (H165) under the limit of 'primogeniture. This does not mean that the eldest son monopolizes by himself, all the properties of father. The mixture of the two principles aims to avoid the excess subdivision, by repetition of inheritance over generations, into smaller parts, which might make the sustainability

of family farming impossible.

**F-F( III -48): In Inheritance (3); Gift inter vivos (2)**

Wife receives often a gift inter vivos (gift of property from husband, while he is alive ). This is a form of division of property, which were built by co-operation of husband and his wife (see, **H152**). This seems an advanced idea 'Just evaluation of woman (wife)'s role in family life.

**F-F( III -49): Inheritance (4); Child and his mother (1)**

Child cannot request (or demand), after father's death, mother's money, donated by husband as 'gift' before father's death (**H150**). This article was effective to prevent the accident that the widow (child's mother) is thrown out from the house.

**F-F( III -50): Inheritance (5); Child and his mother (2)**

When children attempt , after their father's death to drive out their mother from the house judge investigates first the background of this matter and then punish the children(**H172**). Article **H150** seems useful precaution of **H172**.

**F-F( III -51): Inheritance (6) ; Legitimate and bastard children**

Legitimate children as heirs have precedence preference bastard in selection of the father's property(**H170**).

**F-F( III -52): Inheritance (7) ; Equal share in succession (2)**

Father's property is given to one's own sons, except disown child (**H168, H169**) with equal share in succession(**H165**)(see, also, **III 7.3.2. A(ii), B(i)~(ii) and C(i)~(iii), D**).

**3.1.6 (Part IV ) The written contracts and commercial laws**

**F-F( IV -1): Cuneiform script**

Ordinary people in the Old Babylonian period could 'read and write' the cuneiform script.

**F-F ( IV -2): Higher level of literacy**

The popularization of cram schools had realized comparatively higher level of the literacy of ordinary people.

**F-F ( IV -3): Private contract**

The private contracts constituted a fundamental element of the social activity.

**F-F ( IV -4): Depository of documents**

The documents were kept in his private house.

**F-F ( IV -5): Right of selling and buying(1)**

People of all the social ranks, such as awilum ( III .3.3.4), mushkenum ( III .3.4.2)and even slave ( III .3.5.6) ,have the right of selling and buying of the property. But, there were some exceptions (Table IV -2). The lands, farms, and houses , all allocated by king for soldiers, policeman, and tax-collectors, were not allowed to sell them to others (Table IV -2), or to present them to his wife or daughter. But, there are some exceptions against the above mentioned exceptions (Table IV -2).

**F-F ( IV -6): Exceptional articles**

Such an existence of some exceptional articles to the exceptional regulations is one of features characterizing ancient Mesopotamian laws: H28 (inheritance by wife from the husband who is a war prisoner when son is too young to manage the farm and orchard)( III .3.2).

**F-F ( IV -7): Buying and Selling**

From 'buying and selling'' contract records, 'Primogeniture



principle' (H165) seems rather limited ( **IV -3.2**).

**F-F( IV -8):Tenant contract (1)**

Large number of the tenant contracts for each family had been preserved in the house, where he lived(see, **IV -3.1.3B**).

**F-F( IV -9): Tenant contract (2)**

The tenant contracts, together with 'buying and selling' contracts, were the quite important documents, which should be kept with great attention at their homes( **IV -3.2**).

**F-F( IV -10):Contract**

Majority of the economic activities was guaranteed by numerous contracts.

**F-F( IV -11):Amount of goods equivalent to silver one siglu**

The amounts(expressed in sila) of goods, including vegetable oil of high purity, pig fat, oil of river, sheep fat, salt, lime, copper and refined copper, which are equivalent to silver one siglu are given in the Eshnunna law code E1 (**Table IV -3**).

**F-F( IV -12):Equivalence of barley and silver**

The two articles showing the equivalence of barley and silver are discovered in the Eshnunna law code(**E2 and E3; Table IV -5**).

**F-F( IV -13): Copper as money?**

In the Hammurabi law code as well as other three precedent laws any word of copper was not discovered as money.

**F-F( IV -14):Limited use of barley**

Barley was used only in comparatively limited number of the categories (**Table IV -8**).

**F-F( IV -15):Use of barley as currency in agriculture**

Barley was exclusively used as one of the two currencies(**Table IV**

**-8).**

Barley was used as currency in only agriculture and its related categories and in the Hammurabi age barley was only a substitute currency.

**F-F( IV -16): Silver as money currencies**

Silver is the old-established money currency since the Ur III dynasty. Silver was originally used as the metal currency. Silver was undoubtedly the main and first currency.

**F-F( IV -17):Wide use of silver as money**

Silver had been used over a quite wide range of the eleven categories covering almost whole social life except agriculture. Utilization of silver as currency became rapidly popular, such fine and compensation (1, 2) in Table (Table IV -7), daily and monthly payments and reward for achievement (3, 4), lease and monthly deposit fee (5, 6), dealing (7), divorce (8), misconduct (9), medical treatment and its failure (10, 11), and product liability (12).

**F-F( IV -18):Invention of metal currency**

Invention of metal currency and its popularization require (a) the establishment of procedure of metal refinement (b) introduction of new method for measuring weight of silver, and (c) advance of silver currency to coins.

**F-F( IV -19):Silver in long-distance trade**

The silver currency made in Babylonia was the most advantageous media to the long-distance trade at that time.

**F-F( IV -20): Pay and reward**

Pay and reward, regulated in the Eshnunna and Hammurabi laws are summarized(Table IV -9~ Table IV -9)(continued)).

**F-F ( IV -21):Regulation of time**

Regulations of the year, month, and day. In the laws no word on 'week' was found( **IV -5.1.2**). Note that week was introduced first in the Old Testament (**Exodus 20 : 9 and 10**).

**Note 3**

**Exodus 20 : 9-10**

You must do all your work six days. But seventh day is a Sabbath to Jehovah your God. You must not do any work.

**Exodus 23 : 12**

Six days you are to do your work, but on the seventh days you are to desist, in order that your bull and your ass may rest and the son of your slave girl and the alien resident may refresh themselves.

**F-F ( IV -22):Types pf payment**

There were three types of payments, depending on the contract of working period (1) **annual** income (barley), (2) **monthly** pay (silver), and (3) **daily** wage(barley (the Eshnunna law) or silver (the Hammurabi law).

**F-F ( IV -23): Contingent fee**

Other category of payment was contingent fee for house, ship builder, medical doctor, veterinarian, and gardener, who received as reward for their achievement.

**F-F ( IV -24):Annual income**

Annual income was exclusively paid on the barley basis (**Table IV -9**).

**F-F ( IV -25):Income**

The income of craftsmen are not much varied among their jobs specification (**H274**). Pay of day-laborer seems a little higher than those of the above-mentioned craftsman. But, we should pay an attention to the total days, which enables them to work, in one year for day laborers. Their labor limited only to the busiest season for the farmers. In particular, pay of day-laborer was higher in mid-winter-later spring than that in late summer to early winter (**H273**). The pay may have a connection with agricultural almanac.

#### **F-F( IV -26):Craftsman**

The distinction between carpenter (...ella) and builder(bānim) is not clear. Milkman (amelu ga?) may be cheese or butter workman. Flax-workman may be flax-cultivator (farmer?) or craftsman of flax-yarn or flax-engineer.

#### **F-F( IV -27):Operation cost and craftsman's income**

A typical operation costs one~ one-and-half years income of a craftsman(**Table IV -9(continued)**).

#### **F-F( IV -28):Day laborer's income**

Pay of day laborer was higher in mid-winter ~later term than that in late summer to early winter term(**Table IV -9**).

#### **F-F( IV -29a):Medical doctor's income**

Medical doctor's income is as expected, prominently high(**Table IV -9 (continued)**). Medical doctor's income is as expected, prominently high. Note that the operation had not been performed by a doctor alone, but surgical assistants (i.e.,(apprentices) assisted their master. At the period, any medical education had not been practiced and only traditional master-apprentices-ship system practically worked. The operation could be carried out

(maximum) twice a day and doctor's apprentices were life-supported by their master and received small money for the operation. Utilization of anesthetic (local) is not clear, although its possibility cannot be absolutely denied.

Medical doctor earns silver 10 siqlu for a surgical operation to an awilum patient. Award differs depending on the patient's social positions. At present, 10 siqlu silver = ¥ 4,788.

#### **F-F( IV -29b):Surgeon and doctor of internal medicine**

In the Hammurabi law code, there is no distinction between surgeon and doctor of internal medicine, both called 'azu' (**H214, H215, H217 ~ H221**). Amount of award for medical doctor depends, of course, on the kinds of the treatment. Bill of surgical operations for removal of tumor and the suture of injury was twice of the treatment of the fracture or intestine (**Table IV -9, H215, H221**).

#### **F-F( IV -29c):Failure of surgical operation**

In the following cases surgical operations may be judged as failure.

(1) during operation on immediately after the operation the patient died.

(2) the patient died, without recovering, few days=one week after the operation, due to syndromes such as suppuration and hemorrhage caused by the operation.

#### **F-F( IV -30):Ship -builder**

Reward of a 60 gur-capacity (7.2 ton-capacity) ship-builder is two siqlu (**H234**). Provided that 1siqlu/month =  $1 \times 180/25 = 7.2 \text{ Še/day}$  ( here one month = 25 days work). All materials needed for ship-building such as wood were supplied directly to the ship-

carpenter by the man commissioned to build it. Since ship-building was performed in the master-apprentice system, all (total) pay was, of course, not monopolized by the master alone.

#### **F-F( IV -31): Pays in the E and H law codes**

The pay of day-laborer in **E10** coincides with the pay for season. Jan-May in **H272**. At harvest the labor was hard work , and then, was highly paid (about twice). Agricultural laborer, who was employed for one year, is paid annually with barley. Part time laborer as a temporarily simple laborer at harvest was paid daily.

#### **F-F( IV -32):Lease**

Domestic animals, including ox, cow, donkey and lamb are utilized, for agriculture and transporting media such as cart and ship (**Table IV -8**). In case (4) of the **Table IV -8** , lease of donkey in the **Eshnunna law (E10)(6 sila/day) increased by 166% up to 10 sila day in the Hammurabi law (H269)**. In case (6) of the table, **lease of (ox + cart + cart man) (E3)** jumped triple from 60 sila/day to 180 sila/day (**H271**).

#### **F-F( IV -33):Merchant**

In the Hammurabi laws 22 articles, which are concerned with 'merchant' (tamkarum) are discovered Merchant, together with farmers (landlord), became an essential sector in the old Babylonia period.

#### **F-F( IV -34): Agriculture and Commerce**

The relations between agriculture and commerce in the Old Babylonia period were shown in Chart (**Chart 2 of Part IV** ).

#### **F-F( IV -35):Long distance trade**

Mesopotamia had a scanty of indispensable natural resources to

keep a high living standard. Therefore, these materials had to be imported from elsewhere, even if it was remote from Mesopotamia (see, **Chart 2**).

**F-F( IV -36): Proto-banking (1) (Private finance to ordinary people)**

In the Old Babylonia period merchants had a kind of financial activities (mainly, loans), which can be called as 'proto-banking' : **(Private finance to ordinary family (H152, H117)** ; merchant lent silver to family on security. The distinction among pledges, pawn **(H114)** and hostage **(H115, H116)** are not clear.

**F-F( IV -37): Proto-banking (2) (Finance to business).**

**(1)** a small business (loan to tenant farmer) **(H48, H51)** ,**(2)** a large business (from merchant to sales man) by loan **(H100)**, goods (consignment sale) **(H104)**, fund **(H102, H106)**, and **(3) investment to business** ; The eight articles **(H100~H107)** in the Hammurabi law on business relations (the dealings and troubles) between merchant and salesman are discovered.

**F-F( IV -38):Technical advance**

The specular natural environments in the Mesopotamia accelerate the technological advance leading to the processing industry and development of the commerce business by the long-distance trading.

**F-F( IV -39):Landlords**

Landlords took a position superior to merchants ( **IV -6.4**).

**F-F( IV -40): City administration**

Generally, city administration was commissioned to mayor elected among wealthy merchants ( **IV -6.5**).

### **3.1.7 (Part VI ) Agricultural law and law of retaliation**

#### **F-F( VI -1): The canal-irrigation farming**

The canal-irrigation farming is not native of Sumer and had also not been emerged there, but it was developed from proto-irrigation farming in the northern Mesopotamia and then, transmitted to the Sumer ( VI -3.1.1).

#### **F-F( VI -2):Salinization**

During 2,370 BC~2,110BC, the ratio of yield of barley to seed decreased significantly and this change can be explained by **salinization (Table VI -2 and Table VI -5).**

#### **F-F( VI -3):Cereals**

Cereals had been the most widely cultivated in the ancient northern Mesopotamia. During the third millennium the yield/seed ratio at Lagash (Sumer) was constantly above 20~30, ranging mainly 50~80 (except Herodotus's data). All these data, obtained for the canal-irrigation farming, show an extremely high productivity, being comparable to the present agriculture.

#### **F-F( VI -4): Independent farmer**

The article of the Hammurabi law code, which is concerned with the independent farmer, is **H47** alone. This is a case of downfall of an owner farmer.

#### **F-F( VI -5): Tenant contracts**

Tenant farmer made tenant contract with landlord (see, **Part IV -3.3).**

#### **F-F( VI -6):Signature certification assignment**

Signature certification assignment (by king) of land (with the name of receiver) was in advance presented to all the employees (all



ranks) in old royal territory).

#### **F-F( VI -7): Cultivation technology**

Cultivation technology : Double cropping was applied widely in Sumer. Cultivation technology after introducing canal-irrigation can be deduced in detail from the farmer's calendar.

#### **F-F( VI -8):Fallowing**

Even after irrigation technology had been introduced, **fallowing** was essential.

#### **F-F( VI -9):Agriculture in Iran without irrigation**

At present (~1973), in the Iranian district where the farming is carried out without irrigation the farmer meets serious bad crop of 2~3 years in 5 years span.

#### **F-F( VI -10):Real income index**

Now we can evaluate **the real income index** for two cases : (1) dry-farming, and (2) irrigation farming. Here, we assume the area of farmland is the same. Average income of an ordinary farmer in case (2) is roughly estimated about 12.5 times of case(1).

#### **F-F( VI -11):Canal construction and its maintenance (1)**

##### **Shortage of irrigation water ( VI -3.1.3)**

High silt contamination in the Mesopotamian rivers together with extreme flatness of the southern Mesopotamia plain brought about a high risk that everything of the surface of the earth are buried by silt in short period, leading to the **flood or shortage of supplying irrigation water**.

#### **F-F( VI -12): Canal construction and its maintenance (2)**

**Construction and repair** were performed in off-season of cultivation.

**F-F (VI -13): Canal construction and its maintenance (3)**

**Master plans** of new construction of canal network were primarily designed by estate architects with high specialty and by constructors with numerous track records.

**F-F (VI -14): Canal construction and its maintenance (4)**

This was **big national projects** and could be materialized by king alone.

The upper grade officers were in charge of ① procurement of factors, ② supply of wage, ③ supply of construction materials, ④ process management, ⑤ supply of food to all employees, and ⑥ management of works according to process chart.

**F-F (VI -15): Canal construction and its maintenance(5)**

Sometimes, **king (Hammurabi)** supervised the canal construction project directly.

**F-F (VI -16): Canal construction and its maintenance (6)**

The tenant farmer was entirely responsible for the maintenance of the water path (i.e., branch of canal, flowing directly in to the farmer's land).

**F-F (VI -17): Canal construction and its maintenance (7)**

In the Hammurabi law four articles (**H53, H54, H55, H56**) declare the farmer's duty of maintenance and punishment for violation for the laws.

**F-F (VI -18): Canal construction and its maintenance (8)**

**Owners** along the water path had responsibility against main maintenance of the above banks.

**F-F (VI -19): Canal construction and its maintenance (9)**

The **owners**, whose boundary of farmers were in contact with

each other, had to make the above contract always in order.

**F-F( VI -20): Canal construction and its maintenance (10)**

For working a large number of employed laborer were needed. For them **wage barley** was paid by the owners, depending on the width of bank occupied by the owner.

**F-F( VI -21): Canal construction and its maintenance (11)**

Location of canal networks in Sumer, including Nippur, Issin, Shruppak, Arab, Umma, Zabalam, Bad Tibura, Urum, and Larsa, seems likely not to be very significantly altered during almost 1,000 years, although the rise and fall of the above cities are, of course, observed (from Adam's work (1981) cited by H. Crawford (1991)) ( III -3.1.4(B)).

**F-F( VI -22):Tenant farmer's negligence**

Amount (extent, degree, range) of damage of farmers suffered by his neighbors careless negligence in maintenance of the water path, should be fully compensated by the perpetrator (**H53, H54, H55 and H56**) (The above damage was considered as a kind of personal outbreak ( III -3.1.4(C)).

**F-F( VI -23a): Tenant contract (1)**

The tenant contract was formed by an initiative of the victim farmer and was made at least perfunctorily on the base of mutual agreement between landlord and farmer under the predominantly di-advantageous circumstances for the farmer side(**VI -3.1.4 (C)**).

**F-F( VI -23b): Tenant contract (2)**

Basic contact of reclamation between landlord and former was effective usually for three years (**H44**) .

**F-F( VI -24):Flood (1)**

Landowner cannot claim his ownership after flood and the farmers cannot expect any assistance from the state for his loss of house and cattle ( **VI -3.1.4 (C) (Table VI -3)**).

**F-F( VI -25): Flood (2)**

Were inhabitants in Mesopotamia afraid of flood simply considering that it was anger of god? ( **VI -3.1.4 (E)**).

**F-F( VI -26): Flood (3)**

There are some resources of **king's measures against flood**. (active attitude against nature).

**F-F( VI -27):Agriculture of wheat**

The farming area, farming portion (weight ratio), and yield of wheat at Lagash during 3600BC~ 1700BC are summarized to demonstrate the serious effect of salinization upon cereals cultivation (**Table VI -5**).

**F-F( VI -28):Barley cultivation**

In the southern Mesopotamia wheat cultivation converted to barley. Wheat cultivation survived (until present) in the northern Mesopotamia.

**F-F( VI -29):Long-spun irrigation**

Long –spun irrigation cultivation of cereal brought about its decline, even if the same cultivation technology as before (see, **VI -3.1.2(B)**) were continued faithfully ( **VI -3.1.2(B)**).

**F-F( VI -30):Salinization**

Salinization is a typical example of environmental pollution. In this way the advanced technology (canal-irrigation networks and their operation systems) had attained unbelievably high productivity of cereals, but it induced simultaneously the serious damage, which

could not permit the sustainability of this technology ( **III -3.1.24(B)**).

**F-F( VI -31):Debt of framer**

In the Hammurabi law code, a number of articles are found on debt of tenant farmer from merchant (**H48, H49, H50**). The articles on landed former are not numerous (**H 47**).

**F-F( VI -32):Date plantation**

**The plantation of dates** was exclusively performed by another different specialist (gardener) under the contract agreed between landlord and gardener ( **VI -3.2.1**).

**F-F( VI -33):Flood and drought**

Flood and drought were the two-major uncontrollable factors, governing the yield.

**F-F( VI -34):Flood and tsunami**

Flood (ir-ta-hi-is) and tsunami (bi—ib-bu-lum) are stated in **H45** and **H46** and overflow and drought are found in **H48**.

**F-F( VI -35): Personal factor**

Personal factor cannot also be ignored in cultivation business. Negligence of cultivation (**H43, H44**).

**F-F( VI -36):Tenant's responsibility**

Even tenant farmers took for management **all responsibility**. At final phase he sold himself (**H54**). He made his family (wife and children) debt slaves with three years limit (**H117**).

**F-F( VI -37):Compensation**

Against damage committed by the farmer to a third party compensation was collected strictly (**H53, H54, H55, H56, H57, H58**).

**F-F( VI -38):Gardener**

Gardener made a contract on development of garden from field (or wasteland) in 5 years (**H60, H63**).

**F-F ( VI -39):Management of garden(1)**

Management of garden was entrusted to the gardener (**H64**) and 2/3 of harvest was taken by the landlord and 1/3 was for the gardener (**H64**). In this sense, the gardener of orchard was a kind of a partner of an enterprise.

**F-F ( VI -40):Management of garden(2)**

For about four years the gardener had no income (**H60, H63**).He must some funds or property. In addition, he make a part of not-yet completed garden temporary farmland to cultivate barley on the basis of dry farming.

**F-F ( VI -41):Income tax or tenant fee**

Increase in cultivation field and increase in barley harvest contributed at large rate to multiplier increase in income of the state finance. In this case 'beneficiary payment principle' should be taken into consideration of income tax for tenant farmer as canal-irrigation cultivator.

**F-F ( VI -42):Various contracts at Old Babylonian period**

- (1) contract of tenant farming ( **VI -3.2.2(A)**).
- (2) buying and selling contract of land ( **VI -3.2.2(B)**).
- (3) contract of employment of laborer ( **VI -3.2.2(C)**).
- (4) document of land assignment granted by king ( **VI -3.2.2(E)**).

**F-F ( VI -43):Retaliation (1)**

The retaliation is formal act by public prosecutor of punishing assailant (attacker) in return for what he has done to the victim. The law of retaliation was applied only to the case when both

assailant and victim were awilum ( $a \rightarrow a$ ). Other cases such as  $a \rightarrow m$ ,  $a \rightarrow s$ ,  $m \rightarrow a$ ,  $m \rightarrow m$ ,  $m \rightarrow s$ ,  $s \rightarrow a$ ,  $s \rightarrow m$ , and  $s \rightarrow s$  were allowed to employ the substitute.

(i.e.,  $a \rightarrow a$ , the first  $a$  is assailant awilum and the second  $a$  is victim awilum), a general expression employed here is assailant (social class)  $\rightarrow$  victim (social class)).

#### **F-F (VI -44): Retaliation (2)**

There is no article of retaliation law in the UN and E laws except homicide and for any injury in all cases the substitute payment was utilized. In the Mesopotamia, the retaliation law had first been adopted in the Hammurabi law .

#### **F-F (VI -45): Retaliation (3)**

In this case  $a \rightarrow a$ , when the victim was died caused by quarrel. The retaliation law was not applied and silver 1/2 mana was paid as the penalty (H207, and see, **Table III -14**). This is an exception of the principle of retaliation law.

#### **F-F (VI -46): Old Testament**

Among the nine items, when comparison of the Hammurabi law code with the Old Testament (Exodus, Leviticus, Deuteronomy) and the New Testament (Matthew) on the retaliation articles can be made (**Table VI -11** and **Table VI -12**), three articles in the Bible are more severe than the H laws and other six articles are almost the same in rigidity. Then, we can conclude that the both are approximately in the same nature.

#### **F-F (VI -47): Compensation in the Ur-Nammu and Eshnunna laws**

In the-Ur-Nammu and Eshnunna laws all bodily injuries (except murder) could be compensated by the money (substitute payment)

(**Table VI -10**). Compensatory payment ranged from silver two gin (tooth) in the UN law to silver one mana (bone in the UN and eye, nose, and both in the E). In the all four laws for homicide the law of retaliation was strictly applied.

**F-F( VI -48): Bodily injuries and law of retaliation**

Only in the case of **a** → **a** (i.e., assailant and victim are all awilum) all bodily injuries (eye, tooth, and bone ) are judged by the law of retaliation.

**F-F( VI -49):Increase Heterogeneity of awilum class**

The transfer of rather homogeneous awilum class to much highly heterogeneous and broad awilum class occurred with mass or volume expansion during the Old Babylonian period (see, **II -3.3.3.**). The compensation, if the substitute payment is employed, will not be any burden for the upper elite awilum. On the other hand, for the poor, the compensation will be too much to pay (see, **Table IV 9** and **IV -10**), otherwise they should sell themselves.

**F-F( VI -50):Domestic animals**

Articles on the oxen, which occupied 64% of the total articles on domestic animals among them, are concerned with rental. In the four law codes no articles discovered on horses (**Table IV -13**).

**F-F( VI -51):Plants**

The plantation of date palm had been very prosperous and then popularized in the Sumerian and Old Babylonian period, but the cited number of articles on trees were very few (**Table IV -14**).

**F-F( VI -52):Sesame**

Word 'sesame' suggests the some intimate relation with (Šamnu) or (ŠamaŠšmiu).



**F-F( VI -53):Gold**

Gold as metal was not cited in the UN, LI and E laws (**Table IV -15**).

**F-F( VI -54):Silver**

Silver as currency was cited in twenty-five articles in the E laws and was also quoted sixty two articles of the H laws. Silver was dealt mainly as currency (**Table IV -6**). Other use of silver was found in **E 15** and **H7** only (**Table IV -15**).

**F-F( VI -55):Iron**

Iron could not found in the four law codes (**Table IV -15**).

**F-F( VI -56):Disease and Cure (1)**

Zero article is found on disease and cure or medical treatment in the UN and E laws. Three articles are found in the LI and six articles in the H law (**Table IV -16**).

**F-F( VI -57): Disease and Cure (2)**

Nine diseases are discovered in the LI and H laws (**Table IV -16**).

**F-F( VI -58):Azuz**

Medical doctor AZU gave medical treatment for four diseases as follows; Injury, eye tumor, bone fracture and disease of intestine (**Table IV -16**).

**F-F( VI -59):Epilepsy**

Patient of epilepsy was allowed to behave as he wants to do (**LI 15**), because no cure had yet been formed for epilepsy (**LI 16**). **LI 15** states that if an attack of epilepsy is due to anger of god, the patient cannot escape from it.

**F-F( VI -60):Atrophy**

Symptoms of the patient described in **LI 28** are dizziness and

atrophy. Then, I (Kamide) dare to diagnose him cerebral infarction or cerebral hemorrhage.

#### **F-F( VI -61):Surgical operations**

Surgical operations were applied by Azu to the patient to remove tumor of eye (H215) and to cure serious injury (H215). In these cases, a bronze scalpel was used for the operation (H215).

#### **F-F( VI -62):Orthopedic surgical treatment**

Orthopedic surgical treatment was applied by Azu to the patient (H211).

#### **F-F( VI -63):Disease of intestine**

Disease of intestine was cured by doctor (Azu) of internal medicine (H221).

#### **F-F( VI -64): Medical doctors**

There was not distinct difference between surgeon and doctor of internal medicine and name of common medical doctor was Azu (see, II -4.2).

#### **F-F( VI -65):Surgeon's fee**

Surgeon 's fee for surgical operation was approximately twice of the fee of a medical treatment by doctor of internal medicine for the treatment (H211, H215).

#### **F-F( VI -66):Incurable disease**

For incurable disease , medical doctor had not directly been involved. In these cases, 'watch and observe the patient', whose disease was expected to be incurable, was recommended. This means that medical doctors well-recognized the clear limit of medical treatment at that time.

### 3.2 Comparative study of the four ancient Mesopotamian law codes ;

#### A statistical analysis

##### 3.2.1 Identity, similarity and correlations

Comparative study between the Hammurabi (H) law code and other code chosen from the Ur-Nammu (UN), Lipit-Ishtar (LI) and Eshnunna (E) are performed. The results are shown in **Table VII -1**.

**Table VII-1 Identity, similarity and Correlation among four law codes**

Table	Combination	Intimacy
Table I -8	UN---- H	8 articles----one identical ; one similar, 6 corresponding articles
Table I -9	LI ---- H	8 articles (8 similar articles)
Table I -10	E-----H	16 articles---one identical, six similar, nine corresponding articles
Table I -11	UN--E (two)- (two) UN--E--H (two)-(two)-(five)	see, for detailed explanation, Part I ,Table I -11

##### 3.2.2 Comparison of the four law codes

The results are summarized briefly in **Table VII -2a~2b**

**Table VII-2a Comparison of ancient law codes**

<b>Table</b>	<b>Code</b>	<b>Item</b>
<b>Table I -5</b>	UN, LI, E, H	Number of legible articles
<b>Table I -6</b>	UN, LI, E, H	Over view composition (category)
<b>Table I -7</b>	UN, LI, E, H	Number of articles classified into categories (1)~(11)
<b>Table I -12</b>	UN, LI, E, H	Transfer of articles in the three preceding law codes to the H law code
<b>Table I -13</b>	UN, LI, E, H	Number of articles of the three preceding laws which have identity, similarity and correlations to the H laws.
<b>Figure I -1</b>	UN, LI, E, H	Mutual correlations among the four law codes
<b>Table II -1</b>	UN, LI, E,H	Social class
<b>Table II -5a</b>	UN, LI	Outlines of the articles starting with (takum bi lu <sub>2</sub> ...)
<b>Table II -5b, -6a, -6b</b>	E, H	Outlines of the articles starting with (Šumma awilum...)
<b>Table II -7</b>	E, H	Professions of the upper awilum
<b>Table II -11</b>	LI, E, H	Price of slave
<b>Table II -13a</b>	UN, LI, E	Various professions
<b>Table II -13b</b>	H	Various professions
<b>Table II -14</b>	UN, LI, E, H	Development of professions revealed from analysis on the four laws

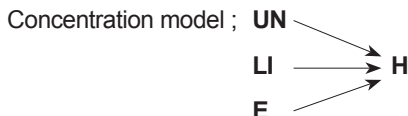
Table VII-2b Comparison of ancient law codes (continued)

Table	Code	Items
TableIII-4	H, Japanese law	Correlating between the ah law and Japanese law
TableIII-5	UN, LI, E, H	Frequency of shrine, place and god
TableIII-8	UN, LI, E, H	} Crimes serious enough to be punished by death
TableIII-9	H	
TableIII-9(Con)	H	
TableIII-10	UN, LI, E, H	Summary of TableIII-8 and 9
TableIII-11	UN, LI, E, H	Execution of the death penalty
TableIII-12	UN, E, H	Compensation for bodily injuries
TableIII-13	UN, E, H	Fine for bodily injuries
TableIII-20	Japanese Penalty Code, UN,LI, H	Comparison of Japan Penalty Code with UN, LI, H codes
TableIV-6	UN, LI, E, H	Barley and silver utilized as currency
TableIV-7	UN, LI, E, H	Use of silver as one of two major currencies
TableIV-8	UN, LI, E, H	Use of silver as one of two major currencies
TableIV-9	E, H	Pay and reward
TableIV-10	E, H	Comparison of pays in the two laws
TableIV-11	E, H	Lease
TableVI-10	UN, E, H	Bodily injury and penalty
TableVI-11	H, Exodus	Correspondence of the H law to Exodus or relation
TableVI-12	H, Testaments	Comparison of the articles on bodily injuring
TableVI-13	UN, LI, E, H	Number of the articles on domestic animals referred in the four codes
TableVI-14	UN, LI, E, H	Number of the articles on plants (trees), and products cited
TableVI-15	UN, LI, E, H	Number of the articles on metals (except currency), birds, fishes and animal (lion, dog) cited
TableVI-16	LI, H	Articles on disease and care of medical treatment

### 3.3 Hypothesis and theories proposed in this study

1. Two probable patterns of evolution of written laws are illustrated as

Linear model ;  $UN \rightarrow LI \rightarrow E \rightarrow H$  , and



Concentration of all aspects into one (in this case, the H) law is shown to be the most probable (**FF( I -6), FF( I -7)**).

2. A theory of growth mechanism of site to a gigantic site ( **V -4.1.4(d)**).
3. The society model (Model II in the text) deduced for the ancient Mesopotamia from analysis on the Hammurabi law code (**0-2.3.1~0-2.3.2**).
4. Various professions cited in the UN, LI, and E, (**Table II -13a ~ II -13b**).
5. Path of development of professions revealed from analysis or the four law codes (**Table II -14**).
6. Evolution of law concept ; step(1) → step (7) ( **III -3.1**).
7. Emergence of written laws (**Table III -1**).
8. Process of accusation→ judgement in the H law (**Figure III -2**).
9. Process of marriage arrangement (**Table III -21**).
10. Roles of merchant and landlord (**Chart IV -1**).
11. Agriculture and commerce (**Chart IV -2**).
12. A narrowly bent evolutionary path leading to irrigation ( **IV -3.1.1**).
13. Role of irrigation in agriculture (**Chart VI -2**).
14. Transition of large scale , directly-managed agriculture to tenanted agriculture (**Chart VI -3**)( originally proposed by H. Klengel).
15. Cultivation of wasteland to farmland and then afforestation to orchard (**Chart VI -4**).

### 3.4 New concept on the Hammurabi law code

1. The Hammurabi law code is not a code simply codified from the past custom ( **III -4.5.1**).
2. The Hammurabi law code denies or improves the past customs ( **III -4.5.1**).
3. The Hammurabi law code is not a compilation of articles of the Ur-Nammu law, Lipit-Ishtar law and Eshnunna law ( **III -4.5.2**).(see, **(1)**).
4. Some parts of (UN, LI, and E) are adopted in the H law although constituting only a small part of the Hammurabi law code.
5. All the articles in the Hammurabi law are not completely consistent with each other, but has three samples showing inconsistency ( **III -4.5.3**).  
Proof 1 ; H 8 and H 6; Proof 2; H142 and H149 ; Proof 3; **Table ( III -9)** .
6. From a view point of completeness of the law system (see, also **Table I -6**) the Hammurabi law code is the origin of legal system today.
7. The Ultra-long term continuity of law system is an important feature of Hammurabi laws, indicating that the legal idea in the law in common to human beings (see, **III -4.4.2**). In addition, the Hammurabi law code can now be well recognized as, great ancestor of the contemporary times from the above anatomical analysis of the four laws: They are
  - (1) legal procedure (mulla poena sine legé)
  - (2) fundamental human right,
  - (3) protection against social misfortune,
  - (4) responsibility .

These are evidently disconnect with the preceding laws.

## **VII -4 Conclusion**

- ① Overall summarization of the seven previous papers (**Part 0~Part VI**) was made.
- ② Considering the present status of the studies, the reliable work on the articles were selected (**VII -2.1**).
- ③ Morphological, anatomical, and statistical analysis on the above articles were performed in the systematic way (**I ~ VI**).
- ④ Seven unique methods, developed for analysis , were proposed (**VII -2.2.1~2.2.7**).
- ⑤ Comparative study of the Ur-Nammu (UN) , Lipit-Ishtar(LI), Eshnunna(E), and Hammurabi (H) law codes, resulted in the twenty tables (**VII -3.2**), which enabled us to understand explicitly the characteristic feature of the H law.
- ⑥ In order to visualize the results one hundred and ten tables, two figures, seven maps and four charts were constructed in the main test of this study (see, **Table VII -3.2**). These numbers can be compared with 3 tables (and 0 figure, 0 map 0 chart ) in the past 47 studies published until now.
- ⑦ Some matters unsolved in the past studies, (see, for example, **Part 0-1.7.2, a-e**) changed to the certain knowledge. Two were recognized as fact-findings (**F-F**).
- ⑧ Details of **F-F**. are shown in **VII -3.1.1~ VII -3.1.7**. The evidence is indicated in the parenthesis, if necessary.
- ⑨ Sub-total number of **F-F** in each part is shown in **Table VII -3**. We now obtain 218 fact-findings on ancient Mesopotamia mainly through analysis on the four ancient law codes.



- ⑩ Fifteen models are proposed, on the basis of hypothesis and theory proposed (**Part VII -3.3 and Table VII -3.3**).
- ⑪ Seven new concepts on the H law code such as past custom, compilation of the preceding laws, consistency completeness , ultra-long continuity are disclosed in the study (**Part VII -3.4**).

**VII-3 Total number of the table , figure, map(chart), and fact-findings**

Part	Total number			
	Table	Figure	Map(Char)	Fact-findings
<b>0</b>	<b>6</b>			<b>7</b>
<b>I</b>	<b>13</b>	<b>1</b>		<b>10</b>
<b>II</b>	<b>14</b>			<b>20</b>
<b>III</b>	<b>6</b>			<b>52</b>
<b>IV</b>	<b>12</b>		<b>2</b>	<b>40</b>
<b>V</b>	<b>37</b>	<b>1</b>	<b>5</b>	<b>23</b>
<b>VI</b>	<b>16</b>		<b>(4)</b>	<b>66</b>
<b>VII</b>	<b>(4)</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Σ</b>	<b>104</b>	<b>2</b>	<b>7 (4)</b>	<b>218</b>

**VII -5 Reference**

1. K. Kamide, Journal of Social Science, Nara Gakuen Univ., vol. 11, p113-145, 2014: (Part I ).

2. K. Kamide, Journal of Social Science, Nara Gakuen Univ., vol.12, p107-148, 2015: (Part II ).
3. K. Kamide, Journal of Social Science, Nara Gakuen Univ., vol.13, p215-293, 2015: (Part III ).
4. K. Kamide, Journal of Social Science, Nara Gakuen Univ., vol.14, p251-302, 2016: (Part IV ).
5. K. Kamide, Journal of Social Science, Nara Gakuen Univ., vol.16, p97-159, 2016: (Part V ).
6. K. Kamide, Journal of Social Science, Nara Gakuen Univ., vol.17, p119-196, 2017: (Part VI ).
7. K. Kamide, Journal of Social Science, Nara Gakuen Univ., vol.18, p71-108, 2017: (Part 0).
8. K. Kamide, Journal of Kanazawa Kogyokai. No.160, p1-7, 2009.
9. K. Kamide, 'Industry and Economics', Nara Sangyo Univ., vol.24, p87-136, 2010.

## Appendix A

**Part 0-1.2 (Some physical parameters... );(this journal, vol.18, p49-86, 2017);** Definition of A grade is given as

**A grade :** Quotation numbers of reference are marked in order of citation on the main sentence and the detail of the reference (author(s), journal, volume, page, published year etc.) are collected in order of citation at the book end or the end of the book chapter (A1). In the above case, the author(s) name and journal (book) title (not page) only are shown (A2).

**Appendix B** Author regrets some turbulence in **Part 0** (at the second column of **section 1.5**) at computer-materialization step.

### 1.5 Social class in the ancient Mesopotamia

Table 0-4 shows the social class consisting the ancient Mesopotamia society, proposed in the literature.<sup>50-58</sup>

The society was composed of four classes ; king, awilum, muskenum and slave. But, there is no article on muskenum in the UN and LI codes. There are five articles (**E1, E12, E24, E34, E50**) in the E code and thirteen articles (**H8, H15, H16, H140, H198, H201, H204, H208, H211, H212, H216, H219, H222**) in the H code (see, **Part II . 3.4.1**). Here, the status of awilum and muskenum was not confirmed for long years. Even at present the final judgment on awilum and muskenum is not yet established. For example, **ref. 6** (Kishimoto )(1969), **ref.10** (Kuroda)(1969) and **ref.24** (Bottéro)(1992) judged that awilum class is aristocrat. On the otherhand, **ref.25**(Roux) (1992), **ref.33** (Matsumoto)(2000), **ref.36** (Maekawa)(2000), **ref.43** (Van de Mieroop)(2005), Kriwaczek (2010) concluded that awilum may be elite man. Note that criterion judging the social class is not always disclosed. It seems to me that dramatic change in interpretation on awilum occurred around 1992.

(Here, double underlined parts are compensated parts).

