

# Social Functions of the Academic Legal Database System

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## Social Functions of the Academic Legal Database System

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### Introduction

In the SHIP project, I and our members have been not only developing some XML based database systems for social science area, but also studying and discussing various legal problems that would arise in the process of or relating to developing legal database system from various different view points.

In this 4<sup>th</sup> Joint Symposium, I would like to present my ideas about the social meaning of making academic legal information database system. Today, we have Professor Peter Martin from the United States and Professor Graham Greenleaf from Australia participating in the symposium. I hope that the different standpoints of our respective countries will stimulate the discussion and result in a fruitful exchange of views.

### I. Functions of Legal Information

What are the functions of legal information?

Here, I will focus on three functions; recognition function, storage function and function as one of the social tools.

#### 1. Recognition Function

Human beings need some kind of symbols in order to recognize the existence of law. There are various types of symbols. And, the symbol used for recognizing law is usually called "Legal Information."

Legal Information is and will be transmitted by writing systems, as well as by other means. In ancient era, such transmissions were mainly done verbally. Terms such as *ofure* or *otassh<sup>1</sup>i* must have their roots in such historical background.

Legal information is often recorded and transmitted by characters on fixed media. One such example is the Code of King Hammurabi<sup>2</sup>. Legal information has been recorded on various media such as slate, clay tablets, bronze ware, parchment, bamboo and wooden strips, and paper. Some were inscribed on rocks and cliffs. Today, the most commonly used media is paper, or sheets of paper bound into a book. Despite the differences of

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1 In Japanese language, *ofure* and *otassh* used in ancient era and have the same meaning. These terms mean any directions or orders from government or local states to ordinary people verbally. In many historical cases, *ofure* and *otassh* also had same meaning as laws or court orders. Most of evidences of legal information in ancient era are included in *ofure* and *otassh* such as Tax orders written on small bamboo pieces.

2 Hammurabi was one of the famous kings of ancient Babylonia. The Code of Hammurabi has been recorded on a big black stone that is in the Louvre Museum.

materials or forms of such media, there is no qualitative difference in the fact that legal information is recorded and transmitted by symbols in the form of characters that can be visible or readable for human beings.

In recent years, symbols are often exchanged by means of electronic tools. Here again, it is just the same as the recording and transmission done by conventional characters, as long as such tools exist in order to help humans recognize the symbols.

This is based on the fact that human beings can recognize things only through symbols. Legal theories of today, whether they are European Legal Theories, or U.S. Legal Theories (in particular Common Law), are structured on the basis of "human intent." This intent is formed through a variety of symbols.

However, in the future, "intent" may become no longer necessary when a contract between software agent and software agent, existing irrelevantly to human intent, comes into being. In such a situation, legal information will not have to be recognizable to the human eye. I call such a legal system, in which human intent does not exist, the "*processing theory*."<sup>3</sup> At present, it is commonly understood that a contract should not be legally binding unless there exists human intent, so a contract with a software agent still involves human intent at some point. But in the future, when a contract is made exclusively between two software agents, the digital symbols (electronic codes or signals) used there will not necessarily have to be recognizable to human beings.

## 2. Storage function

The next point to consider is that legal information is stored. There are two kinds of human memory; short-term memory and long-term memory.

While short-term memory is usually processed in human beings and thus is limited in duration, long-term memory often exists outside of the human brain. Of course, human memory fades away as time passes, and gets lost when the holder of the memory dies. Thus, in order to preserve memory for a long period of time, it is necessary to store it in some media outside the human brain. By utilizing the function of long-term memory, human beings have made possible communication among individuals living in different time and space, thus creating the culture of mankind.

Characters are not the only possible medium for long-term memory. There are symbols that cannot be clearly classified into categories of signs or marks, such as those used in Linear A letters in ancient Greece or Mayan epigraphs, which have not been

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<sup>3</sup> Processing Theory was named and defined by me in my book, *Jurisprudence and Computers* (1993). This theory based on automatic processing environment by computer systems without any human beings' action. In such environment, contracts will be constructed by computer programs but not human intents. And rights and responsibilities made by such automatic contract will be processed or executed by computer systems without any human beings' action. This world will not need any human intentions or wills. I also argued "the network sanctions" in my second book, *Culture and Law in Networked Society* (1997). The network sanctions mean a kind of direct and automatic execution of legal rights (or legal right like digital process) by computer systems. But, such environment will not bring any happiness to us at all, I think.

deciphered yet. Also in modern times, there are mathematical formulas that are composed of symbols only. Even if such formulas use symbols whose forms are similar to characters, those symbols do not necessarily function as characters.

But human beings have always used characters as the most common means to record information. Legal information database itself is a set of symbols called characters (more correctly, character code sets and font sets) that indicate legal information. Statute books and casebooks are such database. A casebook database, being a digitalized version of casebooks is also one such database.

However, in the field of legal information, we often use symbols called characters as something that evokes "concepts" associated with a certain social behavior. This is because legal information would be meaningless if it did not function as a part of the social system of its environment. The context functioning here is purely personal, but all societies are maintained on a kind of communal illusion about the understanding of context.

### 3. Social Function

Legal information is a set of symbols that can be recognized as characters, and those symbols appeal to the human brain. This then becomes a determining factor as its response. Such sets of characters, in their own role of "being aggregate," function to determine actions or intention under a certain social context. Therefore, it is more precise to say that legal information exists not in sets of characters, but in the brain of human beings who function according to such sets of characters. But when the legal world becomes too large to be accommodated in human brains, society cannot function without another storage system external to the brain. Then, it can be said that one of the essential functions of legal information is as a social tool.

In other words, legal information is not just information to be recognized by humans, but a tool of controlling society.

The fact that legal information functions socially does not mean it functions in every time or place, or upon anybody. It requires a certain environment. Only one specific set of legal information functions in each particular environment, where the requirements for the legal information to function are met. For example, the policy making by augury<sup>4</sup> in ancient China functioned as a social system to establish legal rules<sup>4</sup>. In modern days;

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<sup>4</sup> Emperors and his priests in ancient China had tried to tell his fortune or unfortunates by burning bones. In many case, bones of ox, turtle or other kind of animals had been usually used. If any good cracks had appeared on the surface of the bones then they had done any political decision. But, if any good cracks had not appeared then they had try again to reach good cracks. For example, once an Emperor had a question whether a small umber of slaves to be killed or not for his ceremony, but he could not get any good signs. Then, he tried again whether more slaves to be killed. But, he didn't get good shaping cracks. He tried again and again. Finally, he got the best cracks that he believed, and many slaves were killed by his order only for his ceremony. This was one of the most miserable examples. But, in ancient days, many people believed something constructing super-natural power, and these were powerful basis to make their decisions and orders for them. Today's people can know these historical facts by many

however, reading records of such augury inscribed on old bones does not have any social relevancy. Because, the environment that enforces what is inscribed on the bones or that enables the inscriptions to establish legal rules, has been lost. Now, only the vestiges of a certain social system are remaining. Such a social system had been that functioned during a certain period of time in the past. But, such a legal system no longer functions in our times, because we do not have an environment in which people burn animal bones and draw some conclusion from the way the bones cracks. By the same token, various legal systems currently functioning will not necessarily work in future societies.

The situation mentioned above is also largely true of the existing legal rules in present day. For example, rules regarding "due process of law" are functional in the current environment. However, they may not function any more in a future environment. In other words, law does not function by itself; it functions in tandem with an environment within a certain social context. Another example is domestic law, which functions only in the nation concerned. Generally, legal scholars understand this as a matter of national sovereignty. From an information theory standpoint, however, this will be understood as a problem of the environment (or difference of the environment) that enables a specific system to function. Even in the same country, many of the major domestic laws are ignored and do not function at all in a certain local territory like in the society of the Japanese *yakuza*<sup>5</sup>. The converse is also true. In a federal state, a multinational country or a country where centralized national authority is not established, this will emerge as a situation in which each interest group claims its own legitimacy. In some countries that are constructing European Union, we may be able to observe similar phenomenon. Such a local system, of course, does not have power over the rest of society, but within that group, it functions as a legal system.

In short, legal information functions as a social tool. So, without an appropriate environment in which to function, legal information is no more than a set of characters. Herein, an importance of developing any legal information database systems lies. I believe that the first step in establishing a legal information database system must involve a close examination of these social-context-related-functions embodied in this legal information.

## II: What is the Source of Law?

Next, in the process of putting legal information into any database systems, we need to consider what original data is and what source of law is. Here, I will take up the question of "What is original?" Then, I will discuss secondary data that is derived from the original. Lastly, the issue of commentary and usage of data will be examined.

### 1. Original data

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old burned bones that were excavated from underground.

5. *Yakuza* means crime syndicate or mafia in Japan. They have simple, but severe rules for their behaviors and organizations. They may be polite inside of their territory, but betrayal will cause directly death or fear sanctions for them.

First, let us think of law itself in the abstract.

The symbols by which one knows what law is, is called "source of law." "Source of law" is recognized by humans through recognition of a group of symbols called "legal information". Thus, legal information is a symbol representing the source of law itself. Now, one can argue that "right law" is law and that source of law can exist for right law only. Here, "right law" refers to law that functions as socially justifiable at the time in question.

Many legal scholars believe that there should be only one set of legal information used as source of law, whose reliability is publicly guaranteed. Like the meter standard, such legal information is the ultimate standard.

For example, the source of law of the legal rule stipulating that murder is an illegal act and thus to be punished, is Japan Penal Code Article 199<sup>6</sup>. This 199 article is not subject to a specific font or size of characters. In a sense, it is an abstract entity. Even if the minute books of the Imperial Diet<sup>7</sup> that instituted the Japan Penal Code, or documents of legislative bills were lost, the Article 199 as an abstract entity would continue to exist. Of course, this is only true in theory. In fact, certain legal information can be obtained through several different media, including copies.

For instance, many books have been published, detailing the provisions of various laws, including Japan's statute books called *Roppo*<sup>8</sup>. These collections of laws usually have many different versions. Each of tens of thousands of provisions is printed and published in tens of thousands of books. But there is only one Article 199 that exists. Also, several channels are available to those wishing to obtain this legal information. As for paper media, information can be obtained from several different publications.

On the Web, it can be obtained in different HTML or databases systems. Article 199 is a provision to be understood as a provision in an abstract way. So, regardless of how it is printed and published in different fonts, sizes of letters, colors or forms in different collections of laws, the provision exists abstractly as itself. In that sense, source of law should be, in the first place, deemed as something that exists irrelevant to objects; rather, it is something that is recognized *through* objects. Otherwise, it would be difficult for legal information to play its original role in a large society with a

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6 Murder will be treated as a criminal behavior, and criminals will be sentenced to death or 3 years or more imprisonment by court under Criminal Procedure Code in Japan.

7 Diet refers legislative organ in Japan.

8 *Roppo* refers to either six codes of law including Japanese Constitution, Japan Civil Code, Japan Penal Code, Japan Commercial Code, Civil Proceedings Act and Criminal Procedure Code, or the book (statute books) containing these six codes. It was created after the Meiji Restoration in 1868, as the Japanese government had been under the urgent pressure to introduce basic codes of law in order to resolve unequal treaties with Western countries, especially, Great Britain, France of Napoleon III, Imperial German, Imperial Russia and USA. Very few countries in the world have this kind of statute books with such historical background. The current *Roppo*, which contains many codes, laws, statutes and ordinances other than the six basic codes of laws, has functioned as a sort of paper database of legal information in Japan.

large-scale bureaucratic structure and a legal system.

Legal information, while having several different expressions, originates from one original.

Even today when legal information is transmitted by means of electronic tools, the belief that the original data is the most reliable has remained intact.

But in a derivative process, bugs and typographical errors inevitably occur. Rather, there are problems peculiar to electronic tools. For example, it is difficult to tell from the text itself whether character codes and fonts, which are used in the printings of legal information, are consistent with each other. Sometimes, as the result of using a different font, characters that appear on the browser are different from what the creator of the HTML first intended.

By using with XML technology or other similar markup languages, such a problem is a bit mitigated due to its design as language, I believe. The problem is even less observed in a Unicode compatible environment. Of course, one can avoid such problems in HTML by specifically designating character codes and font sets in tags.

Although such function is available, the consistency between codes and the forms they represent is not guaranteed by any means, for a client machine that is not equipped with required font sets. When external characters are used<sup>9</sup>, this problem will become quite serious. In that instance, if an original text should exist in a database system on the Web, there would be no knowing whether it is guaranteed as the original.

Thus, we need to keep on examining what original is, whether on paper media or Web media. Even today, the pursuit of source of law in terms of what original data is still carries on, possibly with more difficulty. This issue carries with it a further difficult problem in regard with secondary data, and will be taken up in the next chapter.

Meanwhile, the original data can be provided only by those who generate or hold the data. Generally, in an organization called a nation, only the legislative and judiciary organs can have such functions of law making or law holding.

In some nations, the two organs are not separate, and the same governmental agency performs these functions, but the fact remains that an organ credited with a legislative, or judicial state power is the only creator and holder of legal information. Thus, any other organizations, for example, legal information corporations such as WESTLAW and Lexis-Nexis, or academic organizations such as Meiji University School of Law, Cornell's LII or AustLII, will never be the creators of original data. These organizations can be nothing but the holders of secondary data that has been derived from the original.

## 2. Secondary Data

Today, almost all legal data available to us is secondary data.

As for statutes, Japan's *Roppo* and collections of statutes are composed of secondary data that were copied and compiled from articles in official gazettes. Judgments printed in casebooks available at bookstores are also secondary data. Even judgments printed in official casebooks are not original data in that they were compiled from the

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<sup>9</sup> [http://www.watch.impress.co.jp/internet/www/column/ogata/part1\\_2.htm](http://www.watch.impress.co.jp/internet/www/column/ogata/part1_2.htm)

original texts (scripts). Almost all collections of law and casebooks on the Web are secondary data.

More strictly speaking, even official gazettes are not original data because they are merely compiled copies of the provisions established in the Japanese Diet. In short, almost nobody is granted a means to seek the source of law by using original data; in Japan, at the very point when a law is made public, only non-original data is available to the ordinary people.

This situation is just the same in the United States, where citizens are provided with secondary data through major publishers such as WESTLAW. In every country, the means to access the original data, in the true sense of the word, is quite limited. (Examples of such limited means are the reference service files of scripts at courts, or law-making-related materials in the Diet Library or in various archives.)

Nevertheless, almost all legal scholars and practical lawyers believe that sets of characters printed in official gazettes are original, although such characters are obviously not the first script.

Then, what renders reliability to much secondary data?

First, we can cite the social status of publishers, such as major publishers of legal books, or a project backed by a prestigious university. From a different point of view, this kind of reliability is based on past achievements; there is no guarantee that the reliability of a publication is based on current data. (Tomorrow is another day.)

Once, a judge made a judgment that contained a misapplication of law because he did not notice a typographical error in a statute book published by a famous publisher in Japan, which he referred to in writing the judgment. Later, the judgment was revoked in the appeals court.

Then, what about publications by a governmental organization, such as an official casebook?

Typographical errors or compiler's mistakes may happen even in such publications. It is widely known that Japanese official gazettes have typographical errors. Not only that, such errors and mistakes can sometimes be observed in legislated laws. I have found several such mistakes in provisions printed in official gazettes. Some of the provision data stored in the LII database of Cornell University is appended with comments saying, "So in original." pointing to possible errors that existed in the original text<sup>10</sup>.

Then, how about casebooks of courts?

Those printed in the casebooks of courts are compiled copies of original documents. There is a publication entitled "Supreme Court Casebook," which serves as Japan's official casebook. Although it is evaluated as highly as the original, it does not mean it is the original. There is only one original version in the true sense of the word; that is, the original script, which was signed by the judge in charge. So, judgments included in the Supreme Court Casebook are not original, but secondary data. But the Supreme Court Casebook, which is published with its reliability guaranteed by the Supreme Court, becomes the first source for any other publications.

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10 For example, comment saying "So in original. The period probably should be a semicolon." at footnote to U.S.C. title 15 section 631(f) in LII.



Here again, what is believed to be original is nothing but secondary data. In the United States, major publishers such as WESTLAW sometimes become the first to publish legal data. Nevertheless, what is printed by WESTLAW remains secondary data, even if it may be given credibility as the original. The original script is, of course, the document signed by a judge who wrote it.

When it comes to judgments, even more difficult problems arise. Every judgment, written by humans, has the possibility of typographic errors. In Japanese law, a ruling of rectification can be delivered upon a judgment which had typographical errors<sup>11</sup>. The significant point here is that the original document is a mixture of the document before the correction and the other document to correct the error. Since the two documents cannot be mixed physically, the true original exists only in idea. People generally believe that what is original is a tangible object, but this example shows us that there exists an "intangible" original.

In foreign countries, some judgments have several versions. It is impossible to make comments on them unless one picks up one particular version to focus on. In regard to such judgments, each version is the original as well, about the same judgment. In this case, which is the original? In addition, the case number alone is not enough as the identification for the data, called judgments. A combination of case number and version number will be necessary.

The same logic also applies to law. When provisions of the very first version of a law are amended, the new provisions generated in idea become the original, even if the amendment completely rewrites the former provisions. For example, let us suppose that here is a law which has two provisions and a subsequent revised law that deletes the second provision of the first law. So, what we had had originally was a law that had two provisions, but the subsequent revised law generated it into another law whose true original has the first provision only.

However, no legal document carrying the first provision alone exists in a physical sense. Such document is generated in mind, but never exists as a document. Since there is no physical entity, it can be said that there is no original source in the true sense of the word.

In fact, this is not a rare case; many laws are like this and most of them are revised dozens of times. It is rather hard to find laws that have not been modified. This implies that an overwhelming majority of laws do not have an original in a physical form. In short, what was generated in idea as a secondary becomes the true original. So, in law as well as in rulings, identification numbers will need to be a combination of version numbers to specify the original. The official number of a specific law will be insufficient to identify the original.

Digital contents will present even more difficult problems in this regard, because the original data and the copied data will have exactly identical character strings unless errors occur during the copying process. Then, it will be hard to decide which is more accurate, the original data or the secondary data.

Thus, we can understand that for almost all the legal information currently distributed,

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<sup>11</sup> For example, Article 256 (change of judgment by court themselves), article 257. (correction of judgment by court themselves) or article 258 (addition of judgment by court themselves) in Japan Civil Proceedings Act.

there may be no guarantee that it has the same value equivalent as that of the original.

As we have seen so far, in the digital world, there is much data that does not have an original, and not only that, all the copies – whether they have gone through tens and hundreds of duplication processes, actually have the same value as the original. To abstract various problems like fonts as mentioned before, a complete copy of digital data will be the same as the original, so there will be no difference in value between the original and its copies. Under such circumstances, it could be meaningless to discuss the difference between original data and secondary or derivative data.

Of course, errors and bugs sometimes happen during a copying or remaking process, but usually, the two have the same value. Then, the traditional rules in evidence will not apply to a digital environment any more. For example, in the conventional, non-digitalized world, an original, signed contract has great value as evidence because there is only one such document, whereas its copy has no such value. Or, conventionally, law stipulates one cannot claim the content of a contract from memory as valid evidence, because such content is not accurate. But such rules will not work well when there is no difference in value between the original data and the secondary data. This issue will also have substantial influence on a case, when a crucial aspect is whether evidence should be recognized as hearsay evidence or not. In other words, the difference in legal value between an original and its copy is disappearing.

In some cases, legal information derived from copies is more reliable than the original because it has been corrected, and so is free of typographical errors and other mistakes. We can see quite a few such examples in legal information stored in commercial databases. Probably, the Best Evidence Rule is gradually being revised<sup>12</sup>.

Then, we will need to entirely reconsider the criteria to measure reliability in seeking source of law. In short, it will be necessary to establish a social system under which someone certifies that the data at hand is equivalent in value to its original. Furthermore, the reliability of that someone has to be measured, evaluated and certified by someone else. As for contents on the Web, it will be possible to argue this point on even stronger grounds; we will need someone or some system that will guarantee the reliability of the data on the Web. Publication by the government or the Supreme Court will no longer guarantee the reliability of data in the future<sup>13</sup>.

### 3. Commentary or usage of data

Legal documents are filled with special technical terms or insider language that can be used and understood only by lawyers. They are like a set of jargons.

Then, how are such sets of characters like hieroglyphs in ancient Egypt (hieroglyph), which are incomprehensible to today's ordinary people, socially functional?

In order for law to function in a society, there needs to be an environment in which legal information can function as symbols comprehensible to human beings. So, legal information requires a social system of commentaries and usage manuals aid to carry

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<sup>12</sup> Cf. Federal Rules of Evidence article VIII.

<sup>13</sup> We also must consider any illegal modification to electronic data by cyber crimes.

out its function.

As I stated before, a certain “environment” is necessary for law to function as law. This “environment” does not represent an abstract entity but a set of various systems that enables a law to function as law. How has such aid been given so far?

Such aid may have been given in lectures by scholars like me, or in textbooks at university. A government agency and officials may have performed such a function. In Japan, when a new law is made, government officials concerned with the legislation process write commentaries and publish them.<sup>14</sup> It is natural that those officials be the first to write the most detailed commentaries, because they were involved in the lawmaking.

The issue here is that those commentaries, though giving the most detailed explanation about the law, are already imbued with some interpretation. A law is usually made for very concrete and various purposes, be it economical, financial or military and so on. The persons in charge of a legislation process are most likely to promote such purposes and write commentaries to accomplish them. But we cannot know from a law if its purpose itself is right or wrong. If a government policy is wrong in the first place, the resulting law can eventually be wrong. Then, the commentary written on the premise (“the law is right.”) is still not right.

Moreover, such commentaries are not written for every statutes and ordinances. Because such commentaries represent a one-sided view of a law-making organ or a government agency, there is no guarantee that they are the right commentaries for the statute. (Especially, since such commentaries rarely acknowledge any flaw in the statute itself.) However, people in general will believe that commentaries written by officials involved in the law-making process must be reliable and trustworthy<sup>15</sup>. This poses a problem.

What, then, can be done about judgments?

Every judgment must be appended by a Court opinion as a basic reason to judge<sup>16</sup>. But since there is a rule stipulating that a judge should show grounds for the validity of his/her judgment (the rule called “A judge should not justify him/herself,” or “A judge should not explain him/herself.”) it is very rare that a judge writes any explanation or commentary to the judgment that he/she wrote. They are not allowed to justify their

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14 In Japan, many statutes were and will be drafted by government officials, because Japanese Constitution adopted a special relationship of Japanese Diet and government - parliamentary cabinet system.

15 There are many commentaries written by legal scholars. Useful and good commentaries are included in such academic commentaries. But, in easy way, many business people in Japan may believe of official's commentaries more reliable than academic commentaries. For example, some people may buy and read official's commentary to get governmental permission from a governmental agency as possible as soon. Moreover, by historical reason, many Japanese people have over-reliability to agencies or officials. These may be all fantasy, but it is real phenomenon that there are many people who believe officials' faith in today's Japan. They know that there are many criminal activities by officials. But, also they believe that Japanese officials are and will be very clever, and their works such as commentaries are and will be still reliable. I am one of Japanese too, but I can not explain this phenomenon so well.

16 Cf. Japan Civil Proceedings Act article 253, Criminal Procedure Code article 335.

judgments outside the court. I myself wrote a number of judgments when I was working as a judge. I was not allowed to make any explanation to justify my rulings at the time. I do not know if I am allowed to do so now that I have retired, but I hope I am.

Next, let us take a look at the Diet.

In Japan and Australia, I think it is common that government officials or agencies draw up a bill, which will then be proposed by the Diet members in an assembly meeting. I am not sure how it is in the United States, but it seems that congress members supporting the President often propose a bill that will support the President's intentions. We cannot make an easily modified comparison because the two countries have different government systems, but I suppose in the United States, the President serves the same kind of function as is performed by the government in Japan.

It may be too demanding to expect that such commentaries and usage aid should be given by those who *generate* the original data. Especially, since diet members will come and go as a result of an election. For example, let us suppose that a proposed bill is passed in an assembly meeting. Ostensibly, the diet member who proposed the bill should be the one who knows the most about the bill. But in fact, diet members do not know so much about bills they propose. Generally, it is very common for them to forget the details of a bill, which they have proposed, after its passing. (Diet members do not have much time to spare. They need to get on to the next agenda item.) By these reasons, a third party needs to establish a method of using a law or a support system to enable a law to function.

In conclusion, the three issues that I discussed so far – the difficulty in identifying the original, the difficulty in evaluating the reliability of secondary data, and the fact that a law as data cannot function by itself – are significant points in building a legal database. The first issue dealing with the question of originality carries with it many highly abstract factors. Also, I would like to stress that the originality and reliability of a text needs to be guaranteed by somebody. Not only the reliability of a text should be guaranteed, somebody needs to provide aid in order to allow the text to function properly in a society. Who should attend to these three factors? I believe that this is one of the tasks that academic legal database should carry out in mainly.

### III. Functions of Legal Database in a Network Society

Next, I would like to consider the functions of legal information database with the focus on a networked society such as cyber world.

I believe that there are four functions that legal information database should perform in a network environment; it should function as a research tool, as an educational tool, as an administrative tool for society, and as an economic strategy tool.

These are four points we need to focus on, as we consider the function of legal database in a network world.

#### 1. Functions as a Research Tool

What do we mean by the act of “research”?

One may think simply that “to research” or “to retrieve” means to put a key word for

data retrieval into query box at Yahoo, AustLII or Cornell's LII systems, or to obtain any outputs processed by the computer systems.

But is that really "researching"?

Human beings think by means of a certain set of symbols. And most legal information exists as character strings. Humans perceive and recognize legal information through the process of accessing the character strings to map or place them somewhere inside the brain. This process is essential as long as law exists, circulates and functions in a society as some form of legal information.

When such accessing is executed with a specific intention, we can understand it as a "research." To research does not mean to grope for some information as a result. Thus, a research result is always something that was predicted as a hypothesis before an actual research result is provided. Even when a research result turns out to be something that was not predicted previously, if one can relate the result in a new way and adopt it into one's world, the act can be called "research." But if the research result turns out to be something both unpredicted and incomprehensible, then it is not research.

I always tell my students this, but they find it difficult to understand. This is because they do not yet have the "world" to understand what research is, I guess.<sup>17</sup>

In order to understand research, one needs to understand the process as taking the research result into his/her inner world, not just as obtaining data as output. To do that, it is necessary to have a "map" in one's mind or brain prepared to accept the result of the research. I believe this to be very important. In short, one cannot conduct a research without knowing its result in advance. This is commonly called "hypothesis." Nobody knows if the expected result will actually be obtained or not. But at the same time, one cannot understand the research result unless one obtains any of the several hypotheses that were conceived before the research. In other words, without having several answer options in our mind in advance, we cannot recognize an appropriate research result even if it is included in the result list.

Thus, the act of research is not about taking out a lump of outputs by putting in a key word, but about matching one of the character strings, which came out as outputs processed by a computer, with one of the hypotheses we have in mind beforehand. Without a map in our mind, we cannot conduct such matching. So, the act of research

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17 I met Professor Kagayama of Nagoya University at a meeting of the Japanese Association of Society of Law held on May 12, 2001. Mr. Kagayama and I had had been discussing whether education is possible or not for about 10 years. I had argued that we cannot "educate" students, while he had believed we can. But during the meeting this year, we finally reached an agreement. We agreed that we cannot expand the world inside the students' minds but we can help students, who have not realized what a wonderful world they have in themselves. However, we cannot expand their inner world itself no matter how we, their professors, train them. Our ten-year discussion came to an end after concluding that there is no training method that will miraculously expand the world in the brains of our students. I am using a paradoxical rhetoric here; what I would like to stress is that education is not about training students and forcing them to acquire skills like a military camp. I believe that a teacher's task is to help students recognize their own wonderful world, which everybody has, and to encourage them to cultivate the world by themselves.

is feasible only when an answer called "hypothesis" has already been provided.

A string of characters is nothing more than characters. I can manage to read essays in English written by Professor Martin or Professor Greenleaf, because I know how to read the alphabet and how to use it from my past experience. But I cannot understand Mayan hieroglyphic letters inscribed in rocks in the Yucatan at all. Mayan people in those days could understand them, though. Without such understanding, the society would not have functioned. Those designs that look like a drawing of a jaguar or the sun to us, served as letters for them. But we cannot understand their meanings. Letters or characters are nothing but forms. A set of such forms can be a trigger or an element to make people act in certain ways, because we humans can give some meaning to that set of forms through characters or by accepting characters. I think what I have referred to as "inner world" is a kind of system connecting a network of meanings with symbols.

A notable function of legal information database in a network environment is that it is now becoming possible to transfer parts of a research process, as described above, to an external device, something which is normally done only inside the human brain. For example, data retrieval by a robot or automatic sorting by software that filters collected data, are types of such transfer.

However, there are several points that need to be considered in this kind of transfer. First, as an automatic operation often deals with a massive amount of data, there is a possible risk of oversight in the examination of an algorithm employed for external operation. Also, the massiveness of data may blind us to inappropriate algorithms.

Secondly, matching done by an external device cannot reflect "meaning" in its search result. As "meaning" functions in relation to the context in which it is used, a system that cannot process context is unable to function as a provider of "meaning". Moreover, meaning is something peculiar to an individual, not universal. Since ordinary network search can only perform matching of character codes located on the network, search of "meaning" in such a sense is not being executed. Despite this, network search somehow gives the illusion that it is capable of providing meaning.

Also, searching activity in itself does not accompany evaluation of the reliability of found data. This problem may be solved in the future by combining search process with something like a reliability certificate system. But at present, a matching of character codes, without regard for the degree of data reliability, is possible.

## 2. Educational Function

Adding above, there are several problems peculiar to network environment.

Many of these are caused by illusionary factors derived from technology development in a data processing that allows handling of massive data on a network in a short period of time. The unfortunate result of this can be seen both in Japan and the United States, where many law students mistakenly believe that information on the Internet alone is what composes the world. Such students may not know about official casebooks, believing that legal information is comprised of WESTLAW and Lexis-Nexis only.

Such a situation is consolidated by the very fact that WESTLAW and Lexis-Nexis are well-established systems and serve as highly useful educational tools. In the future, the situation may be deepened or aggravated as excellent legal information providing

systems become more and more sophisticated. Two of such systems are Legislation Data Providing Service<sup>18</sup> managed by the Ministry of Public Management, Home Affairs, Posts and Telecommunications in Japan<sup>19</sup> or Thomas<sup>20</sup> of the Library of Congress of the United States.

On the other hand, many students may come to find it troublesome to actually go to a library. Or they may think that it is a waste of time. But information functions only in a certain environment. If the environment is limited to a certain degree, then the information obtained there may be discarding many of what should originally function, even if it does function.

In addition, easy thinking that it suffices to search only when necessary will discourage students from trying to expand their mental world. But as I mentioned before, there exists a paradox that a person who does not have a framework of rules in the brain, or a person who cannot predict search results as a hypothesis cannot conduct a "search." Thus, legal information database poses a great problem in legal education area.

Nevertheless, legal information database system plays a very useful role in a network environment. It is convenient that legal information is available for educational purpose in a network environment. Here, I would like to discuss some points related to the role of legal information database systems, while considering the meaning of research itself and the importance one's inner world.

I am listing the following points, starting with forma aspects and then going on to essential ones.

The first, with legal information database systems, you do not need your own library. This might appear to be a shortcoming, but it is impossible, and unnecessary, that all students get a complete set of thick casebooks or statute books. By making full use of database in a network environment, students no longer need a private library of their own.

Secondly, teachers are able to grasp more accurately each student's degree of understanding by analyzing the search log of a student. This means that teachers are provided with a powerful tool to make more efficient the highly difficult task of measuring the effect of education. With such a tool, teachers can conduct various statistical surveys (including checking if students are fooling around in their work!) by reviewing a log of key words by which students have performed a search. At least, this will give teachers concrete grounds for evaluation. It may be a misery for the students, but it is a blessing for teachers.

Thirdly, especially in a distributed database, we can overcome functional limitations of each database to perform higher functions by interrelating them with one another. What is impossible as cross-reference on paper media can be processed almost automatically in a network environment?

I think this is a fairly significant function. For instance, if a professor writes a textbook

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18 <http://law.e-gov.go.jp/cgi-bin/idxsearch.cgi>

19 <http://law.e-gov.go.jp/cgi-bin/idxsearch.cgi>

We can retrieve complete text of current statutes at Japanese government's Web Site (but, only in Japanese).

20 <http://thomas.loc.gov/home/thomas2.html>

in a world consisting of books only, it is an isolated world, like a small island in the vast ocean. It is as if each professor is standing on one of a myriad of islands of his own declaring himself king. It is a pity for students drifting in the ocean and eventually landing on one of those islands. But in a network environment, those islands are no longer just small, isolated islands; people on the islands can contact each other, and know what is happening on other islands. Only a network environment can make this feasible. Humans as imperfect beings can compliment each other in capability by connecting to other databases or other systems. I believe this is one of the biggest advantages of legal information database systems in a networked environment.

The fourth point is that a legal information database may update information more quickly compared with paper media, sometimes providing legal information in real time. This means that a tool offering interesting material in the field of education is available to us. Conversely, such database is useful in finding out very old material. The storage area is becoming immense and seek speed is growing faster and faster. There is virtually no limitation in archive space.

In Japan, a collection of laws is usually published in a printed form called *Roppo*, or the six codes, once a year. But in today's hectic world, the same law can sometimes be revised several times a year. In this case, which version of the law should a publisher print? It takes several months to print, so the text considered appropriate at the time of printing may be revised and deleted when it is published. Establishing a system that can provide the latest text at the current point in as real time as possible is the only solution to this problem. And such system can be realized only through database service on a network.

Lastly, not only character strings but also graphics (still and animated graphics), sound and even "feel", can be retrieved as digital data in a network environment, as long as they can be converted into a digitally transferable data format. There is much more legal information involving such factors than one may think. Previously, it was mistakenly believed that legal information is composed of sets of characters, but it was a belief bound by the limitation of media. For example, a judge's direction based on his/her court administrative authority is an act of generating temporary and local legal rules as well as stating such rules. It is comprised of sound, not sets of characters. What turns sound into sets of characters by records and by stenography is an expression of legal information in terms of characters (secondary data), but its original data is comprised of sound only. Paper media can handle pictures, photographs and illustrations, but nothing else. Certainly, animation graphics cannot be accommodated in paper media. But some legal information may include motion material, which is likely to appear in court most often.<sup>21</sup> In hearing witness or examining evidence via

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21 I had an opportunity to visit Professor Martin at Cornell University in March, 2001. Professor Martin told me that in the United States, it is possible to use a videotape of the court procedure of the controversial presidential election result in 2000, which was brought into the Federal Supreme Court. Law students actually can watch the video in a classroom and have a discussion about it. Such videotaping of court procedure is not approved in Japan, but I think it is a significant legal information tool. If such videotaping of court proceedings were allowed in Japan, it would help citizens supervise the fairness of trials. Also, such documentation would serve as a very significant means of knowing



telemedia, motion material has to be processed. And there are some cases in which motion material is referred to in a sentence, although not included in the sentence itself. For example, in a ruling that finds a videotape or an animation work illegal, what should be cited there — motion material such as videotapes and animation graphics on CD-ROM — is usually omitted from the ruling because it cannot be fixed on paper as characters. Instead, it is subtly expressed in words. But originally, it should be included in a sentence. In most cases in Japan, such material is listed just as “a videotape described in an annexed catalogue.” The content of the videotape is described in words. For example, its “illegal content” as graphics is described in the catalogue. But it is only for the convenience of publishing because otherwise, it is impossible to publish a casebook. Originally, the graphics themselves should be part of the sentence. In a contemporary society, motion material can be accommodated in a network environment. Digital network environment has developed so much that we can receive and transfer not only character strings but various things such as images, animation graphics and even smell, taste and feel.

Moreover, if a judge should write a judgment as a digital content, s/he would be able to give a more precise judgment because such materials could be included in the ruling. At least, it is my opinion that motion material can be accommodated in a database system.

The overall hypotheses after considering these five factors are that the legal information database systems may expand the difference between capable, diligent students and incapable, idle students and divide them into clearer categories. Students who already have a wide mental world can expand it further with the help of legal information database, but the other students may get even more confused and come to hate studying. Meanwhile, teachers who fail to master these tools while understanding their limitation can lose the respect of their students. The same thing will apply not only to students and teachers but lawyers and judges.

#### 4. Function as an administrative tool for society

Law is a social tool that functions in a certain environment of the social system. There are different purposes for using this tool.

In a despotic state, it will be used to maximize the profits of the dictator and his entourage. In a democratic state, it is rare that a certain law concerns the whole nation. Rather, it is more common that a law concerns specific groups only, so law is generally used in order to adjust the interests of persons or groups concerned. In a country where the government has dominance over the national assembly, law is mainly used for the purpose of carrying out government policies. Also, the same applies when the direct

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afterward how the trial actually proceeded. Such videotapes would be useful in education, as law students would be able to see firsthand what court procedures are like. As it is now, they have to imagine what a courtroom is like by just reading characters printed on paper. So, for various purposes, motion material is quite important. I think that motion materials have been omitted, previously, just because we had no choice, but to substitute them with characters. In a network environment, it will be easy to adopt such materials.

beneficiaries of a certain law are those who are really entitled to the benefit.

An example of this is a law which is aimed at compensating a group of victims of environmental pollution, using tax revenue for the compensation money. In this case, tax is a burden imposed upon every taxpayer, including the victims themselves, so a tool named law is eventually used for the purpose of social control to redistribute the resource in the country.

What is common in these cases is that law does not have an autonomous purpose by itself.

Law is one of the social tools, which is to be used by somebody for explicit purposes stipulated in provisions of law, or for whatever other purposes needed.

To implement law, in any society, there needs to be some internal or external engine, other than the power of law itself, to allow the use of law to function satisfactorily. Such engine is usually provided by a state power system that possesses an enforcement system such as a military force or police force. Law that is not compulsory is powerless. Traditionally, legal philosophers have believed in the internal power of law itself. Kant<sup>22</sup> is an example of such a philosopher. Universal ideal of law does exist, but the system to implement the ideal and make it function in a society is not embodied in law itself.

Every law directly reflects styles of administrative organizations and interest structures in a society. Thus, the true aspect of law is seen only when the provisions of law are integrated with legal information that is related to the mechanism at work in that society. For example, in Japan, many laws set up only a basic framework, and the detailed contents or standards of their enforcement and operation exist only in government ordinances and notifications. In addition, it is not rare that the concrete operation of a law is neither provided as written information nor recorded. This is especially true when the operational standard itself is left to the discretion of an official in charge.

The same thing can be said about a trial. In an open jury, a part of the judgment process is open to the public because, at the very least, the report of the jury will be announced in the court. In a collegial court, even when the consultation itself is not made public, judges concerned in the trial know the process through which the court reached a decision. But such process does not exist as written information. In a single-judge court, the judgment process only exists as a memory in the brain of the judge in charge. However, unless we obtain information related to these processes, or information that is adequate enough for one to suppose such processes (e.g. judgment papers or classification table for punishment issued by the court, written decisions or operation guides issued by government offices), we will be unable to know what law is actually like.

Today, there is an increasing demand to know about the laws of other countries in a cross-border network environment. The means to meet this demand also has to be applicable to a networked environment<sup>23</sup>.

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22 Immanuel Kant (1724-1804); Cf. Zum Ewigen Frieden

23 Legitimacy for international trading can be obtained only by correctly researching for legal information in foreign countries. This information includes not only codes, statutes, regulations or ordinances, but also practical operations

In paying attention to the legal database's function as an administrative tool for society, the role that only academic legal database systems or commercial legal information database systems can successfully play will become self-evident.

##### 5. Function as an economic strategy tool

The fact that law has a function as an administrative tool for society also means that it has a function as an economic strategy tool.

Legal information that indicates what kind of legal system a certain country has is a significant factor in assessing the effect and result of international investment on the country and calculating the risks contingent to the investment.

Here, legal information includes not only business transaction law, tax law and other related administrative legislation, but also information related to crime rate, average trial period and trial efficiency. Such information may not have been understood as legal information in the traditional legal world. But since law is a social function in itself, which works under a certain social system, the limited idea that only provisions of positive law constitute legal information is clearly wrong. It is nothing but the idea of those who do not know the essence of law.

The total amount of legal information that functions as an assessment factor in economy can be used as an indicator of the trade risk in each country, when taken into consideration with the level of its quality. In this aspect, law is functioning as such.

Since international trade between countries is rapidly increasing in modern society, it is difficult to decide whether to make a deal or not, or whether to increase or decrease the amount of trade, without calculating the trade risk accurately. If one does not know beforehand what kind of legal system will be handling potential trouble arising in trade, one cannot make wise decisions.

Thus, it is necessary that people involved in international trade understand the legal information of the country of their business counterpart. But some countries have legal information that is easy to understand and other countries do not. In a country where legal information is provided in an articulate manner by a database through network, one can conduct a more precise calculation of risks. Even if a trade deal involves considerable risk, it is beneficial to traders to have the information available.

Then it is up to the individual trader whether or not to take the high risk. What is significant here is not whether the risk involved is high or low, but whether there is enough information available to assess the degree of risks?

I think it is important that legal systems and legal information be highly lucid as determining factors in such assessments. If a country fails to provide a lucid legal system or legal information, one cannot assess the risk involved. There would be no investment where risk assessment cannot be conducted. Such a country should not be considered a feasible investment ground for traders.

Therefore, it can be argued that to present legal information in a more accurate and prevailing way, as well as in a large quantity, is crucial to the survival of a country. I

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of them. How inform such information towards the other countries is just a critical matter as a basic strategy for the country.

believe all of the above mentioned points are essential functions of legal information database.

So, it can safely be assumed that the degree of freedom of legal information would greatly influence the future of a country. In particular, this will be actualized to a larger degree in a network environment, in which examination employing a method of comparative law is feasible as parallel processing.

In this sense, legal information database in a networked environment has begun to have a function as an economic strategy tool.

#### IV. Future Roles of Academic Legal Database System

Taking the above arguments into consideration, I will now discuss the future roles of academic legal database systems.

##### 1. Policy making

Academic legal database systems can be an important source of materials for policy decisions.

This is because academic legal database systems are not created for enforcing a specific policy. A database that exists for the sake of policy decision embodies a certain bias by its very nature. It is impossible to make a right decision based on biased information. Only unbiased information can enable us to make a correct decision. I think this is a very significant factor to consider.

##### 2. Rulebooks

Academic legal database systems can serve as a rulebook<sup>24</sup>.

This is because academic legal database is not subject to conditions that only positive law and judgments should be treated as legal information.

For example, the role of Diet database systems are to provide bills and statute laws that were passed in the Diet, and the role of court database systems are to provide correct data of rulings. Other kinds of information are handled by other database systems in different fields.

In contrast, there is no such limitation imposed upon academic legal database, which can take in everything pertinent.

Thus, it can also take in all the information necessary in order to find "the true rule."

The related information necessary to understand this "true legal information" includes examples of how a law was actually operated, how a judgment was delivered, how a compulsory execution was conducted and how an arrest took place. Many such things cannot, by their very nature, be handled in official databases managed by government agencies or courts.

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<sup>24</sup> I would like to say of rulebook as one of the social functions in this context. There are many types of rule books, but they are all local rule books. Only legal database system, especially academic database systems, can provide total and good integrated rule book in each area or countries, I believe.

However, academic legal database has no limitation in its approach to such things; rather, it should deal with these things beyond the scope of official database. Another advantage of academic legal database is that it is open to social interaction. A court is like a large but isolated island in the ocean, and so is an assembly. They have to be self-complete entities. But academic legal database systems are not obliged to be self-complete.

### 3. Social interactions

Academic legal database systems can have various social interactions.

This is because any academic legal database systems can relatively easily harmonize with other academic databases systems while being part of another big, distributed database.

In our SHIP project <sup>25</sup>, what we are making is not just a legal database but databases for other related fields such as political science and business administration. For example, among the data we have collected so far is a database indicating remuneration for Diet members. The data itself is nothing but a batch of information. . . But with the research system that Assistant Professor Wada developed, one can, for example, retrieve data showing how much was paid to Diet members on any given day. By using this research system, political scientists can assess the workload of Diet members, the amount of remuneration paid for the work and the appropriateness of the amount. They can even evaluate if Diet members are working hard or not. Though it is originally a legal information database, it also provides a very effective tool for political scientists. It can be used in various ways. Although we are lawyers, we can interact with databases in the fields related to us, like political science and economics. For example, in order to be familiar with tax law, one needs to have knowledge in accounting and other specialized fields. We can obtain such knowledge through database.

### 4. Neutrality

Academic database systems alone can maintain true neutrality.

Administrative database operated by a government is controlled by policy objects, which imposes restriction on its operation. Meanwhile, commercial database cannot exist without taking commercial profits into consideration.

Since academic database systems can freely connect with other database systems, it can be made with great ease and freedom. What I would like to emphasize is that academic legal database alone can remain neutrality and maintain public purposes.

In any country, a government exists in order to enforce policies made by one party, as in the United States and in Japan. In Japan, the Liberal Democratic Party has been in charge of the government for a long time. A government must necessarily have a certain orientation. So database which has been made to go along with a line of policy naturally has some kind of orientation from the beginning.

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<sup>25</sup> <http://ship.mind.meiji.ac.jp/>

As for commercial database systems, profits are the first priority, because without making enough profits, such database will not survive. Its content must be marketable; if it is not, it cannot exist as a commercial database. Eventually, unmarketable databases will disappear while marketable ones will thrive. This is natural; otherwise, it would not be healthy for corporations operating such databases. But academic databases in principle can remain unaffected by such market rules.

Of course, many academic database systems are somehow related to business. For example, in the United States, quite a few databases of law schools are allied with WESTLAW and Lexis-Nexis, operating like branches of such commercial systems.

As for academic database systems in Japan, some professors are proudly announcing on their Web page that their database is "powered by Yahoo!" or "powered by AOL." It may be right if they are funded by these corporations.

If not, an academic database should basically be proud of its neutrality. As long as it keeps on striving to keep its neutrality,

I believe it can do so. This can only be achieved by academic database.

## V. What do we have to do?

Those who will deal with issues of legal information will have to face technological factors, both in positive and negative aspects.

Let us have a look at the positive aspect first. XML and other new document processing technologies have a great potential.

XML, which belongs to an artificial computer language group called markup language, can, by tags, control various elements in a document. As natural language processing technology improves, there may come a time in the future when tags are no longer needed. But noting that the essence of social context exists only in the brain of a reader, we can easily assume that such a time will come only after free will, which we in the modern world believe in, is denied. Thus, the use of tags will not die out for quite some time; rather it will increase. And an environment which can be controlled by tags might be called a kind of data-driven type of computing environment. It will not be until such an environment is established that we can create an encyclopedia, in its true sense of the word, on the Web. In addition, control by style sheets will provide many clues in solving problems of human rights, as I will discuss later. In this field, Mr. Komatsu, lawyer and a member of our SHIP project, has carried out various attempts<sup>26</sup>.

On the other hand, technological development can cause totally new problems because it ensures much freer access to legal information. Many such problems will derive from the expansion of storage space as well as from the extraordinary progress in the speed of data processing. In those days when eight-inch, 2D magnetic disks were popular, the amount of information stored on the medium was not that much. But now, we can obtain a 100-gigabyte hard drive for only tens of thousands of yen. When a memory chip that employs nanotechnology is put into practice in the near future, it is said that the whole contents of the books stored in Japan's National Diet Library (NDL)<sup>27</sup> could

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<sup>26</sup> <http://icrouton.as.wakwak.ne.jp/xml/>

<sup>27</sup> <http://www.ndl.go.jp/e/index.html>

be recorded in a tiny storage device as small as a cube of sugar. This means that a person can have a bigger world than ever imagined on his/her own palm.

Meanwhile, the technology of communications will further advance, enabling much more data to be transmitted in a much shorter time. This also implies that one will be able to infringe on human rights, to a greater degree, with less effort. Violation of privacy will be one such example.

The same thing can be said about intellectual property rights. It might become possible to copy any currently practicable copyright protection system, along with its whole surrounding environment without illegal circumvention<sup>28</sup>, entirely into a nano-memory chip. As the surrounding environment is also included in the same nano-memory chip, the copyright protection system will not work, allowing the protected contents to be read out without limitation. If storage of information increases in density, those who formerly had nothing to do with an invasion of privacy or other violations of human rights, might, in the digital world, become victims or perpetrators of such violations. In short, it is likely that intellectual property rights for digital contents will be subject to more violations as technology advances.

Looking further into problems of human rights, in a modern world where legal information was provided only through paper media, casebooks were also contingent on paper media. Since the amount of data storable in casebooks was quite limited, the judgments recorded there had to be well selected. In Western countries, it is customary to print the names of the plaintiff and the defendant (or the name of an organization) on a sentence for identification; e.g. "*State vs. Strange-man*". Such a custom meets the demand for open trial or for "right to know," which indicates that everybody in the society should know of a certain trial. However, this seems to be a product of the times when data of a certain trial ended up as a matter of interest for people in the same age and in a comparatively small area. Does the conventional theory fully function in today's environment in which case information is distributed worldwide and stored and accumulated almost infinitely?

In recent years, we are facing a problem regarding the protection of personal data (privacy) in case information. The same problem can also occur in relation to other moral rights. As part of the SHIP project, we discussed this problem in the first subcommittee meeting held at the Surugadai campus of Meiji University in the summer of 2000.

The theme discussed there was "case information and technology for protecting privacy." Academic legal database, which should serve citizens' right to know by providing legal information, must not neglect other significant interests, as a result of focusing too much on fully performing its function. Traditional rules regarding citation of judgments or presentation of judgments were effective in a world where information was limited.

Now such rules must be reconsidered, in a world where every trivial piece of information, like the information that somebody was questioned by the police, can be accommodated in a small memory chip as big as a cube of sugar.

If a revision of rules is not enough to deal with the problem, we will have to adopt

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28 Cf. U.S.C title 17 chapter 12 section 1210; Japan Copyright Act also has similar articles as in U.S.C.

technological solutions. Our SHIP project is now considering how to cope with this problem by using the control technology of XML style sheets by Mr. Komatsu<sup>29</sup>. This technology may make us to resolve present hard questions, I expect.

## VI. Conclusion

In conclusion, in building an academic legal database, we should actively employ new technology and strive to develop a system that is easier to use and capable of serving the general citizen, in order to secure access to legal information as well as to contribute to academic studies and education.

At the same time, we should promote such development as a synthetic study, and pay careful attention to a new type of violation of human rights, as well as its related peripheral problems.

I believe that the ideal of academic database systems, which arises as the result of such development, should, as much as possible, be open to the public at no charge because of its unique advantages. Then, ideally, such database systems will be reasonably applied in both administrative database systems and commercial database systems.

Thank you.

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<sup>29</sup> See Appendix 3 in this review.