

SHIP Project Review

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Preface

Takato Natsui
Professor at Meiji University

The SHIP project is a research project for studying and constructing a platform system for social science database based on Extensible Markup Language (XML) technology. This project is funded by Meiji University and the Ministry of Education, Culture, Sports, Science and Technology of Japan.

In this project, we have been engaged in developing a legal information system, which functions as a demonstration system. Now, we have almost completed compiling judgments from the former Supreme Court in the Meiji era to store them in a database. Some of the compiled data will be processed for publication, and then, be used in an evaluation experiment with monitors, which will start by the end of this year. Also, for some laws, we are digitizing texts of the provisions from their original version to their latest revision in order to construct a system that can search and refer to provisions effective at a certain point. By combining these two systems, it will be possible to create links of provisions effective at the time when a judgment was delivered. In recent years, laws are frequently revised or abolished, and some are revised several times a year. XML technology is very effective in constructing a system which can automatically search laws being effective at a specific time.

XML is a description language that was developed as an improved version of Standard Generalized Markup Language (SGML). SGML is said to be especially applicable for constructing a bibliographic information retrieve system at libraries or a legal information database system. In Tasmania, Australia, a SGML-based legislation information database developed by SIM (RMIT Multimedia Database Systems group) is used for the drafting and consolidation of legislation, as well as for placing legal information in the public domain.

As the research activities of SHIP project, we have taken up various legal problems and technical issues that need to be examined in constructing a legal information system, while developing those systems mentioned above. Some of the achievements from the project are published on the Web as retrievable documents. Also, we hosted report sessions and discussions as a truly significant joint research on a global basis, inviting a number of researchers, legal practitioners, and government and corporation officials from both Japan and abroad. The SHIP symposium is one of the most important public events for such report and discussion.

In the first and second symposiums, which were held in 1999, we mainly examined and discussed legal problems. In the third symposium, which was held in 2000, we discussed social functions of commercial-based legal information database. And in the fourth symposium in 2001, we discussed social functions of academic legal information database.

In this fifth joint symposium, we examined and discussed social functions of legal information database systems operated by government institutions, with cooperation from the parties concerned. For this event, we have invited some of the best lecturers and panelists from the United States, Australia and Japan to join the symposium. Our SHIP project members also presented the latest research results.

Commercial, academic and government database systems of legal information each have different purposes. In some cases, their interests may conflict with one another. For example, if academic or government legal information database starts to provide information free of charge, it could inevitably put pressure on the management of commercial database. What is more, such commercial or academic database is able to provide is always secondary data that processed the original data, since original texts of legal provisions are in possession of the government or the Diet, and those of judgments are of courthouses. On the other hand, government or academic database has difficulty offering attentive service that gives citizens an easy access to such database, partly due to budgets. Also, it is sometimes difficult for government or court database systems, which are required to be fair and neutral toward all people, to offer legal information with reference to comments, evaluation, explanations for some laws or judgments, or with links to related documents.

Thus, in some cases, these three kinds of database systems with different purposes need to collaborate with one other. Moreover, it is important to recognize and understand the social functions of each database in constructing a system or in providing database service.

While a system developed with SGML is mounted and operated in some regions like in Tasmania, it is still a HTML-based information providing system that is used in most countries. There are many technological problems to be examined and solved in constructing and operating a better system by making use of new technologies. In addition, we must tackle a number of legal problems that arise in connection with creation of a legal information database system and its practical use, including; exemption from copyrights for works used in education; patent in relation to a legal information system; how to deal with privacy information in judgment texts; legal liability of any legal information providing entity as a service provider; guarantee of correctness and quality of legal information provided by the system, and legal liability related to such guarantee.

We are yet to give clear answers to many of these problems, and are in the stage of trial-and-error, so to speak. Through examination and discussion in our symposiums, however, we have developed a clear understanding of quite a few of the problems and found out the right directions to solve them.

We hope that this symposium will play a significant role in order to move toward a better future for human beings as well as to realize a society in which people's rights to access to legal information are guaranteed as extensively as possible.

This review is a complete record of our 5th conference and published also on the Web.

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

Acknowledgment

Mr. Timothy Arnold-Moore, Mr. Makoto Murata, Ms. Constance Johnson, Ms. Jane Clemes, Mr. Masayuki Ohta and Mr. Yoshihiro Fuji deserve our special thanks for their speeches and discussions at the 5th conference. And we have acknowledged their special contribution of English-Japanese and Japanese-English translations by Naoko Ibusuki and Hiroko Hayashi.

Programs

The 5th Joint Symposium

By SHIP project, Cyberlaw Study Group and Legal Infomatics Study Group

Organised by Takato Natui

Cosponsored by Meiji University Information Science Center, Japan XML User Group

09:20 Opening message and greeting messages

Haruo Shimosaka (Director of Information Science Center at Meiji University)

Hiromi Naya (Director at Meiji University School of Law)

10:00 Session1 Presentations

Oversea Speaker (30 minutes)

Timothy Arnold-Moore (SIM, Australia)

Markup for automating legislative processes

Japanese Speaker (30 minutes)

Hiroshi Komatsu (Attorney at law, Japan)

DTD in legal XML - problems, resolution and examples in SHIP project products

11:00 Session 1 Discussions

Chair: Makoto Murata (IBM-Japan, Japan)

Panel: Timothy Arnold-Moore, Hiroshi Komatsu, Akira Kawamata (Japan XML user group, Japan)

13:00 Report

Kazuo Sakai (Professor at Meiji University Law Faculty, Japan)

Designing University Organization to Advance the Digitization of Education

13:30 Session 2 Presentations

Oversea Speakers (each 30 minutes)

Constance A. Johnson (the Library of Congress of USA; Law Library Section)

GLIN: Global Legal Information Network at the Library of Congress of USA

Jane Clemes (Tasmania State government, Australia)

Tasmanian legislation system - Purpose of development and social function

Japanese Speakers (each 30 minutes)

Masayuki Ohta (Legislative Bureau at House of representative, National Diet of Japan)

Legislative database systems at House of representative - overview and its

future

Yoshihiro Fuji (Patent Office, Japan)

Patent office's database system "Industrial Property Digital Library" · overview and its future

15:30 Break

16:00 Session 2 Discussions

Chair: Makoto Ibusuki (Professor at Ritsumeikan University Law Faculty, Japan)

His Web Site at Kagoshima University is now reconstructing, because he retired Kagoshima University on March 2002, and will be a professor at Ritsumeikan University Law Faculty on April 2002.

Panel: Constance A. Johnson, Jane Clemes, Masayuki Ohta, Toshihiko Ohoshima (Legislative Bureau at House of councillors, National Diet of Japan), Yoshihiro Fuji, Naoaki Yano (Asahi Research Institute, Japan), Shinichirou Nakayama (National Diet Library, Japan).

18:00 Ending

18:20 Reception Party

Greeting

Haruo Shimosaka
Director of Information Science Center, Meiji University

Good morning, I am Haruo Shimosaka, Director of the Information Science Center.

I am very grateful to have the opportunity to give an address on behalf of the Information Science Center at the SHIP Project 5th Symposium here today.

The Information Science Center has three main functions: information education, support for information-related research and the planning and administration of information-related affairs throughout the university.

In recent years, the computerization of education – computerization in the sense that various educational services are conducted through network functions – has been advancing steadily. Support for research or the planning and administration of information-related affairs within the university, as I mentioned, has become an increasingly significant service at our center.

As for research support, some research and development projects have been conducted in cooperation with corporate manufacturers. Through such projects, we have accumulated great experience in the development of education-related information technology, and the subsequent maintenance and employment of such technology.

Currently, a number of projects, besides this SHIP Project, have been launched at Meiji University. For these projects, our center offers technology and technical knowhow, which has been built up with specific focus on related information. One of the projects we are helping to develop is “Oh-o! Meiji”, a project designed by the university’s educational department. The project is aimed at creating material for education and research, and methods for utilizing them in class. In this project, we are offering assistance by teaching the effective use of various education databases, including those of syllabus, student registration information and personnel information of faculty members, thus making the most of our intranet technology.

Many of our staff members at the Information Science Center have also participated in Professor Natsui’s SHIP Project. In turn, Professor Natsui has made great contributions to the operation and administration of the university-wide network at our center.

So, with all the present ongoing projects on campus, we have a special feeling for this SHIP Project, and because of that, the Information and Science Center has offered sponsorship for today’s symposium.

This SHIP Project is now in its fifth year. It has become increasingly larger in scale year after year. The project, which has been undertaken as part of the Academic Frontier Promoting Programs sponsored by the Ministry of Education, Culture, Sports, Science and Technology, is approaching its conclusion as the period for a university-led project was set for five years. While the SHIP Project is still going forward, it has already yielded various impressive results. I hope that the Information and Science Center will continue to work in cooperation with the SHIP Project, so that not only the university's Faculty of Law, but also the planned law school, which Professor Naya had mentioned in his speech, will be able to make the most advanced use of the project's achievements, as well as the legal information database platform system developed through the project.

In closing, I hope that all of you here today will have a chance to exchange opinions and enjoy yourselves throughout the day, culminating in the reception this evening. Thank you.

Greeting

Hiromi Naya
Director of Meiji University Faculty of Law

Good morning, ladies and gentlemen. As introduced, I am Hiromi Naya, director of Faculty of Law. Welcome to today's symposium.

This 5th Joint Symposium has been prepared by the SHIP Project, the Cyber Law Study Group and the Legal Informatics Study Group. I am grateful that so many researchers both from Japan and abroad have come to attend this symposium as keynote speakers or panelists, and I would also like to express my appreciation to all of you who are here today. As the director of the Faculty of Law, I am happy to see so many people participating in this event.

In recent years, we have witnessed many incidents that make us aware that the times are changing. The social system, along with the legal system supporting it, has been changing greatly, especially in quality. Moreover, the changes have come at great speed, or should I say, at drastic speed. As you may already be aware, one of the factors behind this is the massive wave of advanced computerization.

Our Meiji University marked its 120th anniversary in 2001. On that occasion, we renewed our resolution to continue playing a significant social role, both as an educational and as a research institution, in the new century, and since then we have initiated various reforms aimed at carrying out that purpose. As one of these reforms, we are designing a new Faculty of Information Communication, which is scheduled to open in 2004. Another plan we are committed to is the establishment of a new law school, and we are making campus-wide efforts to realize our plan. The Faculty of Law, which is principally concerned with the establishment of a law school, is working hard for developing plans for the law school project.

As part of our efforts to create better conditions for the projected law school, we are currently planning to build a law library, in addition to the central library we already have. It is said that Japan does not yet have a full-fledged law library. Our plans were approved at the faculty council held this week, and we will continue striving to create a law library of unique scope.

The 21st century is often referred to as the "age of life science." We aim at operating as a research center related to the field of "medical jurisprudence," or more specifically, "bioethics and law." In bringing to life our concept, we hope to incorporate the achievements of Professor Natsui's SHIP Project, and thus making this institution a leading academic center in its field. In this sense, today's joint symposium is a very significant event for both our Faculty of Law and for the entire university.

In closing, I would like to extend my best wishes to all of you, and my hopes for success in this 5th joint conference. Thank you very much for your kind attention.

Markup for automating legislative processes

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Abstract:

The processes by which we produce legislation have not changed much from the earliest parliamentary models. They are still essentially paper focussed and take little account of new technology. Recent technological developments mean that governments can radically improve the quality of legislative information provided to citizens while reducing the ongoing costs.

This paper discusses these developments and how to choose document description languages and markup to ensure that such developments are possible. It discusses the XML standard for representing the logical structure and semantic meaning of document components and how to construct document classes that make the most of XML's capabilities when applied to legislation.

1 Introduction

Governments are always keen to be seen to provide to their citizens the highest level of service. They are also keen to avoid additional costs to their citizens, corporate and individual. Of the public documents that government creates, legislation is of the highest value to its citizens:

Those who produce and store legal information should regard its dissemination as an essential public service.¹

The Japanese government has provided excellent access to legislation either directly or through the commercial legal publishers for many years. Just as Japan lead the world in increased efficiency in the manufacturing industries by reducing the time between the manufacture of parts and their delivery to the assembly line; recent technological developments have recently made possible greater efficiencies in the production and dissemination of legislation.

2 Access to legislation

Tapper states that 'a provision which is in force, and purports to state the law, may be subjected to numerous amendments'. Each of these amendments describes changes to the text of the Act as it was originally enacted. Japan, like many other jurisdictions, has provided legislation in printed and electronic form as originally enacted and relied on legal publishers to consolidate these amendments – provide versions of the Acts as amended known as 'reprints', 'paste-ups', 'codes' or 'consolidations'. It has not been feasible to make available every possible version of a piece of legislation in paper format. But citizens need access to legislation as it is now, as it will be in the future (to the extent that that can be known) and as it was in the past in order to determine their rights and liabilities under the law. If it were feasible, the government would already be

¹ As quoted in Bruce, T. "Public Legal Information: Focus and Future" in *Proceedings of the AustLII Law via the Internet Conference*, Sydney, 1999.

providing access to the law at any given time point – point-in-time access. While it is not feasible to deliver this level of service using traditional paper forms, it is much more feasible to do so using electronic delivery techniques – in particular web access.

2.1 Consolidated point-in-time access

While paste-ups (paper or electronic) and reprints provide the current text of an Act, that does not solve the whole problem. The Renton Committee,² when considering the needs for maintaining UK legislation as early as 1975, discussed the possibility of storing a complete historical record of the legislation as an alternative to the common method of simply maintaining the current version. Despite Canada's decision at that time to use only the current file, they supported the historical file (back to the last complete consolidation) as the preferred option.³ Campbell and McGurk⁴ discuss the use of an information retrieval database of consolidations within a drafting office in 1987. These sources clearly indicate a need for keeping track of past versions of legislation.

There are two reasons for this. The first and primary reason is that legal researchers need to know what the law was at particular points in the past.⁵ A case goes before a court often many years after the relevant events took place but the court generally must apply the law at the time the disputed events took place, not the current law.

Even when the current law is being applied, previous versions of the law may still be relevant: Exclusive reliance upon the reprint of regulations as amended ... sometimes, in a matter of interpretation, deprives the court of the advantage of seeing how the regulations were developed by amendment and why the amendments were made. ... It is not often that there is either need of or advantage in looking at the more authentic materials from which the Government Printer has reconstructed his convenient and perhaps more intelligible text. But this case happens, I think, to be such a one.⁶

While it is extremely unwieldy to provide access to every previous version of a particular piece of legislation in paper form, electronic delivery can solve the storage and presentation problems. What users want is the ability to specify a time point and then search and browse the collection as it was at that time point, viewing the law that applied at that time. While it is helpful to search the current time point and browse to previous versions, being able to search previous versions is particularly important where provisions have been repealed or replaced by provisions that

² *The Preparation of Legislation (The Renton Report)*. Cmnd 6053, 1975.

³ *The Preparation of Legislation (The Renton Report)*. Cmnd 6053, 1975.

⁴ Campbell and McGurk (1987) "Revising statutes with computer support" 8 *Statute Law Review* 104.

⁵ Greenleaf *et al* (1995) "Public access to law via Internet: the Australian Legal Information Institute" 6 *Journal of Law and Information Science* and Robertson and Merrick. (1994) "Proposal for participation in the Workshop on Hypertext Systems and Version Support" in Durand *et al Proceedings of the Workshop on Versioning in Hypertext Systems*, pp. 35-38.

⁶ *O'Neill v. O'Connell* (1946) 72 CLR 101, 122 per Dixon J
<http://www.austlii.edu.au/au/cases/cth/high_ct/72clr101.html>

cover different ground.

There are now three jurisdictions providing public access to a “point-in-time” database of legislation over the web. Tasmania and Hong Kong both provide free public access, and Singapore provides access by paid subscription. A number of other jurisdictions are working steadily towards this goal.

2.2 Point of creation

The most efficient and effective way of making legislation available is to manage it from its very creation. By implementing an integrated solution, which provides support for the Legislative Bureau in preparing draft legislation, and manages these documents through the legislative process, electronic delivery of legislation in an appropriate form becomes an automatic side effect of the legislative process. No additional on-going manual intervention is required. The initial cost of such a system may be higher but the burden of maintaining the data is actually reduced, and the essential obligations of dissemination are easily met resulting in immediate cost savings to all users of legislation. The productivity of drafters and the efficiency of the production and delivery of draft legislation can also be enhanced at the same time providing greater confidence in the quality and consistency of the legislation. Both Hong Kong and Tasmania have integrated drafting workflow solutions and are therefore able to make this service available to the public free of charge.

The first priority for such a system is to make sure that the government, in particular the Legislative Bureau, is capable of meeting its obligations to provide timely publication of Bills before Diet and Acts as enacted and regulations as made. While it is possible that a new system may require more information to be gathered, the total workload imposed on the drafters by any new system must not increase (and should preferably be significantly reduced).

But timely consolidations are important for drafting also as amending legislation must be prepared from an appropriate consolidation. If the drafters or their support staff must maintain these consolidations for their own purpose, these consolidations should be made more widely available. Rather than being maintained independently by a number of organizations (as is currently the case), they should be collected and managed centrally in a manner that preserves access to past and present consolidations.

2.3 Making the repository available

By making the Legislative Bureau’s repository available to a wider community, the need to maintain this repository is centralized. The work is done once thoroughly and carefully and wasteful repetition is eliminated. Obviously security is an important issue but numerous technological and non-technological solutions can protect the integrity of the database. This central repository can be used to improve access in two important ways.

The first is by supporting a ‘print-on-demand’ capability. Selected government agencies could have access to an interface to the repository that extracts a consolidation at a requested time. This could be delivered on paper, or electronically (in a print-ready format like PDF) using email (or disk). This service could then be provided to the public either free of charge or on a cost-recovery basis. The documents might have official status or be provided as an unofficial service. Such a ‘print-on-demand’ service would provide the traditional paper interface to legislation with an improved level of service, thereby avoiding alienating those that prefer to interact with legislation using paper.

The second way of providing access is to provide free public access via the Internet to this

centrally maintained repository. Web access improves accessibility to legislation in a number of ways. Rather than requiring citizens to physically go to a library or shop to find paper copies of legislation, users can access the legislation from the many homes and offices that have web access. Although still unwieldy for large document like legislation, personal web browsers like enhanced mobile phones (extremely popular in Japan) and personal digital assistants could give the legal community and other citizens access from virtually anywhere.

Web delivery of legislation also provides better access for those with disabilities. For those who have mobility problems, either through temporary illness or permanent disability, or the elderly, they can now access legislation in their own homes, rather than having to mail-order expensive and heavy paper copies or visit libraries with public access. Paper-based publications are also inappropriate for the sight impaired. By using Braille teletype machines or voice synthesis, the electronic text of the legislation is more accessible.

Another important outcome of wider accessibility to legislation is to improve the effectiveness and standing of the law and the Diet. If it is hard for the legal community and the citizens to get an accurate view of the current law, it is also hard for the Diet. Since the vast majority of legislation considered is amending legislation, it is vital to the Diet to have access to up-to-date consolidations in order to see how proposed amendments change the existing law. The democratic process is also better served by broad community access to current legislation to better support the democratic process. Democracy assumes an informed citizenry. This means timely access to Bills as well as the consolidated legislation, and – ideally – the ability to view the potential result of amending Bills as applied to the consolidated legislation – a ‘what-if’ capability.

3 Improving the efficiency of legislation management

The US experience, where legal users will pay a premium for commercial electronic services with very low presentation quality but high currency demonstrates that users will sacrifice presentation quality for currency and convenience of access. This suggests that requiring every consolidation be constructed from an interaction between the system and a layout editor may impose an unnecessary cost and delay.

While the highest quality print output requires a human operator to manage pagination and line breaks, quite high quality print can be achieved without human intervention. The highly manual consolidation process used in Singapore has lead to their decision to fund that work by charging for access and can lead to latency between the creation of the amending legislation and its consolidation. Hong Kong and Tasmania both absorb that cost but Tasmania have adopted an approach that reduces that cost and virtually eliminates latency.

3.1 What is possible with legislation?

3.1.1 Generating amendment legislation

In the past, consolidation has been a laborious manual process. Drafters or administrative assistants were required to process the text of an Amending Act, section by section, applying each amendment to one or more Principal Acts. Drafters used to compose amending legislation directly, combining the process of deriving the effect of the amendments with the text describing them. The Tasmanian government presented RMIT with a different approach. The drafters would mark amendments directly on a consolidation of the Principal using strike-through and underline markings familiar to many lawyers. Amendment wordings for those markings would then be generated automatically. For example, to draft an amendment to section 74F of the *Racing*

and Gaming Act 1952, a drafter would check out the Act from the repository as in Figure 1. She would then mark each change on this version using strike through and underline as in Figure 2.

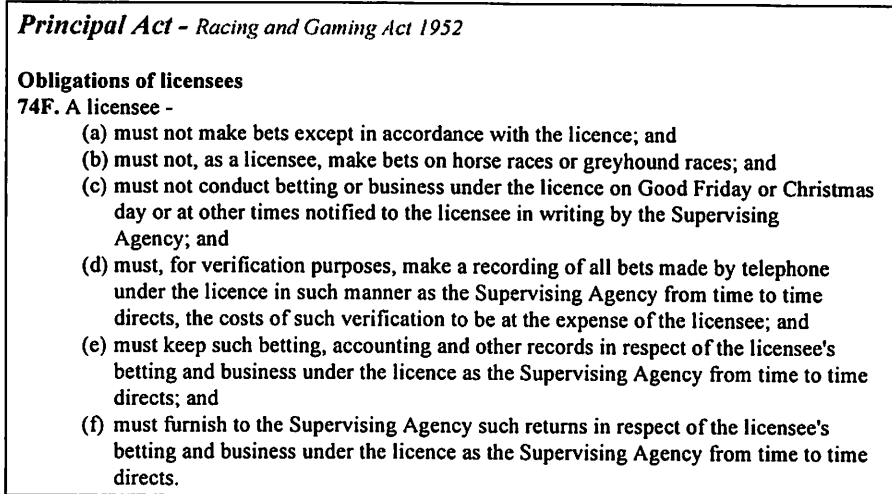


Figure 1: Example section.

These markings are then captured in an internal (XML) representation of the changes called a Change Description Document (CDD). These changes are then used to generate amendment wordings, which are appended to a stub or substantive Bill as in Figure 3.

This process is managed by a workflow enactment service that keeps the CDD and generated amendments together so that, if and when the amendment Act commences, the amendments can then be automatically applied to the principle to generate new fragments in the historical repository. The existing consolidation is extracted from the repository and the CDD is then applied to it to produce a set of fragments that represent the history of changes to that Act. These fragments are then loaded back into the repository. The whole history of the legislation can be generated allowing for retrospective amendments and accommodating complex interactions between amendments from numerous amending Acts. This process is represented in Figure 4.⁷

⁷ Further technical detail can be found in Arnold-Moore (1997) "Automatic generation of amendment legislation" (1997) in *Proceedings of the International Conference of Artificial Intelligence and Law (ICAIL'97)*.

Markup of Principal Act - Racing and Gaming Act 1952

Obligations of licensees

74F. A licensee -

- (a) must not make bets *ex* **Substitute Text** with the licence; and
- (b) must not, as a licensee **Substitute Text** races or greyhound races; and
- (c) must not conduct betting or business under the licence ~~on Good Friday or Christmas day or at other times~~ at any time notified to the licensee in writing by the Supervising Agency; and
- (d) ~~must, for verification purposes, make a recording of all bets made by telephone under the licence in such manner as the Supervising Agency from time to time directs, the costs of such verification to be at the expense of the licensee, and~~
- (d) in respect of any bet made other than in person, must electronically record the bet for verification purposes - **Substitute Element**
 - (i) by a device approved by the Supervising Agency; and
 - (ii) in a manner directed by the Supervising Agency; and
- (e) must keep such betting, accounting and other records in respect of the licensee's betting and business under the licence as the Supervising Agency from time to time directs; and
- (f) must furnish to the Supervising Agency such returns in respect of the licensee's betting and business under the licence as the Supervising Agency from time to time directs.

Figure 2: The same fragment with amendments applied.

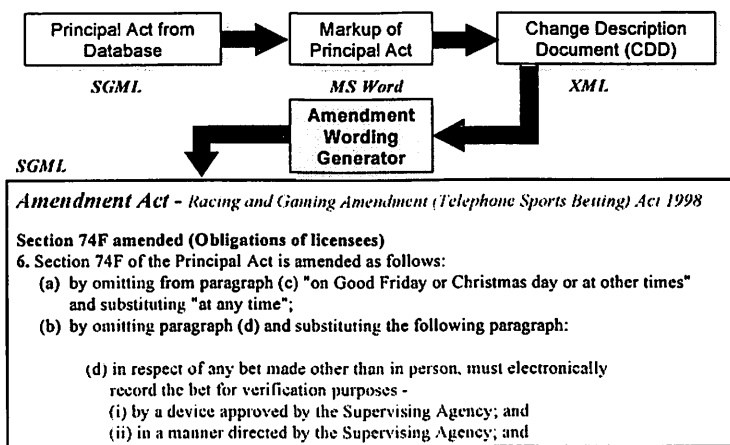


Figure 3: Using the CDD to generate amendment wording.

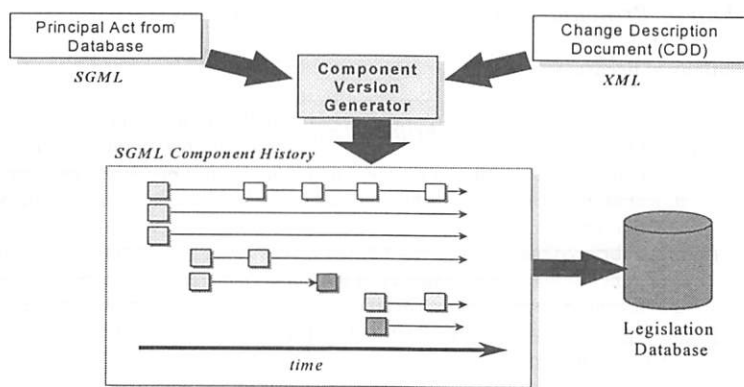


Figure 4: Using the CDD to generate fragments in the repository.

It is not necessary to use this level of automation to provide ‘point-in-time’ access to legislation. Singapore provides a similar level of service over the Web to that provided by EnAct but with clerical staff manually updating consolidations. In order to sustain this service, the ‘point-in-time’ access is only provided to paying subscribers. Quite apart from the public access implications of this decision, it fails to take advantage of the savings possible by centralizing the administration of consolidations at the point where the legislation is drafted.

3.1.2 Understanding amendment legislation

Another approach (the NLAP approach⁸) is to draft the amending legislation as before but use natural language processing techniques to “understand” the amendments. The advantage of this approach is that the amending legislation can leave the control of the drafting office and return to them (as it does in Canada) or be managed by a completely unconnected organization (like legal publishers or a separate government entity) without requiring humans to return to the marked consolidation to check that it still matches the amending Act or Bill.

The amending Acts or Bills are an input to the system and a tool generates the CDD by examining the text of each amending provision (as well as provisions like commencement and target Act definition provisions). Figure 5 shows the components of this approach. There are two possible ways of managing this approach. The Quebec provincial government adopts a computer-assisted approach, where human editors are provided with an editing tool that guesses what the change is based on the text. The human editor must verify that the tool guessed correctly or intervene and override.⁹

⁸ Arnold-Moore (1995) “Automatically processing amendments to legislation” (1995) in *Proceedings of the International Conference of Artificial Intelligence and Law (ICAIL’95)*.

⁹ Note that the Quebec government only applies this tool every 3-6 months to generate

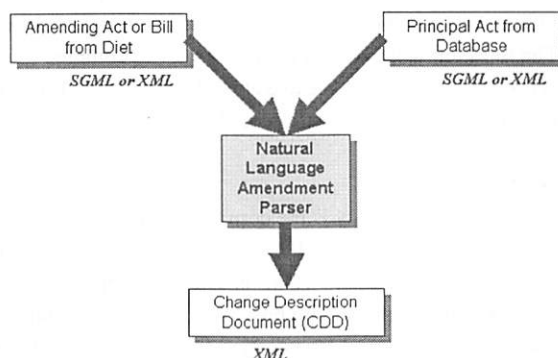


Figure 5: Generating the CDD from amending legislation

The NLAP paper proposes a more automated approach where a set of templates or rules is applied to the amending legislation. If the rule set does not understand a provision it rejects it. The rule set must then be updated to cope with the new instance. This means that the process can then be repeated on similar legislation without human intervention when a similar example is encountered.

3.1.3 Combining these approaches

The next generation of EnAct, already under development, aims to combine both of these techniques to allow a drafting office or legislative body to go in either direction. That is to either modify the consolidation directly to generate new amendment wording or to modify the amending Bill or Act directly to generate the Change Description Document. An example of how this might work is given below in Figure 7. This gives the drafters the maximum flexibility in the creation of amendment legislation.

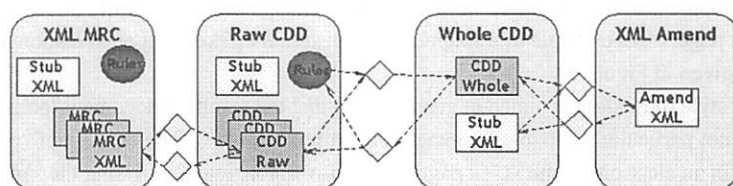


Figure 7: Combining amendment generation with amendment understanding

By adopting a “black-box” approach to understanding legislation, the translation steps

a CD-ROM and the website only provides those time-points at which a CD was released. There for the Quebec site does not provide true “point-in-time” access only a close approximation.

(depicted as yellow diamonds) can be applied automatically whenever either a marked consolidation (“XML MRC”) or amending Act or Bill (“XML Amend”) is checked-in to the repository or is requested by a user. The rules allow the drafter to choose how to combine a set of amendments to numerous Acts and provisions into a single cohesive amendment Act or Bill. The “CDD Whole” is the result of applying a set of “Rules” to a collection of “Raw CDD”s.

3.2 Different types of markup

The key to this advanced capability is the correct use of generalized markup embodied in the two international standards XML¹⁰ and SGML.¹¹ Both of these standards provide a mechanism for managing arbitrary markup in documents. XML is a newer, simplified version of SGML for the Web but many of the benefits of this approach are possible using either technology. In order to understand how these standards contribute, it is necessary to consider three different types of markup. Consider the following page of legislation in Figure 8.

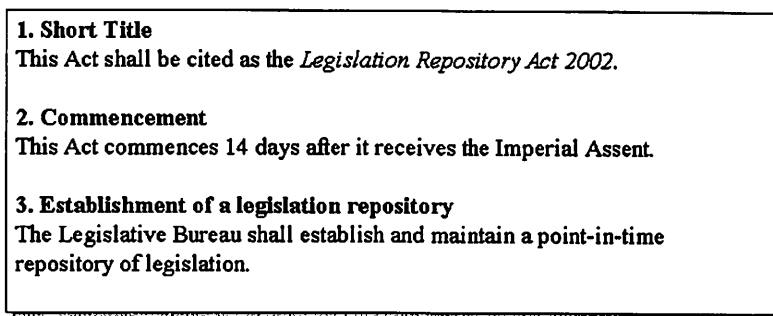


Figure 8: Example legislation page

3.2.1 Presentational markup

Presentational markup is concerned with making sure that the document looks correct. This sort of markup arose from the earliest electronic typesetting systems where printer codes were mixed with the content of the documents to be printed to change font size, family and face and position on the page. An example of a fragment of legislation marked in a presentational style using XML is given in Figure 9.

This style of markup is aimed at guaranteeing that the resulting document looks correct but this markup is not particularly flexible for generating output formats. The concept of “page” is quite different in an electronic context – a page can be of variable length. Using the same markup for a page in both electronic and paper contexts will lead to unnatural results in either or both.

¹⁰ World Wide Web Consortium (1998) *eXtensible Markup Language (XML) 1.0*.

¹¹ ISO (1986) *Information processing – text and office systems – Standard Generalized Markup Language (SGML)*.


```

<page>
  <block><text face="bold">1. Short title</text></block>
  <block>
    <text>This Act shall be cited as the</text>
    <text face="italic">Legislation Repository Act
2002</text>
    <text>.</text>
  </block>
  <block><text face="bold">2. Commencement</text></block>
  <block><text>This Act commences 14 days after it
receives the Imperial Assent.</text></block>
  <block><text face="bold">3. Establishment of a
legislation repository</text></block>
  <block><text>The Legislative Bureau shall establish and
maintain a point-in-time repository of
legislation.</text></block>
</page>

```

Figure 9: Presentational markup of a legislation fragment

By marking the presentation directly in the source documents, the ability to change how the documents looks is also hampered. If the government decided to move the section number from below the headnote to next to the headnote, or replace the headnote with a sidenote, every Act would have to be edited to reflect the change.

For automatic processing of such documents, it is difficult for a machine to infer where a section begins and ends. A program to process such documents needs to look beyond the markup at the content of the document, which introduces higher overheads.

3.2.2 Structural markup

The purpose of different presentation in a document is to inform the human reader of the logical structure of the document. Rather than hiding this logical structure in cryptic presentational markup, the structural markup approach aims to represent this structure in the markup. An example of such markup is provided in Figure 10.

Mapping this structure onto presentational clues for human readers can be done at the point of presentation. Where a large collection of documents shares a similar structure, this mapping is done using a stylesheet. Providing the collection is consistently marked, the stylesheet can be applied to any document in the collection to produce the required output. If the government or a user decides to present the legislation in a different way they need only write a new stylesheet and apply it to the collection or individual document.

Because the end of logical units is clearly marked in the encoding, automating amendment processing is much easier. Legislative amendments typically omit or amend logical components of the legislation. If an amendment omits a section, the program must have a way of identifying where the section starts and ends. Structural markup does exactly that by placing a pair of tags at the start and end of each logical component.

```

<section no="1">
<headnote>Short title</headnote>
<text>This Act shall be cited as the
<actRef>Legislation Repository Act 2002</actRef>.</text>
</section>
<section no="2">
<headnote>Commencement</headnote>
<text>This Act commences 14 days after it receives the
Imperial Assent.</text>
</section>
<section no="3">
<headnote>Establishment of a legislation
repository</headnote>
<text>The Legislative Bureau shall establish and maintain
a point-in-time repository of legislation.</text>
</section>

```

Figure 10: Structural markup of the same legislation fragment

3.2.3 Semantic markup

Sometimes knowing the structure of a document is not enough. We also need to know more about what some part of a document means. Where this information is available at the time the document is created, it is better to insert this information in the markup rather than requiring some program to extract it from the content later. Because this form of markup captures the meaning of the text it is usually known as semantic markup. Although some documents contain just semantic markup (these documents are usually the result of applying natural language processing to a simpler document), this form of markup is usually applied to augment presentational or semantic markup. Figure 11 shows the previous structural markup augmented by a little additional semantic markup (the original structural markup is grey and the inserted semantic markup is black).

```

<section no="1" type="shortTitle">
<headnote>Short title</headnote>
<text>This Act shall be cited as the
<actRef chap="53" year="2003">Legislation Repository Act
2002</actRef>.</text>
</section>
<section no="2" type="commence" commence="assent"
days-after="14">
<headnote>Commencement</headnote>
<text>This Act commences 14 days after it receives the
Imperial Assent.</text>
</section>
<section no="3">
<headnote>Establishment of a legislation
repository</headnote>
<text>The Legislative Bureau shall establish and maintain
a <definedTerm termId="point-in-time">point-in-
time</definedTerm> repository of legislation.</text>
</section>

```

Figure 11: The same structural markup augmented by semantic markup

By marking the type of each provision, we are adding information about the meaning of

the provisions that could be inferred from the content. Because these provisions appear in virtually every document, the Tasmanian authoring environment automatically inserts them together with this semantic markup because it saves processing later on. The commencement provision captures additional semantic markup about the type of amendment and the time after the event on which the commencement is based. In Tasmania this information is entered through a dialogue box to guarantee consistent wording and therefore this information is also preserved in the markup.

The “definedTerm” markup shows that the semantic markup can introduce new concepts rather than just marking existing logical units. The fact that “point-in-time” is defined somewhere (else) in the Act could be inferred from a close reading of the Act, but this markup explicitly marks this as an occurrence of the defined term. This could be used as a basis for a hypertext link back to the definition or as an aid to drafting or both. Note that there is no presentation marking this concept in the original display.

3.3 What markup facilitates automatic processing of legislation?

3.3.1 Structural versus presentational markup

Legislation is very consistent in its structure. Legislative drafters apply standard templates and drafting rules to ensure that draft and enacted legislation are consistently formatted and arranged. This ensures that the Diet and other regular users of legislation can find the information they need in the legislation as quickly as possible.

This means that a structural markup approach is quite feasible. Because we can easily define a single stylesheet that applies to every piece of legislation, marking legislation using structural markup does not prevent us from presenting it in the ways that users have become used to seeing legislation.

Structural markup also makes automating amendment processing considerably easier. If the start and end of all logical units in the document are marked, applying a Change Description Document to a version to produce the next version is much easier than it would be against a document marked using presentational markup. Indeed a number of projects in the 80’s failed to achieve the results achieved in Tasmania. My view is that this was largely because they were attempting to infer logical structure from presentational clues (quite a hard task to begin with) at the same time as applying complex amendment logic. By separating these tasks out, the Tasmanian approach splits one impossible task into two manageable if difficult tasks.

3.3.2 Semantic markup

While the use of semantic markup is more dependent on the data entry environment, because most legislation follows a fairly standard template, the type and nature of many provisions can be captured in the environment in which the legislation is drafted. Where this possibility is available, it makes sense not to lose any information that might make processing easier later on. For this reason, a number of semantic clues were captured in the Tasmanian editing environment and were retained throughout the legislative process to make the construction of consolidations easier in the final publication stages. Where administrative staff are available, such semantic information could be inserted either during the legislative process, or during the publication process. Since one of the major aims of the Tasmanian system was to minimize delay between a Bill becoming an Act and applying its effect to the historical repository, post enactment modification of the markup was designed out of the system. Any such markup is inserted before the Bill is sent to the legislature.

3.3.3 Clues for structural markup

Document analysis is more of a craft than a discipline. People who design markup schemes learn their craft by learning from more experienced people around them or by experiencing the limitations of the markup schemes that they have devised.

In most document environments, there is no formal framework in which the pieces of the document are described. However, in legislation, amending legislation and other citation mechanisms frequently describe the structures that make up a piece of legislation. The name of a particular structure can usually be determined simply by asking “What wording would be used to describe an amendment to this structure?”. This can also help to eliminate unnecessary markup. Alternatively, if the answer to “Would this structure ever be referred to directly?” is “No” then, unless it is presented differently to the text around it, the concept can probably be eliminated from the markup. There is a long tradition on which these amendment and reference wordings are based and this tradition provides a great deal more guidance to the document analyst than is normally available.

To distill this into some simple guidelines:

- start the process by establishing some rules for deciding the names of elements and attributes (this drastically reduces the choices to be made when trying to name new concepts to be added to the markup);
- if the structure is typographically distinguished from the text around it, it will require some markup;
- if there is a standard name for the structural component, use it (look at amending wording and references to the component);
- if there isn't a standard name for the structural component, assess whether it is necessary;
- when choosing names, avoid describing the way components of legislation are presented and focus on what they mean or how they are related to other components;
- if different components mean something different, even if they look similar, use a different name for them;
- minimize the density of tags in a document (don't add multiple layers of tags when one layer will do); and
- try to preserve any semantic information that is available during the document creation process that might be useful later in the life-cycle of the document.

By using the amending wording as the basis for designing structural markup, the potential for automation of application of amendments is maximized.

4 Conclusion

Just as manufacturing processes were improved in the 1950's by shortening the supply chain, costs and time to production in the legislative production process can be reduced by shortening the supply chain between the point at which legislation is created and its delivery to the users of legislation. Managing the consolidations produced for the legislative drafters can form the basis of business processes that give access to this collection to all users of legislation.

Choosing the appropriate markup strategy for legislative documents can reduce the costs of managing this collection. Focussing on presentation does not assist automation of legislative

drafting or consolidation, but a mixture of structural and semantic markup can lead to great improvements in productivity. The formality of amending legislation provides an excellent starting point for identifying and naming the structural concepts in substantive legislation. This ensures compatibility between the markup and the amending operations captured in amending legislation. This is an exciting period in the management and distribution of legal documents as XML technologies unleash the possibilities of unprecedented public access to legal source material.

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DTD in legal XML

problems, resolution and examples in SHIP project products

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Introduction

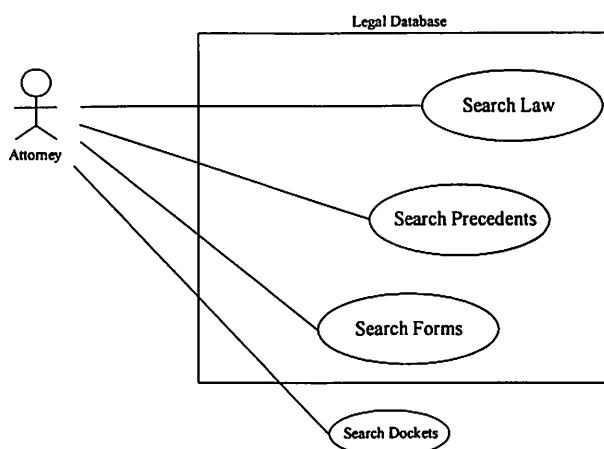
As introduced, I am Hiroshi Komatsu, attorney at law.

Today, I wish to talk about XML, and, in particular, how it relates to the law. The topic for my presentation is the “DTD of Statutory Law.” However, before I begin, there are several things I need to explain as background knowledge, so I will start with a rather general explanation.

The time allocated for my presentation is half an hour, and I will divide my presentation into three parts. Firstly, I wish to talk about the history of XML, which is short but has seen quite drastic changes, and give a general overview of the subject. Secondly, I will take up technological issues and explain in detail what it means to “markup a law.” Lastly, I will talk about problems that are expected to arise in the standardizing of legal XML, which is a question of broader scope.

The diagram printed on the first page of the handout is the kind of design drawing used in developing an object-oriented system called UML (Unified Modeling Language). It is a simple drawing, like graffiti by an elementary school child, but it constitutes an up-to-date design method.

●Use Case of Legal Database



Perspective of XML-based Development

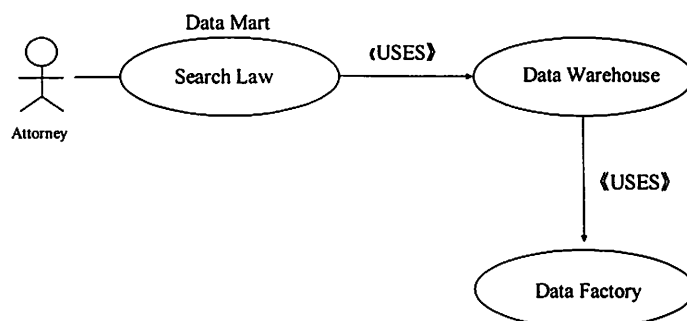
First, when considering the technological development or standardization of XML, it is important to define your perspective. As for the law, I, as an attorney at law, see things from a user's point of view. Lawyers are, basically, users who make use of established law, although some lawyers are involved with the legislative process. From this point of view, what users expect from a legal database is the ability to retrieve statutory laws or legal precedents. The retrieval of documentary forms is also very important, especially in legal practice, because it often happens that courts refuse to accept documents that are not submitted in the designated form. I find a database containing a set of various formats to be very useful.

At the bottom of this diagram, you will see the item "Search Dockets" situated outside the square box. This is not a mistake; I deliberately placed it outside the box. Here, a "docket" refers to what in Japan is called a "record of a lawsuit" or "records regarding the process of a lawsuit". Lawyers need to check these documents in their practices, but, at present, there is no private provider of such information regarding lawsuits in progress. Also, lawyers are not permitted direct access to a court's database. In the sense that these dockets are not yet where they should be, I have kept them outside the box. I think, in the future, these points will also have to be addressed.

Data Warehouse and Data Factory

The next diagram is also a simple UML drawing. I initially used the term "database" when beginning this work, and in the SHIP Project, this term is also used in the context "the development of a database." However, we need to pause to consider whether the concept of a database itself is actually appropriate.

● Search Statutes



Here, I would like to take up the concept of what is called a "Data Warehouse." The difference between data warehouse and database is that database refers to an individual database, a traditional unit, like a unicellular organism in the animal world. You can imagine a data warehouse to be a multicellular organism that has evolved from a unicellular creature to have differentiated functions. The data warehouse indicated here is like a huge collection of different information, encompassing every kind of legal information such as laws and legal precedents, information about document forms, and at the same time incorporating docket information if possible, all with their semantics integrated.

On the other hand, the processing of data according to each one's respective purpose or subject is not the task of this data warehouse but rather the task of a processing system called "Data Mart," which is created separately from a data warehouse to handle a specific subject. In an ideal scheme, if you wish to search a certain statutory law, access to the data warehouse will be provided through a data mart that is specifically designed for statutory laws. Then, if what you are looking for is not in the data warehouse, a "Data Factory," a concept I invented in likening the system to a factory, will come into play and create or process data from raw data material. In short, what is not in the warehouse can be ordered from the data factory. I believe that our SHIP Project should also consider the adoption of this type of scheme. With this kind of scheme included in our scope, the significance of XML becomes quite prominent.

In the diagram, you can see a "USES" section. In this area, information is processed, transposed and exchanged, the flow of which is represented by this arrow. This part here is USES. In XML, a mechanism called "SOAP," which stands for "Simple Object Access Protocol," is inserted in this part of the diagram. The use of this mechanism has become more widespread than expected. Now, most people may not know this mechanism, and some may even say they have never seen XML. However, if you use a Windows PC, you will have already used SOAP and XML to update software, although you may not have been aware of it. Well-known search engine Google, which is usually used with a browser through the Internet, can also be accessed using SOAP.

The History of XML

Now, I would like to look back over the history of XML. Before the emergence of XML, we had EDI (Electronic Data Exchange).

EDI is an advanced technology, and in the United Nations, a standard called "EDI FACT" had been proposed for adoption. Some organizations are still actually using EDI. However, EDI is a heavyweight and complicated specification – so difficult that only a few specialists are capable of handling it. This has limited system development using EDI to large organizations that have accumulated significant technical resources. It is beyond the capacity of any small software company. In addition, EDI requires a dedicated line, which means it cannot be directly interfaced with the Internet as it is. Since the system is faced with a large number of problems, it is now only used in government agencies or in a very few corporations that have abundant resources. It was a tragedy that EDI failed to gain popularity despite its

outstanding quality and the large sum of development funds invested in it. Beyond this, the other tragedy of EDI was that it fell behind the Age of the Internet.

When the SHIP Project was launched in the late 1990s, XML was just beginning to take shape. At that time, people watched the development of XML out of mere curiosity, wondering how it might work, without considering it to be of any practical use. Naturally, very few people predicted that it would eventually replace EDI.

XML was derived as a subset of SGML, which has been used in Tasmania as mentioned in the previous presentation. However, XML introduced an innovative function called "Name Space," which was not used in SGML. By defining a different "Name Space" for a single tag, you can give different context or semantics to the tag. This aspect is the biggest advantage that XML offers over its predecessor, SGML.

Recently, various new technologies such as SOAP, which I mentioned before, or Web services that allow the Internet to be accessed without using a browser, have been gradually spreading. How will XML change in the 21st century? In the first phase of the history of the computer, ASCII code was very prominent, but we are now almost unaware of this code when we use computers. This does not mean that it no longer exists. On the contrary, it has become so widespread and essential as a basic technology that we are not aware of it while using computers. In fact, XML is often used in communication between computers even though users may not be conscious of the process. I believe that XML is becoming as essential a technology as ASCII code.

Application of XML to the Legal Field

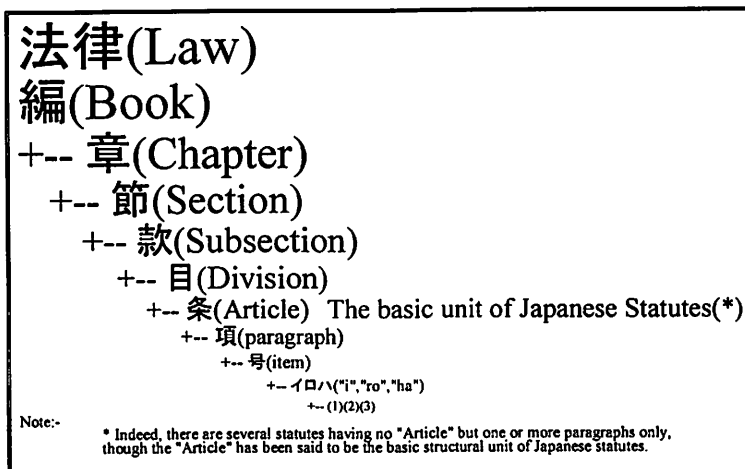
At this point, after reviewing the history of XML, I would like to explain what it means to apply XML to the law.

Here, I take up last year's revision of the corporation law in the Commercial Code. Law No. 79 of 2001 included some drastic revisions. Appended to the end of the law are what are called "supplementary provisions." I imagine law faculty students rarely look through to, not to mention read, these supplementary provisions. Perhaps, almost none of them are taught about supplementary provisions in university lectures. It may safely be said that supplementary provisions are so difficult that students who are capable of understanding them no longer need to attend university. Even lawyers and legislative officials have difficulty with these provisions.

In the sense that they stipulate the rules of application for each law, supplementary provisions are essentially "laws of laws," rather than just supplementary rules to the body of a law. They are what are called "meta rules" in the science of logic. In a sense, they are positioned higher in the hierarchy of law, although they are termed "supplementary provisions." As laws, they have the same structure as the body of a law.

Then, how are Japanese laws structured? In the handout, there is a chart that looks like an eye-sight test chart. Under "law," you will see book (*hen*), chapter (*sho*), section (*setsu*), subsection (*kan*) and division (*moku*). Under these sections comes the basic unit of Japanese statutes, the article (*jyo*.)

● Skelton DTD based on the Structure of Japanese Statutes



A complete set of book, chapter, section, subsection and division is generally seen in major laws such as the Income Tax Law and the Corporation Tax Law, but these sections are not absolutely essential. The essential and basic unit is the article. Within the article, there are the paragraph (*ko*) and item (*go*), and further, "*i ro ha*" (Japanese alphabetic characters) and (1), (2), (3). The structure of Japanese laws strictly follows this order, meaning all post-war laws in Japan have these "chapter" and "section" divisions. This structure is referred to as a "Chapter-Section structure" by those who process documents on computers.

When you look at this chapter-section structure, you may only grasp the relative scale of each unit, with book being the largest unit and chapter the second largest and so on. However, this is actually also a geometric structure. For example, a chapter must always be encompassed within a book, and so the first chapter is not allowed to cut across the first book and the second book. In computer-science terms, this kind of structure is called a "tree structure." On page 6 of your handout, you can see an interesting diagram titled "XML Is a Tree," which illustrates this point.

● XML is a Tree

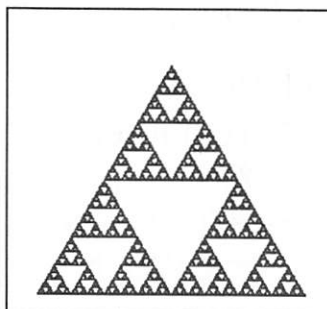
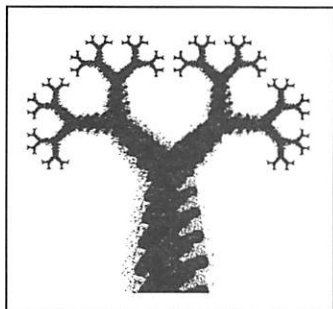


Image of Granularity

The drawing is from a Web page on fractal. Every Japanese law has this kind of refined tree structure or chapter-section structure. XML is also required to have a strictly arranged tree structure. What you are seeing here is that XML is structurally very compatible with laws, as they both have a tree structure. The basic approach to applying XML to laws is to markup this chapter-section structure by using tags.

For example, as shown on page 4 of your handout, you attach tags like “<article>” to articles. Generally, the part enclosed between the angle brackets, “<” and “>,” is called a tag. In XML, an open tag must be used in a paired set with a close tag. With an open tag, an “element” of the tag immediately follows the “<” symbol. A close tag has a slash “/” before an element. For example, as indicated here, information about an article is placed between the two tags.

Example: <article>

....

</article>

In the example shown in the diagram, the article is followed by “Paragraph 1,” so you put the text of the paragraph between <paragraph> tags. In this way, the text of Paragraph 1 is placed as an “attribute” of the <article> tags. There is another markup method in which the number of the paragraph is placed between the <paragraph> tags. As you can see, there are several approaches to processing, all of which are based on XML rules.

There is a saying often used among programmers, “TMTOWDTI,” which stands for “There’s more than one way to do it.” XML is no exception. In the example above, text is inserted as an attribute, and in the example below, text tags are set up separately from the paragraph tags in order to place a text node between them.

●TMTOWTDI ness in Tagging

```
<条 number = "7" heading = "(端株主の...)">
  <項 number = "1" text = "この法律の..." />
</条>
```

```
<条>
  <number>7</number>
  <heading>端株主の...</heading>
  <項>
    <number>1</number>
    <text>この法律の... </text>
```

There's more than one way to do it.

I do not intend to explain in detail the difference between the two examples, as it would probably be too technical. The rule that an attribute basically cannot have a sub-structure or the rule concerning the order of attributes is not particularly important here. What I am trying to indicate is that the process to be applied depends on the processing system implemented in each case. The order in which elements appear, however, should not be changed unless otherwise required during the process. Using this idea that the order of the elements should not be changed, it is possible to present temporal elements using XML.

Time Elements and XML

Now, laws are subject to change and amendment over time, as we learned from the case in Australia in the previous presentation. This makes it necessary to be able to compare the former version of a law with the current version.

In relation to the processing of document information on a computer, Revision Control System, which helps check or control changes resulting from the version upgrade of a program, has been in widespread use for some years. This system, however, basically processes documents line by line and simply points out whether the two lines are the same or not. With some rearrangement, it becomes possible to enter the data into RCS after comparing two documents word by word, although this is not the originally intended use.

On the other hand, XML offers various functions, although we face some theoretically difficult problems in tracking differences between two XML files. One of these functions is the ability to compare document structures. For example, the arbitration provisions of the Civil Proceeding Act used to be attached to the end of this act, but in later years, these provisions were established as a separate, independent

law. Generally, a law begins with Article 1, but the arbitration law starts with Article 700 or something because, very interestingly, the article numbers formerly assigned under the Civil Proceeding Act were applied to each article of the new law. The content is all the same, but what used to be part of another law was upgraded to become a law in its own right. In such a case, XML is able to compare the differences in structure between the two documents.

Also, by using XML, it is possible to compare the differences between two articles block by block, or to understand how the current Paragraph 1 and the older Paragraph 1 differ. You can detect where Paragraph 1 in the older version has been moved to in the current version, or check for deleted or added parts block by block. You can even break down a text into strings of words to enable more detailed, word-by-word or even letter-by-letter comparison. I do not know if it is possible to make a byte-by-byte comparison, though. Thus, XML provides very powerful functions for use in comparing the differences between the current and older versions of a law.

In the comparison of the new and old versions of a law, "supplementary provisions," as I explained above, represent a category of rule known as "intertemporal law¹²," which stipulates the actual application of a law. These provisions say when to apply the older version of a law and when to apply the new one. In the diagram here, you can see some time elements – expressions including time elements are crosshatched or colored differently. How to process these elements with a computer is a very interesting issue. In the SHIP Project, we have been studying this rather profound issue since the beginning. As spatial elements are called "phase," I think "time phase" is an appropriate term to use when referring to these time elements. Now, let us look at what kind of technology is available for handling time phase.

SGML has an ISO standard called "HyTime¹³," a standard for processing data that changes according to each time phase. It has become common as an international standard, but there are not many processing systems that actually run HyTime. I have wanted to work on a HyTime system, but I cannot find one. These systems are available to only a limited circle of people, and not to the general public. It is quite a good standard, but in this sense, it is a pie in the sky like EDI.

Meanwhile, in XML, relatively new technologies such as Xlink and Xinclude have recently emerged. They seem to be useful to me, but they are still under development and are not yet mounted on any systems.

The most basic idea is, as I mentioned before, the order in which tag elements occur. The easiest way is to arrange them so that they emerge in chronological order. This method, however, cannot handle time phase that has a multilevel structure. Yet various other approaches can be suggested: for example, to inherently render time elements to the tags themselves, you can mark time elements as attributes to the tags. Or a more fundamental approach may be to set up separate tags that represent time elements.

Temporal logic, which can be called a basic technology or science, is a

¹² Hiroshi Komatsu, "*Legal Information and Time Phase XML*"

http://xml.fujitsu.com/jp/talk/2001_11_30.html

¹³ <http://www.ornl.gov/sgml/wg8/docs/n1920/html/n1920.html>

traditional and difficult field of study. I would be glad if I could manage without it, but the system of temporal logic is something we cannot do without. Some application systems using the concept of temporal logic have been developed, but there is no accepted theory with regard to how many time elements or temporal operators will suffice for a system. In a thesis written in 1984, James Allen argued that more than 20 temporal operators are necessary¹⁴. In some systems created recently, however, the developers propose to process everything with only four temporal operators.

So, how many operators would be the right number to process the time elements contained in the supplementary provisions mentioned above? This question has not yet been answered. I myself have done some research in this field, but, in general, very little relevant research has been undertaken. This issue will certainly require study in the future.

In the diagram here, I have written "Text Mining Approach," which is a method that involves inputting all the supplementary provision texts into a computer for rough analysis. The data, after being subjected to statistical sampling or string manipulation, can be used to study how many elements would be sufficient. Again, this approach remains to be investigated in the future.

Standardization of Legal XML

Time is pressing, so I would like to move on to the last topic. Currently, although a legal XML standard has been under development, an exhaustive standard does not actually exist.

The most developed standard at this point is Court Filing. In the United States, they are conducting a project whose aim is to streamline all the judicial proceedings in the country by making them available online. In this project, they are creating quite comprehensive Court Filing tags in the form of legal XML¹⁵. However, these tags are not yet at a practical level, and the current version is still not fully developed. It is not clear if this system will be accepted as an international standard in the future.

Compared to tags for judicial proceedings, legislation tags may seem easier to create considering the clean-cut structure of the law. However, no international standard has emerged, partly because of the extreme difficulty of handling the supplementary provisions. I do not think a domestic standard has been established either. I imagine private publishers may have a standard, but this would be no more than an in-house standard used in SGML markup.

At the administration level, the Japanese government has an SGML-based standard called "Public Document DTD¹⁶." The tags in it are not, however, capable of streamlining proceedings across all of the areas of legislation, jurisdiction and

¹⁴ <http://plato.stanford.edu/entries/logic-temporal/>

¹⁵ <http://www.legalxml.org/>

¹⁶ The collection of XML and SGML made available to the public:

<http://www.antenna.co.jp/XML/menu-dtd.htm>

administration. Moreover, nobody knows how to create tags that would make the Application Program Interface compatible with not only those of the public sector, in which we lawyers interact with public officials, but also with those of the private sector.

Establishing a fixed standard is very important for public assets such as the law. Since standardization projects have only just begun worldwide, it still remains unclear what to do and in which direction to head. Standard products tend, in general, to be large in scale. Previously, in XML as well as in EDI, a large set of tags created in the beginning led to simplified or lighter versions later. We need to keep in mind that a large-scale standard tends to be static.

Then, what should we do? In XML, a mechanism for modularizing XML schema has been made available to us. However, if modularization goes too far, we fear that control will pass out of our hands as different modular sets emerge one after another.

In addition, API must be defined properly in order to circulate legal information from top to bottom across the public and private sectors. In this case, the top-down approach employed in the development of EDI would never produce an excellent system. Private companies would be burdened with colossal expenditure if bureaucrats were to unilaterally set up a fixed standard and impose it on the private sector for compliance in system development. The national economy would also suffer great damage.

In the United States, for instance, the General Accounting Office submitted a report concerning the implementation of XML in April this year¹⁷. The office aims to make budget execution by government agencies more efficient by implementing XML for the procedures. In short, it will be able to provide an improved but less expensive service. Being aware of the cost of failure, the office worked on their own XML implantation guideline. The report strongly emphasized the importance of a bottom-up approach, arguing that a top-down approach alone would eventually fail as in the case of EDI.

I am skeptical of whether these top-down and bottom-up approaches would suffice, though. After considering information distribution or the significance of API, I think another approach that looks at the whole picture from a different angle will be needed. I would like to touch upon this topic in the following panel discussion. Unfortunately, time has run out, so I will conclude my presentation here. Thank you.

¹⁷ ELECTRONIC GOVERNMENT Challenges to Effective Adoption of the Extensible Markup Language)

<http://www.gao.gov/new.items/d02327.pdf>

Panel Discussion

Chair: Makoto Murata (IBM Japan)

Panelist: Timothy Arnold-Moore (SIM)

Hiroshi Komatsu (Attorney at Law, SHIP Project Member)

Akira Kawamata (Representative of the Japan XML User Group)

<Murata> I am Makoto Murata from IBM Japan, and I will be moderating this discussion. I previously worked as a member of the XML Working Group, which established XML. It is a pleasure to moderate this discussion today.

Mr. Arnold-Moore and Mr. Komatsu have already been introduced, and Mr. Kawamata has also been introduced by Professor Natsui, so I will not make any further introductions here.

<Kawamata> I was introduced as Kawamata from PIEDEY Co., but I have actually been invited here today as a representative of the XML User Group. So please keep this in mind.

<Murata> First of all, I would like to give time to Mr. Arnold-Moore and Mr. Komatsu so that the two of you can have an opportunity to comment on each other's presentation. After that, I would like Mr. Kawamata to raise any questions that he may have, and I would also like to join the discussion at this point. In the discussion, we will also entertain questions from the audience.

First, Mr. Arnold-Moore, please...

<Arnold-Moore> Mr. Komatsu's presentation was very interesting and very informative for me. It covered a number of topics and much of what he has said is very important for the way we manage legal information. Rather than covering everything he talked about, I might just talk briefly about the time point issue, because I think it is one of the most important in legislation. As Mr. Komatsu has identified, it is very difficult to apply temporal logic and manage the temporal information in a single document. One of the approaches that Tasmania has taken to that is to keep it very simple, rather than solving the whole problem all in one go. We have kept different parts of the problem in different places. So we don't put the temporal information in the markup directly. We store a number of versions of the documents and keep with them some metadata, which is the time range over which those pieces of the documents are valid. And by separating the issue of metadata and markup into two separate places, it becomes easier to manage the temporal information as temporal information and the content of the document as content, without mixing the two, which really does complicate things a lot. Of course, you can do more when you mix the two, but the cost is it's a lot harder to do anything. So, we took a "keep-it-simple" approach and that has allowed us to deliver point-in-time access to the legislation, which is the most important piece of functionality. There are other things we would like to be able to do which we can't because of that.

<Komatsu> The system Mr. Arnold-Moore introduced to us is what we have been wanting to procure or wanting to develop. It is a working version that has further advanced the small system we had developed at the experimental level. In short, I am rather impressed with his system. I hope that we will be able to implement this type of system in Japan, hopefully after localizing it into the Japanese language.

In Japan last year, a number of legal revisions took place. Some people say that large corporations will have trouble at their shareholder's meetings in June this year because of these revisions, for there were as many as three major revisions to the corporation law. As a legal practitioner, I find it very difficult to keep abreast of these revisions.

The system introduced earlier by Mr. Arnold-Moore is also very useful in helping people to organize their legal knowledge. It provides the very system the business world is seeking. I strongly hope that a Japanese version of it will be developed.

<Murata> Any comments or questions, Mr. Kawamata?

<Kawamata> I'd like to direct my first question to Mr. Komatsu. I have learned that you are studying artificial intelligence. Please excuse me for asking such a rudimentary question, but would all our problems be solved without making the great effort required to develop XML if we could somehow develop a very advanced artificial intelligence program that is capable of grasping all laws?

<Komatsu> If such a program could be completed, yes, all problems would be solved. However, it has not been completed yet, although researchers around the world have been trying for several decades, and I don't think this program will materialize within the first half of the 21st century.

<Kawamata> I see. Then, will it be possible to find a solution with XML?

<Komatsu> I don't think everything can ever be solved, but I can assure you that we are enjoying improved results thanks to the recent introduction of XML, compared to the days when we did not have XML.

<Kawamata> That sounds very encouraging.

<Murata> Well, allow me to ask a more rudimentary question, if I may. I believe some people may say that Word and PDF should suffice, given the difficulty of XML. What is your response to this idea?

<Komatsu> Personally, I hate PDF, so I disagree (laughter). I'm also involved with a campaign that calls for people to stop sending Word files electronically, so I would like to avoid Word as well. However, if we do this, what choice is left for us? After all, it all comes down to this question: which is better, simple text or XML?

<Murata> Naturally, I also have no particular personal preference for Word or PDF, but, still, it is not an easy job to create a document in XML. If you are simply creating a document for timely distribution, isn't it enough to make a document in Word and output it in PDF on the Web? What's the problem with that? I would like to invite comments on this idea from the two of you.

<Komatsu> I need to add one more thing. The reason I hate PDF is that I don't know how to make a PDF file (laughter). PDF is definitely not as easy to handle as some of you may imagine. So, how about Word? It is troublesome to make a document in Word as the program is prone to frequent hang-ups.

In fact, when I create a document, I use a generator to add markups to what I have done in plain text. Then, I convert this into a rich text document or a document with some format, although I cannot make it into a Word file. I myself believe that creating a document by using XML firsthand is not a very practical solution. However, at some point in the process, we can make effective use of XML, and to me, that's the important point.

<Murata> Any comments, Mr. Arnold-Moore?

<Arnold-Moore> There are some reasons why PDF is not a good format for legislation – first of all it's a proprietary standard. It's owned by Adobe and particularly in Japan, Adobe is not a Japanese company, so that's one good reason not to use it. Whereas XML is an international standard, it's not really owned by any one organization, and therefore, it is a much more open standard and available to all.

Another issue is what's commonly referred to as transparency, and I think Mr. Komatsu referred to this, that the problem with PDF is that if you want to see what the text is in a PDF document, you have to use a PDF viewer. Whereas in XML, if you want to see what the text is in an XML document, you can simply open it up in a simple text editor or a browser, and you can see the tags and you can also see the contents – in PDF that's not possible.

The third issue I remember I referred to in my talk, and that is that PDF is a presentation markup. It's all about how the page looks, whereas, XML allows you to do structural and semantic markup as well; and because you can do the semantic and structural markup, you can automate more processes down the track.

<Murata> Are there any further general questions like this? Let us look at more general questions before moving on to the next topic of DTD design.

<Kawamata> As a very basic question, what is the advantage of viewing legal sentences in an electronic document rather than in a statute book?

<Komatsu> That is an excellent question, quite excellent. For example, the most recently updated provisions of the corporation law, which is one of the basic laws that we practitioners or legal scholars along with government officials often refer to, are not available through the statute book, because the book is basically published only once a year. If three revisions take place in a single year, even currently effective provisions

are not available on paper. Thus, the most reliable and updated source of legal information is the database of the Justice Ministry, and moreover, currently effective provisions are now only available to us through the Internet.

<Arnold-Moore> One of the issues that Tasmania dealt with in this area was how do we maintain the legislative information that we have, and there was a crisis in Tasmania about how they manage their legislation information, which led to some action from the government on how to solve this problem. And the first issue was that they decided they wanted to get their whole collection of legislation in a neutral structured format so that they had a very large data conversion exercise. They took all of their legislation and converted it from a number of different formats, mostly on paper, to a single consolidated electronic format, using, at that time, SGML, but today they might choose to do XML. Once they had that data converted, they had a basis from which to go forward, for editing and for publishing legislation.

In terms of going forward, there were two factors that were developed for use within a drafting office. And once the drafting office created documents in XML, maintaining them in XML became much easier, so our company developed an editing environment in which they could create the documents. Although it's based on Word, it's essentially an XML structured editor. It fulfills the same function. The editors that are available now for editing XML are much better than they were at the time we developed the Tasmanian system.

So, again, today, we might choose to use one of those XML editors rather than Word as the basis of that system, but you need a drafting tool in which you provide assistance to the drafters to do the job. And the third component is a work flow system. You need to be able to control the XML documents as they go through the legislative process so that you know what you need to do to update the repository of your legislation, your historical legislation. So, those three components are what made managing legislation using XML or SGML possible in Tasmania, whereas they might have gone for a sort of PDF- or Word-based system; and other jurisdictions have done that with quite successful results but not with the same level of automation and the same delivery of this point-in-time access to the legislation; because it is really hard to do that where you can't manage those three aspects of the problem.

<Murata> Well then, let us look further into questions about XML. Earlier, Mr. Arnold-Moore talked about how to choose markup and illustrated the three types of markup – structural markup, presentational markup and semantic markup. Mr. Komatsu also discussed the choice of markup in the last part of his presentation. In processing text with XML, the first problem will be how to give a name to a certain tag or attribute. How should it be named? Should we use a certain set of rules which are, for example, set up or defined by Legal XML, or which follow a structure like “title” or “chapter,” as we saw in a slide during Mr. Komatsu's talk? Will it be appropriate to apply a certain, single rule set to all the laws? Isn't there any kind of fuss-free method for these procedures?

<Arnold-Moore> There are a number of questions there. If I can, I'll address the universal question first. I traveled to a number of jurisdictions and advised them on

DTDs for their legislation. And I'm in the middle of writing a DTD for Ontario at the moment. I've worked on the Canadian Federal Government's DTD and schema and some other jurisdictions' as well as in Australia. So there are some universal aspects to the structure of the legislation which apply in Japan and Canada and Australia and the U.S. and so on. But there are also some local differences. So, I think coming up with the DTD that is logical and uses the logical names that are used in a particular jurisdiction that would work across the world would be impossible.

I think what would probably be more practical is to have a DTD which is designed for a particular jurisdiction that uses the names that are familiar to the people who use legislation. So, I think the approach Mr. Komatsu described and the tags that he described with a very structural view of the legislation are really the way to go, because that way the people who create the document can understand the markup.

<Komatsu> In my opinion, the law is a type of cultural product, so it naturally differs from country to country. National sovereignty makes laws different, as does language. Therefore, it would be quite difficult to make a global, universally common standard. I believe that this kind of standard can only be created on a country-by-country basis, at best.

As for Japan, it seems possible to create markup that will gain wide acceptance, since Japanese laws have a very well-organized structure. In addition, judicial documents are also well structured. However, the problem remains that such a domestic standard cannot be applied globally.

<Murata> Do you have any more comments or questions regarding this issue, Mr. Kawamata?

<Kawamata> Are there any cases of inconsistency, for example, cases in which different terms are used to denote the same concept in different fields within Japan?

<Komatsu> As for the terms used in laws, although those in national laws are consistent across Japan, those in treaty-related laws are less widely consistent. When it comes to notices that are circulated only in government offices or items of less importance than these notices, there is considerable freedom permitted in the employment of terms. With regard to national laws, which are under the strict overall supervision of the Cabinet Legislation Bureau in their final stage, the chapter-section structure itself, as I mentioned earlier, is maintained with great consistency.

<Arnold-Moore> Professional drafters typically draft the national laws. That's certainly the case in Japan. They may go through many, many years of training to understand consistency and the structure of the existing law so that any new law that they draft fits into that framework. So, legislation in Japan and also in other jurisdictions is very carefully and well managed and very consistent internally in its structure. So it is really a perfect environment for applying an XML-based approach because the documents are very regular, very well-controlled, and very consistent; and it's not the case in a sort of general office documents or other environments. So, if you

look just within a particular jurisdiction at legislation, there is a greater consistency.

But there are also a number of other documents that are managed by government which are associated with legislation which aren't as carefully managed because they don't have as high value as legislation. And the approach for those might be to use a different set of markup – perhaps not one that is so structurally oriented. Perhaps a more presentational approach might be appropriate for those less consistent documents, but legislation – it's valuable, it's carefully controlled, it's worth investing in doing as much as possible, particularly with respect to making things like automation available. The more work you do in the early stages the more possible, that is – it's worth investing extra effort to do that well, I think.

<Murata> I would now like to invite questions about the process of establishing markup, especially with regard to the people who participate in the process of naming markup. What process should be followed when choosing the names of tag, attribute or markup, or when deciding what kind of structure should be permitted? For example, is it all right to hand legal documents to XML experts and leave the rest of the work in their hands? Or should such markup be created by those who actually draft legislation?

<Arnold-Moore> There are a number of different ways of approaching that issue. In the jurisdictions that I've been involved in, there have really been two major groups that have had input into the naming of tags: the first group is the drafters who produced the legislation, and the reason why they are important is not just because they produced the legislation, but they also are responsible for the amendment wording and the reference wording within the legislation, and they are very familiar with it. Therefore, they know the names that have been used already. So rather than coming up with new names for the concepts, they are familiar with the concepts in the legislation already, and already have names for them. I think one of the hardest processes in creating the DTDs is getting a name for something. You have to identify the concept, and you also have to get the name for that concept. So, if you can find names already established, you should use them.

But other people have something to contribute to this process – those who actually make the legislation available, and that varies in different jurisdictions. So it might be the government printing organization. It might be private publishers who've taken that information and use it in other products. It might be Web designers, the people who are responsible for building Web sites to access legislation. All of those people would have views about what they want in the markup, and those views may not necessarily be the same. So they should be consulted, but, in the end, the government is responsible for producing legislation. So, in effect, they are free to determine who decides how the legislation looks, but they would be wise to consider the needs of the people who use legislation as well. So, consulting lawyer groups, consulting publishers, consulting government departments...because government departments are some of the biggest users of legislation, and government printing services, and so on. The more people you can consult, the better, but the people who have the real knowledge already – I think are the people who drafted the legislation. This is the best place to start, and then make draft names or DTDs available to a wider audience for comments and criticisms. And that way you build a better product by

having lots of input.

<Komatsu> I'd like to answer this question from a non-legislative perspective, so I'll talk about what approach would be taken if court documents were to be prepared with XML. In the United States, there is an ongoing Court Filing project called "Legal XML." Let me introduce the development of this project as an example illustrating one of the answers to your question.

This project was originally initiated by court officials in charge of computer systems and XML-geek lawyers. In that sense, this is a bottom-up project. The project is currently led by XML experts or system specialists, but in the beginning, there were no specialists involved in it. Rather, the project was launched by those who were capable of analyzing how to deal with the architecture of a court enterprise. The main reason for this was that you cannot decide which XML to adopt until the enterprise architecture is fixed. Of course, these people also discussed whether or not to adopt XML at all. It seems to me that the job of XML experts arises only after you understand the approach to take with the enterprise architecture to some degree, though the participation of these experts at an earlier stage may be preferable.

<Arnold-Moore> The Legal XML Group essentially has been described as the bottom-up process where some people who wanted to solve a problem got together and tried to create a standard for solving the problem. And because of that, people having intimate knowledge of how the system has to work are inputting into the standard that is called "court filing." The Legal XML includes developers – people who are experts in XML and computer programming, as well as lawyers, as well as court administrators and administrative staff. So they are representatives of all the people who have to get together to solve the problem. So it's quite a good model for going forward on any legal standardization effort because it shows that by putting the right people together to discuss these standards, you can come up with a solution that does actually solve some of the problems. A top-down approach might not get the right people looking at the problem.

In legislation it's a bit simpler because, effectively, legislation has a very top-down model already. We already have a government which can mandate legislation and that's effectively imposed on the citizens, so that very top-down model is already inherent in the way legislation works. So I think court filing and legislation are different sorts of things, but, still, there're lots of things we can learn from a court filing approach in legal XML, in how we approach other forms of legal information. I should say I'm actually one of the chairs of the legislation group in Legal XML. So, I do very much support the work the Legal XML has done. And they do some really good things.

<Murata> It seems to me that legal practitioners become very busy when three revisions take place within a year. So I think these busy people may have difficulty making the time to participate in a decision making process regarding how to deal with XML markup, how to name them, or how to create DTD. In this kind of situation, what would the possible solutions be?

<Arnold-Moore> Time is money (laughter).

<Komatsu> I think it all comes down to budgetary issues at government offices. If they allocated a large enough budget, then it would be possible to allocate sufficient human resources.

<Murata> If the budget for the project is limited, what should we do? What can we do when the budget is very small, or almost zero? The first obstacle for private corporations in implementing XML is that they cannot provide sufficient financial and human resources to examine the implementation process or designing of markup. Many XML implementation projects tend to fizzle out at this point. So I wonder how we should clear that first obstacle in order to promote the adoption of XML in the legal field. I understand that this is a very difficult question; would you be able to provide some insight into this issue?

<Arnold-Moore> It is difficult, but there are people who have a financial interest in having this information available, and I think that private legal publishers can help out quite a lot. They won't invest in anything they don't see is going to give them a financial return and, particularly, if it's something they see will disadvantage them with their competitors...so they will be very cautious in how they spend money, but they know the needs of the lawyers. That's how they built their business. So they are very keen to understand what lawyers want, and very keen to provide services that meet their needs. So they are a good source of representation of the lawyers and the lawyers' needs in situations like this. And if you have a standards development effort, legal publishers will want to be involved because they want to make sure that they get what they need out of the markup. So they have an interest in being involved, and if they come and become involved, they will make sure that they will meet the needs of the lawyers who buy their products. Because if they don't meet their needs, the lawyers won't buy the products, and that won't be in business. So I think legal publishers play a key role in this.

<Murata> Mr. Komatsu, please go ahead.

<Komatsu> The other possible way is to further cut the legislation budget while making a lot of revisions. Naturally, the revision process itself would be overloaded and collapse. Then, they would have no choice but to implement XML. Such reverse therapy may be possible.

<Arnold-Moore> Yes. (Laughter) Tasmania had, I mean, they had a lot of amendments – they had a problem managing them. Just such a crisis prompted them to act. So they said, “Well, we need to invest some money up front to solve this problem, so that we don't have to spend all this money down the track to manage amendments.” Because before, government departments each had libraries of legislation which they were maintaining with scissors and glue and cut and paste, like the old kind – not the electronic cut and paste – and it was a very high cost for the government to maintain its library; let alone the cost of all of the legal libraries in law firms and schools. So by

centralizing that effort and investing up front, they've saved themselves money down the track. And that money, the cost of maintaining these multiple versions of very large pieces of legislation, has been reclaimed in the Tasmanian environment. Because they had the foresight to invest at the creation stage rather than trying to solve the problem later on.

<Murata> Let me ask another question. It will be enormously difficult to produce all laws in XML from the beginning. Isn't it possible to start by selecting laws in a particular field and producing them in XML first? In this case, would later XML conversion be hampered because of some potential inconsistency? Should XML conversion be applied to all laws collectively from the start, or should it be applied partially on a step-by-step basis starting with a fixed number of laws? What is your advice on this issue?

<Komatsu> At least for Japanese laws, as I mentioned before, the structure itself is uniformly defined and very consistent, so what can be applied to a certain part can be applied to the whole, in principle. Therefore, we can produce what can be applied to the whole as long as the sampling for that particular part is done properly.

<Arnold-Moore> Tasmania actually applied this approach a little themselves in that the Acts in the database, the primary laws, were all converted as of a particular time point, and from that time point forward, they have been using XML to manage them. But the regulations, which are subordinate legislation not created by the parliament but created under the authority of the parliament, not all of them were converted, and, in fact, still there are some that are not on the database. The approach that was taken there was to convert them as they were amended. So in order to create amending regulations to the regulations, whenever a document came up to be amended, the conversion was done at that time, so that gradually they are adding more and more regulations to the database. So they started out with very few historical regulations. Any new regulations, of course, were created in XML, so they are on the system. But I think Jane will talk later on how many regulations are actually on the system now, but it's grown considerably from the original beginnings. So you can use that approach to gradually acquire the legislation, but of course, the ideal is to have it all. But there are obviously budgetary constraints and also resource constraints. Not only does it take time to convert the legislation to XML but you have the people checking and making sure what you publish as the legislation, really is the legislation, and not something close. It's not good enough to be close, with legislation.

<Murata> Well, we shouldn't keep this question time to ourselves. I would like to take questions from the floor. Is there anyone who has a question for the panelists?

<Katsumi Nitta> I am Katsumi Nitta from the Tokyo Institute of Technology. I am a researcher of artificial intelligence, and I wonder whether it will be possible to apply artificial intelligence to the legal field. Mr. Kawamata said earlier that XML would be unnecessary if A.I. could capture all the laws, but I think it is actually the other way around: it would be better to implement XML in the course of A.I. research.

In his presentation earlier, Mr. Komatsu talked about the difficulty of standardizing XML tags globally, and I would like to ask a question related to that point. Certainly, the standardization would be very difficult when focusing on details, but I think the framework would be basically the same in individual countries. In my opinion, it would be inconvenient when we searched the laws of various countries if each country were to use a different set of tags. So, the most convenient method would seem to be to globally standardize the main tags while leaving the minor tags to each country's discretion. But would such a method be difficult to adopt?

<Murata> What do you think, Mr. Arnold-Moore? Mr. Komatsu?

<Arnold-Moore> There are a number of approaches to that, and a number of aspects to that question. The first is, if different jurisdictions are using different tags for different concepts. One approach is used in a product that we developed, the TeraText Database System, which is being used in Tasmania. We have a two-layer approach. In a relational data base system, you have a schema and you name all the components of your schema. And you have one name, and the way you store and the way you retrieve is exactly the same. We've adopted the Z39.50 approach, where you have a physical layer, which is how you store things, and a logical layer, which is how you search and retrieve things, and you map between the two. So, for instance, you could choose a single set of concepts, something like "Dublin Core metadata", or you might need to extend it for additional legislation concepts, but you have a set of concepts that are common across every jurisdiction. And the fact you've got different tags with those different concepts is not a problem because you just map the particular tags in one jurisdiction to that concept. By searching on the concepts, it doesn't matter how you tag the information. So that approach really removes the problem.

<Komatsu> I'm also interested in this issue. I've faced various problems in translating Japanese laws into English – for example, should *yo* be translated as article or section? To resolve this, I did some research in English laws as well as federal laws and some state laws in the United States. I found out that in California, the structure of laws is not consistent at all, even within the same state. For example, I was not able to resolve whether to use section or article, whether the subunit of section should be subsection or division, or which of the two comes first, division or section.

So, in tagging a particular element that is similar in meaning across countries, inconsistencies would naturally arise between different countries, and even within the same country. I have begun to realize that this is a very difficult issue and cannot give a clear answer here.

As for the other issue of legal precedents, Japan has not introduced a standard for legal precedents, and it is not known if it will ever do so in the future. In England and some states in the United States, however, Universal Citation, which allots absolute numbers to each paragraph, has been adopted. That method can be used globally, I believe. Then, if we were able to design an abstract tag for a certain paragraph, fairly universal tagging would be possible for the judicial precedents of the countries that have adopted Universal Citation.

<Arnold-Moore> The Anglo-American environment also has the advantage that we all speak the one language, whereas the civil law environment has many, many languages. So it is much harder for Japan to use German or French or Danish models, and obviously each country can have a different name for those concepts, but within English-speaking jurisdictions, we have a common heritage in our legal tradition and a common language, which helps a lot.

<Murata> I would like to ask a further question at this point regarding work processes. When we shift to XML, will there be a major change in the way we work? Or will XML simply computerize our workflow? I wonder if we will have to change the way we work individually or the way we work with other people.

I have Professor Natsui's essay here at hand. The last part of it says, "Government officials are involved in the legislative process in their independent capacity as representatives of respective government agencies, so laws are maintained independently at each government agency." Will this system remain the same when we shift to XML, or will we have to totally change the current system?

<Arnold-Moore> I think there are ways of avoiding change, and there are ways in which changes are good. One of the ways of avoiding change is to have the people who produce legislation do it exactly the way they do it now. And at the publication stage we introduce XML. And there are a number of jurisdictions that have used this approach, the United Kingdom being one of them. Her Majesty's Stationery Office, which is the government printer in the United Kingdom, are using SGML within their printing and publication environment. But the drafting environment is not using structure markup at all. So the government processes haven't changed at all, just the publication process. I can understand why that's necessary in some environments, but it means that the drafting environment is missing out on some of the benefits of going to a structured approach to marking up their documents. And some of the automation issues, of course, it's difficult to automate until you've got that structured markup in place. So the earlier you can introduce structured markup, the more automation you can introduce earlier, which means the faster you can deliver your product, which in this case is published legislation or consolidated legislation. So you can avoid change, but it's not clear that's a good thing.

<Murata> Would you like to comment on this issue, Mr. Komatsu?

<Komatsu> I understand that this is a very difficult problem. I suggest viewing this problem using the analogy of how the advent of the Internet has changed the legal world.

Before the widespread proliferation of the Internet, the common way to create legislation was as follows: the government officials in charge of legislation drafted a bill, and the bill was established as a law after being forcibly put to a vote in the Diet. There was no practice of inviting public comments from citizens. With the increasing penetration of the Internet, however, government officials have started to post law bills on the Internet. Now, citizens are being given some opportunity to comment on

proposed bills. Also, another new practice called "Ruling" (訳注：ルーリング) has been introduced. Under this practice, when we are trying to gain government approval for what we are planning to do, government officials disclose some pertinent element of the plan to the public. Since the Internet has actually changed the world of law, a drastic change is definitely expected to happen, especially when this change is accelerated by the implementation of XML.

Another change can also be expected in the legislative process. Traditionally in Japan, bills are generally prepared at government offices, not at the Diet. Very few member bills have been submitted, partly because Diet members in Japan are better at the physical side of their business, like steamrolling (laughter), and not doing much brainwork. Well, seriously, a lack of information is one of the reasons why there are very few member bills, but another major reason seems to be that no Diet member is capable of writing text as difficult as supplementary provisions, which I showed you in my presentation. They don't have the drafting technique, actually. The support system for drafting, which Mr. Arnold-Moore introduced earlier, will help to enhance the volume of member bills, or should I say, will enable legislation through more democratic process.

<Arnold-Moore> In the American tradition, there is a separation of powers between the courts, administration, and legislature. In the English tradition, we have a separation of powers, but it's a different one, that is, a separation of powers between the courts and the legislature. The legislature and administration are one - the idea of responsible government. This difference between the U.S. system and the English-based system means that most legislation that goes through, is actually drafted by the administration. In the English tradition, we also have what we call a private member's bill, which is a non-government sponsored bill. Such Bills go through more of a democratic approach if you like, where the representative is coming up with the approach rather than the government. This approach is the dominant approach in the US. With the first model, you vote in a government for a short period of time, and they have the power to create new legislation. If you don't like the legislation they create, you vote them out the next election. Whereas the approach where members are proposing laws, you vote for a representative who represents your opinion to the assembly, the Diet. And the Diet then decides whether that representation is valid for all of the country or just for that particular member. And so there are different models of democracy with different emphases on how you choose. And I think there is room for both models to work side by side, and they certainly do in Australia. And my understanding of the way that the Japanese Diet interacts with the administration, that's in practice what happens here as well.

<Murata> Are there any other questions from the floor?

<Hanafusa> I am Hanafusa from the Investigation Department of the Cabinet Legislation Bureau of the Lower House. Our department head, Mr. Ota, will make a presentation this afternoon.

I have a comment about the previous topic. In recent years, the number of member bills has actually seen a sharp increase. As for the supplementary provisions,

many new provisions have been added to the Commercial Law as the last Diet sessions dealt with a number of finance-related issues. The Cabinet Legislation Bureau has shouldered the drafting of all those provisions. So, it is misleading to say that we are not capable of writing supplementary provisions for member bills or something to that effect. Our bureau for the Lower House only has about 70 staff members in total, and only 50 of them are specialized staffers. We need to manage with these limited human resources, which is very difficult.

However, the number of member bills has definitely increased recently. In the regular Diet last year, 99 government bills were submitted, and 93 of them passed the Diet. There were also 64 member bills submitted last year, and 18 of them were eventually enacted – it is natural that the success rate was much lower due to the nature of member bills. Based on these facts, I would like to remind you that circumstances have changed, and the number of member bills has actually been on the rise.

<Komatsu> It seems that I did not correctly understand the present state of affairs.

<Arnold-Moore> The role of the drafting and the support staff of the legislature is a very important one, in this sort of democratic process, I think, one that's not often been looked at carefully. And I think it's really important for that democratic process to resource that particular office to do the job well because the quality of the legislation that's produced is improved by resourcing the drafting offices appropriately. Bad drafting happens when drafts are done in a hurry without proper consultation, without proper care and without enough time. Professional drafters don't like doing that and don't choose to do it that way, they would rather spend time and do a careful and thorough job. But sometimes they are demanded to do a rushed job. XML can provide some tools to make some of the jobs easier, and automating and generating amendment wording is one example of how we can do that. We can use the very valuable resources that we have more carefully so that drafters spend less time creating amendment wording that has only a fleeting life and more time concentrating on the substantive text that they are amending, so that they produce a better result. And so that it is easier for the legislature to understand the legislation, so that they know what it is that they are voting on. So I think these are all factors that we need to think about in this area.

<Murata> This panel discussion has been very interesting and I'd like to continue further, but, unfortunately, time has run out.

You'll have the opportunity to ask further questions of Mr. Arnold-Moore, Mr. Komatsu and Mr. Kawamata at the reception this evening.

Thank you very much. This concludes the panel discussion.

<Natsui> I'd like to thank the four panelists. It was a very good and fruitful discussion. About Mr. Hanafusa's comment on Mr. Komatsu's remark, in my understanding of the context, I believe that the intent and purpose of Mr. Komatsu's remark referred to the case in which Diet members draft a bill by themselves.

<Komatsu> I meant to say “each Diet member,” rather than “Cabinet Legislation Bureau staff” in my remark. I hope there was no misunderstanding about this point.

<Natsui> What Mr. Komatsu is saying is that Diet members are elected in order to make laws, as stipulated by the Constitution of Japan. The basic idea is that those who are not capable of drafting bills should not, in theory, become Diet members. So, his remark was based on the understanding that Diet members should have the ability to draft bills even without the help of the Cabinet Legislation Bureau. In this respect, his remark drew attention to the fact that we don't have any Diet members capable of drafting bills. Such circumstances necessarily led to the establishment of the Cabinet Legislation Bureau. Someone must draft these bills, so naturally, we need the Cabinet Legislation Bureau. I think Mr. Komatsu's remark should be interpreted in this way.

<Komatsu> Let me add one more thing. The three revisions to the corporation law, which I mentioned previously, included a revision initiated by a member bill. So, to my understanding, this proves that the staff members of the Cabinet Legislation Bureau are in fact very highly skilled.

<Natsui> Thank you.

Designing University Organization to Advance the Digitization of Education

Kazuo Sakai
Professor at Meiji University Law Faculty, Japan

I. Introduction

I am Kazuo Sakai from Meiji University. I am one of the very few law faculty professors who have a Doctorate of Science.

Today, my talk is entitled "Designing University Organization to Advance the Digitization of Education," and I wish to incorporate the results of my study as a doctor of science in my talk, too. When Professor Natsui invited me to speak at this symposium, he asked me to speak on the theme of XML. Since my main interest of study is information-related education issues, I was at a loss what to talk about, because education and XML do not have any direct relationship. So, I cudgled my brains and came up with the idea of relating education and XML, a technology to process information, via the aspect of information. Consequently, in the conclusion, I will touch upon my hopes for realization of an assistant system employing XML, hoping that in this way my talk will be somehow related to the given theme.

Well, let's see if my plan will work.

II. Organization and Activities of University

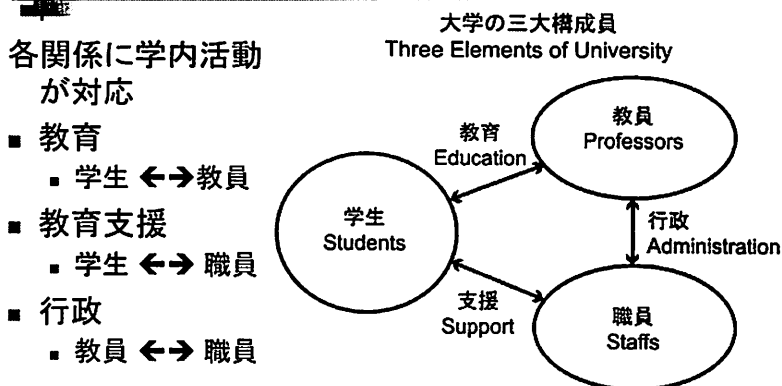
First, I would like to sort out what, in fact, "university activities" are.

From the standpoint of us faculty members, our work consists of three activities, namely, "education," "research" and "administration." From the viewpoint of the university, "education" means the contact point between university and society. Also, "research" is the contact point between university and the academic society, and "administration" is on-campus activities. These three activities are positioned that way, and this diagram (Slide 4) illustrates these activities from the viewpoint of each constituent group.

As is shown in this diagram, there are faculty members who are in charge of teaching, and their relationship with students forms "education". And the relationship between faculty and administrative staff forms what is called on-campus administration, while students and administrative staff are related in terms of educational assistance.

1. 大学の組織と活動

2) 大学組織の三大構成要素



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We can say that university, consisting of these three groups, is a very unique organization. First, each group enjoys a considerable degree of freedom. Students enjoy the greatest freedom, and they have a certain social standing outside the classrooms. Faculty members also have their own ways – they tend to go off-campus as researchers rather than work on campus, but they take their salary from the university without any qualms. It seems that the administrative staff is the most closely related to the university. This is the somewhat strange organization that constitutes university.

There is a generation gap between students and university staff. Now, I'd like to explain that, due to this generation gap, cooperation between faculty members and administrative staff becomes very important in designing educational activities.

This generation gap partly stems from the fact that age distribution in the university world is considerably static. Taking the age distribution of Meiji University as an example, there are 36,000 students, and most of them are aged around 20. In contrast, university staff ranges in age from the mid-20s to the 60s, or nearly 70s. As the university has about 3,000 staffers in all, including part-time lecturers and teaching assistants, this group accounts for about 10 percent of the total population on the campus. You can see from this age distribution that there is an evident on-campus generation gap.

By the way, some of you might think that this kind of generation gap is a relative phenomenon and one existing through the ages, not peculiar to our contemporary society. However, this kind of generation gap is definitely unique to contemporary society. Next, I'd like to explain this further.

III. Social Status and Role of University

It is often argued that university today is different from university in the past. The major difference is that, in the past, the number of university students was very

small, and there were not so many universities. The situation was similar to that existing in China today, where students are having great difficulty entering one of the very few universities in the country. In such a situation, students represent the cream of the crop, and university carries an authority as a sanctuary of learning. Nowadays, reflecting an age of affluence, the number of universities has greatly increased, and universities can be found both here and there. The number of students has considerably increased, as well. Gradually, the social status of university has proportionately declined.

This is one example illustrating how the historical background of university has been changing radically. I will explain this in more detail while introducing other examples.

2. 大学の社会的地位と役割

大学等進学率^[a]

1963年(昭和38年)

エリート→マス

■ 0-15%

■ エリート

■ 15-50%

■ マス

■ 50%-

■ ユニバーサル

(米マーチン・トロウ)



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This chart (Slide 8) shows the ratio of students who go on to college. The vertical axis represents the ratio, and the horizontal axis represents the year in the Christian calendar. The maximum value of the vertical axis is 50%. As you see, the ratio exceeded the 15% line around 1963. An American researcher, Martin Trow,¹⁸ contends that the 15% line is the turning point from the age of elite to the age of the masses. In fact, the ratio of those who go to college has exceeded 50% in the past several years. We are now shifted from the age of the masses to the age of universality, so to speak. The situation has changed in such a radical way, before and after 1963. It can be said that universal access to college education has now become an established

¹⁸ Martin Trow, "Eleven Thoughts for Teachers"

<http://socyo.high.hokudai.ac.jp/Journal/J5PDF/No0512.pdf>

fact.

Another great change in the environment surrounding university is the sharp decrease in demand. As you already know, the population of the 18-year-olds has decreased sharply. So, I plotted a graph of the 18-year-old population here (Slide 9).

2. 大学の社会的地位と役割

1) 大学環境の激変(2)

マーケットの激減

- 18歳人口の急激な減少
- 1990年
200万人を超えピーク
- 2030年
100万人に半減



18歳人口の激減^[b,c]

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The vertical axis represents the number of 18-year-old persons, and the horizontal line represents the years until 2050. Prospective population is shown by median estimate data. Looking at this chart, we can see that the 18-year-old population exceeded two million in 1990. That was the year when I came to work for Meiji University, and the 18-year-old population was at its peak then. The number of applicants for the law faculty alone was over 10,000, and I remember quite well that we were very busy arranging entrance examinations that year. After that, the number of applicants has been decreasing and this tendency will continue in the future. In 2030, the 18-year-old population is estimated to drop to one million, half of what it was in the peak year. The time when the market will shrink to half is coming in only 30 years.

The age of deficiency shifted to the age of affluence around 1960. This social background of the time has strongly affected the generation gap between students and us, the university staff. That's the point I wanted to make here.

The chart (Slide 10) on this display shows the time when students and we of the university staff were 10 years old, based on my premise that we are the most subject to cultural influence around that age. All the students were living in an age of great affluence when they were 10 years old, whereas, for the faculty staff, their experience was not so homogeneous: as you see in this chart, this group stretches over both the age of deficiency and the age of affluence. In short, cultural bases for these two groups are completely different. Thus, the generation gap between them is not a mere relative gap, but an absolute gap that is peculiar to our age.

2. 大学の社会的地位と役割

1) 大学環境の激変(3)

文化の激変期

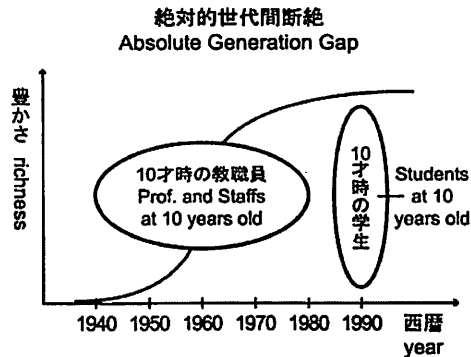
「欠乏の文化」

↓ 1960年前後

「豊かさの文化」

世代間断絶

→ 現在に固有な
絶対的断絶
(相対的でない)



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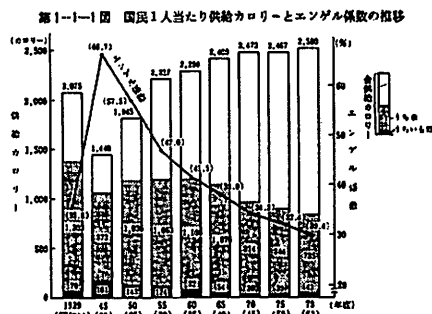
10

As one of the bases for my theory, I am going to examine standards of living. The left side of the vertical line in this chart (Slide 11) indicates calories provided per person and the right side the Engel's coefficient. The line graph illustrates how the Engel's coefficient has changed. You see that the Engel's coefficient soared after World War II. The average calories per person was a little less than 1,500 after the war, and then exceeded 2,000, equivalent to the average in Western countries, in 1955. There is also a poll taken around this time, asking about people's living standards. More than half of the respondents said that they were no longer badly off.

2. 大学の社会的地位と役割

衣食住が豊か

- 1955年
(昭和30年)～
- 2000kcal/日
を超えた
- 「衣食住どれも困らない」
過半数超



注) 1. 供給カロリーの1978年度(昭和53年度)は速報値である。

2. エンゲル係数は都市全世帯の数値である。

資料: 農林水産省「食料供給状況」ただし、1930、1946、1950の各年度は経済安定本部民生局「戦前戦後の食糧事情」による。
総理府統計局「家計調査」

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Then, we came to enjoy more and more material affluence. The symbol of affluent life in those days was ownership of electrical appliances. I showed in this chart (Slide 12) the ownership rate of black and white TV sets, washing machines and refrigerators, which were called the “three sacred treasures” at that time. The ownership rate of black and white TVs and washing machines reached 50% in 1961, as did that of refrigerators in 1965. By the early 1960s, the three sacred treasures were established in almost half of the households in Japan.

2. 大学の社会的地位と役割

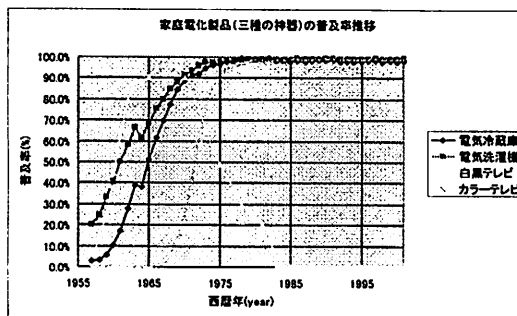
ものが豊か

家庭電化製品 (三種の神器)

■ 普及率50%超

- 1961年
(昭和36年)
 - 白黒テレビ
 - 洗濯機
- 1965年
(昭和40年)
 - 冷蔵庫

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Then, what about money? In this chart (Slide 13) showing the gross national product (GNP), the Japan GNP was growing rather gradually until 1975. From 1975 to 1990, the growth of the GNP is shown in almost a linear line, but after that, the GNP seems to reach a saturated convergence partly due to the collapse of the asset-inflation bubble. A conspicuous period is around 1975. I suppose that people began to realize that their lives were getting financially easier around this period.

2. 大学の社会的地位と役割

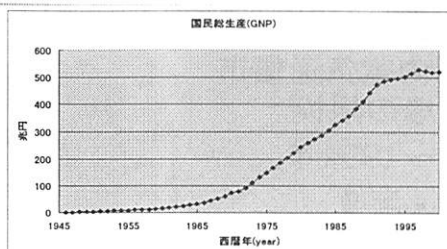
金が豊か

国民総生産

- ~1975年
 - 指数関数的増加
- 1976~1990年
 - 直線の増加
- 1991年~
 - 飽和的収束

http://sangyo.kkc.or.jp/kkc_id/7.html

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It was also around this period that people began to become interested in the quality of life. In a public opinion poll, which has been conducted annually by the General Administrative Agency of the Cabinet, there is one question asking where one should put priority, on material affluence or on spiritual wealth. The result shows that people pursued material affluence more than spiritual wealth just until 1975. After 1980, people came to attach more importance to their spiritual happiness. In the late 1970s, the two trends were comparably strong, with one surpassing the other alternately each year. You can see from this chart that people started to look to their spiritual happiness in the late 1970s, feeling that the material aspect of their lives had reached a satisfactory level.

Then, what about information? I took up here the size of the domestic telecommunication market. In this chart (Slide 15), you can see that the growth of the market, which was rather slow, has been drastically accelerating since 1995.

This chart (Slide 16) brings together what I have explained so far. The figure on the right side is exactly the same as the one I showed you earlier, but now you can see the difference in the cultural backgrounds between students and university staff. Keywords describing each period have changed from “food, clothing and shelter” in the mid-1950s, “electrical appliances” in the early 1960s, “spiritual wealth” in the late 1970s and “information” since the mid-1990s. Under these circumstances, universities are now facing a tide of educational reforms. I believe what has brought the momentum for these educational reforms is, in fact, the material affluence we are enjoying in our time.

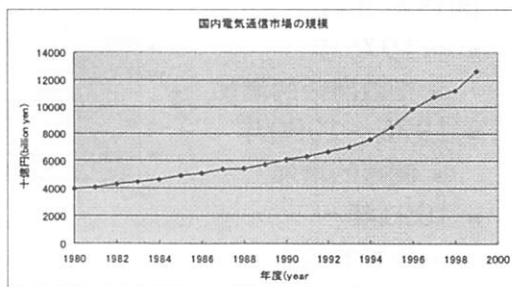
2. 大学の社会的地位と役割

情報の豊かさ

国内電気通信市場の規模

- ~1994年
 - 漸増
- 1995年~
 - 激増

http://sangyo.kkc.or.jp/kkc_id/7.html



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2. 大学の社会的地位と役割

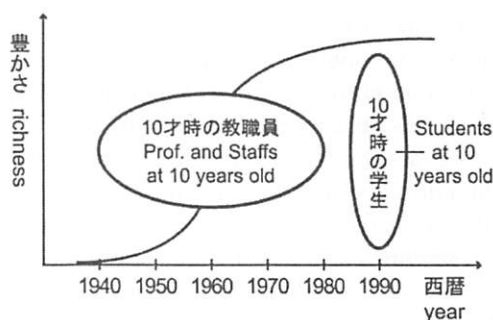
欠乏から豊かさの文化へ

絶対的世代間断絶

育った文化の差

- 1950年代中盤
 - 衣食住
- 1960年代前半
 - 家庭電化製品
 - エリート→マス
- 1970年代後半
 - 物より心
- 1990年代中盤
 - 情報
- 2000年代
 - 多文化→ユニバーサル

絶対的世代間断絶 Absolute Generation Gap



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To be specific, the institutional reforms in education that we are facing now are directed at the introduction of different semester, GPA and flextime systems. Also, as the Director of Information Science Center said in his opening speech, there are many challenges regarding how to utilize information technology (IT) in general education as part of school informatization projects. And now, pressure for such reforms

is rising as we strive to materialize these reforms by the end of 2004. All of these are a part of the friction of this modern age, I believe.

IV. Accommodation Strategy for University Organization

Now, let's consider the characteristics of the problems that university has been facing. University needs to respond to its problems as an organization, but the overall ability of the organization itself, including the ability to collect and process information, is limited. This is referred to as "bounded rationality." Thus, it often happens that a project collapses due to inappropriate decision-making or implementation which lacks rationality.

Meanwhile, the downsizing of work also becomes a problem. In an organization, staff members have to perform their share of duties, so a certain amount of work is assigned to each member. As a general tendency, however, each person in charge is prone to do less work than originally assigned. This tendency is called the "downsizing tendency of work." As a result, once work assignment is arranged in an organization, the outcome tends to fall short of what the members are originally expected to achieve.

Meanwhile, the downsizing of work also becomes a problem.

Another problem is that the more complicated an organization becomes, the more conflicts arise between groups within the organization, which makes the decision-making process quite difficult.

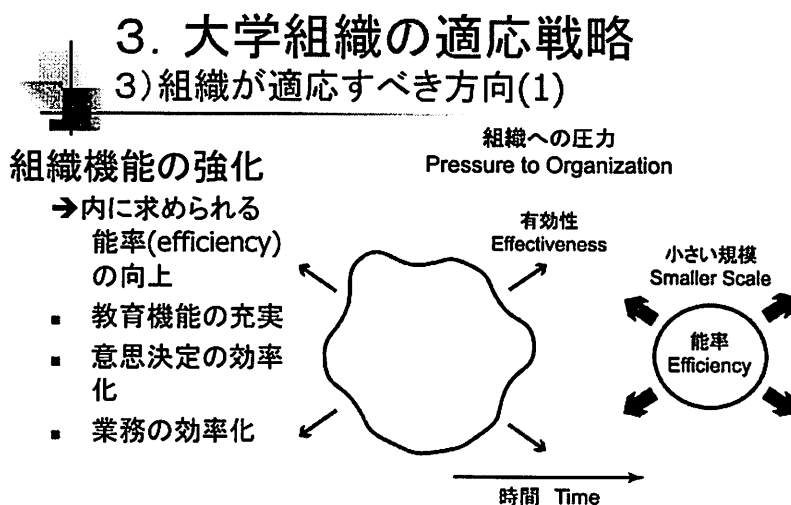
These are some of the problems that we are actually facing. In fact, university organization is saddled with limitations. To respond to new trends under such circumstances, university organization is pressured to downsize its scale. On one hand, streamlining is required because the 18-year population is on the decrease, which means shrinkage in the budget. On the other hand, society requires university to improve the effectiveness of organizational functions.

Then, there are two choices left for university organization, namely, to collapse or to survive by changing its ways. In this phase, the structure of the organization itself drastically changes. Now, there is a concept of "structural phase transition." Actually, I studied the theory of structural phase transition in physics. When a structure changes, fluctuations arise and spread to the whole. In short, a small change affects the whole system, leading to the creation of a totally new order. That's a conspicuous characteristic generally observed in organizational changes.

Now, what kind of strategy should we take in reforming such organization? Some of you may say a radical restructuring should be implemented. But consider Meiji University, for example. It is a fairly large organization, with nearly 40,000 persons on campus, including all the students, administrative staff and faculty members. It is not easy to restructure such a large organization at one go, so that is not a practical solution. A major reform of existing undergraduate and graduate schools will be too demanding, so partial reorganization will be the only solution currently available to us. After implementing partial reorganization, new departments or faculties, such as a law school, can be established step by step to form a new system.

When reorganizing educational affairs, administrative divisions will also be pressured to change. In this chart (Slide 20), I have emphasized the importance of strengthening the effectiveness of organizational functions. With the arrow in thick

print on the right side, I indicate that we should improve the effectiveness of university organization in dealing with the outside. In fact, when we have to strengthen organizational functions on a small scale, the only way to achieve that is to improve efficiency, the word I wrote down in this circle. We have no choice but improve the quality of educational functions, as well as developing more efficient methods of decision-making processes and work.



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20

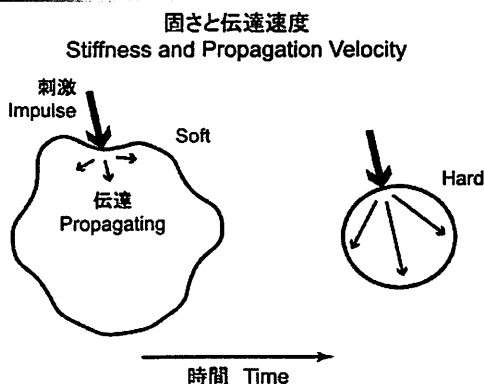
Next, I'd like to talk about how to improve the internal efficiency of an organization. One way is to enhance the internal cohesiveness. On the right side of this chart (Slide 21), I am trying to illustrate the concept of "solidness." When you knock on a soft material, it does not resonate at all. When you knock on a hard material, however, it resonates very well even with a slight touch. If we assume that the solidness of a structure is affected by the way communication works, then, a speed-up in communication will be one way to solidify an organization. To realize that, we will need to promote information standardization, information sharing and information disclosure. In the future, we will likely have to create a new division in university, such as a digital document department.

3. 大学組織の適応戦略

3) 組織が適応すべき方向(2)

組織の強固化

- 情報伝達の高
速化
 - 情報の標準化
 - 情報の共有
 - 情報の公開
- デジタル文書課
(Digital
Document
Division)



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明治大学 阪井和男

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However, these strategies are not enough to strengthen the structure of an organization. Without trying to ingest stimulation from the outside, the organization will be very unbalanced. Publicity, release of information and inviting public opinion will become very important here. In the first panel discussion in the morning, the panelists touched upon the issue of public comment, which I think will play an important role in strengthening an organization. In that sense, intensifying publicity activities will also be one of the issues to discuss.

Then, what should we do with decision-making? As to this, the best we can do is to simplify the deliberative body itself. In Meiji University, we are now working on a project to organize the "All-Campus Committee on Informatization of Education," which is still a working title. We are expecting to launch a very simplified, all-campus organization by the end of this fiscal year

V. Necessity of Support System and Its Construction

In promoting organizational reforms, a support system, especially a cross-organizational support system, plays the most important role. There are many forms of support, such as user support, operations management, educational support, research support, administrative support and so on. Within these, user support is crucially important.

Why is user support so important to successfully implement reforms in university organization? It is because an overall replacement of the older organization is impossible. Thus, the best solution is to make small changes to organization and to design those small changes so as to eventually affect the whole. I mentioned earlier

that fluctuations intensify when a structure changes. That phenomenon is called “structural phase transition.” In making small organizational changes, you generate appropriate fluctuations in the organization and wait as they grow autonomously. For this process, a new core organization established within the existing organization must effectively fulfill its learning function. Then, in order to fulfill its learning function, it is necessary to embed in the new organization the same kind of diversity as the whole organization has. This principle, proposed by W. Ross Ashby, is called the “Law of Requisite Variety,” and I believe this principle can best be applied to the field of user support. This field most adequately represents demands from diversified groups of users including students, administrative staff and faculty members.

How should this be achieved? As I mentioned before, it is impossible to implement reforms all in one go. So, as a first step, we make a core organization, based on a totally innovative vision. The establishment of such a core organization should be done step by step. If we can make the process develop autonomously in the later phase, that would be fine.

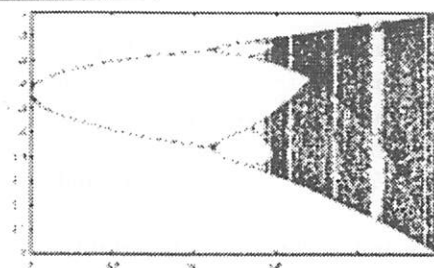
You may wonder why it is necessary to create a core organization that is totally innovative. Now, it may seem a jump in logic, but I think this has something to do with chaos.

In this chart (Slide 27), the horizontal axis represents instability of a system. When you draw a vertical line at the far left, the line crosses at two points. These two points represent a certain dynamic, which moves between the two points. When you shift the line a bit more to the right on the stability scale, the distance between the two points grows bigger. Going a bit more to the right, the line crosses at four points. As you continue shifting the line to the right, the number of the contact points doubles, like one, two, four and eight. However, you will never see a cycle of odd numbers, for example, a cycle of three. This part that looks as if it's painted in black, something we call the domain of chaos, is actually densely marked with small dots. What seems to be a specific cycle appears only after this chaos. In Slide 27, you see three lines representing a cycle of three coming out from where the chaos ends. It is not until you go beyond the chaos that you see the beginning of a new cycle.

4. 利用支援機構の必要性

ロジスティック写像の分岐図

- ロジスティック写像 (logistic map) のカオス
 - 奇数周期はカオスの後でしか生まれない。



<http://www.expm.t.u-tokyo.ac.jp/~kanamaru/Chaos/BifArea/BifApp.html>
<http://www.expm.t.u-tokyo.ac.jp/~kanamaru/Chaos/logbif.html>

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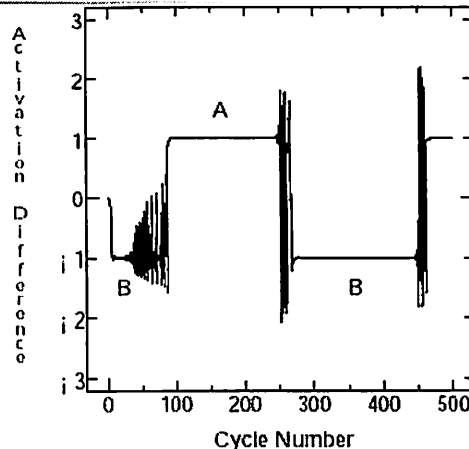
27

4. 利用支援機構の必要性

カオスを超えて新秩序発見

- transfer crisis:
new order
found by chaos

- 別の安定状態への遷移が、カオス的探索でなされる。
(Sakai et al. [1995])



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VI. Functions to be Strengthened in University Organization

Now, what kinds of functions will be needed in a new university organization? From the viewpoint of information, what we will need to do first is to promote standardization of information, so as to improve an information-sharing function. In the process, we will have to appropriately maintain the stock and flow of information that previously ran its own, random course. Control of e-mail will also be important. For example, we will have to set up an identification system that controls the use of e-mail at each division, or establish a portal site to enable efficient use of e-mail. For these efforts, I think some new department like Digital Documents Division, as I name it, should be established to work on standardization of digital information, and sharing and disclosure of information. Then, the flow of information in university organization will become very smooth.

As I mentioned earlier, it will become necessary to accurately examine the effectiveness of the organization in dealing with the outside, so information disclosure efforts will also be required apart from establishing the Digital Document Division. I believe that future organization will need to develop functions to disclose, develop and design information.

Conclusion

Now, I'd like to summarize what I have talked about so far. There is an absolute generation gap between members of university. The background for administrative staff and faculty members is characterized by the "culture of deficiency," while the background for students is characterized by the "culture of affluence." What the culture of affluence has brought about is now putting pressure for reforms on university. To carry out an organizational reform in this age, it is necessary to improve efficiency and enhance cohesiveness of the organization. In the process, we will have to

establish appropriate divisions, reinforce public relations departments and realize an integrated and efficient decision-making system. Above all, a cross-organizational user support system will be a key to success for a new reform movement. My strategy in establishing a new organization is to create a compact core part as a first step.

A new organization will need to have five functions: information sharing, information control, information disclosure, information development and information design. Here, XML comes into play at last. Sorry to have kept you waiting so long. Well, I think there are two important points in making a new organization, which should be considered on a wider range as organizational reforms advance. The first point is core technology as an infrastructure on a software basis. I expect XML will play an important role here, especially in data entry procedures. Currently, there is a long way to go from the first phase of digitizing data until the last phase of systematizing that data. I hope that XML will open up doors to more complex digitization that directly links data to a system.

However, components alone will not work things out. The second point is to have various tools to handle systematized data so that each component can be appropriately connected.

If there's anything I should add to these two points, I think it is a supporting component that will help these two parts function smoothly. Then, a totally new concept of XML, which will change the concept of information system itself, will come into view. Such XML will be very powerful in the sense that it is directly connected to end-user computing.

In closing, I'd like to thank you for bearing with me¹⁹.

¹⁹ <http://www.egroups.co.jp/files/sakai-pub/res/ship/ship-sakai2002.ppt>
<http://www.egroups.co.jp/files/sakai-pub/res/ship/ship-sakai2002-body1.html>

THE GLOBAL LEGAL INFORMATION NETWORK

--International Cooperation for the Exchange of Legal Information

Constance A. Johnson
the Library of Congress of USA; Law Library Section

I am very pleased to have the opportunity to speak at this Symposium, and I would like to thank Professor Natsui and Professor Ibusuki for their invitation to join the conference. It is particularly exciting to be here with people who are interested in all forms of online access to legal information, to share ideas and learn about their accomplishments.

My main topic today is the background and current operation of the Global Legal Information Network, or GLIN as we call it for short.

I . Background: How did GLIN come to be?

The roots of the current GLIN system go back to the 1950s, and to understand why the project was undertaken, you will have to indulge me in a bit of explanation of the Library I work in, the Law Library of Congress. It is (and of course I am prejudiced about this!) a very unique institution. It goes beyond the range of most Law Libraries in three ways:

A. Collections.

The Law Library of Congress has over two million volumes and its collections span the globe and the history of written law. We collect all kinds of legal materials, including statutes, court decisions, commentaries on the law. It is therefore a special resource for legal scholars--not only Americans but visitors from other nations as well. There was a time, for example, when visitors from China came to us to research Taiwan law, which they couldn't find then in libraries at home. (Now of course, they have much more open communication.)

B. Staff

The Law Library, in addition to reference librarians, research analysts, and stack service personnel, has a valuable resource--a staff of foreign-trained lawyers representing many of the major jurisdictions of the world. They help develop our collections and provide expert reference and research services

C. Mission

The mission of the Law Library is also different from that of most Law Libraries in

academic settings, because our primary responsibility is to serve the research needs of the United States Congress in foreign and international law. Congress frequently needs to consult foreign legal texts, both in the context of foreign policy making, to learn about other countries directly, and also in passing domestic legislation, so as to find out how other countries handle some of the same problems the U.S. faces. These questions have a broad range: foreign investment rules, intellectual property, environmental protection, regulation of pornography on the Internet, human rights. Our secondary mission is to provide foreign law research for other U.S. government agencies. For example, one of our biggest clients is the immigration office. Because U.S. law considers family relations valid if validly established under the laws of the country of origin, many questions are raised about marriage, divorce, legitimation, and adoption in the laws of other nations.

In addition to filling government research needs, our rich collections are open to readers for use in legal research, and the unique staff is available for reference assistance as needed.

The Law Library staff thus has a great need for complete, reliable and up to date information on all subjects in foreign and international law. Because of these unique aspects of the Law Library, and particularly with the heavy demand for information on Latin American countries, in the 1950s, a number of staff members began a system of indexing legislation from that region on index cards. A thesaurus, that is a set vocabulary of subject terms, was initiated as a retrieval system. In the 1970s, using the technology of that day, the index was automated on a mainframe computer and could be accessed in the Law Library from so-called "dumb terminals."

In the 1990s, as the technology of the Internet advanced and PCs became widespread throughout the world, a new concept for the project developed, using Internet access and international cooperation to create a more comprehensive and accessible database. The origins of GLIN may have been in the need to provide for the foreign law research needs of the U.S. government, but the aim of the organization today is much broader.

II. GLIN TODAY—What makes this system special?

(First slide). The G in GLIN is GLOBAL. By saying global, we mean to convey the ideal of a database of all the laws of the entire planet, all jurisdictions. The database will also be global in terms of subject coverage, including all aspects of all. In addition, as GLIN contributing countries build up the retrospective collection, we hope to make GLIN global in time as well, covering current and historical legal materials.

GLIN is also inter-governmental. We have partners with contributing stations in a number of countries around the world; usually the participants are from the legislative branch of government, though some are from ministries of justice. It is a non-profit, cooperative organization, with decisions on its contents and future made jointly by the Directors of the national stations. We rely heavily on the cooperation and the expertise of our partners.

There are many, many sources of legal information online. What makes GLIN special is the commitment to very high standards for the data itself and for the way in which the organization

operates.

III. GLIN STANDARDS

Authoritative: The statutes included in the GLIN database are all the most authoritative texts available. In practical terms, this means there is nothing that has been re-typed or translated. While recognizing the value of translation in everyday work in foreign legal research, the Law Library felt that in order to be authoritative, texts should be collected in the vernacular, just as we collect them in hard copy. If in the future translations are added, they will always be only a supplement to the original-language version.

In order to have this authentic, not-re-keyed version, the texts are collected in pdf (portable document format). This essentially provides a “snapshot” of the document exactly as it appears when officially published. It also means that the database can easily handle all fonts and language forms, whether Cyrillic, hangul, kanji, or Arabic.

Official: To maintain the highest level of authoritativeness, official sources are used exclusively. Thus the documents are not collected from news media or commercial compilations of laws. The sources for the most part are the parliaments of the participating countries, via their official gazettes.

Current: Currency is a goal we strive to meet. We are dependent on the efforts of our partners and on the Law Library staff to try to keep the database as up-to-date as possible. For the United States law, we have one staff member creating the records and entering the documents. He gets the texts in pdf format from our Government Publication Office, and he has sometimes had to call them up to ask why there has been a delay in receipt of one or another law. So sometimes, a delay may be due to delays in the publication process of the official version of a law.

Complete: This standard, like currency, is fairly self-explanatory. Our goal is to have all the major legislation. Generally, at the time a country joins GLIN, the team begins entering all new legislation. As resources permit, they do retrospective work.

IV. GLIN DATABASE ARCHITECTURE AND ELEMENTS

The GLIN database plan is to encompass legal information in all forms, focusing on four major areas: Statutes and regulations, legal writings (or commentaries), court decisions, and legislative records (the records of parliamentary proceedings). The first phase implemented was the statutes and regulations; in fact the bulk of the material in the database is still of that type. About two years ago, the legal writings module was added. Right now, we are working on designing the input and

search screens to handle court decisions. Those decisions are of course vital to research on law in common law jurisdictions and are of growing concern even in civil law countries, where they may not be controlling authority but are frequently consulted. Adding legislative records will be our last phase of expansion. A key aspect of the database architecture is the linkage between the types of legal information. If, for example, a commentary on a law is included in the database, and the law itself is also there, it is possible to go directly from one record to the other via links embedded in the records. Similarly, when a law amends or overturns a previous law, that relationship is recorded and the documents are linked.

Searching GLIN

How does a researcher access all this information? The database can be searched by country, date, law number, publication, subject, or any combination of these elements. Searches can be of a single jurisdiction, across all the jurisdictions in the database, or just of a selected set of countries. In order to provide subject access, GLIN has developed a dedicated legal vocabulary, a thesaurus of set terms that can be used to retrieve records. The thesaurus is in English, though the Uruguay team has developed a Spanish equivalent. Of course, as you know, it is very tricky to use one language to index laws written in another language. In order to try to overcome the problems that may arise, we consult with our partners around the world, and the team within the Law Library that develops and refines the thesaurus usually includes several of the foreign-trained attorneys on our staff. At present, specialists from Russia and France are involved in this work, along with several staff members who are familiar with Spanish legal terminology.

Database Elements:

GLIN consists of original documents attached to a summary and record. A standardized format is used. It includes full citation information, plus a summary of the contents of the law, in English and sometimes the original language as well. The assigned subject terms are listed. Searchers and those inputting the records can also search the thesaurus list itself online.

Mechanics:

So how does this official, authentic text in pdf form get to GLIN? Many nations are now publishing their official gazettes online. In those cases, the GLIN teams for the countries can access the digital text itself, create the pdf, and send it to the server at the Library of Congress for inclusion in our database. For other countries, and for older materials, scanners are used to digitise the material; in any case, a pdf file is created and sent to the database.

V. GLIN NETWORK ARCHITECTURE AND NATIONAL STATIONS

Right now the GLIN network is a centralized one. All the data is stored on a server in the Library of Congress. In the future, we hope to have a distributed network, with servers in regional centers around the world.

What does it take to be a GLIN partner? We argue that for a small investment, a country can reap the large benefits of being part of an international legal database, with uniform standards and formats, that is well adapted to comparative legal research.

The GLIN national station generally involves three people:

1. A Director, who participates in the cooperative management of the database, including decisions on the project's future development. The Directors hold an annual meeting, usually in September. In addition, all participants, not just the Directors, keep in touch via email and a listserv.
2. A Legal Analyst (usually an attorney), who selects the legal documents to be included, usually all major legislation, writes the short summary, and attaches the subject terms;
3. An Information Technology specialist, who oversees the creation and transmission of the pdf files and has a number of other administrative functions in the network.

There is no fee to be paid for a country to join, and the software and hardware requirements are fairly modest. We have tried to use software that is readily available around the world. For the pdf creation and viewing, it is Adobe Acrobat. Each member contributes their laws and their expertise.

VI. WHO BELONGS TO GLIN NOW?

There are 17 contributing members, listed on the screen; several other countries have had staff members come and be trained at the Law Library in Washington, DC, but for one reason or another are not yet contributing, and some other countries are listed as pending. Pending countries are those with whom the GLIN managers have had some discussions, but their participation has not yet begun in any way. The database contains laws from about 46 jurisdictions, including those added at the Library of Congress.

The first thing people always say when they see this list is WHY? Why these countries and not others? My response is that GLIN is a relatively young international organization, that we do not have the staff to go and do a great deal of outreach, and so these partners are those that have come to us for one reason or another. There are big, obvious gaps. The biggest perhaps is among developed nations, such as Western European nations and Japan. Most of these countries have their own legal databases, while for some less developed countries, GLIN is the first opportunity they have had to put laws online and make them accessible to their own citizens, as well as to potential investors. What we need to do to extend GLIN is to make the case that it is designed to complement, not replace, the existing databases in developed countries and that it is well worth the effort to be part of this international exchange of legal information.

VII. GLIN PARTNERS

GLIN itself is an un-incorporated, cooperative organization. There is also a newly formed GLIN foundation, a kind of “friends of GLIN” organization, that will help with some fundraising efforts. The Law Library provides legal, technical, and administrative support. It offers training--not so much because there is any great difficulty in creating GLIN records and sending pdf files, but more to teach new members of GLIN station teams specific GLIN practices and standards.

We also have very valuable partnerships with several other institutions. The banks, notably the World Bank and the InterAmerican Development Bank, have provided funding for countries to send staff members for training and attend the annual Directors’ meetings. In some cases, the banks have seen GLIN participation as a part of legal development/rule of law programs for nations they assist.

In some ways our most “exotic” partner is the U.S. National Aeronautics and Space Administration (NASA--the rocket and space station people!). They are consulting with us on telecommunications issues. One area in which we hope to advance technically will be the introduction of an intranet that is satellite-based for future communications. That will avoid any difficulties around the world from inadequate land-based communications systems and in the long-run help make GLIN truly a GLOBAL legal information network.

Tasmanian legislation system

- Purpose of development and social function

Jane Clemes

Tasmania State government, Australia

Introduction

It is an honour to be invited here today to speak at your 5th Symposium, and I would like to firstly thank Professor Natsui and Professor Ibusuki for their kind invitation.

Today I would like to talk about EnAct, an electronic legislation drafting, management, and distribution system that is built on an open international standard, SGML (Standard Generalised Mark-up Language). It was developed to address the key issues of:

- providing effective community access to the law,
- reducing the input costs of business and government; and
- increasing the effectiveness and standing of the law and the Parliament of Tasmania.

EnAct is a unique approach to managing a legislation asset that provides for the automatic consolidation of legislation and the management of legislation history.

Setting the Scene

Tasmania is a wild, beautiful and isolated island state. In area, it is slightly smaller than Hokkaido. Its population is only 470,000, and is the most decentralised of any state with only 40% of Tasmanians living in the capital city, Hobart.

It is heavily reliant on traditional industries such as mining, forestry, agriculture, and fishing, but it is accepted that to meet the social and economic needs of the Tasmanian community, and to generate new wealth, we need to continue to revitalise some of our traditional industries by introducing new technologies, and to make use of the emergence of information as the new commodity of value, thus leveraging the opportunities that are available to us in the new information economy.

Because of its small, decentralised population, isolation, and struggling regional economy, Tasmania's public finances are under constant strain to deliver a comparable range and quality of services to our community, compared with other Australian states and territories, with much larger populations and the resultant economies of scale.

Three levels of government serve the Tasmanian community: national, state, and local. The Tasmanian state parliament was established in 1856 on a Westminster

bicameral tradition. Whilst the number of members of both houses has changed over time, the basic constitutional structure has remained the same since its establishment.

It is the Tasmanian government's view that legislation is a critical and basic community information asset. This arises from the place of written law in our society. As the custodian, Government have a responsibility to protect the integrity of that asset in a manner that supports ease and efficiency of use.

Our EnAct legislation system is one of a number of innovative solutions developed in Tasmania over the past decade, to provide access to information and services to our many small regional centres, and allow Government to show leadership by adopting information based systems to improve both its own business practices, and the delivery of services to its citizens.

What was the problem with Tasmanian legislation in the early 90s?
There were two key government offices involved in the drafting and publication of legislation.

The Office of Parliamentary Counsel (OPC) was responsible for preparing (i.e. drafting) new and amending legislation (Bills and subordinate legislation) for the Tasmanian Parliament.

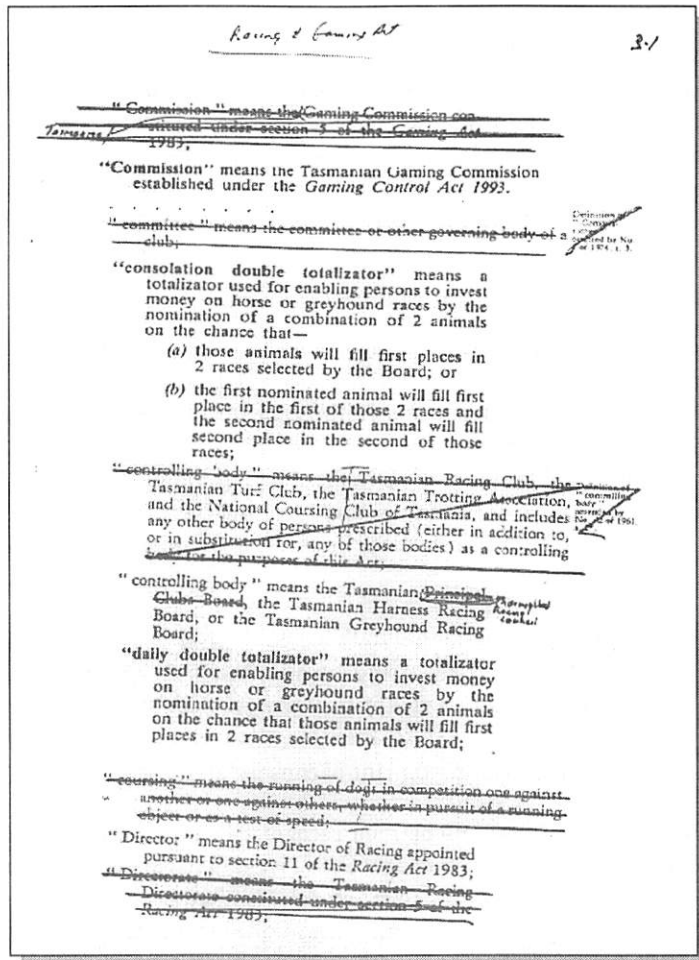
The Printing Authority of Tasmania (PAT), the Government Printer, traditionally managed the publication of printed material for the government. This included the legislation presented in the Parliament (Bills), enacted legislation (Acts), created once legislation had successfully passed through the parliamentary process and Gazetted subordinate legislation.

Tasmania had always relied on a paper-based tradition of legislation production and management. Whilst electronic word processing had been implemented to some extent, in the OPC, the office's drafting processes had not benefited from the improvements in information systems and electronic document management that had increased productivity in other areas of Government.

Similarly, the office responsible for printing authorised copies of legislation, the PAT, was using costly and out-dated technology that had not been utilised to build an electronic repository of legislation, as the key output of the PAT was still considered to be paper copy. The OPC was required to carefully proof read each version of the legislation that was prepared by the PAT, because the type setting process used could, on occasions, lead to mark-up mistakes occurring, such as "style tags" being accidentally inserted in the body of a document. This was a constant distraction to the legislation drafting process, and triggered a review of legislation production and management processes in late 1992.

As a result of there being no properly managed electronic legislation store, Parliament, Government, the Judiciary, and the legal community were relying on what was commonly referred to as manual 'paste-ups'. This was a Principal Act that has been amended by hand written annotations and by pasting new sections on to the page, to reflect the current state of the law.

Here is an example:



As many Acts had been amended numerous times since the last full consolidation, this was an unbelievably time consuming and costly activity, requiring constant reference to manual legislation indexes, as the Printing Authority was unable to provide legislation purchasers with assurance that, in selling them a Principal Act including amending Acts, that the purchaser had received the complete set of applicable amending legislation.

In addition, the likelihood of error increased with the number of amendments since the last reprint. This could lead to delays in court proceedings, potential for the need for judicial review, and investment and business decisions being based on incorrect advice. The poor state of the law also led to delays in Government decision making, and delays and confusion in the courts.

Consequently the input costs for all legislation users, including the Judiciary,

the legal profession, business, and Government agencies, were very high.

In addition to the economic costs, there were equally significant social costs with members of the community unable to access legislation, and a diminishment of the effectiveness and standing of the law. The effectiveness of the parliament was also compromised because of the difficulty of interpreting legislation and assessing the impact of proposed amendment Bills before the Parliament.

Thus, prior to EnAct, it is fair to say there were significant costs and impediments to access and correct interpretation of Tasmania's statute law.

How had Tasmania's legislation resource come to be in this position?

Prior to the 1997 Statute Book consolidation for EnAct, the last full consolidation of Tasmanian Statute law had occurred in 1959. There had been an attempt in the mid 1970s to introduce a rolling reprint of consolidated legislation, but this had failed for the following reasons:

- Increasing demand for, as well as the increasing complexity of legislation, meant that the Office of Parliamentary Counsel was applying all of its limited resources to meeting the immediate imperative of maintaining drafting throughput.
- Manually applying amendments to Principal legislation is a labour intensive, difficult and exacting task requiring experienced and well trained staff. Difficult economic times had meant that the government was unable to fund what were seen as non-essential activities, thus adequate resources could not be applied to maintain a rolling reprint of consolidated legislation.
- The Government of the time had not recognised that a periodic, or ongoing, consolidation to hard copy was now the most expensive approach to legislation management, as whilst in the past information had been cheap to capture and expensive to manipulate, modern information systems had reversed this relationship, thus the lowest cost approach to consolidation was now to capture the information once at its source, i.e. during the drafting process.

Because the legal market in Tasmania was so small, it was not viable for private publishers to provide an unauthorised legislation consolidation service, as is sometimes the case in larger markets.

With the government unable to directly fund the legislation reprint program, and without a private provider able to fill the void, the legislation resource became increasingly unmanageable and inaccessible. The economic and social costs to the community of this management failure were extraordinarily high.

What were our options?

- Employ more parliamentary drafters;

- Implement improvements in document management practices, consistent with other jurisdictions; or
- Re-engineer the processes for preparing, managing and distributing legislation.

The decision was made to address the long term issues of managing the legislation resource effectively and efficiently, rather than taking the easier but less effective steps of attempting to increase the number of staff in OPC, or introduce a document management approach similar to that in use in other Australian states and federally at the time. It was accepted that either of these two approaches would only provide a limited and short-term improvement in the situation and fail to address the wider social and economic issues. The Tasmanian government therefore decided to initiate a project with the following key objectives:

- For the State Government to meet its legislation production and maintenance requirements by: developing a new legislation-drafting facility to improve drafting throughput; providing automatic consolidation upon enactment; and improving the presentation of amending Bills to Parliament.
- To improve access to Tasmanian legislation by consolidating the Statute Book, and by providing access to consolidated legislation, and a history of changes.

What made legislation production such a good candidate for the application of IT?

Although legislation drafting was largely a manual process, its production was governed by a set of strictly applied business rules that we considered made it an ideal candidate for the application of information technology systems.

Legislation structure and formatting rules were well understood and consistently applied. Amending legislation followed a regular pattern in terms of how it was constructed i.e. the rules relating to inserting, omitting, and substituting wording. The amendment wording used, was also consistent and presented the opportunity to be machine generated in the majority of circumstances.

There were a number of publications in the early to mid 90s including Osborne and Gaebler's, 'Reinventing government', and Manganelli, and Klein's 'The reengineering handbook', which examined the ways organisations could achieve breakthroughs in performance and find new ways to provide more effective government services. Their works influenced us to take perhaps a more audacious approach than what had been accepted in the past. So, in some ways our project was also a product of its times.

Why SGML?

When we received approval to commence this project in 1993, whilst we were seeking an open standards based solution to ensure longevity and portability of the resultant system, we had no clear idea of a preferred solution for storing, managing

and distributing our future legislation resource.

We briefly experimented with Lotus Notes, which was a new product on the market at the time, and it was used successfully as part of our very first proof of concept, but we accepted that it did not have the flexibility to manage the complex structure and content of legislation in a production environment, and it was a proprietary solution that would have impacted on the longevity and portability of the solution.

During the requirements analysis stage of our project we utilised the consultancy services of the University of Tasmania to help us determine how best we could meet our system requirements. With the assistance of Professor Chris Keen, Head of School of Information Systems, University of Tasmania, we established that SGML appeared to offer a solution that best met our requirements.

Our analysis, was of course, carried out well before XML emerged as an alternative viable standard.

The solution needed to meet four fundamental tests:

- accessibility;
- portability;
- reusability; and
- longevity.

Electronic storage and distribution improves accessibility and allows the use of searching and other tools to assist in the identification and presentation of specific information.

However, the use of electronic storage does not, of itself, meet all of the principles necessary for the sound management of a critical information asset. The adoption of proprietary or incompatible standards can significantly reduce the degree to which the information meets the tests of portability, reusability and longevity. This can be overcome by the adoption of open international standards.

The use of proprietary standards usually results in the need for a translation process to move information from one format to another. This process often results in a loss of richness of the information, as all of the features of one application rarely translate directly to another. In addition, the translation process between proprietary formats does not usually support the transfer of meta-data that is essential to the management of complex documents such as legislation.

Of even greater importance, however, is that closed proprietary standards do not adequately address the question of longevity and, over time, portability. Open international standards for the storage and distribution of documents are independent of hardware, software and vendor. They allow information to be moved between hardware platforms and manipulated by a range of different software. They protect the information from obsolescence and the effect of technological change. In contrast, closed proprietary standards are subject to the fortunes and strategic direction of individual vendors, and the speed of technological change. Information maintained in

- Bipartisan support of the parliament of Tasmania – both the then Attorney General and the Leader for the Government in the Legislative Council were members of the project steering committee and the objectives of the project were strongly supported by all members of both houses.
- An inspirational project sponsor – the then Secretary of the Department of Premier and Cabinet provided the project team with exceptional guidance and support.
- A disciplined approach to project management with an experienced project team supported by an external project management consultant, Rob Thomsett, who provided guidance and advice to both the Premier and Cabinet project team and the project sponsor.
- The timely convergence of the work Tim Arnold-Moore had done in developing a document type definition for Victorian legislation combined with RMIT's robust SGML repository that enabled RMIT to put together such a strong response to our RFI.
- Choice of technology – we are only into our 4th year of production, and whilst this is a fraction of the expected life of our system, SGML and related open standards still seem to offer a solid future.
- A positive climate in which to undertake large, complex IT projects. The traditional project management approach taken was risk adverse, and took years to achieve the project outcomes. It would be more difficult to be the first jurisdiction to do this project today, with the current economic downturn and with a much higher expectation of a considerably shorter project life cycle.
- Being a small jurisdiction helped us manage the competing stakeholders both within and external to government.

So what are the benefits of EnAct today?

Providing effective community access to the law

The EnAct legislation web site at www.thelaw.tas.gov.au provides public access to searchable, hyperlinked, point-in-time, (since February 1997), Tasmanian legislation. When we first developed the business plan for the project, the web was not a very mature or available resource, so our initial plans were to make legislation available on CD-ROM, but by 1997, the opportunity to deliver legislation via the web offered a viable, cost effective solution to making legislation publicly accessible.

On average we are receiving over 600,000 requests on the site every month. Site maintenance is very efficient, as the only regular maintenance required is the loading of the most recent version of the database from the authorised source to the web server via tape. Data is converted from SGML to HTML on the fly as requested, to enable it to be viewed on the site. We chose to present the legislation using the same styles as

these formats typically requires frequent manipulation to avoid obsolescence. This is expensive and places the integrity of the asset at risk.

These problems are more acute for legislation than for many other information assets. Legislation may remain current for very long periods of time, sometimes over several generations. In our EnAct system the oldest piece of legislation is the *Civil Process Act 1839 (No. 4 of 1839)*, and in all, there are 26 current Acts that date from between 1839 and 1900. No current proprietary format has been able to demonstrate that it can provide this degree of longevity.

The adoption of open international standards provided us with the greatest possible certainty that a critical information asset in electronic form would survive technological change over time.

So having established comprehensive business requirements, in late 1994 the Government of Tasmania issued a Request for Information. We received expressions of interest from a number of respondents, and selected two to develop proof of concepts, to provide the government with a high degree of confidence that a production system could be built.

Following the conclusion of this process it was decided that RMIT offered us the best possibility of achieving our project objectives and we formally contracted for the development of a detailed design based on our business requirements and for the subsequent development of what became known as EnAct.

During the system development phase we concurrently implemented:

- a change management process in-house to introduce new technology and procedures in OPC to improve the existing processes, and to prepare them for the new system;
- a program to consolidate the statute book of 627 Principal Acts so that there was a consolidated database of legislation available for the implementation of the new system; and,
- new legislation, the *Legislation Publication Act 1996* that established the EnAct database as the source of the authorised version of legislation in force in the State, provided for the production and distribution of authorised copies of legislation from the database, gave evidentiary status to those copies, provided for the making of editorial changes to legislation and for the reprinting of legislation.

In December 1997 after an extensive acceptance testing process the system was accepted and went into production, with the EnAct web site at www.tas.gov.au going live in April of 1998.

What factors contributed to our success?

A small state with limited financial resources undertaking such a complex leading edge project was extraordinarily high risk. Some of the reasons that we succeeded against the odds were:

people were used to seeing in their printed legislation.

EnAct is just one of a number of IT related solutions that the Tasmanian Government has developed over the past decade. Early on it was recognised that these types of systems would not be successful if we did not address the problem of community access to the Internet. The government has worked to make the Internet available in small regional centres throughout Tasmania through the Communities On-line project that has helped establish resources and expertise in community centres throughout the state. For many years the State Library has also provide free access at its centres throughout the state, and with the introduction of Service Tasmania shops, additional resources were made available at each of these centres so that citizens can access on-line government services.

The web site is an invaluable aid to people with disabilities, especially for those with limited physical mobility or for visually impaired people who have access to computer resources and aids to assist them to interpret on-line information.

Reducing the input costs of business and government

EnAct has eliminated the hidden cost of manual consolidation, and the lack of search tools and access to legislation history, providing considerable efficiencies that result in lower costs being born by the community.

I am not suggesting that increased direct access to the law by citizens takes the place of seeking professional advice, just that consumers are paying for the value that a legal professional brings to their case i.e. legal interpretation and evaluation of legal factors – people are no longer being charged a premium to support the old hidden, inefficient manual processors used in government and the legal community.

EnAct has also enabled a range of efficiencies and service delivery improvements in the legislative drafting process. These included:

- the availability of electronic searching to more effectively and reliably manage cross referencing issues;
- greater consistency in the wording of amending legislation;
- more timely and effective provision of drafts to Agency instructing officers; and,
- a quality control process resulting in a significant reduction in the possibility of error or oversight resulting in statute law revisions. (For example during the 1997 consolidation process several thousand errors were identified).

On-line resources such as EnAct enable opportunities for private providers to develop and market value added regulatory information. One of the pre-eminent on-line private providers in Australia is Anstat Pty Ltd through their site Lawlex at <http://www.lawlex.com.au>. Without access to government legislation web sites, such value adding services would be much more difficult and costly to provide.

Increasing the effectiveness and the standing of the law and the Parliament of Tasmania

Both the Judiciary and the Parliament have benefited from the improvements in the drafting process and legislation accessibility made possible by EnAct.

Point-in-time history is particularly useful for the courts, as it is essential to understand the law at the time an offence is committed, to ensure that a fair and just outcome is achieved. The availability of reliable, automatically consolidated legislations has added a degree of certainty and trust in the veracity of the legislation resource that the judiciary relies on.

Provision of accurately and consistently drafted legislation for consideration by the Parliament along with access to the on-line consolidated legislation resource has assisted the Parliament to more effectively interpret and debate the Bills that are placed before it. Currently in the House of Assembly, there is a computer at each side of the House, to enable members to browse the on-line legal resource whilst the House is sitting.

The Future?

There are many more opportunities we can pursue in the future as community expectations for access to information continue to rise and the use of IT becomes more pervasive through generational change and increased service availability. Development and implementation of EnAct 4 will add an additional degree of robustness to the legislation amendment process, opportunities to provide a more flexible web based workflow solution that will enable concurrent workflows, and potentially provide Clerks of the Houses with control of the workflow of legislation whilst it is in the Parliament. Integration of the new SIM Document Management System will reduce the complexity of the EnAct solution, and improve maintainability and system performance.

A redevelopment of our web site will enable us to more efficiently display results of searches and list legislation titles. We will also have the opportunity to consider making Bills publicly available on the web site once they are tabled in the Parliament.

Other jurisdictions are now looking to implement new technologies to help them manage their legislation resource more effectively, including New South Wales, New Zealand and Canada. The adoption of open international standards could facilitate the exchange, publication and display of documents of a legislative character in electronic form. The creation of a common definitional framework would offer considerable advantages to researchers, the legal profession and businesses operating across more than one jurisdiction. It does not require standardisation between jurisdictions of production systems, or of the style and structure of legislation. Any standards based approach must be able to accommodate diversity in legislation production systems as these processes reflect the different business needs of the various jurisdictions as well as their legislative and parliamentary traditions.

Conclusion

EnAct was probably the most challenging and difficult project that I will ever be involved with. The risk of failure was very real, the initial cost was substantial, but I think that we have been able to demonstrate that this approach, which was somewhat radical at the time, has achieved great benefits for our community, and provides a model that may be helpful for other jurisdictions in the future.

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Legislative Database Systems at the House of Representatives

– An Overview and Their Future

Masayuki Ohta

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I am Masayuki Ohta, Investigation Section manager in the Legislation Planning and Moderating Department of the Legislative Bureau of the House of Representatives. Today, I wish to present an overview of the legal information database systems at the House of Representatives and also discuss problems related to these systems.

The legal information database systems at the House of Representatives have been created by several different organizations and sections in the House. Although I am involved with only a part of them, I deal with the raw material, or should I say, the raw data of legal information in my work, so I hope my talk will be informative for you.

Firstly, I would like to talk about the situation that existed before the House of Representatives' Web site was established. In so doing, I will first explain how legal information was only available on paper at that time and examine whether sufficient data was provided. I will focus on several different types of legal information in my explanation.

Where can we see legislative bills?

Legislative bills are the most important type of legal information in the Diet. In recent years, about 200 to 300 legislative bills have been submitted to the Diet annually. The number of legislative bills, including all the newly enacted bills and partial amendment laws, stood at 284 in 1999, 227 in 2000 and 253 in 2001. All the cabinet bills and member bills are also included in these figures.

Now, previously, was there any chance for citizens to access these legislative bills under deliberation, that is, at the stage before they were passed and enacted as laws? Unfortunately, before the House of Representatives' Web site²⁰ was established, there seems to have been no opportunity for citizens to access information on the legislative bills being discussed in the Diet. Neither were there any convenient materials that gave a comprehensive overview of all the legislative bills under deliberation.

The only materials that were available to the public were the committee proceedings in both the Upper and Lower houses, as these proceedings contain legislative bills in them. I would like to explain this aspect in a little more detail. A legislative bill, once submitted to the Upper House or Lower House, is referred to a competent committee. In the first committee meeting convened to discuss the bill, the government or the sponsor of the bill explains why they have submitted the bill to the committee, and the bill is also described at the end of the committee proceedings

²⁰ <http://www.shugiin.go.jp>

reporting the first meeting.

These committee proceedings can be viewed at the National Diet Library or major libraries nationwide, to which the proceedings are distributed. So, while it was possible to view legislative bills even before the Web site was established, it was very inconvenient for citizens, who had to go all the way to a major library to see detailed texts of the legislative bills under Diet deliberation. Unfortunately, that was how it was before. I think that in the future, there will be more opportunity for interested citizens to discuss the legislative bills under deliberation and eventually to take some action in response. However, the pre-Internet environment did not offer much chance of success for this type of approach.

So then, how are legislative bills provided to Diet members or officials working for the Diet? A copy of a bill is distributed to each member as well as to each department of the Secretariat Bureau and Legislation Bureau of the House of Representatives. As examples, I have brought along a copy of the bill partially amending the copyright law and also a copy of the bill rectifying disqualification provisions that prohibited the disabled from performing certain activities. You can see the text of the legislative bill inside the front cover. Copies such as these are distributed to Diet members for deliberation. When a member who has read the text says, "I want this and that in the bill to be modified," the officials carefully read the text to determine the effect of the proposed modification. I have brought rather slim copies today, but given that there are 200-something bills submitted per Diet session, the stack of bills actually measures more than 10 centimeters. Each bill document has punch holes in the paper, through which a black string is threaded to bind all the individual documents together. In this way, we Diet officials are able to view, comprehensively and conveniently, the legislative bills being discussed in the Diet. However, ordinary citizens were not previously given a similar opportunity to access legislative bills.

Counter Bills

Now, I would like to explain *shusei-an*, or counter bills²¹. A counter bill in this case means a proposition to partially modify an original bill, citing problems in the bill and how it should be improved. For English speakers, this might be a little confusing as "amend" or "amendment" is the word used both when modifying an existing law and when making a revision to an original draft. The counter bill I am talking about here is

²¹ The Web site of the House of Representatives' Legislative Bureau lists the following five items as its duties.

1. Drafting of bills initiated by Diet members.
2. Drafting of amendment bills to a legislative bill.
3. Preliminary study of legislation, which is conducted under the orders of the committees.
4. Research on legal issues in response to inquiries from Diet members.
5. Collection, maintenance and arrangement of legislative materials.

not an amendment bill to an existing law, but a counter opinion suggesting revisions to an original draft still under deliberation.

Some of the researchers here today may have participated in the Legislative Council of the Ministry of Justice or been involved in the drafting of a bill from the very first phase of designing a concrete policy and, thus, know how a bill looks. However, I don't think there will have been much opportunity for you to see a counter bill, which is printed on rough writing paper and stapled together.

As I mentioned previously, I work for the Legislative Bureau, which assists Diet members in preparing legislation. We help members draft not only member bills but also proposed revisions to a bill, as I have just explained. During committee deliberations, Diet members come to consult us regarding their requests or propositions for the modification of the original draft being discussed. In response, we give advice and then actually create the amendment provisions, which use wording such as "Substitute word A in Article 5 with word B," or "Insert word D next to word C in Article 6." In this sense, the wording patterns used here are the same as those used in a so-called partial amendment law, which amends an existing law.

Be it partial amendment bills or counter bills, they both looked very strange to me when I first started working at the Legislative Bureau. These bills identify particular parts to be modified or amended and eventually rewrite them. They consist of a number of wording instructions, such as "Substitute word A in Article 6 with word B," which are collectively known as "amendment provisions." I found this legislative format to be very unique, having the feeling that the technique was like fine art. However, when I had the chance to meet with the officials of the legislative bureau of Tasmania, I was very surprised to find that they have an amendment drafting system that is exactly the same as ours. I had thought that the legislative technique we were using was unique to Japan, but I have come to believe that it is actually a universal system that is used around the world.

To go back to the issue of drafting counter bills, it is usual for legislative bureau officials to consult with the relevant Diet members and eventually write the text of the bills as instructed. Once the text is finalized as the text of the bill, we print the copies of the text with a printing machine and staple them. You might find this surprising, but we actually do the printing and stapling ourselves. The reason the work is not done by an outside printing company is that many of the counter bills must be completed as quickly as possible. We have to finish the work the day it comes in and submit it the following day. We don't have the time to farm out the printing work to a printing company after completing the text. It often happens that we have to write the text in a hurry and run the printing machine all night to finish a counter bill. So, yes, we actually do the printing at our office, rather than farming it out.

After preparation, counter bills are submitted to the appropriate committees, often with an attached comparison table that contrasts the text of a bill before and after revision. We often attach the so-called comparison table at the end of a counter bill such as the copy of a bill I showed you before. The table, which is divided into two parts with a horizontal line, presents the original bill in the lower section and the revised bill in the upper section, illustrating how the counter bill would modify the original. This is only a reference material, and we understand it is the text of a counter bill itself that is being deliberated.

has long been a controversial subject.

Of course, some people have also argued that it is easier to understand if we use a comparison table to present how a bill looks before and after amendment. Actually, changes in the bylaws of incorporation are generally presented to shareholders at a shareholders' meeting in the form of a comparison table. We are very interested in how the legislative techniques employed by the national and local governments with respect to the presentation of bills will or will not change. I think this issue is something we have to consider carefully.

Printed copies of a counter bill are then placed on the table of each committee member. Once a counter bill and its original bill are passed, they are submitted to a plenary session for discussion. Prior to a plenary session, both a copy of the counter bill and a copy of the original bill with the counter bill applied to it are dropped in the letter box of each Diet member. In a plenary session, members deliberate the bills based on these materials.

I believe that, before the launch of the legislative Web site, citizens had very little opportunity to see how the text of a counter bill looks. Such texts did not become available to the public until they were attached to the end of committee proceedings, which could then be viewed at the National Diet Library or major libraries nationwide, as I explained earlier.

Enacted Bills

Next, I would like to talk about *seitei-horitsu*, or enacted bills. These bills have always been available to the public through official gazettes. Of course, major bills may also be published in newspapers or commercially available statute books, and you can also see the text of bills in books of legal commentary. However, official gazettes are not sold at bookstores; although you can purchase copies at any of the 48 official gazette shops throughout Japan²². Nonetheless, I don't think many people have ever seen an official gazette. In this sense, citizens used to have great difficulty in accessing enacted bills.

So, previously, there was no system available through which the public could gain a comprehensive overview of all the enacted bills that were established in a particular Diet session. The Diet has a catalog of enacted bills like this, which looks like a telephone directory. Today I have brought a catalog of bills enacted in the 151st Session of the Diet, which is compiled for office use. These catalogs are distributed to Diet members, to legislative bureau officials who assist Diet members in drafting and to universities as well. They represent a valuable database of legal information, but, regrettably, they are out of the reach of the general public. You can find them at major libraries, but, still, the catalogs are not easily accessible.

However, it is now possible to inspect enacted bills on the House of Representatives' Web site. When you view the tab entitled "Enacted Bill²³," you can find a list of all the laws enacted during all Diet sessions, from the 1st regular session

²² Official gazettes are partially published on the Web site.

<http://kanpou.pb.mof.go.jp/>

²³ http://www.shugiin.go.jp/itdb_main.nsf/html/index_housei.htm

right up until now. You can also carry out a free word search. When you perform a search using the word “environment,” for example, you get 636 results.

I must say that although enacted laws are listed on the Web site, we don't believe that the accuracy of the data on the site is ultimately assured. In our understanding, what is published in an official gazette has conclusive legal authority.

Diet or Committee Proceedings

The fourth item I would like to talk about is *kaigi-roku*, or Diet or committee proceedings. These are also important sources of legal information, and they contain details of constitutional interpretations made by the government and the policy-related interests of Diet members. You can call it a precious legal information database, in a sense.

Here again, however, these proceeding were previously available for reference only in libraries. Some may say that this is good nonetheless since you could at least see them in a library, yet it would have been very convenient if edited copies had been available at bookstores. For example, edited copies of the proceedings of the Constitution Research Council, in both houses of the Diet, have been sold at bookstores. It would definitely have been convenient to have all proceedings available in this way.

So, this was the previous situation. These days, the Web site for the House of Representatives is very well maintained, and you can find proceedings here²⁴. The site contains all the proceedings since the 145th Session of the Diet in January 1999. You can also carry out a free word search.

I'd now like to demonstrate how you can access data on the Web site. You see on the screen the top page of the House of Representatives' Web site. When you click the “Proceedings” button, here, you'll find the search window for proceedings opens. Then, click the “Plenary Sessions” button, and you will be able to see all the proceedings available on the site. What you are seeing now are the Cabinet Committee proceedings.

As I mentioned before, you can also carry out a free word search. Before I left home today, I did a search using the phrase “new human rights” and found the expression in the records of 21 separate proceedings, including those of the Committee on Judicial Affairs in the 153rd Session of the Diet.

And as I also mentioned before, these proceedings constitute a precious database from which we can understand the constitutional interpretations or legal interpretations of the government and also the political interests of Diet members. In addition, this Web site proves to be a very powerful tool when you wish to compile data related to, for example, the “government's interpretation of Article A of the Constitution,” or collect specific data in connection with certain articles, such as Article 9 or Article 21, for instance.

Incidentally, I once saw the director-general of the Cabinet Legislation Bureau watching a deliberation with a thick book called “Replies on Constitutional Issues” under his arm. From the government's point of view, it is obviously a mistake to give a

²⁴ <http://kokkai.ndl.go.jp/>

reply that contradicts past statements. So, the Cabinet Legislation Bureau collects the government's statements on important constitutional issues and compiles them into a book. If the same procedures can be adopted in the legislature to produce some kind of record, the Web site will become an important resource in this sense as well.

Bills

Next, let's look at *gian*, or bills. "Bills" includes legislative bills, budgetary bills and treaties. Citizens can see bills under deliberation before they are enacted, on the "Bills" page of the House of Representatives' Web site. The 154th Session of the Diet is now (2002) under way, and the site currently carries bills from the 144th through the 154th sessions. Bills prior to the 144th session have not been entered into the database yet. The Web site allows you to see bills at any time from your home.

On this site, you can also see the bills that did not pass. It is said that some legislative bills were not enacted because they were too far ahead of their time, but that these documents are valuable in that they formed the basis of future legislation. From this perspective, this Web site can provide very useful materials for those who intend to study nomology.



The screenshot shows a web browser window displaying the Japanese House of Representatives' website. The page is titled "衆議院" (House of Representatives) and shows a list of bills for the 154th session. The table below is a transcription of the data visible in the screenshot.

種類	提出回数	番号	議案件名	審議状況	
衆法	148	1	永住外国人に対する地方公共団体の議会の議員及び長の選挙権等の付与に関する法律案	衆議院で審議中	経過 本文
衆法	143	2	永住外国人に対する地方公共団体の議会の議員及び長の選挙権等の付与に関する法律案	衆議院で審議中	経過 本文
衆法	150	18	国立国会図書館法の一部を改正する法律案	衆議院で審議中	経過 本文
衆法	150	19	被災者生活再建支援法の一部を改正する法律案	衆議院で審議中	経過 本文
衆法	150	20	災害用慰金の支給等に関する法律の一部を改正する法律案	衆議院で審議中	経過 本文
衆法	151	6	犯罪被害者基本法案	衆議院で審議中	経過 本文
衆法	151	13	医薬品副作用被害救済・研究振興調査機構法の一部を改正する法律案	衆議院で審議中	経過 本文
衆法	151	20	農業経営再建特別措置法案	衆議院で審議中	経過 本文
衆法	151	23	民法の一部を改正する法律案	衆議院で審議中	経過 本文
衆法	151	25	公職選挙法の一部を改正する法律案	衆議院で審議中	経過 本文

Other Internal Databases for the House of Representatives

So far, I have introduced major legal information databases that have been made available to the public through the House of Representatives' Web site. There are also other databases that we are using for office work in the House. They contain a wider range of more detailed information than those available through the Internet but

look basically the same as the ones I have just shown you. The differences are mostly functional – the restricted databases have more complicated search functions as well as functions that are convenient for office work.

Finalization of Provisions

Lastly, I would like to talk about an interesting topic – that is, the finalization of provisions that assimilate partial amendments to laws. In Japan, when an existing law is partially amended, the revisions are absorbed and reflected in the principal law. As you know, there is no official organization that has the authority to finalize the provisions of a revised law.

In this case, we cannot deny that the publishers of the statute books play a large role in laying down how laws look. At present, there seems to exist no authoritative official institution that keeps track of laws after they are enacted. However, legal publishers in Japan are actually doing a very good job in this area. They sometimes contact a government agency regarding what they believe to be an error in a statute law while compiling legislation, and it often turns out that they are right. Here I am referring to an error in form – for instance, inappropriate wording that hinders the intended amendment – rather than in content. However, you can see that they are tracing the history of a statute law quite accurately. This is how legal publishers are in Japan.

So, all we can say for sure is that a completely accurate text of an Act that has assimilated several amendments exists only in the mind of a drafter who has worked on the text. What is written in the statute books published by private publishers is maybe 99.999% accurate, but complete accuracy exists only in mind, or in idea. That's how I feel about this issue.

Challenges for the House of Representatives' Legal Information Database

In closing, I would like to talk about some of the challenges facing the legal information database of the House of Representatives. One of the problems with the database is that, although I said you can see bills on the Web site, the site contains only recent bills. Thus, it is desirable to input more data so that the public can access all the bills from the 1st Diet Session in 1947 up until now. Another problem is the time lag between the submission of a bill to the Diet and the uploading of the data onto the Web site. If the time lag were only one or two days, it would be no problem, but it sometimes takes a week or so to input the data to the database, especially when the amount is large. The point here is how to shorten the time required for inputting data into the database. We hope we will be able to solve these problems in the near future.

Today, I have talked about only a small part of the legal information database of the House of Representatives, focusing on the areas I am particularly interested in. Thank you for listening.

“Industrial Property Digital Library (IPDL)”

- Japan Patent Office's IP information service via the Internet-

Yoshihiro Fuji
Patent Information Promotion Office
Japan Patent Office

[Abstract]

Industrial property information (IP information) such as the gazettes issued by the JPO not only contain the latest technological information to explain the fruits of applicants' technological developments as industrial property information, but also contain information on rights that indicate the scope of exclusivity. They are thus an effective information source for planning business strategies that can be used to develop new technology and to understand the research trends of other enterprises.

The JPO has always recognized the importance of disseminating the IP information. We shifted its medium for publishing our gazettes from paper to electronic (CD-ROM) in 1993 in order to facilitate our users' access to the information. Also, we have established Intellectual Property Centers, where on-line network services and technical assistance for searching are available, in each prefecture from 1996 onwards.

However, our patent information dissemination policy had to be reviewed when the Internet emerged as an alternative means of disseminating industrial property information. After discussing the issue, the Information Committee of the Industrial Property Council reviewed the then patent information dissemination policy in 1997 and recommended that:

- (1) The JPO Internet service would be promoted to ensure a free access to its data and its highly useful information products would be available free of charge through the Internet from 1998 FY. (Free of charge service through the Internet)
- (2) The patent information products of the JPO would be available at marginal cost concept without royalties for the commercial use. The data processing and standardization would be implemented at the expense of the JPO. (Enhancing commercial vendors' services)
- (3) On-line public inspection system would be established by constructing international on-line network and taking full advantage of the Internet. (Better public inspection service)

Based on the revised dissemination policy stated above (especially focusing on (1)), the JPO started its test service where some searchable databases such as front page of A publication, FPDB and legal status data are available through the Internet in 1998. Then, the JPO launched the Industrial Property Digital Library (IPDL) service on its homepage in March 1999 to allow our users to better access to its IP data covering whole the gazettes issued by the JPO.

The JPO has extended and improved the service by updating the system, adding new search functions, and launching new searchable DBs and so on. Now, approximately 47 million IP-related documents throughout the world are searchable free of charge through the Internet. On top of that, we have dispatched IPDL search advisors, who have expert knowledge on intellectual property rights and related information for instructing how to use our IPDL service, to the Intellectual Property Centers. The IPDL is now accessed approximately 2.2 million times per month for searches and information references.

Also, we have noticed the importance of our service for overseas users. The English services available for patents and utility models as of April 2001 are FI/F-term searches (indexing searches developed by the JPO) and PAJ (Patent Abstracts of Japan) searches. As for trademarks, a wide range of English service is available, including information on trademark searches, searches for well-known and famous Japanese trademarks, and lists of goods and services.

On the other hand, it should be recognized that the IPDL is not the only service for IP information dissemination.

In addition to offering service via the Internet (IPDL), the JPO has installed exclusive-line terminals at public inspection facilities such as the National Center for Industrial Property Information (NCIPI), an independent administrative agency, its branches and various Intellectual Property Centers to provide service with high-speed exclusive lines and high-resolution displays.

Also, commercial vendors should play very important roles in this field in terms of providing the IP information users with highly value added services. For the purpose, the IP information products of the JPO have been sold to them at marginal cost without royalties since the new dissemination policy was approved.

We will continue to make every effort to meet our users' requirements, cooperating with the Intellectual Property Centers and the commercial vendors, for better disseminating the industrial property information. As for the IPDL, we are now planning to further improve the system especially for providing our users with our data at better access speed.

Panel Discussion

Moderator: Makoto Ibusuki (Faculty of Law, Ritsumeikan University)

Panelist: Constance Johnson (Library of Congress, the United States of America)

Jane Clemes (Tasmania State Government, Australia)

Masayuki Ota (Legislative Bureau, the House of Representatives)

Toshihiko Oshima (Legislative Bureau, the House of Councilors)

Yoshihiro Fuji (Patent Office)

Naoaki Yano (Asahi Newspaper Research Institute (presently Cyber Literacy Research Center))

Shin-ichiro Nakayama (National Diet Library)

<Ishimae> We would now like to begin our second session of the afternoon. In addition to today's four presenters, we have Mr. Naoaki Yano from the Asahi Newspaper Research Institute, Mr. Shin-ichiro Nakayama from the National Diet Library, and Mr. Toshihiko Oshima from the Legislative Bureau of the House of Councilors as panelists. The moderator for this session will be Dr. Makoto Ibusuki of Ritsumeikan University. Professor Ibusuki, please.

<Ibusuki> Thank you. As moderator, I would like to begin our discussion by turning first to the three additional panelists. I would like to begin by asking you to introduce yourselves, and give us some reflections and comments on today's presentations. It will be helpful if you could direct your comments to the individual presenters, rather than limiting yourselves to your general impressions of the discussion. After that, I would like to direct some questions of my own to today's speakers, Ms. Constance Johnson, Ms. Jane Clemes, Mr. Masayuki Ota, and Mr. Yoshihiro Fuji. We will reserve some time at the end for other comments, including questions from the audience. We are scheduled to finish at 6 o'clock P.M., and I would like to ask your cooperation.

Well, first, I would like to invite Mr. Yano to share your impressions with us.

<Yano> Hello, ladies and gentlemen. My name is Yano; let me briefly introduce myself. Presently, I work in the Asahi Newspaper Research Institute, a private media studies institute. Before that, I worked as the chief editor of a magazine entitled "Asahi PC" which began publication in 1988 as a guide for PC beginners. I have also worked as the chief editor of the "Monthly Asahi" magazine. In 1995 -- the year that Internet became tremendously popular in Japan -- I edited a new internet information magazine called "DOORS." As you can see, I am just a magazine editor.

The SHIP project has as its basic theme the establishment of a legal information database that exploits the power of XML. I am not an expert in law or technology, but totally a layman. However, since the editorial process has been my career, I am greatly interested in the editing of information. I listened to the presentations from this perspective, and I would like to briefly pose some of my reflections, and offer my own thoughts about XML.

First of all, some people have talked about the improvement of the information environment. From the standpoint of a disseminator of information, the intention or

the basic purpose of the SHIP project is the disclosure of information. On the other hand, looking at the project from the perspective of a general information user, it promises better availability of information.

It was truly interesting to hear about the advanced project in the small state of Tasmania, which has a population of 470,000, if I remember correctly, and also about how Japanese administrative section is trying to disseminate legal information. The great merit of the advance of the Internet is that it disseminates information to a wider public. I was glad to be able to learn of some of the advances that are being made, and I look forward to hearing more. That is my general impression of today's presentations.

I would like to add a little about myself. In the world of editing, many efforts are underway which aim to exploit XML. One focus of these efforts is the presentation of information. A good example of this is the presentation of practical information such as information related to travel; in this regard, XML is useful in the world of printed publishing. In a hotel guide, for example, printed output can be limited or varied according to specified elements of information such as price range, districts, or style of a tour.

As another example, one piece of basic news data can be presented variously as a newspaper article, a magazine article, a mobile phone message, or an item on an electronic newsboard. These each differ in the way information is presented, as well as the medium for its transmission, and XML permits a single item of information to be disseminated through all of these channels. On the other hand, when we search a database for past newspaper articles, whether they report accidents or judicial decisions, the search sometimes leads to items which mention a proper name of a person who has already served his or her prison term or has otherwise repaid their debt to society. This can be greatly to the disadvantage of that person, and in order to protect against such injury, the XML delivery of newspaper articles can be configured to prevent the display of names of people, replacing their proper names with a pseudonym.

From the perspective of the user of information, XML can add greatly to convenience. When we travel by plane, instead of checking every flight company for the schedule, price, and availability of airplanes, a service which provides such information in a flexible XML format would be more convenient.

I expect great things from your work in creating such a system. On the other hand, I would like to talk about the other side of the coin, so to speak -- some of the problems that somewhat offset the merits of using XML.

In the spring of 2000, which is two years ago, several disputes over plagiarism emerged in the newspaper trade. One involved the Asahi Newspaper and another involved the Kyodo News agency, the Sankei Newspaper and the Yomiuri Newspaper were also involved in a similar case. A number of similar cases surfaced at around the same time. What I heard was that a news staff of one company drew from the database of other newspaper company, say via an article on their homepage, and wrote another article under their own name by cut-and-paste. It is interesting that several of these cases arose all at once. The practice was apparently called "template reporting."

I am sure that most of us here are familiar with the term "template." Using

word processing software, you can make use of a template to write, for example, seasonal greetings or notices of a change of address. Various useful templates are available for various software packages, including spreadsheet software. It is possible to apply templates in newspaper articles, too. Articles on traffic accidents and court cases have a certain form and style, and templates can make it easier to write them. First, you need to have a sample form of an article on a traffic accident such as "on a certain day of a certain month, in a certain street, a truck driven by a certain person hit a certain person's bike and a certain police station investigated the accident, and determined whose fault it was," and so on. Once this has been done, all you have to do the next time you write an article of this type is to insert the elements of new data such as place, time, date, the names of the people concerned, and the result of police investigation. People say that they use this trick all the time, and that this was the cause of the plagiarism. If using a template in writing a greeting letter is convenient, it is convenient for writing newspaper articles as well. However, using a template is not a convenient means of writing journalism that is highly individualistic, or detailed, or which has carefully shaded emotional undertones. My concern is that using XML in such a case is rather paternalistic, and this might cause some problems. The fine control provided by XML opens potential for the abusive use of information. And there is also a danger of the loss of intention in the presentation of information. Applying a mechanical intention through an authoring tool can easily mask the truth of an event. It is possible to use a tool to provide information to be used abusively to conceal the content. Thirdly, an article on a traffic accident can be a piece of news if it is original and individually concrete. However, an article generated from a template forces a paternalistic frame on the author and the reader, and to that extent dictates what society should be without anybody's intention. We must be aware of issues of this kind.

I would like to wrap up now, but these are the comments that came to mind in listening to today's presentations. I have no intention of denying how wonderful and convenient the work of technology is, and I myself have promoted the usefulness of computers and of the Internet while editing the magazine "Asahi PC." I have been impressed by each of the plans discussed. On the other hand, I would like to draw everyone's attention to the possible problems that this useful technology might bring. Thank you.

<Ibusuki> Thank you very much for sharing a view from the journalist's perspective with us. As I understand your point, it is that there might be some traps hidden in the formalism of data-processed information, and that we should be concerned about who sets the form for presentation of data, and selects the information that is to be presented. Thank you again.

Next, I would like to invite Mr. Oshima to offer a few words.

<Oshima> Thank you. I am Oshima from the legislative bureau of the House of Councillors.

The information services offered by the House of Councillors are more or less similar to those of the House of Representatives, which Mr. Ota has already introduced. But let me add some further comments.

Although we have a two-chamber system, and the two Houses are often thought of as twin halves, we are, so to say, dragged by the House of Representatives. In terms of providing information and introducing Internet services and such, we are trying to catch up with the House of Representatives.

As Mr. Ota has reported, data from the National Diet can be classified into three types: draft laws, enacted laws, and the consolidated text of laws in force. Please allow me to offer some reflections in light of each of the presentations.

I did not know the system called GLIN. It is rather a personal story, but more than ten years ago our office received an email from someone in Korea. It inquired whether we were interested in creating a cyber-library system on legal information together with the United States. However, at that time in the Japanese Diet, we were light-years away from the Internet, and I recall that in our reply we said something to the effect that this was inconceivable. Now when I look back, I feel ashamed. We should have started such an effort much earlier.

Now the work of the Japanese Diet is being improved in this new environment, and I feel the need to extend the electronic treatment of legal information to include, for example, government bills.

We have heard about the example of Tasmania. In order for the drafting to be carried out, it is indispensable to have an accurate grasp of the existing base of legal information. It is extremely difficult to get an accurate picture of the existing law. As Mr. Ota has reported, there is no authorized organization in Japan today which provides the existing law as it is amended from time to time. I believe that this is a most serious issue.

Up until now, relevant organizations have processed legal information on a piece-by-piece basis, and publishers have been involved, too. In other words, consolidating amended law has been carried out by many parties. There is a question over whether this has been properly done, and the answer is not necessarily yes. This issue has been under consideration for some time in the legislative bureau of the House of Councillors. We have started to keep a ledger for each category of law, for example the Anti-monopoly Law, and every time an amendment is announced in the gazette, by cut-and-paste we have updated the information on the ledger. We have known of the example of Tasmania, but we handle this process manually. The situation is similar in other Japanese government ministries and agencies. This is really inefficient, but the problem is not only that. Ours has literally been a cut and paste method, and as a practical matter, when this cut-and-paste process goes on for a long time, small pieces of text can actually get lost, if they are not firmly pasted to the page. If that once happens, the resulting error is untraceable. We actually experienced that, and it made us realize the importance of information digitalization, so we started to have seminars together with publishers, beginning about sixteen years ago. But it was difficult to get budget within our two-chamber system.

Another thing that I would like to point out is that in the days of the Administrative Management Agency and the General Affairs Agency, government once was digitizing law using a system developed by the Ministry of International Trade and Industry. In the present Japanese situation, administrative agencies get a larger budget than the Diet, and this was quite a big system. We asked a number of times whether the Diet could make use of the system, but because of the boundary of

authority between administration and the legislature, this talk did not go anywhere. We then realized that we had no choice but to do it on our own, and we have put a lot of effort into cooperating with publishers to this end. In the last five or six years, digitization using the Internet and other systems has developed rapidly. We can now say that, as a result of these efforts, our legal information has been somewhat compiled.

As I said earlier, and as Mr. Ota also mentioned, an important future task is to identify a single institution which is responsible for compiling and providing legal information. Within the Diet, there is talk of establishing an Information Center, but we have not yet taken any concrete steps in this direction. Maybe Mr. Nakayama will speak about it later, but there is also a proposal under which the National Diet Library would be responsible for providing various government information, including legal information.

Whatever that institution might be, we need to consider globalization, which we have also been discussing. Another important issue is accessibility; the system must be easy for citizens to use, and it must be widely accessible. Especially in Japan, the actual application of law has traditionally been difficult to understand. We must make it easier to understand. This issue is related also to the conduct of administration execution, but it is another point that we need to consider.

At present, we can obtain government legal information through the Prime Minister's homepage. This page offers hypertext links, and if you click on an ordinance, you can see the informational guide concerning that ordinance. However, as it is currently set up, this information is not well integrated. There still appears to be some need to enhance our systems for providing information.

Another problem is what we call preservation of original form; this raises a challenge for information providers preserving the original format of the text of the law. Japanese law has various rigid rules relating to the presentation of legal text. Under the assumption that it is to be written vertically, under one of these rules, the title should be written from the third measure after two blank spaces. This is one example of what we call preservation of original form, and it is related with the issue of formalism in presentation. The information provided by the Diet aims for accuracy of the contents and the text is provided by Microsoft Word format, which displays text horizontally. We have been trying, on the other hand, to satisfy the requirements of formalism and the preservation of original form, by offering text in vertical writing form via the PDF format.

In addition, we must be able to grasp the historical progress of legal information, that is to say how a piece of law has been revised, and by what process. We also need to be able to search legal information as it stood at one particular point of time in history. Actually that kind of system has already been created, making things possible to a certain degree, and my guess is that we will be able to provide that type of information in the near future.

I hope that through the Internet, legal information become more easily available and accessible to everyone, including both the general public and companies. On the other hand, in Japan, many collections of ordinances are being offered by publishers, and they should also keep publishing them commercially, with more value added to each collection. Thank you.

<Ibusuki> Thank you for your interesting comments. You have spoken quite frankly about the poor budget of the National Diet relative to administrative agencies. That reminded me that the present consolidated database of legal information on the Internet is provided by the Ministry of General Affairs and not by the Diet. As I was listening to your comments, it struck me that that fact, too, seems quite symbolic of Japanese situation. Thank you again.

Next, I would like to invite Mr. Nakayama from the National Diet Library to speak.

<Nakayama> I am Nakayama from the Research Bureau of the National Diet Library. Thank you for inviting me here today.

The National Diet Library does not provide a legal information database. We do have a database for Diet minutes in full text, but this is a collaborative work involving three parties: the House of Representative; the House of Councilors; and ourselves in the National Diet Library. So that this is not a database of legal information run by the National Diet Library alone. However, it has been decided that within two years a new database will be developed. This will only be an index of statutes and ordinances, but we will be able to provide it to the public through the Internet in two years.

This index of law will be of a larger scale than you might imagine. It will go back to the year fourth of Keio, before the enactment of the Meiji constitution, and will include proclamations of the Daijokan, the first national organ of government administration in the Meiji era. It will contain 43,500 pieces of law and 28,000 pieces of repealed law. All of this information has already been input. We only need to set up the hardware and delivery mechanism, and we will be ready to develop the database and show it to you. We have a large stock of information; the amount of legal data in the index after the enactment of the Meiji constitution is equivalent of 124,000 paper index cards or 8,800,000 characters. All of these will be in the database and linked with the older material from the Daijokan, giving a comprehensive legal index. For the time being, I just wanted to introduce to all of you here what we are up to.

<Ibusuki> Thank you. Some of you here may know this already, but I understand that making a legal index is a mandate stated in the enabling act for the National Diet Library. Is that correct, Mr. Nakayama?

<Nakayama> Yes. That is in Article 8 of the National Diet Library Law; and it is our duty to provide legal information in a form suitable for publication.

<Ibusuki> So once that database is completed, does that mean that the every piece of enacted law will be available via the Internet?

<Nakayama> Yes. The nature of legal index is collection of data with a revision index showing, for example, that A has been amended and became B, or vice-versa. That is to say that in the database, you can search for the original form of law before it was amended.

<Ibusuki> Thank you. And if that is linked with full text databases, wouldn't it be possible to click on the title of a law and reach the real text of the law?

<Nakayama> Yes, that also is possible.

<Ibusuki> Thank you very much. We just heard comments from three panelists from various perspectives. I would like to hear the responses from our speakers. But before that, I would like to pose one question to Ms. Johnson, Ms. Clemes, Mr. Ota, and Mr. Fuji.

This is a rather hypothetical question. Let's suppose that there is a hypothetical country. Let me call it the "Wonderland of Alice." Let's say that in this Wonderland in which Alice lives, there already exist various legal information databases. For example, if you want to know something about existing bills, you are able to retrieve any existing bills from a database similar to the Thomas system run by the Library of Congress in the United States. If you are interested in a present discussion over a particular bill, there is a database system from which you can obtain that information as well. In this "Wonderland of Alice," they also have a database which is similar to the one on the homepage of the House of Representatives, or the one you can see from the top page of the National Diet Library. There also is a database which includes all the discussions in sessions of the national legislative body since World War II. In addition, when a new law is enacted, it is announced in the National Gazette, but in Wonderland you can obtain information about the new law the next morning in PDF form through the Internet, via a page similar to that offered by the printing bureau of the Japanese Ministry of Finance. Let's say that Wonderland also has a legal database like that of Tasmania, which recreates the whole picture of law including the historical progress of each law in SGML. Through this SGML database not only the present law, but the status of law at any point of time -- two years ago or five years ago -- can also be obtained in the Wonderland. On top of that, IPDL, information about our industrial property rights is presented via the Internet there. This is the way things are in the "Wonderland of Alice". My question is, "Is Alice happy?" "Does she have nothing else to wish for?" Please be imaginative and tell us what you think.

Ms. Johnson, please.

<Johnson> Well, of course, I think that Wonderland should join GLIN as the next step, in order to make their laws easily available to other countries and other places, and also to have an exchange of information with other countries by making it possible to access the laws of other countries do comparative legal research by using the GLIN subject index.

<Ibusuki> Thank you. One of the purposes of offering information through the Internet is to assure its accessibility to everyone. Is GLIN accessible to anybody in the world?

<Johnson> Yes, it's possible on the Internet to get access to a large part of the GLIN data. The thing that is restricted is the full text, which is accessible only to

participants.

So, if your country is a participating country and you work for the government, you can get a password and see the full text. But anybody can see the summary information that is returned against a search by subject and get the full citation. All of that is freely available on the Internet.

<Ibusuki> Thank you. Next Ms. Clemes, please.

<Clemes> Thank you. I think you describe a very interesting "Wonderland." You have silos of information in Alice's world, and there would be many opportunities to hyperlink and make connections between this data, which she might find that it gives her a whole new range of information that we don't even understand right now. So, there would be opportunities to link into the discussions that happen in the House -- in Australia we call this the Hansard. There is value in enacted law, but we have speeches in the House as well, and these speeches put the law into context. So, if it is easy for people to see both the law and also the discussions that occurred in Parliament, it adds a layer of value to that information. And I think that if we look through all of the possibilities, there would be opportunities. For instance, with PDF views, there would be opportunities to maybe look at the Adobe Reader and how it's set up so that we could automate the production of PDF, because nobody likes to be the person who has to create the PDF. So there are things we could do to streamline processes even more in Alice's world, I think.

<Ibusuki> Thank you. Next, Mr. Ota, please.

<Ota> If I work for a publishing company and all this information is provided free of charge in this "Wonderland of Alice," I would be very unhappy. Also, if there is a system which predicts and outputs amendments automatically according to a new policy in this Wonderland, both Mr. Oshima and I would be out of work and very unhappy indeed. Joking apart, even in the wonderful circumstances of this "Wonderland of Alice," I would like to suggest something else to make it even better. As I have said earlier, a database which contains the government's interpretation of, for example, Article Nine of the Japanese Constitution or the government's position on fundamental human rights would make the situation even more convenient. At present, it is possible to click on "Article Nine of the Constitution" and search the minutes of the Diet, and you can see all the arguments concerning that Article. However, if all the information were presented under the title of Article Nine, it would be much simpler, and all we would have to do is just to look at that section. That kind of facility would make the people in Wonderland even happier.

<Ibusuki> Thank you. Mr. Fuji, please.

<Fuji> Please allow me to give you my comments. Despite my current position, I was originally a patent examiner, and I am very much interested in legal information. In the world of industrial property rights, law is frequently revised, so it would be wonderful if there were a database which enabled us to access that kind of information

as it is amended from time to time.

Regarding other improvements, I don't know where that hypothetical country is supposed to be, but making translated information available to the people of other countries, and the format for data exchange need to be taken into consideration.

Another important issue would be the conflict of interests with commercial vendors, which is one of our major problems to be solved in connection with the IPDL. In your hypothetical country, information would probably be provided on the Internet free of charge. If that is the case, it would cause the bankruptcy of other companies involved in this type of business, and that kind of conflict between interests may need to be solved.

In regard to IPDL, as I have touched on this issue earlier, some implemental policies are being introduced, and I had the impression that same kind of problem might occur in the hypothetical country as well.

<Ibusuki> Let me ask you one question. There are contents in English language in the IPDL database. Did the Patent Office do the translation in the process of creating the database, or is the translation done voluntarily by the people who provided the original data? How is it done costwise?

<Fuji> It is best if the people who provide the original data also do the translation. In the world of patents, there are cases in which the same patent application is made in Japan and in foreign countries such as the United States or England at the same time. In these cases, the applicants do bring the English translation. It is then, possible to use the translated English version in the database. However, most applications, close to ninety percent of filings, are made in Japan only. For these, it is us who must do the translation. Needless to say, our human resources are limited, so we contract with external organizations to translate this remainder of the applications. Although these are limited to abstracts, we do distribute them to the world.

<Ibusuki> Thank you. I would like to continue our discussion of Wonderland a little further. Let's say that Wonderland owes the success of legal information databases to a diligent administrator called Bob. Bob manages the ideal legal information database by collecting funds from various sources. A database cannot be operated unless someone has the money, and Bob is the one who finds various stakeholders. But in Wonderland, everything is a wonder, of course, and it is not clear how he collects the funds. Well, one thing *is* clear: it is Bob who arranges the financing of legal databases in Wonderland. I would now like to ask the speakers here, who are the stakeholders who maintain your database? Do the financial sources come internally or externally? I would appreciate it if you could answer these questions.

Ms. Johnson, please.

<Johnson> Well, for GLIN, finding funding has been a continual problem because it doesn't have its own budget. It was a kind of stepchild of the law library originally, and now it's become an international project. So one venue for getting funding now is to have libraries -- academic libraries, law firm libraries -- who wish to have access to the full text pay some kind of, not usage fee, but membership fee, since the other

countries that join GLIN don't pay any fee to join, but instead contribute their own laws. So, in lieu of that kind of contribution, sometimes we can get the libraries to contribute a membership fee. That's only started in the last year or so. So we're kind of trying to pull in more stakeholders than we had in order to secure funding.

<Ibusuki> Thank you. Ms. Clemes, please.

<Clemes> Thank you Makoto. I think in Tasmania's case, our position was that the government had not paid the price of keeping its legislation up to date. And in recognizing that we needed to spend some money to fix the problem, we wanted to do it as wisely as we could. So we put together a business plan that described what we wanted to do. We got the support of both houses of Parliament, and we had on our steering committee the leader for the Upper House and also the attorney general. We had support from the Treasury, which is the place that gives us the money -- the taxpayers' money -- as well as from our own department. We had a fairly large stakeholder group, but the reason we got the money was because the politicians understood what could be achieved for themselves, and also for the community, if we could do this system. So the government paid the one-off amount to build the system, and the government puts aside money every year to maintain the system because it is government's responsibility to maintain it. But at the same time, we have made savings in other areas because we no longer have to pay the printing authority to run a consolidation process that wasn't working. So, we actually took money from their budget, and said "You don't need this money anymore," and redeployed it to support the new process. So, the legal community doesn't bear the cost themselves. The service is free to the legal community. It is also free to general community members who want to look at the system. It's also free as a source for private publishers if they want to take that information and use it themselves.

The value for private publishers is that our responsibility stops with the actual law itself, the actual text. The added value that private publishers give is their legal commentary and interpretation of legislation, and the bundling of legislation into packages. The environmental legislation of Australia, say, is something that lawyers in that area want to buy, and it is beyond the government's responsibility to provide that targeted product. This is the market that private publishers are moving to in Australia.

<Ibusuki> Thank you. Next, Mr. Ota, please.

<Ota> The cost of providing legal information on the homepage of the House of Representatives comes out of the taxes paid by citizens, and the information is therefore provided free of charge. Every year when the new drafts of bills are submitted, it costs money to input that information, and after they are discussed in the Diet and approved, it costs money again to input them as legislated bills. All the expense is covered by tax money, and the information is provided free of charge.

<Ibusuki> Thank you. Mr. Fuji, please.

<Fuji> In regard with the funding of IPDL, the simplest answer would be that it is from the budget of the Patent Office. However, I should add some further explanation. In the Patent Office, we have special accounting, and applicants pay application fees, examination fees, or maintenance fees, and these fees are our income. This is the foundation of our fund. In the case of IPDL, it is possible to say that the people who receive the most benefit are the ones who file for the patents, so you can rationalize it by saying that the beneficiaries are bearing the burden of the cost.

<Ibusuki> Thank you. I have a further and final question. In Wonderland there is another person called Eve, and Eve is thinking about starting a business by creating a new information package with information that she takes out from the database. In that case, should Eve pay any usage fee in order to acquire the specific data that she wants to use? Or is it permissible for her to add extra value to the information she acquires for free, and make profit out of it? What is the situation with the business operation of database providers? What about the case of GLIN, Ms. Johnson?

<Johnson> Well, as I was saying before, to see the full text in the GLIN, rather than the summary and citation information, she would have to somehow become a member. And that might involve payment. But the information in there is not in any way copyrighted or restricted. So if she wants to use it without paying anything, use all the summaries and put together a compilation on, say Latin American legislation on copyright from 1995 to the present, and just bring together data from the summaries, there's nothing to stop her from doing that. And if she sells it and it's of value to people, we think that's fine.

<Ibusuki> I see, so as I understand it, there is no restriction on reuse of the information. How is it, Ms. Clemes, in Tasmania?

<Clemes> The situation in Tasmania is that if you look at our website, you'll see that there is a copyright statement on it. All we ask a provider is to talk with us and seek permission, and we are interested in ensuring that the use that they put the legislation to is an appropriate use. But realistically, it's on the web, it's in a format that allows people to just copy the information and maintain the formatting, and realistically we wouldn't pursue it at all, no matter what they did with it. It is a free resource to legal professionals. It is a free resource for government people to use. It is also a free core resource for private publishers to use and build value into, which they can sell back to the community by adding their own commentaries or other information to.

<Ibusuki> In Tasmania, have you ever known a case in which a publisher requested the supply of information, or would that be a trade secret? (laughter)

<Clemes> Yes, we've received a number of requests. I did mention briefly in the talk what I did about LAWLEX and ANSTAT organization. They have a site where any member of the public can go and do a search across all of Australian law, using an index maintained at their site. Some of the sites that they index are in PDF format, and so they

have to develop solutions that work with the different sources of legislation that they cover. They have asked permission [for downloads], and we give them that permission. For us, this adds something more to the legislation that we wouldn't provide. And the public has access to that. But they also have, as Constance does, a user sign-on, and for them they actually charge people to use that added value that they have developed on top of the basic information. We have also had requests from places like AustLII. Originally they wanted us to send them Word files, and that is contrary to our feeling about legislation. We feel that sites that want to use our law have to develop tools, or pay us to develop tools that enable them to get the information into their format. So what AustLII did was develop a "spider" to actually go over our site and pick the legislation up electronically. This is what we encourage people to do because it doesn't cost us, and the information is public and they can use it how they want.

<Ibusuki> With spiders isn't there any mechanism to block the collection of information?

<Clemes> No, we discussed it with them, and we agreed that they would set their spider to work outside of business hours in Australia. So, if they were collecting lots of data, they were doing it at nighttime so that it wasn't slowing down our server. So, between the hours of, I think, 7pm and 7am they are free to use our site to collect as much information as they like.

<Ibusuki> Thank you. Mr. Ota, please.

<Ota> Legislated bills are common property of the citizens. It is not processed or anything by the office of the House of Representatives. Therefore, we must allow third parties to properly process it on a commercial basis. Concerning the minutes of the Diet, since I do not have enough knowledge, I would like to refrain from commenting on it.

<Ibusuki> Thank you. Now, then, Mr. Fuji, please comment on the patent database.

<Fuji> In regard to the IPDL in the Patent Office, as mentioned in my presentation, our service can currently be used free of charge. However, the data, the database itself, is not provided free of charge, because you cannot obtain the contents in bulk form via the Internet. In principle, the marginal cost must be covered by the users of the information. We do charge a replication fee and other related expenses. If we were not to charge these costs, it would give rise to dispute among the benefactors and applicants, so this is how we have set things up. I understand that this is the way in which many other countries do it. This is our current situation, but my prediction is that it is possible that in the future there will be a debate over extending the scope of free access.

<Ibusuki> Thank you. Several issues have been raised by the commentators, Mr. Yano, Mr. Oshima, and Mr. Nakayama. I would now like to ask if there are any

comments on these issues among the panelists. For example, Mr. Yano raised the issue of whether by reusing data there is a danger of formalism. He also pointed out the problem of arbitrariness in the content of a database. Mr. Oshima raised the issue of original copies. Taking Tasmania for example, what is an original copy, and where does it exist? Mr. Oshima also questioned the level to which disclosure of information should take place. In the current database of the House of Representatives, the disclosure of information is limited to enacted law, but when it comes to statutes, there are notifications and ordinances which could be disclosed. The lack of online information concerning laws that have been repealed or laws that have been revised in the past has also been pointed out. It is open to anyone to make comments on these issues.

<Clemes> I think in relation to the issue he just raised about original copies, Tasmania has taken a different view to any other jurisdiction in the world. Perhaps a little adventurous, but we've changed so that the original source is now our electronic database, which is drafted and held by the Office of Parliamentary Council, whereas traditionally the source is the stamped, sealed version, which is called a *vellum* in Australia. We still have that paper version. But if somebody wants an authorized copy of legislation, it actually comes from the database. And it has a statement on it to indicate that it is from the authorized source, and it's approved as an authorized copy.

So this changes Evidence Acts, and things like this. It has effects on how we interpret what is a source of authorized legislation, which was once, before our system, a piece of legislation that had "Printed by the government printer" on the bottom, which it said in the Evidence Act was an authorized source. But we know in this day and age that it is very easy for people to copy this information anyway, so it had no real validity, particularly in the time when it was so difficult to understand what the real state of the law was. But now we understand what the real state is, and we have a process for releasing an authorized copy.

In relation to some of the other issues that were raised, the issue of loss of creativity was one them, and certainly, in Tasmania, we consider that the drafting process is a creative process. What we are doing by putting in the standard wording is just making it easier for the drafters to concentrate on the wording that is the changed part of the act or the new wording. It means that they don't have to worry about the structure in a new act and how it all comes together because certain standard things are put in for them. But they do have to concentrate on what makes that act different, and what it is that the parliament is trying to enact as a law, and interpret that correctly.

So in effect, there is no diminishment of the creative process in drafting legislation in our view. Certainly, creativity was something that was discussed when we built this legislation site. And there were concerns that we shouldn't constrain the capacity of drafters to represent what needed to be drawn up for the government.

I guess the other issue is the issue of misuse, and yes, as information becomes more freely available in electronic form, it is easier for people to access it and to potentially misuse it. And we recognized this when we built our system. And as part of the Legislation Publication Act we actually put in fines and statements about people

who misuse information or represent information that isn't authorized as being authorized. There are legal implications from doing so, and I guess this is a wider consideration for other systems that might be developed. You need to also think about how it could be misused and think about what controls need to be put in place so that people understand those certain aspects of the system.

I was also interested to hear about the issues from both the Upper House and the Lower House. In many ways it reminds me very much of the position we were in a few years ago. I think it just indicates that the way legislation is managed and delivered and presented in parliaments is very similar throughout the world. Perhaps more similar than I even thought.

<Ibusuki> Now it is time for the audience to join in. Are there any comments, either agreements or disagreements with comments that have been made so far? What interests me greatly is the topic concerning Company A, B, or C. I guess we do not have any representatives from A, B, or C company here today, so I would like to hear a little more about the elaboration from either publishers or anyone here.

<Reich> I am Pauline Reich from the Faculty of Law in Waseda University. I am a lawyer in the U.S. I think I've heard concerns from Yano-san and I'd like to respond to them as an American lawyer who works with cyberlaw issues. One problem, I think, is a privacy problem that you raised. Another is defamation, which I've been working on a lot, looking at defamation all over the world. And I think these are genuine questions, genuine problems that people in the publishing field do have. Invasion of privacy, for example, is a real problem. In America, you may not mention the name of a minor in the newspapers if a minor has been convicted of a crime. So, this could be an issue, as you've stated. In Japan, we don't give the names of parties in certain legal cases. We say X versus Y, or A versus B, or whatever, when we report cases. So I think privacy is a sticky issue in publishing about cases, but we've been publishing about cases in law journals and in newspapers in Japan and the U.S., and we've come up with some conventions. So, I think that the tradition should continue despite the technological way in which we're doing things.

As far as defamation, we've had some on-line defamation cases in Japan, and the courts have dealt with them accordingly. And in the United States, we have a whole area of law called "cyber-smear," in which people say bad things about companies -- maybe their competitors, maybe unhappy investors. Or they say things about people who are officers of those companies. And we have been trying to deal with that in terms of anonymity of people who post these kinds of comments. And should we invade the privacy of those people who say things about others that are untrue and damaging? We've come to a kind of middle ground in the courts in the United States. We now have some tests that the courts are applying about whether we should disclose the name of the anonymous poster. So, I agree with Yano-san that we have a lot of concerns. The law is evolving. We don't know all the answers. But we have to do our best to protect people's reputations and their privacy, et cetera. So, these are concerns around the world, not just in Japan.

As far as the commercialism question, we've been playing with this because we're trying to put Japanese law on line. And we meet once a year, some of us, to talk

about this. And we haven't gotten too far with it, but the question is, who is going to pay to translate Japanese law so that people outside Japan will know about developments in Japanese law? Now, I thought about this in terms of, "Gee, the Internet is going to end the commercial companies called Lexis and Westlaw that we use in the United States for legal information." Well, it hasn't, because the Internet gives us mostly piecemeal information, and it doesn't give us quality control about the quality of information or the timeliness of information. And the commercial companies, like Lexis and Westlaw, I believe, are doing quite well because they provide us with a kind of unified approach to legal information, whether cases or legislation. And I wish we had a kind of Lexis in Japan, as well as the free resources. I think we need to have both streams. I just wish that the Japanese government was more committed to providing the public funds, as we see Tasmania is providing, but the United States isn't. I wish the government here were more committed to providing funding for that free stream, for not only the Supreme Court cases to be on the Internet, but also the lower courts in Japan so that the public can see what's going on. Or we can report commercial arbitration cases, or mediation cases.

One final point I want to talk about is Japanese disclosure. I think the culture of Japan is such that we really are not so open about information. And this is a new thing for Japan, to be so open. So I'm not sure how far it's going to go in this cultural context compared to the cultural context of the United States, which has had freedom of information law forever, and sunshine laws in some of our states, where the public has an absolute right to get access to information. And Japan's been fighting about that question too, I think. So, those are some comments.

<Ibusuki> Thank you for the comments on various issues. Mr. Yano, do you have anything to share with us in response?

<Yano> Thank you for the encouraging comments. The issue of privacy is very important. Please allow me to state some specific comments on the issues which have been raised.

For the time being, let's put aside Bob and Eve in the "Wonderland of Alice" introduced by Professor Ibusuki. I must initially say that from the Japanese perspective, his Wonderland must be a very happy place, because the databases for public access to information are already there in that imaginary country. In the case of Japan, until quite recently official information was difficult to obtain, as someone has already explained. The way to obtain it was by paying some money. Quite expensive CD-ROM sets or that sort of commercial product was on the market, and if you paid several hundred thousand yen, you could get it. Or, if you made a request through your personal connections, you might get some information. This was the situation; at that time information was not generally open to public. In comparison to those days, it is possible to say that lately in some ways the disclosure of public information has made great advances in Japan. To that extent, it is a wonderful thing that we are making some progress, supported partly by technical advancement. However, even at present I have the impression that finding information still requires a good deal of effort. We really do not have an easy means of knowing where all the information we need is located. You track it down after you ask around about where

to find it. That is our present situation. The system that allows anyone to easily find information has not yet been completed. My overall, general impression is that searching for Japanese government information via the Internet is difficult most of the time. After some time working at it, you feel like giving it up, and that feeling is a barrier to accessibility. In comparison with our situation, it must be easier in the "Wonderland of Alice" to obtain information, so it must be a happy country.

Another thing is that even if law itself, or the database itself is disclosed, that fact alone would not be a sufficient condition for a happy country. Another point is that, while information could be open to people in various formats using XML, if the law itself is not easily understandable, the system still does not make the user happy. Developing various pieces of software using XML does not automatically make difficult law easy for us to understand. We need to change the basic legal drafting style.

Whatever the reason might be, Japanese law is difficult to understand. I really do not know the situation in other countries, but my guess is that law is hard to comprehend everywhere. That is to say, law should not allow exceptions and should avoid misuse, and under these circumstances, precision demands that you do such things as putting parentheses within parentheses, and this makes law more difficult to understand. It is often said that law is something that only experts in the field need to understand, and that there is no need for the general public to know about it. That way of thinking still remains. So even after starting to distribute information in XML, law could still be difficult to understand. Access to legal information is becoming more and more easy, but whether that will make law accessible to everyone is another story.

It has been said that the information offered by commercial information providers is more complete. There is a need to provide information in a form that can be easily understood. This is not only related to the way information is delivered; from now we must also create a new system of law itself, a new system of drafting law. Even if we are equipped with an accessible legal information database, but the law itself causes, for example, infringement of human rights, defamation of character, or violation of privacy, the database will not help regardless of its accessibility. My impression is that we have come to the point in which we must consider these issues.

I would like to add another thing. As I have mentioned, one of the reasons which prevents accessibility of information in present-day Japan is in the lack of coordination within the system as a whole. That is to say, each database is provided by the relevant administrative section or bureau, but these discrete efforts do not speak to the issue of providing a total, cross-sectional, governmental, or official database. I have the impression that they are all concentrating on their own database in order to make it more efficient. If their efforts do not extend beyond that, it will be difficult to realize a pleasant world like the "Wonderland of Alice."

<Ibusuki> Thank you very much for all the stimulating comments.

It seems to me that the third point made here is related to the first, which is the uncertainty of the exact location of information. If there is an efficient portal which locates any legal information, that would enable overall cross sectional search, but no such thing exists now. If there is one, Alice could be happier.

The second point made here, as I understand it, is the difficulty in understanding law itself, which forms another barrier against the perfect Wonderland.

The difficulty in locating specific legal information is one barrier, and difficult legal language itself is another.

Then, who would be able to make Alice happier? Would it be an Eve who could do it? Assuming that legal information remains difficult to understand, would we need Eve's help to interpret the meaning and add value to legal information? Or, would it rather be Bob who provides, discloses, and manages the database, who must provide information in a form which is easier to understand? In other words, how is Bob responsible? I would like you to share some of your thoughts on these topics of discussion.

To start with, concerning the difficulty of legal information, I would like to hear from Mr. Ota and Mr. Oshima who are actually involved in drafting the provisions of law in the Legislative Bureau of the House of Representatives and the House of Councilors. After that I would appreciate it if Ms. Johnson could tell us about the situation in the U.S. concerning the difficulty in locating legal information, since I understand that in the U.S., there are many legal information sites.

Mr. Ota, and Mr. Oshima, either of you may start, please.

<Oshima> That is a very difficult issue, since making easily understandable law itself is difficult. Speaking from a drafter's point of view, you surely need to consider the comprehensiveness of law, but legal standards are rooted in tradition, and that is something you can not easily step out from. In that sense, law has a very conservative nature.

In terms of legal jargon, if a specific term has a fixed concept, you have no choice but to depend upon it. Otherwise, your drafting would bear various interpretations and lead to vagueness. The drafter of bills has the ambivalent task of securing correctness and certainty, and at the same time, pursuing comprehensiveness. So it is not that simple, but as a drafter, I would agree that we should aim for something easier to understand.

If you look at the issue from a different perspective, when you consider Diet legislation, Japanese law has been historically based on an administration-centered idea, and government ordinances, ministerial ordinances, notifications, and other instruments have an important place within that system. Every phase of drafting is structured to suit administrative convenience. That is one of the characteristics of legislation in Japan. Therefore, administrative discretion has become quite strong, and that is something that citizens find difficult to understand. With the administrative Ministries are in an authoritative position, the tendency to monopolize information and such has grown stronger. The impression that I have after drafting bills for a long time is that those underlying ways of thinking exercise some influence over the drafting of bills and provisions. So, breaking that barrier is necessary in order to improve information disclosure.

The logic embedded in the traditional style is peculiar to Japan. It needs to be changed to a certain degree although we have certain limitations.

<Ibusuki> Then, do you think we need an Eve?

<Oshima> Yes, I think so. It is possible to have diverse interpretations of law.

Applying law to a specific legal issue requires legal interpretation. That may not be a task for someone who enacts or drafts the law. There is a need for someone else to play a role in coordinating the provision of legal information with added value.

<Ibusuki> Thank you for your straightforward comments. Mr. Ota, would you like to add something ?

<Ota> The provision of legal information is difficult. About three years ago, I went to New Orleans, Louisiana, in the U.S., and attended a seminar on "International Law Drafting." Legal draftsmen from many countries gathered there, and some of the themes of the class were, for example, how provisions of bills should be written, how to reflect public opinions in forming legal policy, and so on. One of the issues discussed was "plain English." I heard that even in English speaking countries, law is difficult, and it has a tendency to be written in a difficult manner even where it is possible to make the language simpler. There is a tendency, in the U.S. also, to think that a very simple style of writing is not suitable for law, but it was taught in our seminar that that should be changed, and that law should be expressed in a form which is easier to understand, to the extent possible. The seminar aimed to teach us techniques for that. One example is that in English, law is often written in a passive form, but there are cases in which the active form can be more direct and easier to understand. It was more or less like a seminar on English grammar.

One point I wanted to make here is that Japan is not the only country in which law is difficult to understand. It may sound like an excuse but another point is that if accuracy is pursued, you cannot avoid a difficult writing style. People worry that if it is ambiguous, you might lose a case that you dare not lose. Aiming for perfect accuracy tends to produce provisions with difficult wording. There is a book titled "Simplifying Ordinances" that has been published by Yuhikaku, and many examples of how to simplify difficult ordinances are shown in the book. Having read that, I felt enlightened. Sometimes seeking for accuracy leads to difficult wording, but we need to recognize that the effort to satisfy these two conflicting requirements is important.

To finish up, I would like to add a funny story. About ten years ago our government submitted a bill to develop many resort areas. At that time, the word "resort" was not in common use in the Japanese language. Therefore, the word "resort" was replaced by "recreational district." "A bill for the development of resorts" would have been a direct expression, but as I heard it, it did not pass the examination by the Diet Ministry of Justice and needed to be changed into "A bill for the development of total recreational districts."

It may also sound like a joke, but in many bills the word "electronic calculating machine" still appears in the places where the word "computer" is more appropriate. But recently it has been less strict, and now we often see the word "Internet" or the phrase "sending e-mail" in bills, although such references are accompanied by the definition of each word. I think it is one example of our effort toward a "citizen-friendly law."

<Ibusuki> Thank you. It sure is funny to say in a store "I'll take this electronic

calculating machine," when you buy a computer. I agree that some phrases of law are clearly out of date.

I understand that Ms. Clemes is also involved in drafting legislation. The issue of "plain English" was mentioned; can you introduce us to some examples of drafters' efforts toward plain English in Australia?

<Clemes> Yes, in Australia, all the jurisdictions have actively supported the idea of using plain English because I think, like in Japan, our legislation is quite often difficult to understand. But I agree with the other speakers that sometimes, in terms of ensuring the accuracy and the completeness of legislation, it is sometimes hard to present it in a way that a person without legal training can understand. So, I think that there are three levels of assistance that need to be given. Yes, we need to ensure that we use plain English in our legislation. But we don't believe, in Tasmania, that the role of legal professionals is in any way diminished, and we encourage people to get legal interpretation from people who are legally trained. And I think that what we have with our system is the advantage that the person seeking advice is not paying for that legal professional trying to work out the paste-ups of legislation, because that information is now readily available to the legal professional. They can concentrate on using their knowledge and skills to provide advice to the client. And that is what the client is paying for: not all of the related work that once had to be done. The fact that legislation is so easy to search now is really good for somebody who wants to get a bit of an idea about the law. But if they really need to understand it, it's often best to also take some legal advice. But also, their role is very important. And because Tasmania was so small, or is so small, it was not cost effective with our old system for legal publishers to provide the service [of publishing consolidated laws] because we have only a hundred and fifty law firms. It would have been too expensive. But now that we can provide the core information to legal professionals, it means that Tasmanian lawyers are not disadvantaged, and have access to value-added information, simply because it is easier for the legal professional to get it. So, it offers many advantages.

<Ibusuki> Thank you.

Now, Ms. Johnson, I heard that when President Clinton was in office, he was looking for some information but there were so many sites that he couldn't locate information that he needed. That made him angry, and he shouted saying, "I don't know where things are. Just make a site like a Yahoo!," and so the government's large collection of links was born. I suspect that in the U.S., there are situations in which you cannot locate the information you are looking for. Do you have any comments on the issue brought up by Mr. Yano?

<Johnson> Well, that's quite true. In the U.S., it's not just a question of do you just want the local law, do you just want the state law, do you want the federal law; there are other issues in terms of sources of law as well. Is it law you want, or do you need to also look for some kind of a regulation, or a court decision may have an impact that you have to look at. So, to echo what Jane has said, no way does putting information online really eliminate the need for someone who has a legal background

to interpret and apply the law. There are more and more websites available. GPO, the Government Printing Office, has this kind of gateway access, too. But, again, there is not a linked source. You have to know that you want to look for a regulation, or you want to look for a decision. So, that's where the commercial publishers come in.

Something like Lexus or WestLaw allows you to search across jurisdictions. And this is where I think that the GLIN of the future will go -- that if we develop a Wonderland of GLIN, we hope it will be very valuable because the design is to have a central way of searching legal information -- that's law, that's commentary on the law, that's court decisions, and that includes even parliamentary debates and legislative backgrounds. So what you could have, if you had this ideal system totally in place, is a really rich resource for searches even of a comparative law, foreign law type.

I did want to comment on one of the questions brought up before, an issue I should have mentioned -- translation. I think translation in the GLIN area, where you're talking about foreign law and the original text in the foreign language, is an area where there could be a partnership with Eve, with your commercial provider, because you could use something like the GLIN system to kind of narrow down and find at least which legislation you want. But then if it's not in a language you read, you still may want to then take that to some kind of a commercial service. So it could be a partnership in a way.

<Ibusuki> Thank you.

It has become clear by discussing the "Wonderland of Alice" that Eve has her role to play, and Bob also needs to manage funding in order to realize the ideal Wonderland.

We have only a little time left, but it is a precious occasion, to have an opportunity to hear from people from Tasmania and the Library of Congress, so if there are any questions from the audience for panelists, now is your chance.

<Shiobara> My name is Shiobara, and I work for a natural science publisher of a foreign enterprise. I am interested in informatics and that's the reason for my being here today. I have been learning much from everyone here today.

My question concerns multiple search and Z3950, which someone briefly mentioned in a morning session. I would appreciate it if I could hear a little more in detail on this current topic of multiple search and Z3950.

<Ibusuki> Mr. Arnold-Moore, can you share some of your knowledge with us on this topic?

<Arnold-Moore> If I could talk briefly about Z3950. Z3950 is actually now an I-search standard for search and retrieval. And it doesn't actually solve all of the problems. What it does is it offers a model whereby you can solve a particular problem, which is where you have lots of sources with different tags and names. You can provide a single -- in fact you can provide multiple logical models to search across them. The Library of Congress has actually done a lot of work on this and defined a number of different attribute sets for searching across various different types of information. Z3950 allows you to create multiple attribute sets so you could search on

an attribute set which is specific to legislation. You might have an attribute set which is specific to case law. And you might have a legal attribute set which includes elements of both but not all of their elements. So it's possible to provide that.

The other thing that Z3950 provides is that it allows you to have multiple databases in different places, multiple servers. And this, I think, is a really good solution in an environment like Japan and many other governments where the information comes from lots of different places. It allows each organization to handle the publication of its own information. But it also allows that information to be searched effectively as a single logical whole. And so you would have a database query referred from one database server to another as appropriate. And Z3950 provides a protocol for sending out the search to the various servers and bringing back the result and making some sense of it. So it provides a number of tools.

<Ibusuki> Do you have any further question, Mr. Shiobara?

<Shiobara> Yes, are there examples of its use with precedents or ordinances, in the world of legal information or academic information? I would appreciate it if you could give me actual examples of any such cases.

Taking this opportunity, I would also like to ask one more question. As I understand it, the present protocol has not been used much in Japan in comparison with the situation of public libraries and university libraries in the U.S., in which it is used frequently. I would like to know the present situation in Japan, if Mr. Murata is familiar with that issue?

<Ibusuki> Mr. Arnold-Moore, could you answer the first question?

<Arnold-Moore> I don't know of any particular sites in Japan. What used to be the Government Information Location Service, and is now the Global Information Location Service, is an initiative to bring metadata about government information into a particular format. And, in fact, it provides another attribute set for Z3950, and specifies a number of other aspects relevant to putting together a site that would allow a single central server to go and find information at other servers and bring that back together and present it to the user. So it's another layer on top of Z3950. I know that Canada has adopted the standard, and Australia has adopted a cut down form of it. And basically, all federal government information sources are actually in theory required to satisfy GILS. In practice, they don't all yet. But, in theory, they are required to satisfy it. So, while the Wonderland of having access to all these services is not here yet, this certainly is some work towards it.

If I can offer a comment on the issue of plain language. One initiative that has been in place for quite a long time in Canada is a periodic revision of laws. And, in particular, in Ontario, every ten years they convene a committee, which goes through the whole statute book and has a look at every single provision and revises it for clarity and appropriateness in terms of organization. They'll often reorder things

and put them under different categories as well. That approach leads to review of legislation. Often legislation is drafted very quickly, and there's not a chance to consider it in all of its aspects. This revision process is a much longer term thing, so quite careful attention can be paid to make the law understandable as well as correct.

<Ibusuki> Mr. Murata, could you give us some comments on the second question?

<Murata> I am not familiar enough with the particulars to answer the question. There are various activities such as semantic web and Dublin Core, but I am not familiar with how they are actually being used. However, it is possible that they are in use. I apologize for not being knowledgeable.

<Ibusuki> OK. Anybody else on this issue?

<Sakai> My name is Sakai from Meiji University. I am greatly stimulated by the question asked by Mr. Ibusuki whether Alice is happy or not, and I thought hard to reach the answer. I believe that Alice can be very unhappy in one situation, and I would like to share my idea with you.

Let's say that Alice is, in fact, having a good time obtaining legal information. She is enlightened and wants to share that excitement with someone. However, let's say that neither her parents, her school teachers, and nor anyone else around her will listen to her, and they tell her that law is something given by government officials, and not something that ordinary people should be discussing. That would be a very unhappy situation for Alice. We should try to avoid creating a society like that. That is to say, if society itself does not advance as a whole, some categories of people will be left behind. Those left behind will be in a very unfortunate position.

<Ibusuki> Thank you. You have spoken about the absolute generation gap, and your comment that Alice could be unhappy might overlap with that idea. Thank you. We have only a little time left, but we can entertain more questions.

<Fujikatsu> My name is Fujikatsu, and I am from the library of Chuo University on Ichigaya campus.

The information which was not fully public has been increasingly disclosed through the voluntary effort of each government ministry, and that was more than we could wish for. However, as I work in a library, I would like to see more progress. On the other hand, in some states in the U.S., because of the widespread disclosure of information, there has been a backlash in quite a few cases. Particularly, detailed court records and records on private properties have been disclosed, and opposition to this has led to a legal backlash. In the case of Japan, however, we are far from the excessive disclosure, so legal information including court cases should be disclosed more. But how much, in general, should information be disclosed, and who should guarantee that disclosure, and how should it be done? Is it enough to leave it to government ministries to disclose information in Japan, as is happening? Should we take more aggressive steps? Those are my concerns and I would like to hear some opinions on these issues.

<Ibusuki> Thank you. We didn't have time to discuss court information today. Mr. Natsui will probably make some announcement later, but there will be an occasion in the near future to discuss that in detail.

As for now, I have one piece of information to share. From this April a new service to disclose District Court and High Court cases has begun at the site of the Japanese Supreme Court. It is not a database, but only a chronological enumeration of cases, and in these cases, all names have been elided. At present, in Japan, including in the database for Supreme Court cases, I understand that it is a rule to elide names for all the legal information. Does this answer your question?

<Fujikatsu> Yes. I still feel that the disclosure of information should not be discretionary, but guaranteed, and that it should not be limited to court cases but cover other legal and legislative data, too, which have a tendency to be left to the discretion of those who handle the information. Thank you.

<Ibusuki> Thank you. I have been also wondering why some particular cases are disclosed but not others. The problem of the discretionary disclosure of information is something I have been speaking up about myself. Thank you.

Anybody else from the audience, please?

<Yoshii> My name is Yoshii and I work for the Printing Bureau of the Ministry of Financial Affairs. This is a section which publishes the government gazette, based on the material supplied by each of the ministries. As you may already know, since September last year, we have started a service to provide a searchable information service charging users a fee. In the case of the printed gazette, it is unavoidable to have some errors in the process of input or even in the original manuscript. In terms of original copies, suppose we treat the electronic version as the original copy, and there happens to be some error in it. If that had already been posted on a site, and provided to the public, what means of announcement should we use to correct the errors later on? If the electronic data is the original, how should we cope with errors?

I am not a legal professional, but as a user of legal information, I often search legal material. I am sure that legal professionals are quite familiar with this situation, but law is often referred to in the newspaper or in society by a popular name. For example, there is a bill called the Act on Equality of Employment Opportunity for Men and Women, but this is usually called by its nickname [i.e. an acronym composed of the first Chinese characters from each of the words in its title -- Ed.] A problem may arise if the system does not respond as expected by the user, when the popular name is used in a search. In such a case, who would provide the information with this extra value added to it? Should it be done by legislative draftsmen? I would appreciate it if someone could comment on this issue.

<Ibusuki> Ms. Clemes, could you comment on this, please?

<Clemes> Well, in relation to mistakes made in legislation, the fact that we have an electronic source as our authorized source is really little different from having paper

source, because mistakes will always be made. The way mistakes are fixed in Tasmania is that amendment legislation is created and put before the houses, and if it's approved, then an amendment is made to the legislation. Our legislation is stored as a point-in-time segment at section level. So it is possible for people to see what the change to the legislation has been. We can't stop there being mistakes, but at the same time by drafting in this electronic environment we have also found that there are fewer mistakes made now than what there were before, because we can deal with the cross-referencing issues so much better. For example, we don't any longer have accidental references to other sections which have been repealed. We found a thousand such errors when we did the last full consolidation of Tasmanian legislation. And we feel that the processes that we can put in now to manage the quality of our legislation insures that it is more accurate and less prone to mistake than it was. Certainly, amendment is the way that we fix mistakes that happen. And we did the same when we had paper legislation.

In relation to the other issue, about searches using unfamiliar names, certainly that can be a problem. If you have a name of a piece of legislation that is not something that people are used to associating with the underlying law -- I can give an example in Tasmania of a piece of legislation that covered problems related to the year 2000 and who was liable for problems. But this legislation had an obscure name, and it wasn't called "Year 2000 Act, Problems with Computer Source Code." It was called something else, something very odd. In our legislative system we have quite a variety of ways people can do a search. So, they can choose a word that is in the piece of legislation to find what they're looking for. So if they did a search saying "find year 2000" as a statement in legislation, they would get the right piece of legislation without knowing the actual name of the legislation.

I guess it's about providing different ways for people to find the information that they're looking for. If they know when the legislation was enacted, they can put in the date of the legislation. If the legislation hasn't actually commenced, they can identify future commencements that exist. So it provides a great deal of flexibility for people. But I also recognize that for your average person, they will not take full advantage of the different searches because these searches are complex, and this is where sometimes they need some professional help, which could be by a private provider who offers information about the year 2000 problem. Or they might visit their lawyer and seek advice on the matter if they felt that it impacted on themselves or their business.

<Ibusuki> I hope these comments have answered the previous question. I can add that in the U.S. Congress, there is a list for popular names which make a search easier.

I would like to continue, but we have already exceeded the time. Please stay for the reception for further discussion with the panelists. For now, I would like to close this panel discussion, the second part of today's symposium.

Please join me in giving all the panelists a big hand. Thank you very much.

Appendix 1

1st Joint Symposium at Meiji University on May 1999

Programs with summary

1: Legal information and legal practice

Yasuyuki, Fujita (Attorney at Law)

This report presents an influence of information technology to legal practice in Japan, and some expectations to future activities of Legal Informatics Association with thinking about some image on legal environment in information era.

2: Patent Practice and Legal Information

Hiroaki Takeyama (Patent Attorney)

This report presents outline of the legal information on patent practice of Japan, and the usefulness of patent publication.

3: XML and its application to Legal Informatics

Hiroshi, Komatsu (Attorney at Law)

This report presents outline of the specifications and functionality of XML ("Extensible Markup Language"), which are expected to be useful from the view point of legal informatics, and envisages certain applications of XML in the legal domain.

4: On Web Resource Management

Satoshi Wada (Meiji University, School of Politics and Economy)

Collection of information by co-operation works must be important to justify legal information area that would be more developing in future. This report presents some examples to manage linking information by co-operation works, and some new ideas to apply XML technology into such management.

5: Outline of Social and Human Information Platform Project (SHIP Project)

Takato Natsui (Meiji University, School of law)

SHIP project was organized in 1999 to develop a practical platform system for information database systems in social science area. This project is funded by Meiji University and Japanese government. We are studying XML technology, and intend to apply this new technology to database engineering area, especially to legal information. Also we are examining many relating issues. For example, intellectual properties around database such as copyright, privacy protection of information included in legal information database systems, patents including

business model patents for legal education, responsibilities of information service providers and so on. We would like to report our discussions and efforts publicly by paper reviews and Web contents.

Appendix 2

2nd Joint Symposium at Osaka University on May 1999

Programs with summary

1: Protecting Personal Information in Network Societies - Observations on the United States Model

Fumio, Shinpo (Adjunct Researcher)

This report presents outline of present situation, law and legal systems on privacy data in computer networks, and explains efforts and their characteristics to protect privacy data.

2: EU Data Protection Directive and Globalization of Data Protection Law

Tsuneharu Yonemaru (Ritsumeikan University)

This report presents outline of EU Data Protection Directive and its influence to Japanese Law and privacy protection systems.

3: The protection of privacy in the information society: A consumer perspective

Toshiya Bando (KYOTO-GAKUEN University)

This report presents main discussions that were argued in the 7th international conference of IACL (International Association for Consumer Law) 1999, and consumer protections in information network area related to EU Data Protection Directive.

4: Status and Issues on Personal Data Protection in Japan - Focus on JIS Q 15001

Masatomo Suzuki (Japan Information Service Industry Association)

This report presents how privacy data is protected in the course of computer data processing, and the circumstance around data protection, and JIS Q 15001 as one of the privacy protection standards.

5: On the Research and Development of Legal XML in the U.S.A.

Hiroshi Komatsu (Attorney at law)

To construct legal system reasonably in present era, it should be realized not only to be able to retrieve legal information through Internet but also to be able to use any electronic records in any process of legal procedures. This report presents some of the newest and important examples relating application of XML technology to legal information processing (mainly in USA), and direction that should be adapted by us as a reasonable way.

6: Legal Informatics: Teaching and Research

Noboru Kado (Osaka University)

7: The Internet as a Medium to Freedom of Information: Disclosure, Mass Media, Request of Information

Kohki Tachiyama (Yamaguchi University)

8: Can we give a name to shooting star? - Citation for internet materials

Makoto Ibusuki (Kagoshima University)

9: SHIP-Project and the Future of Legal Informatics

Takato Natsui (Meiji University)

Appendix 3

3rd Joint Symposium at Meiji University on May 2000

Programs with summary

Part I

1: Religious Technology Center v. Netcom Case - Liability of ISP on Copyright Infringement caused by anyone of the Third Party

Rikihiro Fukushima (Kumamoto University)

This case study presents comparative study of Netcom Case with Playboy Enterprises Case, Sega Enterprises Case and Central Point Software, Inc. Case, and standards adopted by US courts for responsibility of service providers.

2: Protection and Management of Copyright by Technological Measures

Tatsuhiko Ueno (International Institute for Advanced Studies)

This report presents copyright protection of digital contents by using copyright management system and copyright protection technology. And, this report notes an overriding and affects on copyright law by information technology relating digital contents.

3: Conflicts between Protection and Use of Digital Information Technology

Kazuaki Hidaka (Attorney at Law)

[Summary Omitted.]

4: Protection of Database by Law – sui generis rights

Osamu WATANABE (Niigata University)

It is one of very hard questions to decide whether database works without any originality should be protected by copyright law or fair competition law. This report presents a new legal right model (sui generis rights), limitation model (fair competition law), tort model and contracts model for protection of such database works, and shows some characteristics on sui generis right in German laws.

5: Present Trends on the Intellectual Property Protection in Cyber Area

Kenji Naemura (Keio University)

This report presents main trends around intellectual properties in present day, for example, copyright, database protection, and domain name protection. In addition these, this report refers NRC (National Research Council)'s new report "Digital Dilemma".

6: On Business Model Patents

Hiroaki TAKEYAMA (Patent Attorney)

This report presents about so-called Business Model Patent, its characteristics, its patentability, research of such patents, its affection to other legal area, and current correspondence to such patents by patent offices in USA, Europe and Japan.

7: SHIP project: Report of the year 1999 activities and Plan in the year 2000

Takato Natsui (Meiji University)

This report presents activities of SHIP project in 1999 and offers new plans in 2000.

8: Discussions: Intellectual Property in the Cyberspace

Part II

1: Merits and Demerits of Legal Information as Network Contents

Makoto Okamoto (Web editor)

This report presents an outline of present situation on legal information as network contents on the basis of the Web research through a past year. Merits by legal information would proportion with levels of abilities of users and amity to such information. Merits of legal information may easily be able to be transformed into demerits. Merits and demerits have some close connections to each other.

2: Beyond the Barriers: The present and the future of the environment of legal information

Makoto Ibusuki (Kagoshima University)

This note presents some analysis on legal information in generation process, distribution process and editing process of legal information, and argues that there are 3 high walls against any legal information in Japan – accessibility, usability and reliability.

3: Amendment of Statutes and XML Based Legal Database System

Satoshi Wada (Meiji University)

To markup legal information, HTML language has only poor ability as markup language. If any legal documents are enough structured then XML language has great capability. SHIP project develops new history management system by XML technology for statutes and their amendments. This report presents a prototype of the system, its detailed explanations and its theoretical backbone.

4: Application of XSLT to Legal XML Documents for Privacy Protection

Hiroshi Komatsu (Attorney at Law)

This report presents a necessity to protect privacy data in any court order documents, and a prototype of an automatic masking system as an application of XML and XSLT technologies.

5: Presentations and Discussions: Legal Information Database

Presentations:

Diichi-Hoki as a legal publisher (Japan)

Hanrei Times as a court reports magazine publisher (Japan)

TKC as a legal database provider based on Internet (Japan)

Lexis-Nexis as a legal database provider based on Internet (USA)

G-Search as a patent database provider based on Internet (Japan)

Appendix 4

4th Joint Symposium at Meiji University on May 2001

Programs

1: Social Functions of the Academic Legal Database System

Takato Natsui (Meiji University, Japan)

2: The Library's Functions in the Legal Information Environment

Jun-ichi Yamamoto (University of Library and Information Science, Japan)

3: The Legal Information Institute (LII) – Providing Catalysis, Innovation, and Integration in a Complex Legal Information Environment

Peter W. Martin (Cornell Law School, USA)

4: Philosophy, Practice and Future of Free Access to Law: An Explanation of AustLII

Graham Greenleaf (University of New South Wales, Australia)

5: Discussions: Social Roles of Legal Information Database

Chair: Prof. Ibusuki, Makoto

**Panel: Prof. Peter Martin Prof. Graham Greenleaf Mr. Takao Hasuike
Prof. Jun-ichi Yamamoto Prof. Takahito Natsui**

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