

A Brief History of Time Travel

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Introduction

It is a remarkable coincidence that we have been asked to write this article now as it is exactly ten years ago this month (November, at time of writing) that the first tentative steps that led to the development of *Perspective* occurred.

Robin Ellison, a leading pensions lawyer and prominent pensions personality, and Simon Freeman, European General Counsel to consulting actuaries Towers Perrin & Tillinghast, had been bemoaning the tedium and dangers of endeavouring to establish accurately the up-to-date text of pensions legislation and regulation, and of keeping up-to-date generally with pensions developments. The huge mass of pension law and regulations, and the rate at which it changed, meant that these were substantial chores. There was no reliable ready-packaged source for this information. Both Robin and Simon had endeavoured to interest their organisations in creating such a resource and they decided to see whether they could generate interest in the pensions industry for an industry-wide approach to this problem.

After making 30 phone calls to the first 30 organisations that came to mind, Robin and Simon convened a meeting on 15 November 1993 at the offices of what was then called the Water Services Association. Twenty-five organisations sent representatives including solicitors, government departments, consulting actuaries, insurance companies, pension funds and investment managers. Robin and Simon explained that the idea was to take everything of significance in text form to do with pensions as it was published and “put it on a computer”. As a first step, they proposed that the organisations present jointly fund a research project to determine the content and functional requirements of such a system. To this end they proposed that John Myers of Solon Consultants, a leading consultancy in the field of strategic planning and implementation of electronic publishing systems, should conduct the research.

As a result of this meeting, twelve organisations paid a not insignificant sum to participate in the research. It was conducted by way of in-depth interviews with various members of the organisations concerned, together

with the Department of Social Security and the “late” Occupational Pensions Board.

The conclusion was that the industry had “a great and urgent need for an effective and up-to-date pensions information database and it welcomed the concept”. Participants gave priority to the quality of the database performance where quality relates to the currency and topicality of the information. At that time, loose-leaf updates were coming out quarterly and could themselves be two or three months out-of-date by the time they arrived. The research indicated that daily updating was the Holy Grail.

Getting Off the Ground

As a result of the report, Robin and Simon decided to go ahead. Some time was spent writing a business plan and a considerable amount of time was spent in a futile effort to obtain access to venture capital. They did approach the backers of the research project for capital but it appeared that getting a large number of organisations to commit a relatively substantial sum was impractical. Eventually, Robin and Simon were introduced to the Thomson Corporation, in particular the Gee Publishing division, who were taken by the idea. By November 1995 a deal was signed and Simon became full time Managing Director from the beginning of January 1996 and Robin became part-time chairman.

Having found an office literally below Robin’s in the City of London, recruited a secretary, installed telephones and furniture, the next and most crucial step was to recruit a Managing Editor, and Euan Callum, then Service Editor for *Halsbury’s Statutes*, joined in April 1996.

The Technology

The major and most difficult decision was choosing the technology to use. We had a series of requirements that no off-the-peg product at the time seemed to fit. Before becoming involved with Thomson, Simon had been working with an American based technology company

which specialised in United State defence contract work and was also working on a securities filing system for the US Securities and Exchange Commission. Simon went to the USA and visited this supplier. He also visited the Thomson Financial Services consultancy division (TFS) in Boston, who had been working on a product for Thomson which appeared to have the ability to do what was needed.

Simon, who had extensive litigation experience, wanted to develop a system in which amendments could be rolled back, or at least tracked, so that finding out what the law said at a particular date in the past or the future was no longer the tedious paper chase that it had become. We discussed this issue with both suppliers. The suppliers to TFS assured us that their software, DynaText, could not do what we wanted. Notwithstanding this negative assurance, the developers at Thomson Financial Services had a prototype working in a week or two that demonstrated that, as we call it, “time travel”, the ability to re-generate the text of legislation as it was or will be in force on any particular date, was possible. We decided to go with TFS and DynaText. The prototype also gave us guidance as to how we should tag the contents.

After meeting Steve Vogel, one of the founders of DynaText in Boston that day, Simon went to have lunch with some American pensions lawyers in New York, only to discover that one of them was the father of Steve.

Back in England Euan was discovering the intricacies of SGML and DTD design; working with leading expert, Francis Cave then of Printing Industry Research Association, *Pira*. Francis is now an independent consultant.

Editorial Processes

The first editorial decision was to agree what materials had to be on *Perspective* by launch date: even with the best will in the world it was never going to be possible to have every pensions document fully edited and on the system within a year. Such is the range and number of pensions materials that seven years later we still haven't got absolutely everything that we would like on *Perspective*, and we probably never will!

For launch we ensured that all the key legislation (both primary and secondary), law reports, ombudsman determinations and regulatory documents were on the service; other collections of documents (such as parliamentary materials, commentary, research reports etc) were launched on *Perspective* at later dates.

From June 1996 (when we started the editing process in earnest) until August 1997, we set a target of editing approximately 40 Acts of Parliament (though for some Acts, such as ICTA1988, we of course only edited selected relevant provisions), 300 statutory instruments, 150 law reports, 200 regulatory documents and 650 ombudsman determinations; a total of about 1,300 documents. We now have over 6,500 documents on *Perspective*.

A key priority was to ensure that all the editing tools worked as effectively as possible. This involved extensive

customisation of various software packages, including our main SGML editing tool “Adept Editor” (now called “Epic Editor”). This allowed certain editorial tasks to be done semi-automatically, thereby improving both accuracy and speed.

In 1996, most of our data was not available electronically. In order to capture the text, we therefore sent hard copies of all our documents to a data capture company in India. This company not only keyed the text for us, but also returned it to us in a lightly “tagged” state. A program was then applied to the output converting the lightly tagged content into fully tagged SGML documents.

Whilst the data-capture process was impressively accurate (the company guaranteed accuracy at 99.995%: keying had two passes, and the results were proof-read and spell-checked), we decided that we should have all the content proof-read a final time before the actual editing could begin.

Using an external data-capture company was a short-term answer: we naturally had to devise methods of capturing and tagging the text ourselves. We therefore bought what was at the time a state-of-the-art scanner to enable us to OCR new documents.

Additionally, we created various Word templates and macros. After capturing the text of a document and applying specifically designed Word styles to it, the macros were used to convert these documents into fully tagged SGML documents. We still use updated versions of these templates and macros today, though the scanner sits idly in the corner as the vast majority of our content is now obtained in electronic form.

After all the above, we could finally start editing our documents in SGML. Exactly what needed to be done to each document varied enormously. Some documents might just require the insertion of a handful of cross-references. Other documents might need us to edit literally 1,000s of amendments, cross-references, editorial notes and defined phrases.

When editing our legislative documents, the first stage was to identify all the relevant amendments. This involved many hours of research down at several law libraries, using various sources to identify all the amendments: not only did we have to identify and photocopy the exact amendments, but, for the purposes of time-travel, we also had to identify the precise day on which each amendment came into force.

Editing the amendments was at first rather strange. In traditional law publishing amendments were edited by deleting repealed text and entering newly inserted text, using devices such as square brackets and ellipses to denote the amendment. When editing documents for *Perspective*, repealed text is not actually deleted: instead, it is tagged in a particular way so as to ensure that it is not visible on the screen after the repeal date. Similarly, newly inserted text is entered in the normal way, but again has to be tagged in a particular way to ensure that it is only visible on the screen on and after the insertion date. Thus particular care had to be taken to ensure that the information relating to the amendment dates was entered

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accurately. One incorrect digit and the amendment could appear on screen on *Perspective* 100 years too early or too late!

All cross-references had to be identified and made “hot”. These included cross-references from a document to another part of the same document, and from one document to another document.

The most time-consuming aspect of editing cross-references was the identification and tagging of all defined phrases. Typically, legislative documents will contain a number of definitions; all occurrences of any word or phrase that had been defined therefore had to be found and tagged as a defined phrase (meaning that when the user clicks in *Perspective* on such a word or phrase, a new window is brought up displaying the definition).

Each defined phrase had to be found separately, avoiding traps such as “context”: for example, the Pensions Act 1995 contains the definition “member” (in the context of ‘member’ of a pension scheme). The Act also mentions ‘member’ in other contexts (eg ‘member’ of the Pensions Compensation Board), so each potential defined phrase had to be looked at individually to ensure that it was appropriate to tag it.

As well as editing the text of documents, we also added numerous editorial notes. For example, a typical section in an act might contain notes regarding when the section came into force, summaries of the amendments that have been made to it, regulations which have been made under it and law reports that are relevant to it. Such notes would also contain cross-references as appropriate.

Each document had to be checked with painstaking care: there were several stages to the checking process, ranging from our editing-tool’s in-built checker, to a senior editor going through the whole document line by line.

Launch and After

As launch loomed, we approached Eric Wilton for strategic marketing advice and he agreed to take on the marketing and, in time the sales role, at Pendragon. Eric subsequently became Joint Managing Director. *Perspective* was launched in September 1997 and a number of seminars were organised to demonstrate it to potential buyers.

We had decided to go for the Holy Grail of updating. The original proposal enshrined in the 1994 business plan was to use ISDN lines. All clients who wanted *Perspective* would have to install an ISDN line to update by using it to connect to our data centre in the City on a daily basis to obtain the latest new and amended documents. By the beginning of 1998, we had signed a few subscribers on this basis. At about this time we recruited Nick Perry as Technical Manager. He came to the conclusion that the

then booming – but not yet universal in business – internet provided a better technological basis than ISDN lines for updating; and over the next few months we launched a full updating service via the internet. With the ubiquitous nature that the internet has developed, this turned out to be the correct decision.

Meanwhile Thomson had bought the huge US law publisher WestLaw and put legal and regulatory publishing in their hands. They decided we no longer fitted in their strategy and so the management team and some outside investors purchased Pendragon from them in late 1998.

Over the next years *Perspective* grew in terms of coverage and features. In addition to keeping up-to-date in the core legislative and regulatory materials and widening their range, a daily news service was added soon after launch and in time other services and collections have been added including parliamentary materials such as debates and oral and written answers; commentary published by subscribers; a web portal listing a very large number of pensions-related websites; PensionSurveys.com a daily updated database of surveys of interest to the pensions industry; a magazine articles indexing service; and “po-info” – a service which analyses the Pensions Ombudsman’s determinations. The news service is now also offered as an email alert service and has proved to be extremely popular.

There is no room here to go into the features of *Perspective* which have also grown and developed. One worth mentioning, however, is that many of the features added to *Perspective* over the years have been developed at the request of subscribers, including much content, in particular historical legislation.

Epilogue

Since launch the number of organisations that subscribe to *Perspective* has grown to exceed 100, the number of documents on it approach 7,000. Last year, Wilmington Business Information Limited took a 75% stake in Pendragon. Wilmington, part of the Wilmington Group plc is best known, perhaps, in the legal world for its Waterlow company services, directories and diaries. With their backing we have many plans to continue to develop *Perspective* in the future with new features, collections content and perhaps delivery methods. This brings us to the Catch 22 of electronic publishing: we strive assiduously to add features and content but how can we bring these to the attention of users when they need them. If you do not know something is there, why would you search for it? The limit for training is two hours. Suggestions please, on a post card to