

**THE DEAD SEA SCROLLS ONLINE
TAKING ON A [SECOND] LIFE OF THEIR OWN
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Introduction

The Israel Museum's 2008 conference on the Dead Sea Scrolls and Contemporary Culture served to update the scholarly community on the most recent developments in Scrolls research, underlining the reconceptualization and recontextualization of the scrolls in a contemporary world. This paper focuses on the scrolls and their electronic message, and the different ways in which their significance can now be communicated to schoolchildren, university students, and the public in meaningful ways. This is a time when people no longer dwell on ancient manuscripts, but graze instead on sound bytes and fleeting visuals in an era that is now referred to as an information age. How can the scrolls' message travel these electronic byways, and how readily can their message be heard amongst all the white noise of information that is generated by the Internet, mobile telephony and other electronic media? At the New Media Unit at the Israel Museum, we see it as our remit to find meaningful ways to disseminate the religious and cultural message of the Qumran community of the Second Temple period, and to extend the written word of the 2,000 year old manuscripts to the public beyond the glass showcase, and the museum walls.

The international scholarly community who have made the Dead Sea Scrolls their life work have dedicated themselves to this highly specialised field; endeavouring to create a shared vocabulary in order to define their own parameters for academic discussion. These discussions continue to evolve around the scrolls, their graphic quality, the scribal features, and their historical message, but the *lingua franca* so artfully articulated at the conference was not actually expressed in a language easily shared by outsiders. Referring to specific texts by their identification numbers curtly, as 11QPs^a, 4Q179, CD, 1Q59-61, 2Q18 and the like, this was a language that was not truly transparent to outsiders. While the dynamic group of scholars was freely able to engage in intense discussion with one another—a discussion anchored in cryptic endnotes and savant references—this was not a conversation that made much sense to those outside of the guild.

At the same time the knowledge inscribed in the scrolls is highly attractive to those outside of the cabal, and it is critical to make this knowledge available to the public, without “dumbing down” the content. People may well have heard about the Scrolls – perhaps from a Dan Brown novel, or in a brief, popular encounter with the Scrolls on cable TV—but once they have looked up the Dead Sea Scrolls on Google, or on Wikipedia, it is critical that they find their way to information from a competent and trustworthy source; such as the Israel Museum. In this case, the very notion of a museum inspires a sense of trust, and the fact that this knowledge is located under the umbrella of the museum assures the visitor/user that the information is, in fact, accurate, up to date, and reliable. At the same time the museum is obliged to make its

collections not only available to its public, but also intellectually accessible. This means that resources must be presented with the right level of interpretation; so that the layman can make sense of the material in a way that is pertinent to him or her.

Towards this goal we use the tools available to us in an information age; our institutional website, web 2.0 tools, webcasting and we are now moving into new virtual worlds. In order to relay the significant primary sources and the secondary information that serves to contextualize and interpret the scrolls, we have to rearticulate the content that is to be uploaded online or in-world in meaningful ways. When our [physical] visitors come into The Dorot Foundation Dead Sea Scrolls Information and Study Center in memory of Joy Gottesman Ungeleider they will discover a number of different platforms: films, documentaries, databases, animations and installations. Our goal is not only to be able to present the richness of content in new ways, but also to inspire our public and to find new compelling ways to present the relevance of the Dead Sea Scrolls to them in an Age of Information.

This paper marks some of the Scrolls' digital footprints, and invites you to go behind the scenes of the New Media Unit to see the kinds of solutions we have developed in the museum. We find that we are on a constantly changing roller-coaster learning curve, because in contrast to Dead Sea Scrolls scholarship, a field that moves forward with great caution, the field of new media flashes by at the crack of a sound byte and evolves at a speed that not only demands innovative responses, but also leaves us sometimes quite breathless.

The Dead Sea Scroll's digital footprints

Since their discovery in 1947, the Dead Sea Scrolls have stimulated much public interest all over the world. The world-wide distribution of digital images, scholarly research, translations and transliterations has now become available not only through the thousands of books and print publications, on microfiche, as well as on CD-ROMs, on-line, and across digital networks; and now over 3D platforms. The tale of their discovery has fired the imagination of scholar and layman alike. While the discovery ignited public imagination, it was also shrouded in an aura of mystery. The recognition that the scrolls reflected a time during the Second Temple period, the time when Jesus of Nazareth lived, not only generated critical scholarly research but also intrigues the layman who now, perhaps for the first time, is able to seek information from primary resources over the Internet in ways that were unthinkable even five years ago.

Since their initial discovery, the Scrolls and the identity of the community that guarded them has generated much scholarly and public interest. The Scrolls and scroll fragments discovered near the Dead Sea represent a capacious corpus of ancient texts emerging fragment by fragment from a prototype archive and perhaps the greatest manuscript find of the twentieth century. The Dead Sea Scrolls discovery reflects an impressive link to the past. The thousands of fragments, manuscripts and scrolls represent a rich literary collection reproduced by hand in a number of copies, written in three different languages: Hebrew, Aramaic, and Greek.

The link from the past to the present still runs strong via the numerous web-sites that continue to refer to the Scrolls. A Google search for “Dead Sea Scrolls” will return over one million results; reflecting the unwavering interest in the Scrolls and their enduring mystique. With the early CD-ROMs and databases that emerged from the Dead Sea Scroll research, came the realization that the distribution of the historical, cultural and religious message contained within manuscripts could be disseminated more efficiently via electronic publications. This, in turn, both stimulated popular interest in the manuscripts, and functioned as a more efficient tool for sharing scholarly research in research centers all over the world. The first CD-Rom developed, **The Dead Sea Scrolls Revealed**, was produced in 1994, by Pixel Multimedia, Tel Aviv, and Aaron Witkin Associates, London.¹



Figure 1: The Dead Sea Scrolls Revealed Pixel Multimedia, Tel Aviv and Aaron Witkin Associates, London, 1994

This was perhaps the first electronic tool that brought the secrets of the mysterious manuscripts onto the computer screen. The popular multimedia interface presents the critical historical texts and sources from the Second Temple Period, and a comprehensive section on the excavations at Khirbet Qumran. This is illustrated by photo-realistic walk-throughs, and fly-overs, across the ancient settlement as it might have appeared two thousand years ago; a section on Scrolls research, with details about how the scrolls were written and the laborious processes of deciphering and analyzing the texts; and extensive background material on the debates that arose during the many excavations of the Essene Compound. The intuitive navigation tool guided the user through the texts, images, CAD simulations, and video clips and provided a stimulating, and informed introduction to the Dead Sea Scrolls.

¹ The Dead Sea Scrolls Revealed. Produced by Pixel Multimedia, Tel Aviv, and Aaron Witkin Associates, London, 1994.

The Jerusalem-based, academic institution, **The Orion Center for the Study of the Dead Sea Scrolls** was established in 1995 as part of the Institute for Jewish Studies at the Hebrew University of Jerusalem. Their scholarly web-site (orion.mscc.huji.ac.il) provides many resources for the study of the Scrolls, and stimulates and fosters research on the Scrolls, integrating such areas such as biblical studies, Jewish literature and thought of the Second Temple Period, earliest Christianity and the New Testament, and the study of early rabbinical Judaism. The resources page offers a meticulous bibliographical listing of publications in nineteen languages; Afrikaans, Arabic, Czech, Danish, Dutch, Finnish, French, German, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, and Swedish.

The Dead Sea Scrolls, Electronic Reference Library makes available the complete set of digitized images, (2,700 photographs) and full texts from the eleven caves of Khirbet Qumran.²

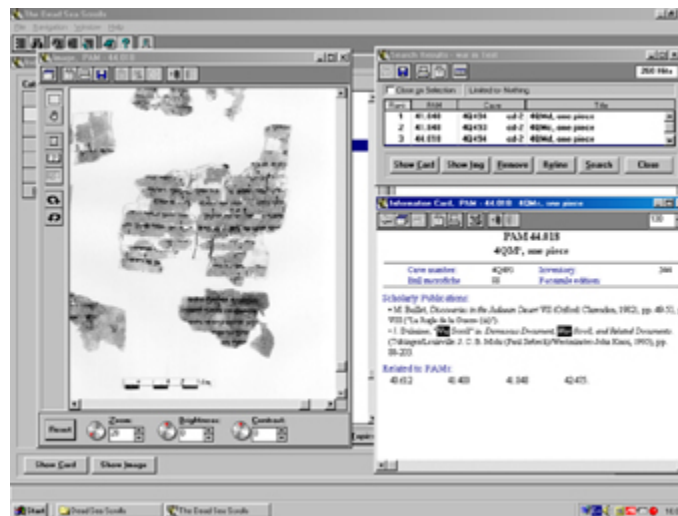


Figure 2: The Dead Sea Scrolls, Electronic reference Library, Volume I, Oxford University Press and Brill Academic Publishers, 1997

The launch of the CD-ROM came soon after the Israel Antiquities Authority celebrated the release of the Dead Sea Scrolls to the world at large in 1991 and soon to follow would be the publication of extensive **Microfiche Collection** and a **Facsimile Edition** of the Dead Sea Scrolls (1991) in book format, in two folio volumes. Soon after that, in 1991 the **Huntington Library** made its collection available to the public on microfilm.³ The images in the **Electronic Reference Library Volume 1** are annotated with cave number, text title, inventory number, and links to other images containing the same scroll or fragment, with cross-references to the microfiche edition published by E.J. Brill and the facsimile Edition of the Biblical Archaeology Society. A searchable list of biblical

² *The Dead Sea Scrolls, Electronic Reference Library*, Volume I (Oxford/Leiden: Oxford University Press and Brill). Images are reproduced by permission of the Israel Antiquities Authority © OptiMedia Ltd, 1997.

³ Huntington Library Collection on Microfilm. Los Angeles: The Microfilm Company of California, Inc., 1991.

passages attested to the Qumran corpus is also included. All images were scanned at 300 dpi. and may be manipulated on screen with zoom, brightness and contrast buttons embedded in the interface. As well as the panning and zooming tools built into the program, individual images can be flipped 90 degrees clockwise or counter-clockwise. This intuitive manipulation facilitates the comparison of the images within the program which then may be copied outside of the program or printed. The archived index is fully searchable using specific terms, wildcards and/or Boolean operators. The Dead Sea Scrolls Electronic Reference Library provides researchers with a comprehensive collection of reference material, extensive search options and pliant digitized images, making individual scholarly research away from the original manuscripts feasible all over the world.

The Dead Sea Scrolls Electronic Reference Library, 2 is a CD-ROM produced in 1999.⁴ The CD-ROM is composed of a comprehensive, fully indexed, and cross-linked collection of non-biblical texts, both in Hebrew and English translation, as well as a selection of high-resolution digitized images of Dead Sea Scrolls fragments.

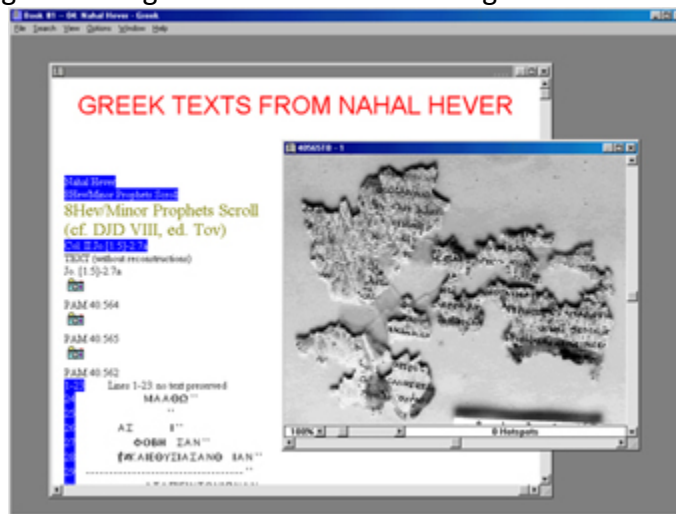


Figure 3: The Dead Sea Scrolls, Electronic Reference Library, 2 Edited by Emanuel Tov, Koninklijke Brill NV, Leiden, The Netherlands, 1999,

In addition, the CD-ROM contains relevant reference material for scholarly work on the Scrolls and related literature. The search capabilities of the WordCruncher® software allow users to find any or all occurrences of words and phrases in any or all texts. This practical reference tool contains edited Hebrew and Aramaic transcriptions and English translations of all the non-biblical scrolls. Presented on facing pages, the manuscripts or fragments are arranged by serial number from Cave 1 to 11. The Database's approximately 900 images were scanned at 400 dpi on an Agfa Arcus scanner. Each of the images is tagged to, and corresponds with, a particular transcriptional text, which allows the user to view more than one image simultaneously and may be enlarged to 500% within the interface. There is an unlimited distribution of the database, allowing

⁴ *The Dead Sea Scrolls, Electronic Reference Library*, Vol. 2 (Ed. Emanuel Tov; Leiden/Provo, Utah: the Foundation for Ancient Research and Mormon Studies and its Center for the Preservation of Ancient Religious Texts at Brigham Young University; Brill: 1999).

images and transcriptions to be made available to an individual or institution at a relatively low cost.

The Dead Sea Scrolls at the Israel Museum

As the permanent location of the jewels of the Dead Sea Scrolls, the Israel Museum has a special responsibility to conserve, display, and interpret the manuscripts for the hundreds of thousands of visitors who flock to the Shrine of the Book every year to see the Scrolls for themselves. The institutional website has therefore a critical role to play both in preparing the visitor before the visit or enhancing the experience after the visit by filling in the gaps or strengthening the understanding of the Scrolls and their meaning. At the same time, the museum acknowledges that many of the web visits come from people who will probably not actually come into the museum in their lifetime, but they too are curious about the scrolls and may also wish to learn about them from afar.

The website, therefore needs to cater to different communities, and in contrast to the more academic nature of the Orion Centre, the museum has to present a far more experiential approach in keeping with the museum as a social space of informal learning.

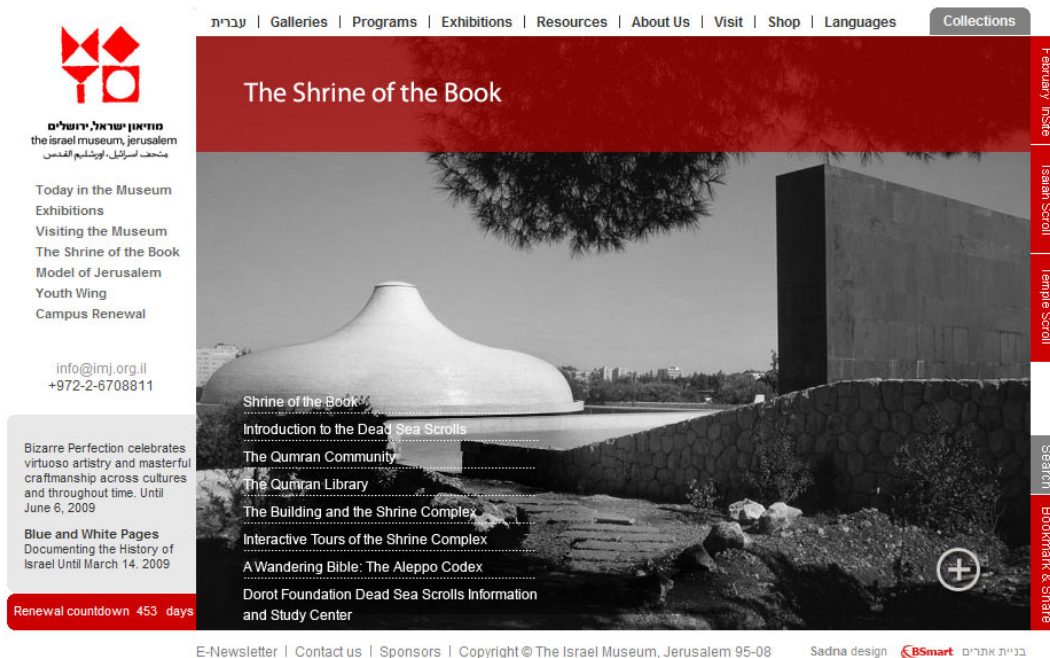


Figure 4: Homepage of the Shrine of the Book at the Israel Museum website

One of the ways of getting a sense of 'being there' without leaving your seat is through the virtual tour; a photo-realistic walk-through of the museum campus. The various hotspots throughout the tour lead visitors to both the upper and lower levels of the Shrine of the Book complex and invite you into the exhibition spaces themselves located underneath the white dome and black basalt wall.



Figure 5: Online virtual tour of the Shrine of the Book- upper level

The interactive map also guides visitors along their route and serves to contextualize the experience for the visitor, while preserving a sense of the location of the actual manuscripts in the physical gallery.

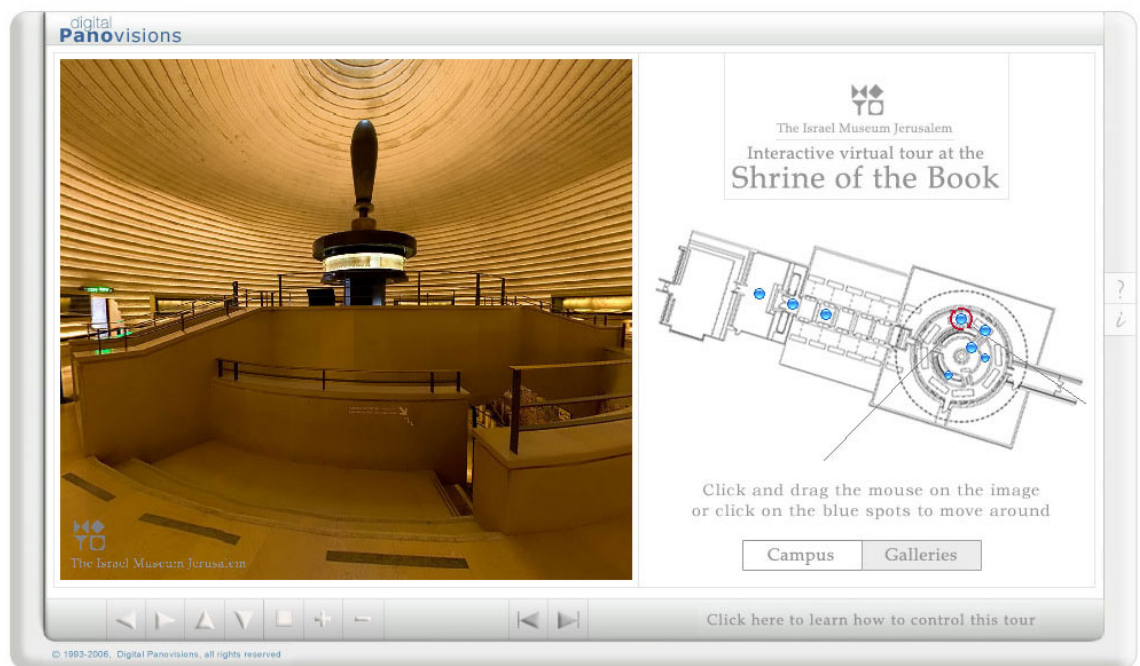


Figure 6: Online virtual tour of the Shrine of the Book- below the white dome

In keeping with the pace of the physical tour through the galleries, the highlight of the visit is undoubtedly the view of the Great Isaiah Scroll showcase that the visitors see as they emerge from the darkened corridor. The virtual tour re-enacts this moment while allowing visitors to continue with the tour of the galleries at their own pace.

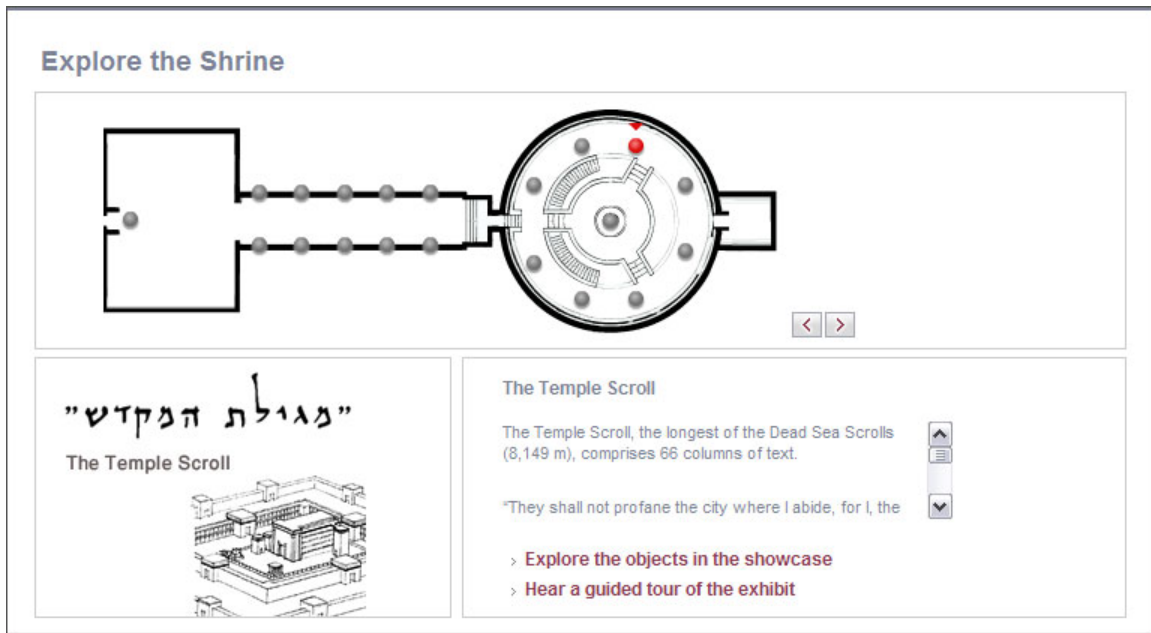


Figure 7: Interactive glimpses into the showcases and the collection in the galleries

While the museum tour serves to set the stage, it is the manuscripts themselves that are the main protagonist in this narrative. As the visitors continue through the website they will also discover two full manuscripts online; The Great Isaiah Scroll and the Temple Scroll are both interactive environments that were envisioned and funded by George Blumenthal, with digital photography by Ardon Bar Hama



The vision of Isaiah son of Amoz,
which he saw concerning Judah and Jerusalem...
(Isaiah ch. I, v.1)

The Great Isaiah Scroll

Envisioned and Funded by George Blumenthal
Center for On Line Judaic Studies (COJS.org)

Digital Photography and Technology by Ardon Bar Hama

Design by Amit Gal, New Media Unit, Computer and Information
Systems Department, The Israel Museum, Jerusalem

To view the scroll

Figure 8: The Great Isaiah Scroll, envisioned and funded by George Blumenthal with digital photography by Ardon Bar Hama

The scrolls have been created as a Flash application, enabling visitors from all over the world to open up the scrolls and view them for themselves with the aid of a magnifying glass for a closer look at the scholarly details. Our weekly statistics inform us that this an extremely popular part of our website and from the impressive number of hits we receive from all parts of the world we are confident that this service is greatly appreciated by our visitors.

Displaying the scrolls in this way not only makes them accessible online, it also extends the experience of the physical display in the museum where, due to conservation limitations of displaying the scrolls in the galleries, only single sections of the scrolls can be exhibited at any given time. To this end, both the Great Isaiah Scroll and the Temple Scroll are presented on a large screen in the Dorot Foundation Information and Study Center, which will soon offer our visitors an opportunity to be able to peruse the entire scrolls for themselves using a touch screen.

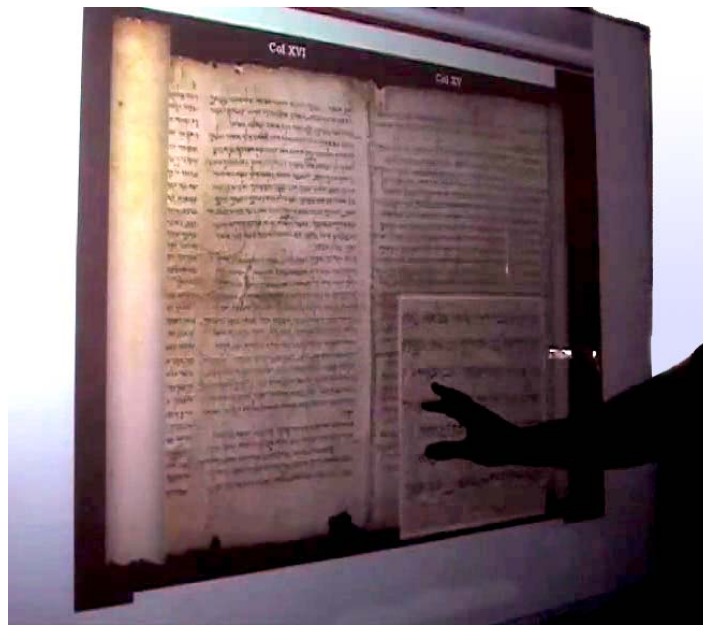


Figure 9: The Great Isaiah Scroll on a large touch screen, envisioned and funded by George Blumenthal with digital photography by Ardon Bar Hama



Figure 10: Viewing the Temple Scroll online with magnifying glass

Also located in the Dorot Foundation Information and Study Center on the main wall is the beguiling installation created by the digital artist, Ariel Malka. The narratives are represented as tiny, textual vignettes and interpret the story of Isaiah in their unique way.. According to the artist, Ariel Malka the generations of wanderings from Egyptian oppression are depicted as emerging from chaotic waters to freedom in the Sinai wilderness; from the Babylonian exile to restoration in the Land of Israel; where they culminate in Ezekiel’s vision of the Water of Life flowing into the Sea of Death. The *JavaScriptorium*⁵ charts the journey of the People of the Book in a never-ending loop of dynamic, micro-calligraphy inspired by medieval Jewish scribal art. The electronic rendition of the biblical decree “And let them make me a sanctuary, that I may dwell in their midst” (Exodus 25:8) appears as a cloud by day and a column of fire by night. The divine column links Heaven and Earth as an *axis mundi*, representing both the center of the world, and the sanctuary that resides within the Qumran Sect – the collective Spiritual Temple in the Judean desert.



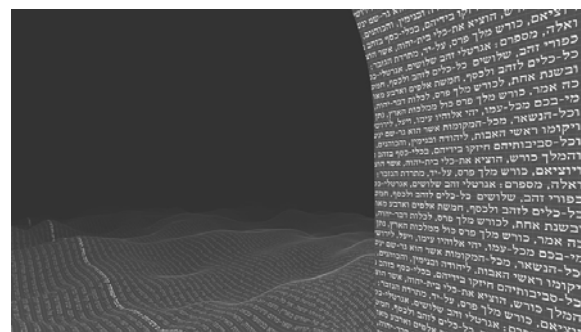
Zoom out on the *Sea of Chaos*... A divine column, link between Heaven and Earth is represented at the center of the world.



From *Axis Mundi* to *Terra Incognita*... The Sinai wilderness.



The sanctuary is represented at the center of



Looking through the *Ishtar Gate* at Babylon,

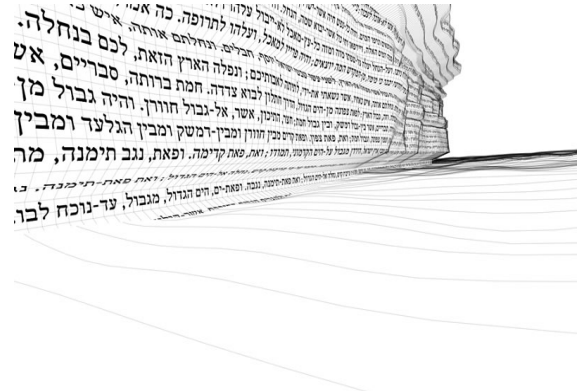
⁵ See the screen shots of the work reflecting a new kind of scriptorium; this time written in the computer language of Java; The 3D animation on the theme of desert wandering, and the concept of sanctuary alludes both to the programming language of the software in which it was compiled – Java, created by Sun, Microsystems – as well as to the ancient tradition of scribal work that took place in a scriptorium.

the *Desert Encampment*, among the people of Israel.

freshly conquered by *King Cyrus* of Persia...
Emancipation of the oppressed.



Beginning of the second exodus...



Ezekiel's vision of the *Water of Life* flowing into the *Sea of Death*.

Figure 11: JavaScriptorium Ariel Malka, is based on a Java application that makes use of OpenGL to generate real-time 3D animation, <<http://www.chronotext.org>>

Walking in 3D worlds – a truly social experience

While the interfaces described above are designed for the individual visitor sitting on their own in front of the screen, the following examples of 3D worlds allows for real-time interaction and a more social kind of experience. The Shrine Educational Experience (SEE) – was a project conceived in 2001, and was developed over 2 years together by Shrine of the Book at the Israel Museum, Jerusalem, and the Politecnico di Milano, Italy, with the support of the Dorot Foundation. This project brought young adults together from all over the world synchronously, where they met in the online, in the virtual Shrine of the Book to meet, learn, play, and discuss issues related to the famous Dead Sea Scrolls and the lives of the people of the Qumran community who once lived by the Dead Sea.

The world they met in was a specially developed 3D environment, where several users, represented by avatars, (graphic animations) entered, and interacted together in real time. The students co-operated through interaction with the environment, and with each other, manipulating objects and chatting as they went. Our challenge in 2002 was to find a way to engage students, where the key to the success or failure of these environments was measured in its ability to *hold* a critical mass of users in real time; not only in the technical sense, but also intellectually. At this time, the museum and the Polytecnico were designing an environment that would be familiar to our students from online computer games that were popular at the time, *Dungeons and Dragons* and the *Sims*, for example. But, what we were actually seeking was what we felt to be a kind of 'social glue'; the kind of experience that caused the player to become totally engaged in the environment. Unlike the battle scenes that students were familiar with from their online gaming and had kept them previously glued to their screens, this engagement

stimulated intense discussion about issues that we realized that really touched their lives in meaningful ways.



Figure 12: The Shrine Educational Experience (SEE), 2001, developed together by the Israel Museum, Jerusalem, and the Politecnico di Milano, Italy

The highly structured, educational program that was geared to schools, took place during school time and in accordance with the different national curricula in Israel, Italy, Germany and Switzerland. The four weekly sessions took place in an educational and highly structured environment where students introduced themselves with their own PowerPoint presentations shown in the online interface and went on to learn about the Essenes and what it might have meant to leave their homes, to move down to the desert, and dedicate themselves to the Qumran community.

The series of challenges and quizzes brought these discussions right into their classroom, and the test sessions brought 25 classrooms from the different countries into the online Virtual Shrine and Qumran simulated environment. We were amazed to see how engaged the students became and how much they were prepared to dive into the resources and prepare their own contributions that were consequently shared with their peers in the final session. We presented our project at conferences and in academic publications, and the SEE project has since become the benchmark for virtual worlds for museums.⁶

⁶ Susan Hazan, "From the First Millennium to the Third, the Content is the Message!" in *Museums and the Web 2001: Selected Papers from an International Conference, ICHIM 2001, Politecnico di Milano, Milano, Italy* (ed. David Bearman and Jennifer Trant, Archives & Museum Informatics, Pittsburgh, USA, 2001) http://www.archimuse.com/publishing/ichim01_vol1/hazan.pdf;
S. Hazan, Paolo Paolini, and Nicoletta Di Blas, "The SEE Experience: Edutainment in 3D Virtual Worlds", in *Museums and the Web 2003: Conference Proceedings* (ed. David

This was a critical learning experience for us. The Politecnico and museum teams learned a lot about the technology and interaction as we developed the interface and when the program went into the test phase, we found that we also learned a great deal from the students themselves. The young adults were totally savvy online – shortcutting their way to the answers by reading the web address at the top of the page (to our dismay) and simply moving on to the next number instead of running around in the treasure hunt. However, they did discover—to their delight—a bug in the program, when an avatar flew up into the ocular on the white dome that caused the student to get stuck in the hole. In spite of the bugs and short cuts, we did realize that this was an excellent method of bringing quality content into the classroom, and we were encouraged by the enthusiasm of the students and their teachers who participated in the four weekly sessions.

As 3D worlds developed, the museum rebuilt the Shrine of the Book as a virtual space; a space which could be taken up by visitors online as virtual avatars, this time using the proprietary environment of Linden Labs⁷ Second Life. Faithfully modeled on the blueprint of the Shrine of the Book complex, the 3D world reproduced the physical space in virtual miniature. Much as the photorealistic virtual tours enabled visitors to move around the mirror of the Shrine complex, the 3D world offered a similar sense of “being there” but with one major difference – this space was not simply a projection on the local computer, but a fully social space where visitors traveled the campus with fellow avatars. This enabled new kinds of social interactions and, critically, a sense of sharing the visit with others in real-time.



Bearman and Jennifer Trant; Charlotte, North Carolina, USA , Archives & Museum Informatics, <<http://www.archimuse.com/mw2003/papers/diblas/diblas.html>

⁷ Linden Labs is a commercial company based in San Francisco that runs a series of parallel servers that supports the 3D environment that encourages public participation and creativity.

Figure 13: Mapping out the Shrine of the Book in Second Life



Figure 14: The shrine of the Book as seen from the path leading up from the Art Garden



Figure 15: The white dome and black wall at virtual sunset



Figure 15: Watching the webcast from the conference at the Shrine of the Book 3D campus

This space offered colleagues who were unable to participate in the conference in Jerusalem an opportunity to watch the conference from afar via the 3-day webcast while they (or at least their avatar) met in the virtual campus of the Shrine of the Book <http://www.imj.org.il/DSS_Conference_2008/index.html>.

With digital frontiers shifting at an impressive rate, so the potential for experiential, learning, and social activities are increasing incrementally. Harnessing these environments for museum activities open up many new possibilities and confront the New Media team at our museum with new challenges and new opportunities. In this way the conceptual chasms between parchment manuscript and electronic screen can be breached in a millisecond, and through these virtual environments the critical knowledge embedded in the Dead Sea Scrolls can be disseminated beyond the museum walls in new, yet meaningful ways.