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THE RESEARCH LIBRARY IN THE 21st CENTURY
SYMPOSIUM

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1 P R O C E E D I N G S
2 PANEL 1: CONTINUITY AND CHANGE

3 IN UNIVERSITY SCHOLARSHIP

4 TOM STALEY: Thank you very much. Good
5 morning. I'm pleased to welcome you to our panel
6 discussion.

7 Before we begin, however, I would like to
8 invite all of you to attend, those who aren't going on
9 that bus, this evening for the opening of the Normal
10 Mailer Exhibition called Normal Mailer Takes on America.
11 Information about that exhibition is in your program.

12 And now to the matter at hand. Our
13 distinguished panelists this morning will address issues
14 related to research and scholarship in the academic
15 disciplines.

16 Specifically, they will discuss not only how
17 the academic disciplines are constantly reshaping
18 themselves, but also how new dimensions of information
19 delivery and digitization change our structure of
20 knowledge, and how research libraries are responding, or
21 should respond to this changing environment where the
22 world's texts are being electronically copied, digitized
23 and linked.

24 Thomas Carlyle spoke of a simpler time when he
25 wrote in the 19th Century, "The true university of these
26 days is a collection of books." Jim Duderstadt spoke
27 yesterday of the meta-university in a global universe. I

1 doubt if Carlyle would be able to find it.

2 Our three panelists have each in their own way
3 contributed to this dialogue already. To allow more time
4 for discussion, I'll introduce all three of them very
5 briefly, before they begin their opening presentations.

6 Bernard Frischer is the current director of
7 the Institute for Advanced Technologies in the Humanities
8 at the University of Virginia. He is on the forefront of
9 scholarship in the application of digital technologies to
10 humanities research and education.

11 He founded and directed the cultural virtual
12 reality lab at UCLA where he oversaw such projects as the
13 virtual recreations of the Roman Colosseum and the Roman
14 Forum.

15 John Unsworth is Dean of the Graduate School
16 of Library and Information Science at the University of
17 Illinois at Urbana-Champaign. He was the first director
18 of the Institute for Advanced Technologies in the
19 Humanities of the University of Virginia.

20 More recently, he served as Chair of the
21 American Council of Learned Societies Commission on Cyber
22 Infrastructure for Humanities and Social Sciences which
23 explored the high performance computing tools available to
24 researchers in these fields.

25 Lorcan Dempsey is Vice President for Research
26 and Chief Strategist at the Online Computer Library
27 Center, better known to most as OCLC. He has written and

1 spoken widely on resource discovery services, metadata,
2 distributing information and library systems, the changing
3 position of libraries and the curatorial traditions of
4 libraries, archives and museums.

5 We are pleased to have this distinguished
6 group with us this morning. Our panelists will each speak
7 briefly on the topic, and we will follow their
8 presentation with a discussion, leaving time for
9 questions.

10 First of all, we have our -- Mr. Frischer,
11 you're on.

12 BERNARD FRISCHER: Thanks for that nice
13 introduction. And thanks for the invitation to speak to
14 you today about how the humanities have been affected by
15 information technology in the last 20 or 30 years since
16 anyway, since I was hired at UCLA as an assistant
17 professor of classics.

18 Does it matter that scholars in the humanities
19 have generally traded in their typewriters for a PC? I
20 think we would all answer that question, that it obviously
21 does matter. The medium may not be the message, but the
22 medium certainly does change the ways in which an ever
23 growing number of scholars create craft and communicate
24 their messages.

25 And the farther back we go down the career
26 path from full professors to assistant professors to K-12
27 students, the more we can see these changes at work.

1 Even though the famous physicist deals more,
2 is usually correct in claiming that predictions are very
3 hard to make, especially with regard to the future, in
4 this case he isn't. We can see the future if we just look
5 at the world of My Space and You Tube that our students
6 and children take for granted today.

7 Looking at the end of the scholarly
8 communications pipeline, first, one striking difference
9 between many works of scholarship today and those of 30
10 years ago when I was starting out, is not only the vastly
11 increased number of digital publications, but also the
12 marked increase in the humanities, of scholarship that is
13 co-authored.

14 Co-authored publications grow out of
15 collaborative online communities, like My Space for kids,
16 or the one created by Professor David Germano for the
17 study of Tibetan culture.

18 His Tibetan and Himalayan Digital Library now
19 integrates the efforts of nearly 1,000 scholars around the
20 world, and it fills over 10 terabytes of storage on our
21 library's server.

22 Another example is Raphael Finkel's Suda On
23 Line Project founded in 1998. The Suda is a very
24 important 10th Century Byzantine encyclopedia of classical
25 culture.

26 It's 30,000 articles had never been translated
27 before into English, despite giving us precious

1 biographical information about Greek writers, such as
2 Hippocrates, Sophocles and Plato. Under Professor
3 Finkel's leadership, almost 20,000 articles have now been
4 translated and published on the internet, just since 1998.

5 If we compare the internet to the U.S. Post
6 Office, which is what we would have to use 30 years ago
7 for such a collaborative project, online collaborative
8 research is obviously infinitely more feasible in terms of
9 cost, speed, and the quantity, and especially quality of
10 interaction it affords scholars.

11 Something like the Suda Project or the Tibetan
12 and Himalayan Digital Library didn't exist 30 years ago
13 because for all practical purposes, they would, it would
14 have been impossible for them to exist.

15 Another thing that couldn't exist, mainly
16 because it would have been prohibitively expensive, was
17 large scale publication of materials typically housed in
18 the special collections department of an American research
19 library.

20 I'm thinking of maps, mediaeval manuscripts,
21 ancient papyri and incunabula and so on. In recent years,
22 collaborative projects of scholars and librarians have
23 proliferated to provide comprehensive free access to such
24 materials.

25 One of many I may cite is the incredibly
26 useful online Perry Castañeda Library map collection at
27 The University of Texas, a collection with over 5,000

1 digital maps online available to the public, and 250,000
2 available here at the University. An extremely useful
3 collection.

4 Finally, let me also mention at least one
5 example of something that could not have existed 30 years
6 ago because it could not be supported by any technology
7 available at the time, a fully interactive 3-D model of an
8 important historical site that no longer exists, such as
9 the Forum or Colosseum in Rome, the Acropolis in Athens,
10 or the Temple Mount in Jerusalem.

11 In the last 10 years, a whole new field of
12 digital archeology has sprung into existence to provide us
13 with such recreations.

14 This panel concerns continuity as well as
15 changes, so let me mention something that has remained
16 pretty much the same, the need for peer review in all
17 this.

18 Behind this need, there are some practical
19 reasons, especially the issue of what counts for promotion
20 and tenure, and there is also good normative motivation.
21 Peer review work is almost always better than work that
22 isn't.

23 Here though, we can see an important way in
24 which the digital revolution has been getting ahead of
25 itself. For some years, scholars -- and here I would
26 count myself -- have, in effect, used the internet as one
27 great big vanity press, releasing their work to all and

1 sundry without the benefit of peer review.

2 I think the reason for this is obvious, not
3 that we didn't appreciate the virtues of peer review and
4 want our work to be judged by our colleagues, but there
5 was no mechanism whereby we could submit our digital
6 creations to them for comment, acceptance or rejection.

7 This is gradually changing. The Suda Project
8 is a case in point. Here the peer review process is built
9 into the collaborative publication pipeline itself. But
10 in this case, the similarity to what we were familiar with
11 in the Gutenberg age also hides a difference.

12 In the archaic world of print publication,
13 peer review had to occur prior to publication for obvious
14 practical reasons. In today's digital age, a translation
15 submitted to the Suda Project can be published before it
16 is peer reviewed, and that's how they do it.

17 We clearly need many more peer reviewed online
18 publications like the Suda Project. This need is starting
19 to be felt across the humanities.

20 For example, a recent issue of the *Chronicle*
21 *of Higher Education* announced that the *Journal of the*
22 *Society of Architectural Historians* was going to start an
23 online version, a version which editor Hilary Ballon
24 assures us will adhere to the same high qualities as does
25 the print *Journal*.

26 Let me conclude by giving a glimpse of the
27 near future. The field of classics was an early adaptor

1 of information technology, and now faces the ironic
2 problem of managing success.

3 There's an embarrassment of online riches
4 available to classicists, but each web project has its own
5 peculiar features and way of doing things. The typical
6 resource, for example, a collection of Greek or Latin
7 texts does not communicate automatically with other online
8 resources, for example, a Greek or Latin dictionary, or an
9 online bibliography.

10 The answer to this problem inevitably lies in
11 standards and in the interoperability that standards make
12 possible. In achieving interoperability among our online
13 resources, librarians and information scientists can help,
14 and I'm happy to report are helping, by teaching us how to
15 exploit such things as the Fedora Project, the extensible,
16 the flexible and extensible digital object and repository
17 architecture.

18 The field of archeology lags behind classics,
19 but recent developments in professional organizations
20 suggest that this is about to change as archeologists
21 realize that information technology offers them better
22 ways to do their traditional tasks.

23 Given their role as our primary conservators
24 of the human record, it is ironic that the major challenge
25 facing archeologists today is how to preserve their own
26 digital data.

27 Here again, as the DSpace Federation shows,

1 the librarians are ahead of the scholars and are adapting
2 their tradition role of storing manuscripts and printed
3 works to the needs of the digital age.

4 This brings me to my conclusion and a final
5 point of comparison between the situation today and that
6 of 30 years ago. I refer to the relationship of
7 librarians and scholars more generally.

8 Three decades ago, I would say that the
9 relationship was rather standoffish. As a professor at
10 UCLA, it never occurred to me that I might want to use the
11 library as a place to write and actually produce my
12 scholarship. It was just a place that I made periodic
13 forays into to find, or not find, a journal or book I
14 needed.

15 I think my experience was typical of many
16 other humanists. There was no particular reason to
17 develop a close working relationship with our local
18 university library, and it never crossed our minds to ask
19 for space in the library, except occasionally for a humble
20 carrel.

21 Today the situation is quite different.
22 Because of the wealth of online materials, many scholars
23 can do their research and writing anywhere, yet ironically
24 we find ourselves going to the library no less frequently
25 than we did before.

26 We go for help with using online resources to
27 learn about software that supports our scholarship, and,

1 at least at my university, to work in a research unit
2 called the Institute for Advanced Technology in
3 Humanities.

4 At IF, scholars have permanently been
5 allocated over 2,000 square feet of space in the main
6 library to produce their digital work, to realize their
7 digital dreams in collaboration with information
8 scientists and technical staff who support them and their
9 collaborative research projects.

10 So the research library is still just that, a
11 place to promote and support the research of the faculty.

12 But the way it is fulfilling its mission has begun to
13 change in some important ways.

14 Projecting forward current trends, I would
15 therefore end by predicting a rosy future for the
16 university library which, with or without books within its
17 bricks and mortar walls, will still be the place to go on
18 campus to find the key resources we humanists need to do
19 innovative scholarship.

20 Thank you.

21 TOM STALEY: Thank you, Mr. Frischer.

22 Mr. Unsworth?

23 JOHN UNSWORTH: I'm going to follow with a
24 more pessimistic account. Appropriately, I guess, we'll
25 go back and forth.

26 I think, at the moment, we know a lot more
27 about our digital collections in the research library than

1 we know about what people do with those collections, or
2 wish to do with those collections.

3 And I'm going to use an example that's close
4 to hand in a project that I'm currently working on as a
5 way of explaining why I say this. And I'm going to get
6 into a modest level of technical detail because the devil
7 is in those details.

8 So I think that in this, well, I'll give you
9 the name of the project first. It's the nora project, and
10 nora is an acronym that stands for No One Remembers
11 Acronyms. And that's how you can remember it, see?

12 The nora project is a text mining project that
13 works on humanities content in digital libraries. So
14 we're looking at 18th and 19th Century novels in English,
15 and those novels have been contributed from library
16 collections and from scholarly projects.

17 So we're taking the texts already marked up by
18 the libraries and by these scholarly projects and trying
19 to bring them together and do text mining on them.

20 You need to gather material from across
21 collections in order to put together a coherent and large
22 enough set of material to be interesting. One collection
23 doesn't have everything in a certain area.

24 And you also, for practical reasons, you need
25 to bring these things together in order to pre-process
26 them together, and in order to index them together.
27 Because when you start to ask for statistical information

1 about these collections, that statistical information is
2 only meaningful if you're asking about it in the context
3 of everything else.

4 And you can't get inverse document frequency
5 counts of, you know, certain pieces of vocabulary in one
6 document, and then, you know, in one collection, and then
7 add them to the numbers for the same thing from some other
8 context and get a meaningful answer. You actually need
9 all that stuff together.

10 But the resources you find, as soon as you
11 look at them, are clearly expected to be used in situ, in
12 their original context. They had no idea -- it's like
13 they woke up in a bad dream with no clothes on in a public
14 place -- they had no idea that they might be called on in
15 some context other than the context in which they were
16 originally prepared to be used, and where use meant to be
17 browsed or possibly searched.

18 So we need to pre-process those to get
19 collection level contextual information, but they don't
20 anticipate that kind of pre-processing.

21 In this nora project, we need to be able to
22 give someone at least a bit of context to read once they
23 get to a data point, they've drilled down to something and
24 they say, Wow, that's an interesting point, where does
25 that come from, and show me, you know, just a few words of
26 context, and I need to be able to show them that even if
27 they don't have rights for the whole documents.

1 I need to be able to return someone from that
2 snippet to the original publicly disseminated address of
3 the whole document, but, again, the whole document doesn't
4 carry that with it. It doesn't have anywhere in it its
5 public address, so there's no way to do that.

6 I need an environment that allows users of
7 these collections to contribute their results and share
8 them with one another.

9 I need an environment that allows users to
10 share intermediate artifacts in the research process, that
11 is, the pre-processed collections that they developed for
12 their particular uses, because that pre-processing is what
13 takes all the time, and the actual analysis takes
14 relatively little time.

15 So if we suppose that two people might be
16 interested in the same sub-set of content, there would be
17 a value in keeping that sub-set around once it had been
18 pre-processed.

19 I need for this project an environment that
20 allows users to enrich and improve the data that they're
21 working with, with user supplied metadata where metadata
22 might be anything from normalized spelling to suggested
23 corrections of underlying content, or just richer thematic
24 information about the document, but they need to be able
25 to do that without undermining the integrity of the
26 original collection.

27 And I'm going to need all of that,

1 incidentally, from publishers if the libraries are not the
2 owners and disseminators of the texts. If the library's
3 just a gateway to the publisher, then I need this from the
4 publisher, not just from the library.

5 So what's the problem? Well, texts that are
6 prepared to represent an original, where that's the
7 motivation for doing the digitization, often make it
8 difficult to collate and compare and analyze.

9 And I'll give you a very simple example, which
10 is line end hyphenation. Faithful encoders tend to encode
11 line end hyphenation when they hit it when they're
12 encoding a printed text. And textual editors will
13 probably thank them for doing that because this is a
14 potentially useful piece of information for textual
15 editing.

16 But line end hyphenation makes it very
17 difficult to know that this word that's hyphenated is the
18 same as the unhyphenated form of the word. It's not
19 impossible, but it's a little bump in the road.

20 Texts prepared under the assumption that they
21 will always be used in the same way for browsing and
22 searching in the same environment in which they were
23 originally prepared to be published, have a tendency to
24 leave certain kinds of information implicit.

25 It's implicit somewhere else in the system.
26 It's not in the document itself. The sort of problem of
27 being able to return to the publicly disseminated version

1 of the document is just one instance of this, but there
2 are lots of other ways in which this happens.

3 Texts that expect to have use restrictions
4 taken care of at a higher level before you get to the
5 texts don't often carry with them conditions of use, and
6 if they did, we wouldn't really have a frame work for
7 resolving the relationship between the context of use at
8 the moment, and the conditions of acceptable use for that
9 particular document.

10 And in most cases, even though the underlying
11 source of these documents is XML, there's no direct way to
12 get to that underlying source. I'm usually getting a
13 rendered HTML version of that, with rare exceptions.

14 Actually the way we got our documents for the
15 test bed for the nora project was I mailed thumb drives
16 around to some of my friends in the library and scholarly
17 community, and they loaded the source onto them and mailed
18 the thumb drive back. That worked pretty well, but it's a
19 little slow.

20 Where would the processing and indexing of
21 these scattered collections gather for a particular
22 research project get process? Would it be on the home
23 server of one of those collections? Would it be on the
24 end user's machine? If it were on the end user's machine,
25 how would those intermediate research artifacts get stored
26 and saved?

27 How would someone who wanted to verify a

1 colleague's results reassemble the original data and
2 retrace the processing? It's like the citation problem,
3 which we're all familiar with, but it's not only how do I
4 cite my results, it's also like citation with provenance
5 and an audit trail attached. It's a bigger problem.

6 So what's the solution to this kind of
7 problem? Well, one solution would be to run screaming in
8 the other direction when someone comes to you with a
9 problem like this and say, you must be the only person who
10 wants to do that, and it's not worth solving it for you.

11 And at the moment, you could probably get away
12 with that. But I don't think you'll be able to get away
13 with it for very much longer actually.

14 So a more constructive solution for starters
15 would be to support the data standards communities, and I
16 agree with Bernie that standards are part of the answer
17 here, but they're only part of the answer.

18 I also think those communities need to include
19 users, as well as the curators of the data, and technical
20 experts in the development of the standard. You could
21 expand on experiments like DLF Aquifer, and expand them
22 from being about collections sharing to being about shared
23 collection processing, not just federated searching, but
24 how could you actually do other things with sub-
25 collections drawn from participating libraries.

26 And you could support explorations like the
27 Pathways Project and other efforts to build frameworks

1 that envision the use of digital context in the context of
2 scholarship where the data, or data streams, come from
3 lots of different sources where people do arbitrary and
4 somehow unpredictable things that still need to be
5 recorded and need to be able to be traced back.

6 In general, I think more conversations, and
7 projects, and committees, and communications that involve
8 particular domain scholars, particular collection experts,
9 relevant technical experts focused on some kind of
10 processing of data beyond searching and browsing.

11 And I also think, last but not least, that we
12 need more systematic studies of the uses to which scholars
13 and scientists put information in digital form, studies of
14 the tools that they use and how they use them, and of the
15 tools they need and what they need them for.

16 And some of those studies have been done. You
17 know, I certainly have people on the faculty at Graduate
18 School of Library and Information Science, like Carole
19 Palmer who work on this.

20 There are people at other schools, and here at
21 Texas, and Michigan, and other places, who do those kinds
22 of studies, and I think increased collaboration between
23 the library community and people interested in those
24 questions would be good, and a lot of that work also goes
25 on at OCLC.

26 So, I'll pass it over to Lorcan on that.

27 TOM STALEY: Okay. Lorcan? You've been

1 introduced.

2 LORCAN DEMPSEY: Thank you. I was interested
3 in the mention of Thomas Carlyle earlier. Thomas Carlyle
4 is the archetypal user who knows better.

5 When Panizzi, who managed the British Museum
6 Library, the precursor of the British Library, was one of
7 the founders of a cataloging series as well, he was
8 developing his rules for a British Museum catalog.

9 And Thomas Carlyle, who was on the committee
10 that Panizzi reported to, was scathing about the
11 obfuscation and complication of these cataloging rules.
12 It's quite simple you just do a list of the books, and
13 then you can find them afterwards.

14 So Carlyle went on to be one of the founders
15 of the London Library, a private circulating library which
16 exists to this day, but was -- I always think of him as
17 the library user who knew better.

18 So after those two presentations, I feel a
19 little bit like the melon at breakfast. At these
20 breakfasts there's always a lot of melon which takes up
21 space and adds color, but does nothing, and is relatively
22 content free.

23 What I am going to do is say a little bit
24 about libraries, and I want to say three things, and each
25 of them is systemic in nature I think. One of the issues
26 that we have at the moment is that we have a set of
27 institutions which developed physically distributed around

1 physical collections and their organization is vertically
2 integrated around those collections.

3 And many of the difficulties we face at the
4 moment, or the challenges, or the opportunities relate to
5 the fact that we now live in a world which is constructed
6 and organized in a different way. It's -- the network is
7 the center rather than any physical place.

8 So I want to say something about three things,
9 one about work flows and network flows; one about the
10 scholarly record, what is the scholarly record, how the
11 scholarly ain't what it used to be; and one about access
12 to scale which picks up some of the comments at the end of
13 yesterday's session, and moving to the network level.

14 So works flows, it seems to me one of the
15 interesting things to come from my colleagues' remarks is,
16 if we think about the library, at one stage people had to
17 build their work flow around the library. And that tended
18 to happen in a physical world. People built their work
19 flow around particular elements and that. So people built
20 their work flow around the library, around what was
21 available.

22 What's happening now is that people are
23 building their work flow in network environments. You
24 have prefabricated work flow, and the course management
25 system is an example of that, the institutional
26 repository, electronic lab books, you have a variety of
27 work flows that are constructed, and a lot of discussion

1 about how helpful they are.

2 But then you also have practices developing on
3 the network which are constructing, if you like, digital
4 identities, life styles, ways of working around things as
5 simple as RSS Aggregators, My Yahoo, and there's going to
6 be a whole host over the next while of ways of helping you
7 build work flow in a sort of self constructed way, because
8 of the centrality of the network.

9 Some of the issue then for libraries is that
10 we still operate assuming that people build their work
11 flows around the library, rather than imagining how do you
12 make materials and services available in work flows that
13 have moved elsewhere.

14 So in terms of thinking about, in particular,
15 about what John just said, we have focused historically on
16 discovery. I think increasingly we're going to have to
17 focus on disclosure and dispersal.

18 We focused on discovery saying, Come here and
19 look for resources. What we're going to have to do is
20 discover ways of disclosing resources to work flows.

21 That might mean exposing things to Google and
22 the search engines, it might mean exposing things in ways
23 that they could be consumed by RSS Aggregators, exposing
24 them in ways that they can be easily plugged into course
25 management systems, and a variety of other things beyond
26 that.

27 But the onus will be on making resources

1 available in such a way that they can be disclosed or
2 exposed into these other work flows, rather than expecting
3 people to come and discover them.

4 Dispersal relates, quite strongly I think, to
5 what John was just saying. There's a phrase by Raymond
6 Yee of Berkeley, which several of you will know, which is
7 quite nice, gather, create and share. That people want to
8 gather stuff, create stuff, share stuff. At the moment,
9 our resources don't play very well in that context, as
10 John described.

11 What we're seeing then, in the context of
12 people wanting to acquire materials, manipulate them, use
13 them, and wanting to have them placed in ways that they
14 can be encountered within work flows, is, I think, a
15 general move away from the idea of managing content
16 towards one of managing consumption.

17 That what becomes important is thinking about
18 how people want to use resources, and then thinking about
19 what ways are required to facilitate that use. And,
20 again, that's something we're not used perhaps to thinking
21 about in the physical world, because people take the
22 materials away and use them in their own environments.

23 What's happened in the network world is that
24 there's a collapse between those different environments so
25 managing consumption becomes as important as managing
26 content, and how do you hopefully do that. So that's some
27 observations about work flow, and some things that flow

1 from that.

2 The second set of observations about the
3 scholarly record are the evidential record. Now I think,
4 historically, it might be fair to say, and I'm sure
5 various people in the audience will resist this,
6 publishers created the scholarly record through their
7 selection activity, their editorial activity.

8 Libraries selected from a pre-established
9 scholarly record. The role of libraries was to select
10 materials which moved into libraries, and then were
11 preserved, managed in that context. One could equate,
12 approximately, the published record -- or published was
13 understood, publishing was understood -- with the
14 scholarly record.

15 What's happened now, of course, is that that
16 is no longer the case, and Cliff described various reasons
17 why this was so yesterday. If you think about the types
18 of material that have been discussed already at this
19 meeting, you have data from a variety of sources.

20 You have websites. There was some discussion
21 yesterday about websites, you know, collecting websites in
22 the context of particular scholarly endeavors, and the
23 context of institutional records, in the context of area
24 studies.

25 You have a whole range of materials that are
26 not conventionally published. And I think what this means
27 is that what becomes part of the scholarly record, what is

1 going to be managed, what is the scholarly record is no
2 longer straightforward.

3 And this creates collection development issues
4 for libraries, around which we don't yet have a consensus,
5 I think. And it creates issues in terms of where to
6 invest resources over time in terms of thinking what is
7 the scholarly record of the future.

8 And this, again, relates to uncertainty about
9 behaviors and requirements. What does the scholar -- what
10 will the scholar of 2050 have expected you to have
11 collected is an interesting question.

12 Related to that then is, again echoing what
13 John was saying, the -- I think in terms of research
14 libraries beginning to take a more active role in managing
15 parts of the scholarly record that are not conventionally
16 published, or that are conventionally published, and
17 acknowledging the blurring that happens there, there will
18 have to be a much stronger move towards a more archival
19 perspective.

20 So issues of provenance, authenticity, John
21 mentioned audit trails, the context from which particular
22 parts of the scholarly record emerge become important.
23 The uses to which it's been put become important. And a
24 really critical issue, which is one we don't have a good
25 handle on, is citability.

26 So citation is fundamental to scholarship, but
27 it's unclear how one cites some of these things in ways

1 one has confidence that one is citing the thing that was
2 actually the object of investigation, or analysis.

3 And we have that issue in a wholesale way with
4 websites at the moment where people are citing things that
5 are no longer there, or for which the context has changed.

6 And there's a whole set of issues emerging around
7 citation that become very interesting over time.

8 Related to citation is what I slightly glibly
9 like to call ex-citability, or ex-citation, where you want
10 to cite things that are executable. So you have a mixture
11 of executable and citable.

12 But, again, if you look at some of the work
13 that's being done in an eScience context, one of the big
14 issues there is how does one cite -- when you want to cite
15 a curated database, you want to cite the database, you
16 want somebody else to be able to recover it at the time
17 that it was cited.

18 So there's a whole set of issues about
19 citation and citation fundamental to scholarship. And
20 this isn't a question about persistent identification.
21 It's more than just persistent identification.

22 So that's -- there's a whole set of issues, I
23 think, about the scholarly record, both discretionary ones
24 about what one cites as part of that scholarly record, and
25 technical ones about how one -- technical and professional
26 ones about how one manages it.

27 The third thing I wanted to say was about

1 access to scale. And this touches on, as I say, some of
2 the concluding discussion yesterday.

3 The range of things that the library has to do
4 in the context of the environment that was discussed by my
5 colleagues yesterday grows and grows. And increasingly
6 it's inevitable, I think, that the library will want to
7 focus on where it creates a distinctive impact.

8 Those things that are routine, or done across
9 many libraries, should really be moved to the network
10 level, should be moved to a shared place, or sourced in
11 some other way, because of the opportunity cost of keeping
12 to do those things. That's one issue.

13 The other issue is, in many ways, so there are
14 system-wide efficiencies involved which -- there are many
15 system-wide efficiencies to be gained.

16 There's also an issue of impact. In many
17 cases one needs to think about, you know, the work flow
18 issue is one. One needs to think about how one creates
19 impact in a way that's difficult to do within an
20 individual institution.

21 So just thinking of some examples from a
22 discovery point of view, I mentioned earlier that one of
23 the issues is a move from discovery to disclosure.
24 Discovery though may happen at a higher level.

25 So one wants to be able to disclose to
26 discovery environments like Google Scholar. So you want
27 to make sure that your materials are available to people

1 through Google Scholar. That maybe becomes as important
2 or more important than what you do locally.

3 So there's a sort of access to scale issue
4 there. What does it mean, engaging with discovery
5 environments which are above the level of individual
6 institutions, from an OCLC point of view, worldcount.org
7 is an example there, and that then relates to disclosure
8 in other environments.

9 Longer term opportunity costs in managing
10 print collections. There's a lot of discussion about the
11 extent to which a library's distinctive impact is bound up
12 with the richness and depth of its collections.

13 And over time how much of that value remains
14 in that particular configuration, and to what extent that
15 will be moved to more shared contexts in the context of
16 mass digitization, shared storage initiatives, and
17 thinking about how one divides up particular subject
18 areas.

19 But over time I think our view of collections
20 is going to change. Groups of libraries will develop a
21 much more shared view, or collective view, of aspects of
22 those collections, and think about how one avoids -- how
23 one deals with the opportunity costs of managing large
24 physical collections, given questions about where value
25 resides and where it must be.

26 Preservation's an obvious example, archiving
27 the web, an obvious example. Again, these are issues

1 which one wonders whether their best tackled at the
2 institutional level, or at another level. And things
3 that, you know, might normally -- might not normally think
4 about - tagging, recommending, collecting reviews, various
5 libraries are experimenting with, you know, social
6 networking approaches.

7 These have to have a local presence, but, you
8 know, does any one library have the critical mass to be
9 able to do significant recommending based on tagging or
10 reviews.

11 That really needs to happen at a higher level,
12 and then scale needs to be made available to libraries.
13 By a higher level I mean it needs to be aggregated,
14 consolidated in some way that there's a level of
15 participation in a scale activity.

16 Usage data is another one. You know, I
17 mentioned earlier about moving from managing content to
18 managing consumption, which is a phrase that I picked up,
19 I think, from the search engine FAST, and some of their
20 work. But as I said, it represents a general perspective.

21 One of the things we don't do at the moment
22 very well is aggregate usage behavioral choice type data,
23 which in turn can refine services. And this relates to,
24 you know, understanding what people are doing.

25 But, again, if you want to have good
26 management intelligence, if you want to have good
27 recommender systems, you want to do other things, that

1 type of data becomes very important. What people are
2 using, what choices they're making, what people are
3 buying. And we don't have good ways of aggregating that
4 and making it available back.

5 So there are a whole variety of areas where
6 increasingly we want to do things in an aggregate way, in
7 a shared way. We want to collaboratively source
8 activities.

9 And I think over the next while, given the
10 complexity of the environment and some of the challenges,
11 we need to become much more purposeful about -- have a
12 much more instrumental attitude towards various of the
13 organizations, which are available to one, or creating new
14 ones about the need to make sure that one does locally
15 what's important, and one finds good way of doing in a
16 shared way what's important.

17 So that's -- there are my remarks.

18 TOM STALEY: Thank you very much, Lorcan.

19 Well, the panel has raised a number of
20 provocative issues, collectively and individually, and I
21 think it's appropriate we have about 25 minutes to open it
22 up to discussion.

23 Already there's a question. Yes?

24 KATHERINE ARENS: Coming at this from the
25 point of view of a faculty member in the humanities
26 program [indiscernible] it strikes me that what I'm
27 hearing you say, a use of a lot of metaphors

1 curator/facilitator/manager, and I'm wondering if, on a
2 more active situation, not coming on [indiscernible]
3 humanities end -- yesterday we heard that the research
4 library may not be accommodating [indiscernible]
5 environment, the pure sciences, and where the data
6 collections are coming there.

7 But when you're thinking of the humanities, I
8 think actually there is a whole other layer of
9 accountability argument including modeling standards that
10 are going to have to be enforced by bodies like this on
11 traditional humanities scholars.

12 Because a lot of the -- if you know a corpus
13 is out there, you are supposed to use it to make an
14 accountable argument within a discipline. I can't -- an
15 example, Mike Davis has a group about - that argues that
16 the El Niño phenomenon created a famine in Africa which
17 helped facilitate the Colonial Project in the 1870s and
18 1880s.

19 And the demographic materials there, and the
20 epidemiological materials there go down that line. It
21 strikes me that anyone that's working on post-Colonial
22 studies in literature ought to account for that kind of
23 data. And we may not know it's there, we may not know how
24 to handle it. But it also strikes me that if you don't
25 use that, you're making unaccountable arguments, point
26 one.

27 And point two, is we need tools to model these

1 sort of things, as well as it strikes me that this kind of
2 multi-varied analysis - epidemiology, population, topics
3 of interest in publication would be very susceptible to
4 the kind of modeling that's used for something like
5 population ecology, or environmental biology.

6 And we're doing -- we don't have tools for any
7 of that, one, and we don't know -- have any consciousness
8 that that would be necessary. And, again, it strikes me
9 that certain arguments either have to be made in light of
10 the available corpus or the researcher has to, more
11 specifically, exclude the corpus data.

12 In other words, you folks need to be, and the
13 librarians who know where the collections are, need to
14 have a heavier role in education and accountability than
15 has ever been given. In other words, you might overtrump
16 disciplinary in a very fundamental way, and I hear that's
17 going to grow, and it's going to be not factored in and it
18 ought to be.

19 TOM STALEY: Who would like to respond to that
20 in a word or two?

21 JOHN UNSWORTH: I think that the possibility
22 that something will happen, and even the desirability of
23 it happening are not, by themselves enough to make things
24 happen. And there's a fair amount of disciplinary inertia
25 when it comes to things like, you know, what counts as an
26 accountable argument, and who shall adjudicate that.

27 So even though, you know, there's some reason

1 in what you're saying, and, you know, it's certainly true
2 that people who make arguments in one domain should be
3 aware of evidence that's pertinent, even if it comes from
4 another domain, I don't think it will be the libraries
5 ultimately that enforce that.

6 And, in fact, I have yet to see anybody
7 enforce anything on faculty.

8 TOM STALEY: Good. Thanks, John.

9 Bernie has, wants to add something.

10 BERNARD FRISCHER: Yes, I agree with what John
11 just said, especially at the end. But I would, I also
12 agree with the thrust of the question.

13 I see that as an expression of this changing
14 relationship between scholars and librarians, and I also
15 see it as an expression of the importance, continuing
16 importance of peer review. And as the relationship of
17 scholar and librarian changes, then the definition of peer
18 can change.

19 And I also, more optimistically, see that
20 there is this idea in a retrospective peer review, which
21 we should not forget.

22 So that you can put something out there, and
23 it can be -- you know, because it's simply expressed
24 digitally and not ink on paper that's very hard to change,
25 you have to wait for a second edition many years, if you
26 ever are going to get it, the peer review can come later
27 on and the community can become, you know, bigger, and

1 inevitably will become bigger, and as our questions become
2 more interdisciplinary, as our teams of authors become
3 larger and larger through collaborative research.

4 TOM STALEY: Thank you. Good.

5 Any other comments on Kathy's question?

6 (No response.)

7 TOM STALEY: Any further questions directed to
8 the panel? Yes?

9 AUDIENCE: Comment and a question, I'm David
10 Seaman from the Digital Library Federation. The comment
11 seems to follow-up on several things that Kate here has
12 said. In various ways, organizations like the DLF are
13 beginning to invest in the mostly technical standards to
14 allow data and metadata to work outside this place of
15 creation.

16 We're increasingly alert to what the scholars
17 groups need, not just to the scholar, but to process, to
18 take that material and annotate it properly, to tools --
19 sometimes build the tools into - so, there is a growing
20 understanding in simply finding something and looking at
21 it, is the beginning of the process, not the end. That's
22 the comment. John mentioned DLF Aquifer which is a good
23 example, [indiscernible]the Open Archives Initiative
24 project is another good one.

25 The question though is the, maybe this is sort
26 of early morning grogginess, but I was thinking as Bernie
27 was talking, what we were -- potentially what I was

1 hearing was a series of references to landmark scholarly
2 projects, which, in some ways could have been a discussion
3 we could have had 10 years, some of us had that sort of
4 discussion 10 years ago.

5 It is one example of the humanities scholar
6 doing X with new technology. I'd be interested to hear
7 from the panel whether they see any real sense that we've
8 moved from limited landmark users to any sort of sense
9 that the departments and [indiscernible] structures, the
10 actual mechanics of the humanities itself changed.

11 Because on a gloomy day you could say we're
12 not really very much further along in transforming
13 disciplines. We had great luck transforming individual
14 users in those departments.

15 TOM STALEY: Any response there?

16 BERNARD FRISCHER: Well, we have a dean here.

17 JOHN UNSWORTH: Yes, but he's not a dean of an
18 English department. I do think it's changed, and I think,
19 you know, it sort of struck on the ACLS Commission -- you
20 know, where we discussed some of these issues about, you
21 know, the reward structure within the disciplines -- that
22 I was looking around at a room of people who had been
23 fairly well treated by the institutions to which they
24 belonged, and, in fact, you know, had been installed on
25 this Commission by the American Council of Learned
26 Societies which had itself decided to take up, you know,
27 take up this issue.

1 I see some changes in the scholarly societies
2 too, some standing committees on issues like the ones that
3 you're describing. And I see more people being hired to
4 do digital work and more people being tenured for doing
5 it.

6 So it's slow and it's incremental. It's not
7 the sort of sweeping overnight regime change that we've
8 learned isn't actually sweeping and overnight anyway, is
9 it. So it's maybe slower than you'd like on a grumpy day.

10 But I think it is happening, and I think it's
11 fairly irreversible. And it's also trickled down to the
12 daily work of people. I mean my standard example now for
13 something you could to prove to everybody that they really
14 have started to work in a different way is, you know, have
15 a day without Google. Just make everybody swear off for
16 24 hours.

17 TOM STALEY: Yes.

18 BERNARD FRISCHER: And there's a lot that
19 could be said, you know, on gloomy day which I don't think
20 it is. I think it's a very bright day. Starting with,
21 you know, miraculous conversations like the NEH's with its
22 new digital humanities initiative.

23 I remember, not too many years ago, somebody
24 at the NEH was quoted as saying, What I was doing in
25 reconstructing ancient Rome was, you know, not
26 scholarship. So there's obviously been a change there.

27 And I think that, in the professional

1 organizations and so on, that we see a move toward
2 standing committees for digital publication and so on.

3 The important thing here though I think is
4 peer review. I think we're pushing on a door that's
5 opened. I don't -- I never see any resistance. Some of
6 my colleagues who have been at University of Virginia
7 involved in digital humanities for a long time are
8 pessimistic.

9 But I never encountered this mythical, you
10 know, 65 year old professor at Harvard who hates what
11 we're doing and wants to stick with his typewriter, maybe
12 even pen and paper. I've never met that person who's
13 really actively hostilely opposing the digital turn.

14 I had -- I was talking to a colleague in
15 classics the other day at University of Virginia who's not
16 particularly digitally adept, but more than most, and he
17 said, You know, the interesting thing is that the worst
18 person in the department is where I was in, say, 1995 in
19 using digital resources. Which is saying a lot, because
20 that person was already doing quite a lot with digital
21 resources in 1995.

22 So I think there has been a lot of progress.
23 I think that more peer review will be a key to unlock --
24 getting true recognition, the kind of recognition we need.

25 And I think that peer review, digital peer review is so
26 much more precise.

27 Take Suda, you can track every single

1 contribution everybody made, from being a corrector of a
2 typo, or an error in the Greek on up to something more
3 substantive.

4 And then when that person's up for promotion,
5 or tenure review, you can ask the editor to print out a
6 list of all these contributions. You can be really
7 precise about a scholar's contributions to their
8 disciplines.

9 LORCAN DEMPSEY: I just wondered if anybody —
10 at some point, someone has to read all of this material
11 that's created. The thousand blogs on Shakespeare, for
12 example, the idea of mastering that discipline in a body
13 of knowledge that's there.

14 How do we deal with that?

15 BERNARD FRISCHER: Text mining.

16 TOM STALEY: Text mining.

17 LORCAN DEMPSEY: Text mining.

18 TOM STALEY: Fine. I'm glad we got a
19 solution.

20 Yes?

21 DAN CONNOLLY: Machines can help a little
22 bit. It's easier to search a billion documents today than
23 it was 10 years ago, but it's not easier to maintain
24 relationships with 50 people than it was 10 years ago, you
25 know. I'm going to take recommendations from respected
26 peers over recommendations from people I don't know. So
27 there's a lot of things that don't change.

1 And I think that you can't read more than --
2 not read -- just can read a little bit more than you could
3 10 years ago maybe.

4 LORCAN DEMPSEY: Not much.

5 DAN CONNOLLY: Not a lot.

6 LORCAN DEMPSEY: Not a lot. That's right.

7 DAN CONNOLLY: And so as far as I -- I heard
8 about -- sorry, I'm Dan Connolly, I'm kind of a web guy
9 more than a library guy, and I heard about the rising cost
10 of publication as if it were a given or whatever.

11 And I was wondering if that was one of these
12 things where people keep changing the conversations, like
13 the rising cost of publications, and now things are
14 getting cheap.

15 What's really -- the real cost the I found is
16 that actually getting the material available to lots of
17 people is cheaper now anyway to publish something --

18 TOM STALEY: That's right.

19 DAN CONNOLLY: What's more expensive is
20 figuring out what to read.

21 LORCAN DEMPSEY: Yes.

22 DAN CONNOLLY: And the publishers help you
23 figure out what to read, and so they're passing that cost
24 on.

25 LORCAN DEMPSEY: I think -- I'd be interested
26 to know whether Aquifer holds water. But the -- going
27 back to David's question, you do, I mean, much of this

1 discussion, it's the same with eScience.

2 You see these presentations and you see the
3 same landmark -- it's like, you know, 10 or 15 years ago
4 all these presentations with the CIA World Fact Book or
5 something. They've now been replaced.

6 But it's clear that, you know, that things are
7 changing, and behind a set of projects though, you do then
8 have issues about which, you know, Cliff discussed
9 yesterday in the context of the different policy and
10 political and funding environments and different areas of
11 the world.

12 How one connects certain things to operational
13 capacity in the longer term, you know, what systemic
14 arrangements need to be made for certain things, and the
15 extent to which current structure supports some of those
16 things, because they're organized in different ways.

17 This is a big issue for, I think, all of
18 what's been discussed as well as for a lot of what's
19 discussed in a library context, which relates to this, you
20 know, how you connect it to operational capacity in the
21 longer term.

22 I was asking John last night about the Blake
23 and Rosetti in the University of Virginia, and how one
24 sustains them into the future. And, you know, I think
25 there are lots of issues about connecting those two --
26 operational capacity.

27 The -- what Dan says is quite interesting. I

1 mean, there's a big focus on attention at the moment, and
2 to some extent relating to what I was saying about work
3 flows, what's happened to us is that -- you know, in the
4 physical world, information resources were relatively
5 scarce, and attention was abundant. People could -- what
6 we have now is that information resources are abundant,
7 and attention is scarce. So this comes back to the issue
8 of managing consumption.

9 TOM STALEY: Thank you.

10 Bernard.

11 BERNARD FRISCHER: I thought that was an
12 interesting point about the difficulty now, and the
13 expensive part is the selection.

14 And at the University of Virginia there's a
15 project just beginning now on applying the notion of
16 collaborative filtering to scholarship, to online
17 scholarship, so that a certain number of scholars who are
18 recognized authorities in the field, can be tracked.

19 Their use of the internet can be tracked and
20 the digital resources that they are reading can be tracked
21 and reported back to a central data bank, and then that
22 can become a kind of an up-to-date special bibliography of
23 what leaders are reading that you might want to be reading
24 too on a certain subject.

25 So there may be in part a technological
26 solution even to this problem of selection.

27 TOM STALEY: Are we closer to that issue? Is

1 there anyone from the university press community here,
2 publishers who would speak to this issue?

3 (No response.)

4 TOM STALEY: We used to feel that once the
5 *Press* had published a book, at least there was some
6 ratification of its __

7 JOANNA HITCHCOCK: Yes, but the emphasis on
8 peer review is [indiscernible] of value, but it's a huge
9 question of [indiscernible].

10 TOM STALEY: Could you speak up just a little?

11 JOANNA HITCHCOCK: Well, the whole question of
12 selectivity is what university presses used to be useful
13 for. We would get manuscripts in and have them, we still
14 do, have them peer reviewed. But now this question is a
15 much larger one and I'm not sure how we can address it.

16 TOM STALEY: Yes, go ahead please. Thank you.

17 ANN WOLPERT: I'm the Director of Libraries at
18 MIT, but the MIT Press reports through me to the
19 institution. And I think that the university press at MIT
20 still sees its role as identifying important new emerging
21 disciplines, providing a mechanism for them to organize
22 themselves around journals and scholarly monographs that
23 define and articulate what the focus of the discipline and
24 the sub-discipline.

25 But I also see that they play a role in
26 persistence to [indiscernible]. Because there are a lot
27 of web pages out there, and almost none of the web pages

1 that I'm aware of is making any long term plans for
2 assuring the persistence of the scholarly work that's
3 represented in the web page, whereas if you publish a
4 book, or a journal article, you can be assured that your
5 work will persist for hundreds of years.

6 And scholars write [indiscernible], they write
7 to build a record, they write to have an impact on their
8 colleagues and disciplines.

9 And I think the university presses still do
10 that, despite the fact that they are now experimenting
11 with how they might put these words up on the web in full
12 text so that they can be found and mined and work in the
13 environment that's being described.

14 But it seems to me that at the end of the day,
15 the piece that's missing in the web based environments is
16 how does a scholar's work persist over time in a way that
17 is a recorded contribution to the advancement of
18 knowledge.

19 TOM STALEY: Yes, then scholarship -- oh,
20 excuse me, I'm the moderator.

21 Yes, go ahead.

22 AUDIENCE: Two random points -- Jim Neal from
23 Columbia --

24 TOM STALEY: Yes, Jim.

25 JIM NEAL: Two random points of following up on
26 Dan's comment. First, we're finding, although our hope is
27 [indiscernible] this morning, we're finding more of our

1 [indiscernible] faculty faced with grant applications that
2 require that they have a [indiscernible] well developed
3 archiving strategy built into that grant proposal. And
4 the actions of [indiscernible] they inevitably have
5 encouraged us to help not only model, but help implement
6 that.

7 The second point I'll make is that there is a
8 group at work for over a two year period called the
9 Section 108 study group. Several people in the room are
10 working on it.

11 And one of the key themes that seems to be
12 pulling out of our deliberations, is a recognition in
13 public law that certain institutions should have the
14 automatic right to have an exception or limitation to
15 copyright, to collect and archive websites.

16 I believe that has not taken root heretofore,
17 largely because of that absence of a public policy
18 framework for doing -- the Library of Congress, even they,
19 in the absence of electronic deposit performance do not
20 have the ability to go out and automatically capture
21 websites without permission. And that permission process
22 is too rigorous and too expensive and not successful.

23 So I think if we get that public policy
24 framework in place, the websites can take on those
25 different roles in overall scholarly archives.

26 TOM STALEY: Thank you very much. One more -
27 - yes.

1 GEORGIA HARPER: I just wanted to follow-up on
2 most of the points, just making an observation that for
3 the press in particular, [indiscernible] and how they play
4 their part in the scholarly communication [indiscernible].

5 But from everything you folks said, it
6 occurred to me that as we go forward, that these future
7 changes would seem to suggest that copyright's actually a
8 hindrance, and the press, of course, is caught in the
9 cross fire. So I wonder if you have any thoughts about
10 that.

11 TOM STALEY: Just in a word.

12 JOHN UNSWORTH: Well, it's certainly true that
13 in, you know, in a project where you want to aggregate
14 material across collections and some of that material is
15 under copyright and licensed, that that introduces an
16 element of complexity that wouldn't otherwise be there.

17 Is it something that can't be solved? I think
18 in principle it's something that can be solved. It's not
19 a technical problem first and foremost. I think it's
20 mostly -- you know, it's any kind of contract, it's a
21 social issue first and foremost.

22 Then I would like to see it solved in a way
23 that makes it possible for people to do these things, and
24 especially, you know, makes it -- sort of carries forward
25 the notion of fair use and makes it possible for people to
26 look at parts of stuff, even before we determine whether
27 they have the right to look at the whole thing.

1 But I think any system that would allow you to
2 manage that in anything like the current environment,
3 would have to have a lot more information trailing those
4 resources than what we currently have, and would have to
5 have it in a somehow agreed upon format so that it could
6 be made -- it could be formalized in a way that could be
7 automatically processed. You can't have somebody looking
8 at every piece.

9 TOM STALEY: Thank you very much, John.

10 I think our time is up. I want to thank our
11 panel for so many interesting comments, and the audience
12 as well. Thank you very much.

13 (Whereupon, the first panel discussion was
14 concluded.)

1 PANEL 2: THE IMPLICATIONS OF DIGITAL
2 SCHOLARSHIP FOR RESEARCH LIBRARIES, CHALLENGES
3 OF ACCESS AND PRESERVATION

4 ANDREW DILLON: Well, good morning, everybody,
5 and welcome to the second session.

6 My name is Andrew Dillon. I'm the Dean of the
7 School of Information here at The University of Texas.
8 And we're going to start on another panel discussion, the
9 title The Implications of Digital Scholarship, Challenges
10 of Access of Preservation.

11 Now we've heard a lot about the movement
12 towards soft resources from hard resources, if you like,
13 in terms of books towards a digital medium. What does it
14 mean in terms of providing access?

15 I have asked the current panel to be as
16 provocative as possible on this discussion, and I've also
17 required the format to be slightly different in that I've
18 asked them to talk for five to seven minutes initially
19 each, and then to respond to each other's comments for
20 about a minute or two before we open it up to the
21 audience.

22 And I've promised to be ruthless in
23 maintaining time. So I will cut them short with anything
24 short of rudeness, I hope.

25 Let me introduce the panelists in the order in
26 which they'll be initially presenting. Dan Connolly is a
27 research scientist at MIT Computer Science and AI Lab -

1 CSAIL -- and a member of the technical staff of the
2 Worldwide Web Consortium, also known as W3C, which
3 develops interoperable technologies, specifications,
4 guidelines, software, et cetera, to lead the web, as it
5 says, to its full potential.

6 In particular, he's a member of the Semantic
7 Web Coordination Group established to serve a leadership
8 role in both the design of enabling specifications and
9 technologies that support the automation, integration and
10 reuse of data.

11 He is, I'm glad to say, a UT graduate from the
12 CS department. He's authored several important papers and
13 worked closely with Tim Berners-Lee on semantic web
14 technologies and policy issues.

15 From '95 to '97, and this is definitely worth
16 noting, during the struggle between Microsoft's Internet
17 Explorer and Netscape Navigator, Dan chaired the working
18 group which ensured that HTML remained an open standard,
19 and for that, he was named by *Interactive Magazine* in '97
20 as one of the 25 unsung heroes of the web. So we can all
21 sing later the heroism.

22 Kevin Guthrie is the president of Ithaka,
23 which is a not-for-profit organization committed, it says,
24 to helping accelerate the adoption of productive and
25 efficient uses of information technology for the benefit
26 of worldwide higher education. Good luck.

27 Ithaka focuses on three operational areas

1 providing strategic services to assist not-for-profit
2 organizations in developing sustainable economic models,
3 providing shared administrative services to a small family
4 of affiliated entities, and organizing and conducting
5 research on the impact of advance in technologies on
6 higher ed.

7 Kevin is, as many of you know, the former
8 president and current chairman of JSTOR, and he also
9 serves as a trustee for ARTstor, the image repository.

10 Previously he started his own software
11 development company and was a research associate of the
12 Mellon Foundation, where he authored the New York
13 Historical Society's *Lessons from One Non-Profit's Long*
14 *Struggle for Survival*.

15 He has a bachelors in civil engineering from
16 Princeton University, and an MBA from Columbia.

17 And finally, our last speaker is Alice
18 Prochaska who's the university librarian at Yale. She
19 serves on the steering group of the Digital Library
20 Federation, and is vice chair of the board of the Center
21 for Research Libraries.

22 Her own research and publications focus on the
23 stewardship of international historic collections, the
24 power of digitization to restore important materials to
25 their communities of origin and the philosophy and ethics
26 surrounding the notion of cultural restitution.

27 She received both her bachelors and a PhD in

1 modern history from the University of Oxford, and in 1992
2 became Director of Special Collections of the British
3 Library where she supervised their program to digitize
4 collections.

5 While at the British Library, she served, at
6 various times, as chair of the National Council of
7 Archives, a commissioner of the Royal Commission on
8 Historical Manuscripts, a trustee of the Winston Churchill
9 Archives Trust, vice president of the Royal Historical
10 Society, and a Governor of London Guild Hall University.

11 How do you get all this done, Alice? She was
12 a member of the IFLA working group on Preserving Our
13 Documentary Heritage that reported in June 2005 to the
14 UNESCO project to create the memory of the world's
15 register.

16 I have promised to keep my mouth shut as much
17 as possible, which if you know me, can prove difficult in
18 these situations, but I'll attempt to be quite rigid and
19 follow the excellent model set by Tom this morning.

20 And with that, let me hand over to Dan.

21 DAN CONNOLLY: All right. Thanks.

22 So I'm here from W3C and MIT. W3C's mission
23 is to sort of keep the web from fragmenting, like VHS and
24 Beta Max. We try to keep that sort of thing from
25 happening. So we had Netscape and Microsoft back there.
26 You know, there was a risk of that.

27 So W3C is about a 400 member organization,

1 some of them are in this room, Google, Microsoft's are
2 here, there's others that you might know of, Creative
3 Commons, companies like Boeing that are dealing with large
4 IT issues, the Mozilla Foundation, 400 members, I'm one of
5 about 70 staff at three Hosts.

6 So we've talked about these virtual
7 organizations or whatever, all that kind of stuff. I sort
8 of eat, sleep and breathe them. Just to tell you where
9 I'm from, it's, you know, going to be two paragraphs.

10 So there's three Host institutions, MIT in the
11 Americas, ERCIM in France, and Keio University in Japan,
12 and there are 70 hosts, each of which is either a
13 contractor or an employee of one of these host
14 institutions. And I work out of my home in Kansas City,
15 but I'm paid by MIT.

16 Okay. So it was founded in 1994. Tim
17 Berners-Lee is the director of the consortium, and he's
18 the only staff member who's been there longer than I have.

19 We have about 30 working groups, from HTML to XML to web
20 accessibility, to internationalization guidelines, to
21 semantic web and web architecture.

22 So most of my work is done over the network,
23 but a big part of my job is getting people together in the
24 same room to build trust and maintain relationships. So I
25 have a computer science background, and a lot of math
26 background, and all that kind of stuff, and I went to MIT
27 to take on this job.

1 And I thought I was going to spin my propeller
2 really fast and take graduate classes or something. No.
3 I learned how to talk to the press, manage people, and get
4 groups going together.

5 So what my job has in common with yours -- I
6 have -- I don't walk in library circles every day, but I'm
7 trying to make W3C a place where interesting people want
8 to come and contribute. We're all recruiting and
9 competing for attention and loyalty.

10 And toward that, and what did Tim Berners-Lee
11 do? Did he have an idea that was so rocket science it's
12 out there, and it was really a technological innovation?
13 Well, not really.

14 In fact, the paper that he submitted when he
15 submitted the worldwide web technologies to the academic -
16 - you know, the scholarly record or whatever, the paper
17 was declined at Hypertext '91. He got a poster
18 presentation, or whatever.

19 But what he did was -- and a lot of people had
20 worked on similar ideas and they all started software
21 companies and stuff like this -- what Tim Berners-Lee did
22 was he said, well here it is, everybody can have it.
23 Okay? He shared it. And for that we're all in his debt.

24 So what's novel? That's how he has built trust in a lot
25 of ways. And he works everyday to keep it open.

26 Okay. So what web publishing shares with
27 traditional publishing, yes, it's cheaper to distribute

1 the text. All right. Shipping pieces of paper, you know,
2 around the world and putting them in bookstores and stuff
3 like that costs more than setting up a web server.

4 But it's just as expensive to get attention,
5 loyalty and endorsement, to build an audience and a
6 reputable editorial board. So some things don't change.

7 All right. And with so many texts, it's more
8 expensive to decide which texts to read. I think that's
9 one of the things that really contributes to the rising
10 costs. So that's sort of how our paths intersect in a lot
11 of ways.

12 Back to web architecture. One of -- that's
13 one of the groups I work in is the technical architecture
14 group. Principal number one of web architecture is to use
15 URIs, these URL things, HTTP, WWW, whatever. Okay. So
16 library folks, what does that mean for you?

17 So while some links on the web do break, we've
18 heard about, oh, the web is ephemeral. While some webs --
19 some links in the web do break, following links in the web
20 is about 96 percent reliable. My statistics are a little
21 bit, a few years out of date and stuff like that, but 96
22 percent of the time when you try to follow a link it
23 works.

24 All right. This is like the credit card
25 system. All right. There's a certain amount of fraud,
26 but as long as that stays below 3 percent, we can all do
27 business.

1 So library efforts should not run from the
2 existing HTTP and DNS URLs because of the 4 percent. But
3 apply your expertise in access and preservation to
4 increase the reliability of following links in the
5 scholarly communication, please. That, I guess, is one of
6 my first recommendations there.

7 So Douglas Engelbart, I don't know how many
8 people in this room know, he was a visionary in digital
9 collaborative work. In 1990, his paper on requirements
10 for computer supported collaborative work -- he was the
11 guy that invented the mouse and shared windowing and a lot
12 of the stuff at Xerox PARC and stuff.

13 And so he had these about 12 or 15
14 requirements for computer supported collaborative work,
15 and one of them, I think number 11 or something, is the
16 hyper-document library system where hyper-documents can be
17 submitted to a library-like service that catalogs them and
18 guarantees access when referenced by its catalog number,
19 or jumped to with an appropriate link.

20 You know, these were novel ideas when they
21 were published. He was -- he wrote the paper in 1990 and
22 he was summarizing about 30 years of work.

23 Links within newly submitted hyper-documents
24 can cite any passage within any of the prior documents,
25 and back link services let the online reader of a document
26 detect and go examine any passage of a subsequent document
27 that has a link citing that passage.

1 So that's, you know, sort of a -- 1990 was 20
2 some odd years ago, that's a mission that I hope that you
3 are engaged in.

4 His work recently got released, so it was on
5 computers that don't go anymore. Right? Xerox PARC,
6 things like that. And somebody recently implemented it in
7 the modern HTML and JavaScript technologies and re-
8 released it. So you can read the original documents that
9 were some of the original hyper-tech stuff from 1960 some
10 odd.

11 All right. So the library system. I think
12 that's what I -- what we're sort of here to build, a part
13 of the web that operates like a library and not like a,
14 you know, popular culture that fades quickly.

15 So W3C in particular has a strong culture of,
16 or tradition of persistence. Most of our 10 year old URIs
17 still work. If you, you know, if you look at the meeting
18 minutes from the first web -- you know, the first meeting
19 of the members in 1994, the URL we used that day is still
20 going. All right.

21 And we have a stated policy that begins, When
22 information is made available on the web, it is important
23 for the integrity of the web and the society based upon
24 it, that URIs used to reference information be used well
25 into the future, and that the information persists as
26 identified.

27 Okay. So that's the beginning, and then we

1 have more stuff that sounds like legalese that's our
2 policy and stuff. But it's really a lot of the work that
3 I do every day.

4 When I organize a meeting, I see that the
5 record is available to people with disabilities and it's
6 in international context and all that kind of stuff. So
7 it's really hitting the road every day.

8 All right. So we're working with MIT
9 libraries and stuff to back this persistence policy with a
10 long term institutional commitment. So that brings me to
11 sort of a recommendation for, you know, UT libraries and
12 stuff.

13 When anything starts, think about the domain
14 name. Newproject.org versus newproject.utexas.edu. I
15 don't really know exactly which answer is right for which
16 project and stuff like that, but, you know, one invokes
17 the brand name of the University of Texas, one doesn't.

18 So you can create virtual organizations in no
19 time, but there's no short cut to getting its value
20 understood and appreciated.

21 Friday night football games are a big part of
22 building loyalty to an institution. How does the meta-
23 university do that? So anyone can distribute a new
24 technical specification on the web. What brings them to
25 W3C is our reputation for our review process and our
26 established culture and policies.

27 And think about scaling down as well as

1 scaling up. Movie recommendations from yahoo.com are
2 augmenting, not replacing, recommendations from friends
3 and family.

4 So I've heard in this room a lot of times, oh,
5 this problem looks hard, let's attach it at the national,
6 or international level, and all that kind of stuff. Don't
7 forget to address the problem in the group of the seven of
8 you sitting around the table or something.

9 Okay. So what I see is a shift from
10 publishers recovering costs from consumers. That's sort
11 of the current model. You print something and you get
12 people to pay for it. Sometimes you use advertising or
13 whatever, and that grates against me, but.

14 And then there's this -- along with that model
15 is, the people who didn't pay for it you've got to somehow
16 prevent them from getting access to this stuff. And this
17 is just a pain. There's passwords and all this kind of
18 stuff.

19 My sixth grade son -- I went to back-to-school
20 night, and the teacher said, his textbook is online and it
21 will be available next week after we get all the passwords
22 distributed to the students, you know. How long before
23 things like open course work just make those issues moot?

24 So the trend I see is from publishers
25 recovering costs from consumers to this endowed
26 publication idea. You know, it's in the grant, the
27 grantee organization says, Look, you've got to figure out

1 how you're going to make your website last, and you put
2 some sort of endowment, or whatever it is that puts -- you
3 know, you guys are the library folks, you'll figure this
4 out before I will, or whatever.

5 But I think that's the trend, my second
6 recommendation.

7 All right. So there's more about semantic
8 web, and maybe I'll work that into the conversation, but
9 I'm going to cut it off there.

10 ANDREW DILLON: Okay. Thank you.

11 Kevin?

12 KEVIN GUTHRIE: Okay. Well, I've got to say
13 that when I saw who was going to be presenting with us,
14 Dan, I didn't think you'd be talking about relationships,
15 which is really surprising that W3C would be focused on
16 that, and I think it says something about where we're all
17 going.

18 Thanks for the introduction. I will just say
19 a couple of quick things about JSTOR. Some of what we are
20 -- some of the perspective that I bring to these questions
21 are going to sound a lot like Lorcan's, and I think that's
22 because perspective matters and where you sit affects how
23 you see things.

24 And so I think OCLC and JSTOR occupy a space
25 that's across the organizations, and I just want to put
26 that out there as a kind of a caveat, or an introduction.

27 But I think that the things that I've been

1 involved in for 12 years, have all been around creating
2 new things. And I think it's so much easier to create
3 something new than to change something that exists. And
4 so I have enormous respect for what you all have to do.

5 Because, you know, quite honestly, when I
6 started the JSTOR in 1994, you know, I was just ignorant
7 of the community. And actually, that was a big advantage.
8 And we had no legacy.

9 So I would say that, you know, Alice, you
10 pointed yesterday to the issue of outsourcing, or
11 collaborations. I mean, JSTOR is a collaborative and
12 enabling organization. And as Lorcan pointed out, a kind
13 of outsourcing of a particular set of tasks that cross
14 institutional boundaries.

15 Its mission is the two themes of this
16 particular panel, preservation and access. And actually
17 its preservation aspect of its mission is quite stable in
18 that we developed a sustaining economic model, and we have
19 a reserve to handle archiving migrations going forward, a
20 kind of an endowment.

21 But the access side of the mission is not
22 stable. It cannot be stable in this environment. The
23 degree at which people regard JSTOR as a very valuable
24 resource at the faculty level, at the user level. That is
25 a moving target and a moving proposition.

26 So the world is changing and JSTOR is going to
27 have to change, in fact, over some period of time. Take

1 your guess, three years, five years, ten years it'll have
2 to remake itself, on the access side of its mission. Its
3 preservation side of its mission is stable. So I think it
4 is always harder to change things that exist.

5 So I'm going to just talk very briefly on a
6 few of these topics. On preservation, I think the biggest
7 challenge -- the challenges are not really technical, we
8 hear about Moore's law; we hear about all these things.
9 The challenges are organizational and financial on
10 preservation.

11 The huge issue that I see, and have seen for a
12 decade, is that we have established structures, budgets,
13 approaches to how we handle things that are built on the,
14 you know, the pre-existing world.

15 And as you move into this environment that
16 Cliff talked about yesterday, a leased environment as
17 opposed to an owned environment, an environment where
18 instead of, you know, where preservation is unbundled from
19 access. It's not automatic that you hold the materials
20 that you provide access to.

21 In that environment, we have to change the
22 structures, the accounting. What is capital, what is
23 operating, how are things paid for? If something is in
24 the acquisitions budget, how do we deal with the fact that
25 something is really a capital expense.

26 So in JSTOR's case, if there are economic
27 savings to be had from moving materials off shelf, or even

1 discarding, you know, spotty runs and getting rid of them,
2 and that creates space, space has economic value, how is
3 that realized, how do you make that fungible?

4 If the University of Texas System has done a
5 study -- I'm not aware if it actually probably has -- of,
6 you know, the duplication of content in its libraries, how
7 does it realize the value of the de-dupping, and how does
8 it go about that process? That's a challenging process.

9 And I think when you bring that to the issue
10 of mass digitization on the scale of Google, and you look
11 at that across the system, I think I'm echoing a point
12 that Lorcan made.

13 The potential savings in the system are
14 staggering, absolutely enormous. But we don't really have
15 a mechanism, either locally or on a system-wide basis for
16 attacking that problem strategically, and understanding
17 how to make that transition.

18 And I think if you take that one little step
19 further to the access side, about eJournals, just as an
20 example, but it's a little ahead of everything else, you
21 know, can we set a date, you know, can we say by 2010,
22 journals in this discipline we're not going to have them
23 in print anymore, and then say, what would we have to do
24 to make that possible?

25 We don't do that. We sort of -- my
26 understanding out there is everything is kind of ad hoc
27 and reactive and there's a process in acquisitions that

1 ends up canceling certain things for certain kinds of
2 reasons. But actually going after that target in a
3 strategic way is not the way we typically look at things.

4 On access, I think that, you know, for a long
5 time, search was a kind of slow moving, you know, mediated
6 process. And I think that we are all products of the
7 world we're in, or if, you know, if we're pilot fish, we
8 swim with the shark we swim with.

9 And the academic community has a certain set
10 of enduring values and processes. And the introduction of
11 Google, and the information economy more generally, is
12 just a completely different pace than what we're
13 accustomed to.

14 And so at some level, I think the world
15 changed for us when sometime between, you know, when I
16 started JSTORE and now, when a scholar uses the same tool
17 to search on a very important topic in their discipline,
18 as they used to get directions to the closest restaurant
19 of a particular type, the world changed.

20 The tools of commerce came into the library,
21 came into the academy. And that is upsetting everything,
22 all of our expectations. Clifford said the gap between
23 social -- scholarly communication and scholarly publishing
24 is widening and journals are late. In other words, you
25 know, journals are late to publish that which is
26 important.

27 Increasingly, the leading scholars, what

1 you'll hear them say is, I don't really use the journal
2 anymore for discovery at all. I mean, I already know what
3 is before the journal is out. And I know because I know
4 all the people who matter in my discipline.

5 I mean, one way we look at it is
6 fragmentation, the other way is specialization. But
7 scholars increasingly say, I know all the people who
8 matter. Now, you know, they're arrogant and they may not
9 know all of them, but they know most of them.

10 So their mechanism increasingly for finding
11 the literature is to do a search on the author name and
12 find these things. Now one argument for that is that
13 institutional repositories and open access are really
14 important. I think that's actually somewhat tangential to
15 the issue.

16 But I think that the point is that, you know,
17 there are these communities that are developing and that
18 is not -- I think some people will say that that's a
19 disciplinary phenomenon. Earlier, I think yesterday, we
20 heard about how our children and the way our children are
21 using -- or the young people are using these new
22 communities, My Space, et cetera, will impact where we
23 are, so we can look there to see our future.

24 I think those of us in humanities can look to
25 the sciences for our future, to a degree. I think a lot
26 of the time we think that the issues are special, but I
27 think that, you know, fundamentally we all want to save

1 time.

2 We all have a tendency to know the people who
3 are important, and so the processes that we see happening
4 in one discipline, I think we ought to be asking ourselves
5 if they're coming to our discipline.

6 We see in some of the survey work we do, and
7 also in the JSTOR usage data, that the use of the digital
8 scholarship, the use of JSTOR, in the beginning historians
9 were, how should I say, hostile to JSTOR really, a lot of
10 historian scholars.

11 Now they're the top using discipline in the
12 field. So I think people, when they get access to this
13 stuff, will absolutely use it.

14 One last comment on innovation and disruption.

15 You know, in part, is it a mind set? At some level, I
16 regard the institutional repository as very much like the
17 library that we've always had. People are creating the
18 institutional repository and waiting for people to put
19 things in it, and waiting for it to be useful, and
20 frustrated that there are only a few items in it.

21 You know, that's just a very passive
22 warehousing kind of way of looking at it. And I think
23 this gets to the issue of managing consumption. There's
24 part managing collections, as Lorcan referred to, in sort
25 of getting the collections out there and seen, and there's
26 the part that's about services.

27 And one thing I would like to say, you know,

1 I'm not a librarian, I come at this from a very different
2 perspective, but if could just throw out there, what I
3 would probably do, given my experience with new things and
4 not knowing that much about what it takes really to run a
5 library, if I were really trying to change how we
6 operated, I think I would take a group of the best people
7 I had, separate them from the library, and send them out
8 to the faculty on my campus.

9 Because at the end of the day, these
10 institutions are geographical institutions right now. And
11 I think trying to play a game that's about scale across
12 the whole sector is not a game that an individual
13 institution can win.

14 But if Dan believes that relationships are
15 really the most important thing, that which you can do
16 locally on your campus is the thing that you cannot be
17 competed with. And those services that you can provide
18 that, you know, really depend on close hand-to-hand
19 combat, those are the things that the library can make a
20 difference on.

21 So I would be inclined to separate a group of
22 great people and set them out on that sort of geographic -
23 - with a geographic set of objectives, as opposed to a
24 worldwide global set.

25 ANDREW DILLON: Thank you, Kevin.

26 Alice.

27 ALICE PROCHASKA: Well, it gets more and more

1 difficult to say anything different from what everybody
2 has already said. And I am interested in the
3 commonalities between the other team members of the panel,
4 and what I wanted to say.

5 And I hope that what I say will have value, if
6 it does have value, at least as the approach from the
7 perspective of a university librarian.

8 I thought I'd kick off my remarks by talking
9 about human interactions, and I'm very interested to find
10 that Dan and Kevin have said that same thing, and so have
11 previous speakers in this panel.

12 I think one of the themes that I'm finding
13 comes out of our discussions yesterday, and today as well,
14 is one of the transmission of values. And if I have time
15 at the end of my remarks, I may return to that with a
16 personal anecdote.

17 Because I think we are talking about
18 generations and we are talking about different experiences
19 and perspectives which sometimes get in the way of our all
20 working towards the common end that we've so cogently
21 identified between us.

22 From my perspective, the scholar and teacher,
23 the librarian and a student are all, of course, adopting
24 new and continually changing, fast changing behaviors.

25 For the librarian, opportunities for
26 digitization introduce new opportunities also for outreach
27 to public audiences, both scholarly and general, who did

1 not previously influence core library policy to the same
2 extent.

3 And I very much take on board Cliff's point
4 that he made yesterday about the importance of multiple
5 constituencies.

6 The scholar, as a researcher, especially in
7 the social sciences and the hard sciences, works
8 increasingly at the computer on his or her own when not
9 interacting in a research team or laboratory.

10 Certainly scholars in the social sciences and
11 hard sciences very often perceive themselves as not using
12 the library. There is a widely experienced tendency to
13 assume that they're not using the library, and the
14 understanding of the role that libraries play in enabling
15 digital access is patchy at best.

16 Often, faculty members may only realize that
17 they've been using the library all along when they move to
18 a new campus where there is less access than they were
19 used to.

20 And I have lost track of the number of
21 desperate e-mails I've received from former Yale graduate
22 students and faculty members who have moved to places like
23 Chile, and suddenly realize that actually, the work they
24 promised to do, they cannot do without the facilities that
25 we were providing for them.

26 So what are the challenges in this respect?
27 Branding and the creation of loyalty, as Dan expressed it.

1 How to connect to scholars, how to discover their needs?
2 At Yale we are trying to do a series of usability studies
3 which are helping us materially. And I'm quite sure
4 that's a common pattern.

5 I think the importance, certainly at this
6 stage of development, the importance of knowing our users
7 and conducting systematic usability studies cannot be
8 exaggerated.

9 And, of course, in the process of surveying
10 our faculty and other users, we can also convey news of
11 what it is that the library provides, news about links,
12 databases, new software, ways of working differently.

13 And in doing all of this, we need to maintain
14 the position of the library in the budgeting and policy
15 making of the University.

16 And it's been a common theme -- of course,
17 we're not only talking about universities, we're talking
18 about the parent bodies of non-university research
19 libraries too -- and it is a common theme that very little
20 of the old work that we have traditionally done is going
21 away.

22 Publishing, output and print, I believe, is
23 still increasing and we certainly, at Yale, have not
24 diminished the amount of print that we buy, or try to buy,
25 at the same time increasing what we spend on electronic
26 collections by at least one third every year. We're now
27 probably this year hitting the \$6 million mark. That's on

1 electronic publications alone.

2 The scholar as faculty member, as opposed to
3 researcher, is one of a community and teacher of students,
4 and experiences different needs. Surveys show faculty
5 members putting high priority on access to electronic
6 information for their own research, but also on access for
7 teaching.

8 And here the library has many opportunities.
9 Teaching with collections involves one-to-one connections
10 with individual faculty members, supplying digitization on
11 demand, being ready to spend considerable amounts of time
12 working with them individually in course design, the
13 selection of reserves, and so forth.

14 And I very much liked what Jim Duderstadt said
15 yesterday about the library as observation posts, and how
16 important it is to us and to our faculty colleagues to use
17 the library spaces as a way of learning about how people
18 learn, as well as contributing to new ways for people to
19 learn.

20 Student behavior demonstrates more use of
21 library spaces, more call on electronic reference
22 services, and a different quality of information seeking.

23 And at the same time, the Google phenomenon is something,
24 while it causes concern to faculty members and librarians
25 alike, it also presents us with some very interesting
26 challenges.

27 We need to train students in a sophisticated

1 understanding of the nature of evidence. We need to help
2 them see the value of advanced research, going beyond the
3 random provision of Google, and Yahoo, and all the others.

4 And we need also to help faculty members stay up-to-date
5 with advanced searching techniques, and discuss with them
6 policies for training students.

7 And we need to gain access to both groups and
8 overcome their embarrassment about being out of date, not
9 knowing what they imagined they ought to know. We need to
10 liberate them to make the fullest possible use of all of
11 these opportunities.

12 In addition to these constituencies, the
13 worldwide public is now playing a part in library policy
14 making. Digitization programs take account of our ability
15 and therefore our obligation to make digital versions of
16 our unique and rare holdings available.

17 We have an obligation to collect more and
18 differently. Cliff's point, again, about popular culture
19 is well taken. Think what we now do and can do with
20 ephemera, the disregarded nothings that people threw in
21 the trash can, and only a few obsessive nut cases
22 collected and passed on to their libraries.

23 Think about life long learning, and the sort
24 of demands that that places on collections.

25 So here are just a few thoughts on the ways in
26 which these changes these have already affected
27 librarians' priorities.

1 I believe, maybe I'm biased in this, that
2 special collections do move into the front and center.
3 They do tend, at least broadly defined -- I don't define
4 special collections as simply rare books, maps,
5 manuscripts, music, but a great many other things as well
6 -- they do define the distinctiveness of their libraries.

7 We recently at Yale hired a cataloger to
8 catalog some rather long neglected collections in
9 Hungarian and Ugric and other south Slavic languages, and
10 we have discovered, as she does her work, that almost all
11 of them are uniquely held at Yale.

12 We simply didn't know that before. So there's
13 a special collection that we might not previously have
14 defined as such.

15 I also see an irony in that because we are now
16 able to digitize evidence, and because of the importance
17 of scholarly authenticity and scholarly accountability, we
18 actually value the original more. The digital version
19 must be based on an original, certainly when you're
20 talking about evidence based scholarship.

21 You have to be able to replicate the
22 scientist's work, you have to be able to ensure
23 persistence of the experiment as conducted. And that is a
24 huge challenge. In the world of the humanities and the
25 social sciences, you have to preserve the original.

26 So there's a slow but perceptible impact on
27 collaborative collecting policies, and I agree with

1 everything that's been said earlier about how we should
2 focus on that which is distinctive locally.

3 And I also would just like to lob in, as I run
4 over my time, that I think the discussions that are
5 ongoing in ARL and other forums about the core
6 competencies for librarianship are enormously important to
7 us at this juncture.

8 ANDREW DILLON: Thank you, Alice.

9 As agreed, I said I'd give each panelist one
10 minute to react to what they've heard. And despite the
11 agreement, react.

12 Dan.

13 DAN CONNOLLY: Yes, services and teaching the
14 next generation the value of evidence and things like
15 this, as I do my work, one of the things I'm sort of
16 inspired to do -- I'm thinking about teaching at a local
17 junior college or something, because I don't really know
18 much about the subject or whatever -- a course on media
19 literacy.

20 You know, how do our students learn to decide
21 whether to trust some web page they find with Google and
22 stuff like that. How much can the libraries help with
23 that? It used to be, how do you learn to use the library
24 system? Well, here's the Dewey decimal system and all
25 that. Okay.

26 Well, to figure out whether you should believe
27 a page today, you got -- you should know who published it,

1 and basically be able to follow the money behind the web
2 page. Right? Can the libraries help students do that? I
3 wonder about that.

4 KEVIN GUTHRIE: I think, you know,
5 relationships are important, and I think we all talked
6 about that. But I think we also have to recognize that
7 many things are happening without relationships, and with
8 great speed.

9 I had the -- I was involved, prior to the
10 Google launch of the library books projects, in meeting
11 with a lot of the senior people at Google. And the thing
12 I came away from those meetings with -- and I don't know
13 if it's still the same way, Jody -- is that everything was
14 about speed. I mean, move, move, move. Everything is
15 about speed.

16 And, in fact, these were just the technology
17 guys at that point who said this, but basically they said
18 anything with a relationship, we don't -- we're not
19 interested. That slows us down, it's too hard. You know,
20 we want to do the things that don't have relationships,
21 that don't involve negotiation, that don't get the lawyers
22 involved.

23 Now obviously the world has changed for Google
24 in certain ways, but -- and, you know, I'm not making this
25 up -- but I think the point of it that's important is that
26 many things are happening in this environment because of
27 speed, and I think we have to recognize that that's

1 important, the pace is important.

2 I think the other point that -- well, I'll
3 just leave it at that and move on to Alice.

4 (Pause.)

5 ANDREW DILLON: Your time will time. Your
6 time will come.

7 Alice.

8 ALICE PROCHASKA: Lawyers usually get involved
9 in most things sooner or later.

10 On Dan's question about how to teach students
11 how to evaluate evidence, I think this goes to the heart
12 of the matter, and this is one of the values that I hope
13 endures through generations.

14 And whatever the place we're at in terms of
15 technological competence, where we all are, surely, is to
16 insist on the importance of supporting and authenticating
17 our work, whether it's research or teaching.

18 And even if our students aren't going to go on
19 to be researchers themselves, they are the consumers of
20 our research, or our faculty's research, and they need to
21 be able to evaluate it.

22 And I will not go on at length, but there are
23 various strategies for teaching with collections,
24 including original collections, which they may then see
25 more extensively in digital form. But I think there is
26 simply no substitute for looking at original books,
27 manuscripts, videos, the material as originally authored,

1 at least to know what an original is.

2 ANDREW DILLON: Okay.

3 KEVIN GUTHRIE: Can I have one more comment?

4 ANDREW DILLON: Yes.

5 KEVIN GUTHRIE: I mean, I think the other
6 thing is that as we make this transition, Alice, you
7 talked about the things that still need doing. But I
8 think we're going to have to stop doing some things.

9 I mean, somehow we have to make the trade off
10 so -- Lorcan talked about opportunity costs -- but you're
11 going to have to -- we're going to have to stop doing some
12 things to enable the doing of these new things.

13 And these choices are made all the time. I
14 think one of the things that's difficult in our sector is
15 that because our host institutions are so long lived, and
16 they're never going away, that the motivation to change
17 dramatically isn't there.

18 I'll give one example. You know, my family,
19 we've been AOL subscribers for a long time. I obviously
20 get e-mail from work, but my wife and my kids have AOL
21 accounts, and we, you know, we have cable modems, so, you
22 know, about three weeks ago we had gotten an e-mail from
23 the CEO of AOL that says, you don't have to pay anymore.

24 You know, I mean, we're paying \$20 a month,
25 and I just sort of thought it was the cost of being there,
26 and got an e-mail that said, you don't have to pay
27 anymore. AOL decided to move to a free model for

1 broadband customers.

2 Now, why did they do that? They sacrificed ___
3 the estimates are \$2 billion in annual revenue. Just
4 basically said, we'll give it away. Well, why? I mean,
5 obviously they didn't do that for fun.

6 They had to at some level because the market
7 was -- as the market watched it bleeding subscribers at a
8 very high rate on a monthly basis, you know, the stock
9 price was suffering and so they had to make choices.

10 The point is that, you know, in our
11 environment, nobody would do that. Nobody would take that
12 step. And what is that step about? That step is about
13 pointing the organization in a completely different
14 direction from the one that has supported the organization
15 for a long time.

16 Now it may not work, but it's a way that
17 change and innovation happened in a different sector. And
18 it's one of the challenges in our sector in terms of how
19 to motivate those kinds of significant changes.

20 ANDREW DILLON: Good. Thank you.

21 We have 30 minutes for questions. Let's see
22 some hands.

23 Fred.

24 FRED HEATH: I'd like to fumble my way to a
25 question here. It has something to do with what I thought
26 Cliff said yesterday, and what I think Alice said now.
27 And in this world of speed, in this world of explosion of

1 the digital universe, I think Cliff said that one of the
2 things that Tom Staley and Alice in her work, have to
3 contemplate is the erosion of the preeminence of those
4 collections that attract preeminent scholars to their
5 universities, because everyone will have access to that.

6 And what I think I heard Alice say was not to
7 worry, we can freely engage this fast changing digital
8 world, share our resources, and trust the added value that
9 our universities add to that resource to make that our
10 role in the future.

11 Am I hearing the two of you -- is there a
12 point of disagreement here, or distance between the two of
13 you?

14 ANDREW DILLON: Care to comment, Cliff?

15 CLIFFORD LYNCH: I think we're more or less on
16 the same bench here. It seems to me that it's going to be
17 less the collections than the organization you can bring
18 to it, the knowledge you can bring of the collections.

19 And I think we will actually see a few really
20 anomalous situations where somebody's got a collection,
21 for some historic reason they're hosting it. All the
22 expertise is actually someplace else. That will probably
23 be the exception rather than the rule.

24 But we may actually someday be thinking about
25 whether collections should start to follow expertise, or
26 at least replicate where the expertise is.

27 DAN CONNOLLY: Two things. So, one, there's

1 nothing like being there. On the one hand, so that the
2 freely available digital thing sort of acts like a
3 commercial, you know, it's an advertisement for what's
4 going on.

5 So more people are likely to find out that you
6 have this nifty collection. And the people that really
7 want -- that are really interested in it are going to go
8 there, because, you know, people are social animals and
9 being in the room is different from being across the
10 planet.

11 Sometimes it's too expensive to go there and
12 they'll just observe remotely. But there's nothing like
13 being there, and sometimes just, you know, the world
14 readable version does attract people.

15 And -- the other leaked out. So anyway, that
16 happens with books sometimes too. You put the full text
17 online and more people buy the hard copy. But it's how it
18 happens.

19 ANDREW DILLON: Alice.

20 ALICE PROCHASKA: And you put the -- you put
21 an image of a rare manuscript online and more people come
22 to see it. We've all experienced that.

23 But I think probably what I'm saying is the
24 same as what Cliff is saying, that the sheer depth of our
25 published collections becomes, in a sense, a less
26 distinguishing feature, and Lorcan was making this point
27 as well, and I thought very eloquently, talking about

1 focusing on consumption rather than content.

2 But meanwhile, we, all of us, in our big
3 research libraries, and, in fact, many in small libraries
4 and local history collections of public libraries, state
5 historical societies, you name it, we hold unique
6 materials.

7 And they have historically, until relatively
8 recently, been somewhat underprivileged in our budgeting
9 models and the way the library has devoted its resources.

10 And this is where we are making changes and need to make
11 more changes, I think, and try to reallocate these all too
12 scarce resources.

13 Because this is the material that we're now
14 even more accountable for, precisely because we can make
15 it available. And we can make it available to these
16 important constituencies so that in very interesting ways
17 we share constituencies with the public libraries, we
18 share constituencies with the world. Google makes us
19 aware of this in certain ways.

20 And because we are able to build on our unique
21 materials, that's where, I think, the research library of
22 the future needs to focus a lot of attention.

23 Now, once we've made them available, and one
24 previous speaker has made this point, they're out there,
25 and people don't have to come to us. But I think they're
26 going to want to. And it doesn't bother me at all. I
27 think that's how we fulfill accountability.

1 KEVIN GUTHRIE: I think there's a big
2 challenge here in the expansion of the mission of a lot of
3 these institutions to a global mission against a charter
4 that is a local one. And I think that we need to
5 understand what the implications of these things are.

6 Clifford mentioned yesterday the sort of
7 upside down nature of some of the cost structures, and
8 that the commitment to creating these digitized resources
9 results in long term care.

10 And, yes, on the margin it's inexpensive and
11 it's a bit of a paradox to deliver to the nth user, but
12 maintaining these through the migrations is expensive.
13 And, you know, we had a natural regulator on being a
14 global organization before, and it was the hours of the
15 library, when the doors were open, when the lights were
16 on, and people having to come.

17 The cost was borne by the user in getting
18 their body to the place to use it. And now the cost is
19 small, it's tiny, but it's borne by the provider.

20 And in bearing that cost in 24/7, 365 days a
21 year, to the globe, lots of tininess adds up to a lot of
22 money. Now on the margin it's small, but it's real, and I
23 think that understanding that expansion and mission, and
24 particularly for state-run institutions, it seems to me a
25 challenge when you're paid for by the taxpayers of the
26 state of Texas.

27 Are you, in fact, responsible for delivering

1 services and content to the world? You know, if it's
2 cheap enough, I think it's great. But when it starts to
3 buck into some problems of cost, I think it's going to be
4 a different question.

5 And so I think increasingly we're going to see
6 that the charters of institutions serving the world are
7 going to have to reflect that. And institutions, maybe
8 they have to change their charter, or something has to be
9 done in that mismatch between the governance of the
10 institutions and who they claim to be serving.

11 ANDREW DILLON: The emergence of the true
12 world university.

13 KEVIN GUTHRIE: Yes, maybe. I don't know.
14 Federated universities or something.

15 ANDREW DILLON: Jim, you had a hand up.

16 JIM NEAL: I wanted to follow up on Dan's
17 observation about the 96 percent persistent rate in links
18 to websites. My experience is very different. I'm
19 beginning to try to migrate the research methods of
20 employee turnover into looking at the website survival
21 rates, turnover rates.

22 And I'm experiencing a much, much higher level
23 of loss.

24 DAN CONNOLLY: Hold on. I didn't say 96
25 percent of websites are persistent. I said 90 percent of
26 the time, when somebody follows a link, they win.

27 JIM NEAL: Okay. Well --

1 DAN CONNOLLY: Some --- okay. Lots of people
2 follow -- don't follow --

3 JIM NEAL: Let me cite three other things and
4 then we can talk about where the two ideas mesh.

5 DAN CONNOLLY: Okay.

6 JIM NEAL: One, the loss rates are higher,
7 two, our own website archiving work at Columbia albeit
8 very preliminary and experimental, over time is showing
9 links are broken, aggressively broken. And third, I'm
10 beginning to see manuscripts or journals, papers that are
11 being submitted to journals that are beginning to
12 document, grossly higher, in some cases over 50 percent,
13 breaks in links to the references in research papers.

14 DAN CONNOLLY: I also --

15 JIM NEAL: I don't know how that aligns with
16 what you said.

17 DAN CONNOLLY: I didn't say that 96 percent of
18 links persist. I said 90 percent of attempts to follow a
19 link win. All right. A lot of these broken links nobody
20 ever tries to follow them. All right. So that's what --
21 and --

22 ANDREW DILLON: Hang on a second. That's
23 going to raise some ire here, Dan. Is it just that people
24 are self selecting, saying, well, I know that's dead, I
25 don't go there, and how do we factor that --

26 DAN CONNOLLY: No, I mean, it's the normal
27 distribution. Right? The top 10 websites constitute 90

1 percent of the traffic in the world. I mean, popular
2 stuff is popular. Right?

3 And so most of the links go to popular stuff,
4 and the popular stuff is maintained and the stuff on the
5 edges, you know, there's lots of it, there's a long tail
6 and all this kind of stuff, but --

7 JIM NEAL: Well, I guess I would argue that
8 that doesn't necessarily -- does not -- that result does
9 not necessarily migrate well over into the scholarly and
10 learning environments that we're responsible for.

11 DAN CONNOLLY: Exactly. So for the part of
12 the web that is the scholarly record, you know, it's not
13 easy to keep these links working for a long time, and you
14 guys know how to do it better than the technical geeks
15 like myself. So please get on board and, you know,
16 invest.

17 And the pattern that I want to work against
18 is, you guys stop and wait for me to come up with a
19 technical answer. No. Okay. The technologies are almost
20 as good as they're going to get. It's these financial,
21 organizational things like that, and you guys know better
22 than I do how to address these things.

23 KEVIN GUTHRIE: But the data is -- I mean, the
24 data's a bit misleading in that sense. I think we all
25 sort of reacted like, no way, you know, in a sense that
26 the average, across the spectrum, because there's so much
27 usage out that dwarfs the amount of usage in the scholarly

1 community means that the scholarly community's average
2 could be 20 percent.

3 DAN CONNOLLY: Right.

4 KEVIN GUTHRIE: It could be 5 percent for all
5 we know. I mean, I think that's one of the questions that
6 we'd have to attack in this community uniquely.

7 DAN CONNOLLY: Right. So the main -- do you
8 teach your scholars about the value of keeping the links
9 alive, or do you just assume the links die and you don't
10 even worry about it? Please teach them the value of
11 keeping them alive.

12 I was very happy to hear that there was a
13 funding organization that, you know, writes into the
14 granting stuff, you've got to tell us how you're going to
15 keep your stuff available for a long time.

16 ALICE PROCHASKA: And there is another issue
17 here as well. The Center for Research Libraries recently
18 conducted a small piece of research, which I think was
19 funded by Mellon, into political protest websites.

20 And several different scholars from several
21 different types of organizations wrote up their findings.

22 Something like 60 percent of the websites that they had
23 been using as source material for their study of political
24 protest movements across the globe had vanished within two
25 years, was it?

26 And that's a very serious problem. It's not
27 going to be addressed easily by -- I think we do need to

1 educate our scholars, our faculty members, our scientists
2 in preserving the data and making it available.

3 And an enormous amount's been said about that,
4 but what do we do about this goal of research that's
5 vanishing every day, vanishing as we speak? Web
6 harvesting does become an obligation that we have to
7 share. It's tough, it's very difficult to do.

8 Largely, I think, you're right, for
9 administrative and organizational reasons, not for
10 technical reasons. And we need to spread the knowledge
11 about the urgency of this work, I think.

12 And this is an area where digital special
13 collections, if you like, can -- and I don't really like
14 the term special collections very much -- but we do need
15 to, in a sense, transfer those values and habits of
16 valuing the data about human experience as we see it in
17 analog form.

18 We need to carry forward those values and
19 habits into the digital world, and I think Jim has put his
20 finger on a seriously important issue that is one that we
21 really, really haven't cracked.

22 AUDIENCE: I think it's important to
23 distinguish between websites and web objects. Don just
24 reminded me of a study that demonstrated that the average
25 life expectancy of a web object is now about 100 days.
26 And that's a real problem.

27 The website might be accessible, but the

1 content within that website, if you will, is no longer
2 accessible and usable, and then I think we have a real
3 problem.

4 DAN CONNOLLY: Well, okay, maybe. I mean, you
5 just can't hold the whole world to scholarly expectations.

6 All right. People are going to make ephemeral websites
7 and stuff like that. And they're going to make games that
8 don't work six months from now, and that's life. Okay.
9 Live with it.

10 But for the part of the world that, you know,
11 that is the scholarly record, you can fix this. And you
12 can work hard on the problems of how are we going to
13 archive this thing that started as a game website and
14 became so popular that we really need to archive it and
15 stuff like that.

16 It was such -- it was an event in history that
17 people are writing scholarly papers about, so we need to
18 archive that. That's a problem that you need to work on,
19 but --

20 AUDIENCE: I don't -- I'm sorry, I have to
21 disagree with you again in that I think the work of
22 scholarship clearly depends on the work of scholars, but
23 the original research depends on the capture of that full
24 record in some way.

25 And the popular culture is as relevant to
26 future research as the research that is published by
27 colleagues.

1 DAN CONNOLLY: Right. But --

2 AUDIENCE: So we have to take responsibility,
3 I believe, in our community to have a policy framework,
4 and a technical framework, and service framework that
5 enables us to get that stuff as part of our collection
6 development responsibilities, and make it available long
7 term.

8 DAN CONNOLLY: I suppose. But the spoken word
9 we don't have, you know, long term archives of that.
10 Right? It just comes and goes, and the scholars study it
11 in any case. Right?

12 ANDREW DILLON: Good point.

13 KEVIN GUTHRIE: So I think --

14 AUDIENCE: There are records, there are
15 archives of the spoken word.

16 DAN CONNOLLY: Some of it.

17 AUDIENCE: Yes.

18 DAN CONNOLLY: Some of it. That's my point.
19 Just don't hold the whole web to these, you know -- but
20 just because there are websites that go away, don't throw
21 up your hands about the whole web.

22 ANDREW DILLON: Good point.

23 KEVIN GUTHRIE: I think one of the -- I mean,
24 I think that was one of the points that Ann made earlier
25 about presses, you know, that there's sort of some
26 enterprises taking responsibility for, not necessarily
27 protecting their commercial territory that Cliff talked to

1 as part two yesterday, but, you know, I think with the
2 scholarly information, we have to develop the mechanisms,
3 the real practical mechanisms, I mean.

4 And that's part of what, you know, Ithaka is
5 trying to do with Portico and LOCKSS is trying to do, is
6 trying to do is to create a specific way of going after a
7 specific set of content and ensuring that it's persistent.

8 And I think that we're going to have to keep
9 doing that over and over in a lot of different cases where
10 we have practical solutions to problems. Hopefully some
11 of them are, you know, massively scalable solutions that
12 involve more technology than relationships.

13 ANDREW DILLON: Thanks, Kevin.

14 I saw three hands go up, I now see a fourth.
15 I'm going to try and take them in the order I remember
16 them.

17 Lorcan, you were first.

18 LORCAN DEMPSEY: Dan, I mentioned citability
19 and it's important to [indiscernible] persistence and
20 citability are related, but different. Ross Atkinson in
21 one of his papers made an interesting suggestion in
22 relation to institutional repositories.

23 And I thought it was interesting this is only
24 a small point [indiscernible] making, that the library or
25 the institution should take responsibility for ensuring
26 persistence of things cited by its own scholars within its
27 repository.

1 So that if somebody at Cornell cites a web
2 page or something else, a paper [indiscernible].

3 DAN CONNOLLY: Good idea.

4 LORCAN DEMPSEY: -- the web page
5 [indiscernible]. And clearly you lose a lot of context
6 and various other things, but I thought it was an
7 interesting suggestion and just an aside.

8 ANDREW DILLON: Thank you. There was a hand,
9 a question at the back.

10 GARY STRONG: Yes, I would just like to add a
11 little bit to the popular culture disagreements that seem
12 to be going on, and that is that we depended -- we look at
13 it as not scholarly material too often, and yet a large
14 number of our faculty work in these areas, and frankly I
15 think has as much of a scholarly record that we have to
16 collect as the print and the traditional kinds of things.

17 And just because it's -- and the format's a
18 new mechanism doesn't mean it's any less valuable. It
19 makes it even more complicated than trying to sort out
20 what we ought to be doing [indiscernible].

21 I think this case in point, in terms of our
22 harvesting, crawling the web for political websites prior
23 to primary and general elections in the state of
24 California. And the recall election was the most
25 interesting. It was the first time we had tools to really
26 go out and do that. Ninety-nine percent of the websites
27 disappeared the day after the recall election.

1 And yet in any number of cases, we had folks
2 come back, particularly our current governor, and ask for
3 the blogs that were on those websites, that they actually
4 took down themselves, and they needed them in the
5 transitional period to get identification of community
6 input and all kinds of other things.

7 Those are being studied by political science -
8 - certain of our political science faculty, looking at
9 trends within California politics.

10 So, you know, it becomes very interesting to
11 look at popular culture and popular kinds of things on the
12 web, that we might not have traditionally collected in
13 other ways, or collected them as ephemeral because we have
14 a long trend collection of print political materials.

15 ALICE PROCHASKA: I'd just like to comment on
16 that. Gary, I completely agree with everything you just
17 said. I do think that the -- we need to be very aware of
18 the way that the role of the librarian shapes scholarship.

19 What we collect has massive impact on what people see as
20 scholarly resources in the future, whether it is existing
21 scholarly output into scholarly record, or the evidence
22 that has not yet been used by scholars, and may not be
23 used for maybe generations.

24 And I think, just as one example of the
25 international Don Juan Project, a large part of it, again,
26 sponsored by Mellon, and collecting material that was shut
27 up in a cave on the Silk Road for a whole millennium.

1 And when it -- that cave was opened up and its
2 contents were disposed by scholarly trophy hunters from
3 all over the world, material was revealed for the first
4 time of a very ordinary nature, which actually described
5 life in classical China for the very first time, and
6 scholars were able to build whole fields of understanding
7 comprehension.

8 And now, of course, in the digital
9 environment, we're able to bring it together, stuff from
10 Peking, Beijing, Berlin, St. Petersburg, London, Tokyo, et
11 cetera.

12 And if librarians and art historians together
13 hadn't set about doing that work, the scholarly record
14 would be immeasurably poorer in a field that's becoming
15 more important as a result of their work. We have a very
16 important symbiotic relationship with the scholarly
17 endeavor there.

18 ANDREW DILLON: Thank you. Yes.

19 AUDIENCE: I just wanted to add the very point
20 that if the library set as it's top priority collecting
21 all the scholarships, in this case, on the California
22 primary, that'd be a certain recipe for having an inferior
23 library, because, as Kevin pointed out, academics work
24 with a certain amount of arrogance, or maybe you could say
25 shorthand methods.

26 They're going to ignore a lot of stuff that's
27 turned out on the primary. They're going to love to have

1 the primary material itself, the websites. So that's why
2 we shouldn't be obsessed, if you like, with scholarship.
3 We should more be obsessed with the primary material, in
4 this case, the web pages.

5 DAN CONNOLLY: All right. There's just two
6 different games to play. There's one of trying to see
7 that, you know, works as published persist, and then
8 there's another one to, you know, try to make it so that
9 the works as published, you can sort of get at them
10 somehow, not by following the original link or whatever.

11 And the second game is sort of totally
12 different game from, you know -- so there's archive.org
13 and there's, you know, your library probably has a copy of
14 some important web page, or something like that.

15 But that doesn't mean that following the
16 original link is going to work again. And what I'm
17 encouraging you guys to do is make sure that when you're
18 following links to the originally published, you know,
19 article on a new gene or something like that, let's try to
20 make that reliable.

21 ANDREW DILLON: Where's Brewster Kahle when we
22 need him?

23 And you had a question?

24 ANN WOLPERT: Actually, I think I have a
25 question, although a lot of the issues I was going to make
26 have already been raised.

27 Once upon a time, there was a correlation

1 between productivity on our campuses and on the quality of
2 our collections. So the economics of having a large
3 collection of material in close proximity to the scholars
4 so they could use it, was obvious and institutions were
5 willing to invest in it.

6 One of the things we're trying to do in the
7 MIT Libraries with the web consortium is make it easier to
8 find materials that are out on the web and move them among
9 and between unlike technical environments, that's a
10 complicated problem. But then you have to redefine the
11 paradigm of what it means to be productive.

12 You either do it for your own campus because
13 you think those materials are primary materials that
14 you're going to collect over time, or you have to have
15 some kind of a shared technical environment into which you
16 put those things, with some set of understandings about
17 who's going to pay for it and how you're going to get it
18 back out again, which, in a way, is a new form of captured
19 publishing.

20 And we don't have that mechanism in place. We
21 have institutional repositories at original institutions,
22 but we don't have something that replicates the robust
23 model of scholarly publishing as it was historically
24 defined for us.

25 It's the same set of work processes where you
26 find the good stuff that's out there and you capture it
27 and you maintain it in an environment under a set of

1 standards. But it almost seems like we have to start
2 building a separate silo for that because the traditional
3 publishing environment isn't supporting scholarship in the
4 way we would like to see scholarship going forward.

5 So I don't know whether that's a question or a
6 comment.

7 ANDREW DILLON: Neither do I. But maybe some
8 of the panel would like to react.

9 DAN CONNOLLY: Could I react with possibly a
10 non sequitur, which is the role of institutions, you know,
11 University of Texas Libraries, in these changing times,
12 some things really only change with generations. Right?
13 A person learns something and they're just going to keep
14 their habits until they die and you've got to make another
15 person before things really change.

16 And so universities -- sort of how that sort
17 of -- we don't change very quickly. On the other hand,
18 you get new students every year or every four years, and
19 you sort of have a four year generation cycle that's just
20 shorter than the 20 year cycle.

21 And one of the things that I find really
22 interesting to look at is sort of how Hollywood movies are
23 made, because on the one hand every movie is a completely
24 new organization and, you know, creative talents and all
25 this kind of stuff.

26 And on the other hand, there are these studios
27 that sort of aggregate risk across projects. Right? They

1 get this creative guy and he's -- you know, mostly the big
2 budgets go to named directors or whatever, but maybe he's
3 a new guy and he's just got this idea that's so
4 compelling, and they get a bunch of -- sort of -- I don't
5 think they're really investors, except in the sense that
6 the studio is an investor.

7 Anyway, somebody's idea gets funded and
8 somebody else's doesn't, or whatever, and so the studio is
9 sort of this engine of risk aggregation that makes these
10 large scale projects possible. But each movie is a little
11 project that just sort is new out of whole cloth.

12 And I don't know where the universities are
13 there, because each, you know, research project is a
14 little thing, and then there's long term relationships
15 with the universities. But I find that kind of
16 interesting to study.

17 FRED HEATH: No risk aggregators then, we just
18 do Elsevier movies.

19 DAN CONNOLLY: Right. He said we're --

20 FRED HEATH: We're kind of like those movie
21 studios, but we just produce Elsevier movies with our
22 funds.

23 DAN CONNOLLY: Yes, we laugh, but, you know,
24 that's not funny, is it?

25 CAROLYN PALAIMA: I'm Carolyn Palaima in Latin
26 American studies here and we're working with the General
27 Libraries to do web capture of Latin American documents

1 and web sites. And what we looked at as not as websites
2 that need to be [indiscernible] digital collection by the
3 Benson. But then we thought that for now digital-born and
4 if you're going to continue your serials, then we're
5 really going to have to start capturing these sites.

6 [indiscernible] at various studies, you could
7 get [indiscernible] or presidential documents in the
8 context of what was happening historically. And so we
9 found it to be very exciting the way of, one, meeting
10 traditional collection needs and also expanding the realm
11 of what you could put around the digital collection.
12 We've had fun working with the Libraries.

13 ANDREW DILLON: And, of course, all done at no
14 extra cost.

15 AUDIENCE: [indiscernible].

16 ANDREW DILLON: We have time for one last
17 question maybe. Any quick one, or comment?

18 (No response.)

19 ANDREW DILLON: Or failing that, let me
20 announce that we're taking a short break before lunch.
21 Lunch will be next door and we do have a speaker for
22 lunch, and it's Jim Neal who will be giving us an address.
23 So we'll see you for lunch at 11:30 next door.

24 And how about a big thank you to all the
25 panelists?

26 (Whereupon, the second panel discussion was
27 concluded.)

1 PANEL 3: INTO THE GLASS DARKLY:

2 FUTURE DIRECTIONS IN THE 21ST CENTURY

3 FRED HEATH: It's my pleasure with this panel
4 to continue this colloquy and to introduce my three
5 colleagues here this afternoon, where we ask them to peer
6 into the future and to give us their perspectives on the
7 directions of scholarly communication, as they may take
8 shape in the remainder of this century, and the roles that
9 libraries may play in shaping those vectors, or
10 trajectories.

11 And certainly it's not chance that brings
12 these three panelists together to consider directions in
13 scholarship. Each is well known to you, to this research
14 community, and all are in high demand for the acuity of
15 their vision and the credence of their observations as
16 pertains to libraries, to research, and to scholarly
17 communications.

18 But what we're going to ask them to do is to
19 take a look beyond the renewal of next year's journal
20 subscriptions, or the implementation of the next piece of
21 software, or the construction of the next library or
22 storage center.

23 We'll ask them to think about how scholarly
24 communications is unfolding in the technology enabled
25 digital age, to suggest what fundamental transformations
26 our renowned libraries represented in this meeting might
27 undergo, and what we may each do to enable teaching,

1 learning, and research over the ensuing decades.

2 Their perspectives will be useful to all of us
3 in this room. And I would like to introduce them together
4 in the order of their presentation.

5 And first Karen Hunter, senior vice president
6 of the publisher Elsevier will be the first to make her
7 remarks. It's appropriate that she do so.

8 Along with the important roles played by the
9 scholarly societies, it was the rise of commercial
10 scholarly publication in the years following World War II
11 and continuing to the present that enabled our research
12 programs to accelerate and enabled the scholarly colloquy
13 to unfold in all of its richness.

14 For several years, Karen has concentrated on
15 the strategic issues that confront Elsevier in the
16 evolving scholarly landscape. She has been a pivotal
17 player in her company's effort to position itself for the
18 electronic delivery of journal information.

19 Those of you who are librarians or scientists
20 will remember the early effort in network journal
21 delivery, TULIP, and Elsevier's effort in the early part
22 of the past decade for which she was responsible.

23 Karen led the design and start up of Science
24 Direct, Elsevier's web journal service. She is a member
25 of the copyright committee of the Association of American
26 Publishers and the board of Crossref, and has served on
27 the Board of the International DOI Federation, Digital

1 Objects Identifier.

2 She serves us well in the National Research
3 Council's study committee on intellectual property and
4 emerging information infrastructure. And as well, she
5 serves on the National Commission on Library and
6 Information Services Working Group on the issue of
7 journals pricing, publishing and copyright.

8 Following Karen will be Don Waters, Program
9 Officer for Scholarly Communications at the Andrew W.
10 Mellon Foundation.

11 All of you in this room are appreciative of
12 the important role the Mellon Foundation has in enabling
13 bold initiatives in higher education. Its role in the
14 field of research librarianship is certainly pivotal.

15 In the six years since Don Waters joined the
16 Foundation, the scholarly communications program has
17 awarded more than \$200 million in grants, including
18 support for products known to scholars here such as
19 ARTStor, and initiatives embracing the future of digital
20 preservation, such as LOCKSS, Ithaka, and Portico.

21 Before joining the Foundation, he engaged in
22 new directions in scholarly communications as the
23 Assistant University Librarian at Yale, and as the first
24 Director of DLF, the Digital Library Forum.

25 He is a Fellow of the American Association for
26 the Advancement of Science, serves on the Steering
27 Committee of CNI, the Coalition for Network Information.

1 He is on the National Digital Advisory Board of the
2 Library of Congress, as well as serving on the Section 108
3 Study Group.

4 He's a recognized expert on digital
5 preservation, digital libraries, and scholarly
6 communications.

7 Cleaning up will be Elizabeth Betsy Wilson, my
8 colleague, as Director of University Libraries at
9 University of Washington. Betsy has a long record of
10 distinguished service to research librarianship, serving
11 in important leadership positions at both UW and the
12 University of Illinois at Urbana-Champaign.

13 As visionary and leader, she has served the
14 Association of Research Libraries, the American Library
15 Association, and OCLC with true distinction. She has
16 served as president of the Association of College and
17 Research Libraries, and is currently chair of the OCLC
18 Board of Trustees.

19 She is a member as well of the Association of
20 Research Libraries Board, and serves on the Digital
21 Library Federation Executive Council.

22 Her contributions and her vision are
23 recognized in many personal awards and in the recognition
24 of the libraries she directs. In 2004 her library system
25 was selected as recipient of the 2004 ACRL Excellence in
26 Academic Libraries.

27 We look forward to hearing her remarks before

1 opening the floor to you for the panel. And we have until
2 about 2:15 and we're going to go roughly 15, 15 and 15 and
3 finish up our time with questions from you.

4 So, Karen, we'll start when you're ready.

5 KAREN HUNTER: Thank you. I appreciate the
6 opportunity to be part of this conference, though not
7 necessarily the opportunity to follow Jim Neal.

8 As Paul Saffo of the Institute of the Future
9 has said, We are in a period of unprecedented uncertainty.

10 It would be presumptuous for me to say what research
11 libraries should do, and you already have a long list from
12 Jim.

13 But following the briefing that Fred gave us
14 as panelists, what I'm going to try to do is talk more
15 about what I see as some of the publishing challenges,
16 what we are doing to try and deal with those, and how that
17 may change or affect our relationship with libraries, or
18 what we -- how we work with the research libraries going
19 forward.

20 First of all, for the benefit of the many
21 people from the humanities who are at this conference,
22 permit me to spend one minute just giving a very rapid
23 introduction to Elsevier.

24 We're about 700 staff and more than 70 offices
25 in 24 countries, about 45 percent of our business is in
26 health sciences, 55 percent in physical life and social
27 sciences. We are not humanities publishers.

1 We do about 2200 new books a year, 1800
2 journals. The 1800 journals publish about a quarter of a
3 million articles a year, which is around 1,000 per
4 business day. It's about a quarter of the scholarly
5 literature that is regularly referenced.

6 Our online platform, Science Direct, has about
7 7 point -- well, more than 7.8 million articles that, in
8 most cases, is back to Volume 1 Number 1 of those 1800
9 journals. We average, on a 24 hours a day seven day a
10 week average basis, 500 article downloads every minute.

11 And we've invested over the last decade about
12 \$400 million in Science Direct and Scopus, our
13 bibliographic database, alone.

14 So in the publishing community, we're sort of
15 the 800 pound gorilla. We are the largest of the academic
16 publishers. As the same time, when you compare us with
17 The University of Texas here, we're about the same budget
18 size, and so when you look at the whole academic
19 community, we suddenly become very small.

20 And if you look at all the scholarly
21 publishing community, we're -- the revenues of the
22 scholarly publishing community in any one year are smaller
23 than the profits of Exxon Mobil. So it's a kind of
24 strange world in many respects.

25 One reason for giving you this quick overview
26 is to say that, as a community, we've come a long way in
27 this electronic era in the last decade. Enormous amounts

1 of scholarly information are available immediately at the
2 desktops of researchers and students. In our case, over
3 16 million desktops worldwide.

4 I think we should not leave this conference on
5 the future of the libraries without feeling good about
6 what's already been accomplished. I think the
7 infrastructure and the ability that the libraries have put
8 in place to get this information to researchers and
9 students has been extraordinary.

10 And the changes and the pressures that has
11 meant for everyone have been very difficult, but we've
12 accomplished a lot over the last decade, and I think we
13 should feel good about it.

14 But as we know, past success does not assure
15 future success. So what -- I want to look now at some of
16 the challenges quickly that I see that we at least, as
17 publishers, are facing, and I'm sure many of these will
18 resonate to the libraries as well.

19 The first is, indeed, a change in roles. The
20 traditional research publication cycle moves through about
21 10 stages. The research itself; the writing of the
22 results of the research; editorial review and acceptance;
23 production, which many people equate with publication;
24 distribution, including marketing; purchase process;
25 storage for day to day use; archival, permanent storage;
26 the access and location tools; and then finally the use
27 and incorporation into research and teaching, completing

1 that circle.

2 In the print environment, the stakeholders
3 were pretty linear. Scholars and researchers -- scholars
4 did the research and wrote, scholars performed editorial
5 review, enabled by a publishing infrastructure, then
6 publishers took over to produce and distribute, and not
7 incidentally finance.

8 Libraries purchased, stored, archived and
9 provided finding tools and scholars picked up again to use
10 the information and incorporate them into new research and
11 new teaching.

12 Over the last decade there's been a
13 significant shifting of roles downstream, or the potential
14 for a shift which is, in itself, creating uncertainty.

15 Researchers on the internet obviously can take
16 care of production and distribution themselves if they
17 choose to. Libraries also have become distributors as
18 they establish institutional repositories.

19 Purchasing models have broadened by the call
20 for some type of open access and other open activities.
21 Publishers have taken over much of the storage
22 responsibility, and we share archival responsibility with
23 libraries.

24 And at least some publishers, certainly in our
25 case, have become information managers with a staff of
26 highly skilled experts in search, in text mining, and in
27 the many related areas needed for today's access and use

1 of products.

2 And we've become preoccupied with having our
3 publications used for uses now much more measurable and
4 monitored, and that which is not used will not be bought.

5 So there's overlap and potential confusion in
6 roles and I think that we're all far from -- I'm not sure
7 there will ever be a sorting out, but there is -- what was
8 linear is no longer linear.

9 The second challenge is the limitation and
10 growth afforded by our traditional market, the research
11 library. It's not news to anyone in this room that
12 library budgets have largely not kept pace with the growth
13 and research. Research has been growing at a steady 3
14 percent per year for most of the last century.

15 For libraries, that has meant years, no,
16 actually decades, of very hard choices. For publishers,
17 that has meant equal frustration and the need to adapt to
18 flat market conditions.

19 A third challenge is the changing nature of
20 the scholarly community, and its interactions. We've been
21 hearing obviously a lot about that over the last day, 24
22 hours. As we've heard, and we know from our own
23 experience, researchers today are essentially an instant
24 and constant communication.

25 What is not clear is how those changing
26 communication patterns among researchers will change the
27 formal publishing process, the formal part of scholarly

1 communications. As we see new collaborative tools, how
2 are those going to change what's expected in formal
3 publication?

4 We hear predictions of the decrease in
5 importance of the journal, per se, perhaps even its
6 ultimate death, although that's rarely really predicted.

7 I would say, in that regard, I was at a
8 conference at Berkeley in June and when asked whether --
9 that included a number of faculty members -- and when
10 asked whether if there was no "publish or perish" would
11 you care about the journal?

12 At least one prominent faculty member said,
13 no, get rid of it. You know, it's purely a publish or
14 perish kind of activity. I won't say that everyone else
15 signed on to that, but it was an interesting response.

16 A fourth challenge is understanding the
17 idiosyncrasies of different disciplines. We as publishers
18 have spent the last 15 years creating, I think, superior
19 but homogenous online solutions.

20 We've worked very hard to try to get our costs
21 down and to get a robust infrastructure in place. But in
22 doing that, we've erased the distinctions on the research
23 behavior between different communities.

24 At this point, I personally believe strongly
25 we need to go back and understand much better what is
26 needed to support specific disciplines. At the same time,
27 we also need to facilitate the growth of interdisciplinary

1 research.

2 Everywhere I go, that word is what I'm hearing
3 over and over and over, interdisciplinary, and to make the
4 literature, the resources and the authorities of one
5 discipline more transparent to those outside that
6 discipline.

7 We're being told, you know, that it is -- when
8 you get research information on the web outside your
9 immediate discipline, it's very hard to know whether that
10 person that you're getting that information is a real
11 authority in that field, or is it, as they say, a dog.
12 You never know on the internet.

13 A fifth challenge is the increasing importance
14 of non-textual material. Cliff talked about that
15 yesterday, about data, and it's important for retention
16 and storage. There's also been mention of images, and I
17 think images are seriously underused and not as accessible
18 as they could be.

19 And there I'm thinking very much of the things
20 that are within our books and within our journals. We
21 have an enormous repertory of images that we should be
22 making much more accessible to people.

23 We're also now seeing some increase in other
24 non-text items, although it's still much slower than any
25 of us expected, much slower than we anticipated, and I
26 think it's simply because it's still hard for scholars to
27 get information in a non -- that is non-text into a usable

1 way. And sometimes it's just more work than it seems to
2 be worth.

3 Nevertheless, as we know in the eScience area
4 and other things, this becomes a core of the research in
5 many ways, and we have to find better ways of dealing with
6 that.

7 Finally, as a challenge, I'll mention probably
8 the largest problem for a scholarly publisher, at least a
9 commercial publisher, but it affects the not-for-profits
10 as well, and that's how to get a return on investment in
11 products and services.

12 I said we're challenged by flat library
13 budgets, but the problem is far more systemic. As a
14 culture, we've become used to what I call the PC
15 mentality, and I don't mean politically correct, I mean
16 the sort of example of a personal computer.

17 We expect that every year we're going to get a
18 better service with more functions and more features and
19 more functionality and it's going to be certainly no more
20 expensive than the previous year, and probably cheaper.

21 And that expectation of not -- that you're
22 going to get something better all the time for less money
23 is a good one, and it's a challenge, and it's an important
24 thing to look at. At the same time, it makes it difficult
25 to know where to invest, where you're going to get things.

26 In the academic environment, there's a
27 mentality of not -- among the researchers, I'm not saying

1 the libraries -- among the researchers of not being used
2 to paying for things. And the internet reinforces that.
3 So it's difficult to know where you can add value, where
4 you can create new services in a way that will -- you can
5 actually monetize and get any return on it.

6 I was asked yesterday by Duane to talk for one
7 moment, and I will, on the reaction to the call for open -
8 - and then fill in the blank -- but let's say open access.

9 And I will say just quite bluntly, how could I be opposed
10 to it.

11 I mean, if there's a sustainable way to offer
12 information for free to the user, that would be wonderful.

13 I mean, it would be absolutely wonderful. But none of us
14 denies that there are costs involved, and for a commercial
15 company, we also have an obligation to provide a return to
16 our shareholders.

17 The answer is, as soon as -- as someone
18 proposed, is to get the return -- if the answer is to get
19 the return from the, as I said, value added services.
20 Again, I have to know, what is somebody willing to pay
21 for?

22 We have an enormous number of ideas, but
23 trying to translate those into something that someone's
24 really willing to pay for, instead of saying, yes, that's
25 great, just add it on, is not so simple.

26 My boss, our new vice chairman, Y.S. Chi, who
27 many of you have met, frequently has said, If the current

1 business model is really unacceptable to the academic
2 community, if it really doesn't work, if it's broken, buy
3 us out.

4 Make us an offer we can't refuse, and then
5 take them over. Take over the journals, you can have our
6 1800 journals, you can run them, you know, within the
7 university, we'll sell them. In the absence of that,
8 however, we all continue to try to find ways to support
9 the current needs and -- for services.

10 If these are some of the challenges --
11 changing roles, flat library budgets, the changing nature
12 of communication within the scholarly community,
13 understanding discipline idiosyncrasies, and
14 interdisciplinary needs, the increasing importance of data
15 and other non-textual material, and the absence of a
16 market willing perhaps to pay for innovation -- what has
17 been our response?

18 Well, number one, we've placed an even higher
19 priority on making sure we have high quality content.
20 We're still content providers, and if we don't have
21 quality content, it's not going to be used and it's not
22 going to be purchased. So the think quality first is sort
23 of engraved on everyone's mind.

24 We know that we need to get and stay closer to
25 our customers. We really are very focused now on product
26 development in a collaborative mode, talking and testing
27 in a rapid fashion, and trying to make changes and trying

1 to deal with people.

2 When we developed Scopus we had about 20
3 development partners around the world that we work with to
4 really try and go back and forth. And it makes an
5 enormous difference.

6 We're realistic about the budget situation of
7 the research library, and we actually are looking to other
8 markets where there is more growth opportunity, and in our
9 case, that means the health sciences. And we put a lot of
10 emphasis on the health sciences because it's a different
11 kind of market, and it does still have higher growth
12 opportunities.

13 At the core though, I think we were defining,
14 or perhaps it's redefining -- I'd like to think we've
15 always thought this, but it may be redefining our
16 business. And we're redefining it as providing tools and
17 services to make the learning, including research and
18 teaching processes, more efficient.

19 So it's not -- we're not defining our business
20 as content delivery, per se, to the extent that content
21 delivery is a part of the efficiency and productivity,
22 that's a part of it, but that's not the underlying
23 definition.

24 That leaves us with a new set of challenges,
25 including the need to really understand what our -- what
26 will make the research and educational process more
27 efficient.

1 And to do that, we've decided we needed to map
2 the entire workflow process to identify needs that can be
3 filled, and as we are a commercial company, opportunities
4 that will result in revenues and profit. We recently
5 launched an extensive project to look at the roles of
6 researchers and the tasks that you researchers perform.

7 We've classified the role's tasks broadly into
8 five groups: core research, which includes grants,
9 research, writing, working with the team members, and
10 staying up-to-date; contributive research, which is
11 editorial work; review and conference organization and
12 attendance; education, which is teaching and supervision;
13 administration, which is evaluation and research
14 assessment; and then personal career development.

15 We've seen common elements among these, such
16 as searching for information, organizing information,
17 analysis, collaboration, and so forth. And we're looking
18 to identify needs. We've already generated many
19 substantial ideas.

20 I was part of a two day work shop that was
21 bringing together some of these and testing them out, and
22 we certainly walked out with more than 15 that we thought
23 were really viable.

24 We now will start that process of going out
25 into the market with development partners to say, you
26 know, is this nonsense or is this real, is this something
27 we can do or are we just thinking crazy, and if we did do

1 it, would you buy it?

2 What kinds of needs? Some examples, better
3 filtering of the results of the search process; better
4 management of grants and grant applications; management of
5 international multi-site collaborative research and its
6 data sets; improvement of time management generally within
7 the research process; the need to understand who's who in
8 the internet; which I mentioned before, you know, is this
9 a real person.

10 There are certainly other things we need to do
11 internally. Clifford has mentioned these in the past, and
12 I -- yesterday, but also other times.

13 We need to seriously rethink the organization
14 of information and make it more suitable for data mining
15 and text mining. We need to deal more with data sets, we
16 need to think about how we license on a more granular
17 level to have material available for use in a different
18 way.

19 As we look more deeply at the workflow process
20 and the scholars' needs, we find new opportunities for
21 publishing, so we're optimistic they're there. Maybe
22 publisher is not the word anymore. In some ways we
23 kiddingly say we need to be an über-publisher.

24 But we think there are new tools and new
25 opportunities that we can develop that will keep us in
26 this business.

27 Very quickly, if I now turn to how does this

1 affect libraries, it might be -- I'm going to list a few
2 things I think where libraries and publishers may differ,
3 although listening to Jim, I may be wrong.

4 We probably have different planning horizons.
5 Publishers' planning horizons, for better or worse, have
6 narrowed. Typically now we talk about two years and
7 trying to project further out than that. Other than when
8 we know we need to make a longer term investment, we're
9 usually on a two year planning horizon.

10 We probably take a different view on costs,
11 although we're very cost conscious, and one of our
12 strategic goals is always to keep costs down. If there
13 are revenue opportunities that exceed the cost, we'll go
14 for high cost.

15 I mean, it's not that everything has to be
16 cheap. If we can build a product based on how -- and have
17 the high cost to do it, but we'll make money on it, we'll
18 do it.

19 We probably have more flexibility than you
20 have. We can move our offices, we can outsource fairly
21 readily, we can redefine our business as we need to.

22 And perhaps the critical difference, although
23 maybe not, but that we are risk takers by definition.
24 It's one of our core competencies. We have access to
25 serious resources, and we're making huge investments, and
26 we're willing to take those risks most of the time.

27 Having said that, we also have many things in

1 common. On the challenges side, what we have in common is
2 that we're both losing our captive audiences. And we both
3 face the potential, perhaps already actual, disintegration
4 of the structure of what we do.

5 We both need very different expertise from the
6 past on our staffs, and I would argue we both need
7 business redefinition, but that, I've already said we're
8 doing that, and I think the -- what we've heard here over
9 the last two days suggests that the libraries certainly
10 are doing that as well.

11 On the positive or strength side, we both have
12 a passion for quality of information and services, we're
13 both adaptive and open to innovation, we're collaborative
14 and used to working together, and we each have a network
15 of established relations and contacts within the research
16 community that we can use to test ideas and refine needed
17 content and services.

18 I would also say that we have a mission, and
19 to use the word, to delight our customers. We want to do
20 things that will make scholars happy, pleased.

21 So in conclusion, in his briefing to the
22 panel, Fred said that the challenge to put to the UT
23 Library was to rank with those of the best universities in
24 the world. As they move through the process of defining
25 what that means, who are those libraries, what makes them
26 highly ranked, and what gaps are there to fill?

27 I would suggest that the question should also

1 be, Is this the best comparison? I think if you can do a
2 tenth of what Jim has said over lunch, and as you redefine
3 your business, I would put high on the list, higher than
4 you had it on the list, really integrating with the work
5 flow of the university, researchers, and the services to
6 make scholars and students more productive and more
7 efficient.

8 I think if you focus heavily on the users and
9 the consumer, that that's going to be a big key. And if
10 you do that, then I'm not sure with whom you should
11 evaluate and compare yourself. It may be corporate
12 libraries, it may be corporations generally, it may be
13 somebody else completely different. It may not be just
14 other libraries.

15 I optimistically believe publishers, über-
16 publishers, will continue to be an important part of the
17 research and educational community. Our roles will
18 broaden or change. I don't think you can easily get rid
19 of us, unless you want to buy us out.

20 Absent that, what I would invite is all types
21 of collaboration we possibly can. We will come to you
22 asking to collaborate, but please don't hesitate to come
23 to us. I think together we can delight the scholarly
24 community.

25 Thank you.

26 FRED HEATH: Thank you, Karen.

1 DONALD WATERS: Good afternoon. The
2 possibility of saying anything new, I think, is rapidly
3 diminishing. I'm especially reluctant to pronounce on the
4 future, and I don't really pretend to offer answers here.

5 Instead I take this opportunity to share some
6 of what we're learning at the Mellon Foundation about the
7 principal themes that are shaping the interaction of
8 libraries, publishers and scholars in the field of
9 scholarly communications, and to ask some questions that
10 might guide strategic thinking into the future.

11 First as many of you know, one of the key
12 principles of the Mellon Foundation grant-making is that
13 it's evidence based. In so far as it's possible, our
14 programs in scholarly communication proceed from
15 systematic consultations with our library, publishing and
16 scholarly constituents.

17 We're from systematic studies of parts of the
18 scholarly communications field. By sponsoring these
19 consultations and studies we seek to inform our own
20 funding strategies. And our hope is that they also inform
21 the policies and strategic choices of our constituents.

22 This year several important Mellon-funded
23 studies have been or are about to be released. As has
24 been mentioned in other presentations the report of the
25 ACLS Commission on Cyberinfrastructure for the Humanities

1 and Social Sciences is in near-final form and makes
2 several key recommendations for leveraging digital
3 technologies across the humanities and social sciences.

4 We'll come back in a moment to the
5 infrastructure topic. In the area of intellectual
6 property an extensive study by the Berkman Center at
7 Harvard was released earlier this summer.

8 The report's on how copyright law affects the
9 ways in which media produced primarily for commercial
10 use -- such as movies, music and other related
11 materials -- can and cannot be used for educational and
12 scholarly purposes, to the detriment perhaps of the
13 educational mission.

14 Another study that's nearing completion at
15 Columbia's Kernochan Center for Law, Media and the Arts
16 focuses on the legal constructs needed to protect digital
17 archives from demands to change or withdraw material from
18 online view, in ways analogous to how the public is
19 protected from attempts to recall material distributed in
20 print.

21 I also come back to the topic of intellectual
22 property in a moment. First, however, I want to focus on
23 a series of four studies, all of which suggests that the
24 place for universities and libraries to look for guidance
25 and making choices about resources and services is not

1 surprisingly in the disciplines.

2 Although the needs are uneven, with some fields
3 bursting with energy and creativity, while others operate
4 within relatively static paradigms, it is within the
5 disciplines where the pressures to innovate and advance
6 knowledge are greatest.

7 At Berkeley Center for Studies in Higher
8 Education, former University of California provosts Judd
9 King and Diane Harley recently concluded a study of
10 promotion and tenure decision making that shows that
11 recognition of innovative forms of scholarly and
12 publication occurs slowly in general, but that variation
13 is greatest at the discipline level, and that emerging
14 forms of digital scholarship and digital publications are
15 recognized when they make genuine contributions to their
16 fields of study.

17 Mellon is now considering a follow-on study
18 that will explore the hypothesis that innovation tends to
19 occur first in informal modes of communication and only
20 gradually shifts to the more formal modes of publication.

21 A recently completed Mellon-funded study at the
22 University of Minnesota libraries highlights broad demand
23 among faculty for help in organizing personal information
24 stores and a general interest in interdisciplinary
25 activity, but notes that to make sense of these needs and

1 interests, one really has to understand the context at a
2 discipline level.

3 From within the discipline perspective two
4 leading art historians, Mariët Westermann of NYU and
5 Hilary Ballon of Columbia recently completed a thorough
6 and articulate study showing the increasing impact of
7 digital imaging and in the field of architectural history,
8 of digital modeling and reconstruction on scholarly
9 research, and the need to adjust the publication regime,
10 so that research can be more effectively reported and
11 disseminated.

12 And in the field of classics the final report
13 of Project Vivarium led by Georgetown provost Jim
14 O'Donnell is now being drafted and will make focused
15 recommendations on how existing bibliographic and textual
16 resources need to be upgraded.

17 And new resources, such as a more comprehensive
18 corpus of Latin texts, and interoperable databases in such
19 sub-fields as epigraphy are needed to fuel future advances
20 in this discipline. Of course each research library
21 cannot respond to the specific needs of all disciplines.

22 And future distinctions among research
23 libraries will almost certainly track as they have in the
24 past, the strategic choices each makes about how deeply to
25 support certain disciplines over others, how agile they

1 are in recognizing, shaping and responding to changing
2 needs in these disciplines and across fields, and how
3 effectively they cooperate with other libraries in a
4 broader division of labor.

5 In making these strategic choices research
6 libraries do also have an obligation to provide a more
7 general level of support. And this brings me back to the
8 issue of infrastructure or cyberinfrastructure.

9 In recent months I've been talking with some of
10 you about a particular funding request that highlights
11 some of the key infrastructure issues, in which we all
12 need to be more adept at handling. We've been approached
13 by an emeritus professor who's an expert in 18th century
14 British periodicals.

15 He inherited the beginnings of an analytical
16 index of these periodicals, done in a very, very
17 traditional way with hand entries on index cards. He has
18 gone slowly to add entries to the index. He now maintains
19 them in a computerized database.

20 And he's requested funds from Mellon to
21 continue the indexing process. However there is a
22 commercial interest in digitizing these periodicals. And
23 it's conceivable that the entire universe, which is
24 estimated to number about 1,000, could easily be
25 digitized.

1 Still less than a quarter of them are currently
2 available online. And because of the irregular characters
3 and typefaces the OCR is highly imperfect. Overall the
4 best thinking about this case is obvious. Mellon money
5 and institutional money would be better invested in
6 digitizing and improving the OCR.

7 Why, the argument goes, should we help this one
8 scholar generate an index that reflects his particular
9 perspective, when digitizing would allow multiple scholars
10 to create their own indices from multiple perspectives.
11 The counterargument, however, is that we are in danger of
12 losing the perspective of this one expert, who has devoted
13 his life to the study of these materials.

14 And to give that up on the vague promise that
15 sometime in the future we will be able to accommodate
16 methods for a variety of scholars to index and annotate
17 this material. There's no question that his index methods
18 are antiquated and problematic.

19 But the let's-just-digitize answer simply isn't
20 sufficient or satisfying. How do we make it possible for
21 personal taxonomies and annotations to be aligned against
22 text and other materials for scholarly purposes? This is
23 a larger question about the infrastructure we need for the
24 future.

25 Google, Yahoo, Microsoft and others provide

1 powerful mechanisms for scholars to deal with the online
2 materials.

3 As scholars become more sophisticated in their
4 use of these technologies their needs will be
5 correspondingly more specialized and discipline-specific
6 in ways that it would likely be unprofitable to address
7 for commercial companies -- or at least some of them --
8 aimed at the mass market.

9 The sheer volume of digitized material requires
10 implementation of much more sophisticated indexing,
11 searching and filtering techniques, including broad
12 application of computational linguistic and related
13 statistical techniques, as well as sophisticated
14 techniques for filtering based on mark-up and thesauri,
15 which would relate results to discipline-based concepts
16 and concerns.

17 Search and information retrieval is a growth
18 industry, not just in the general economy but also for
19 scholarly communications. Solutions that the large search
20 engines cannot supply will have to come from applications
21 developed within and for the academy. And finding those
22 solutions should be a high priority for the academy, its
23 libraries and publishers to address.

24 Related to the development of search engine
25 infrastructure is the infrastructure needed to support the

1 advance of new discipline-based research methods.

2 The development of search technologies will
3 drive the scholarly use of large quantities of digitized
4 resources. But scholarly use will also shape and guide
5 the development of particular technologies and
6 applications for specific disciplinary pursuits.

7 Disciplines will need to develop new and
8 specialized methodologies and informatics of standards and
9 practices to identify, mark up and explore the large
10 volumes of digital information with which they each need
11 to work: economists with tabular data and government
12 publications; literature scholars with literary texts from
13 various genres; social historians such as the 18th century
14 British periodical expert, with contemporary accounts of
15 various aspects of social life; ethicists with case
16 studies of ethical dilemmas; art historians with evidence
17 about the context of artists and their art, and so on.

18 As scholars in various fields of study develop
19 experience with these materials, the disciplines and sub-
20 disciplines will need to develop and codify practice.
21 There is a huge opportunity for research libraries to
22 assist in this process.

23 And a key piece of the infrastructure that they
24 can provide is the human infrastructure of discipline-
25 based specialists. And there are ample examples in the

1 studies at Berkeley and Minnesota in art history and
2 classics, that I mentioned earlier, that indicate how
3 these changes are taking shape.

4 And there are many other examples in
5 archeology, medieval studies, musicology, history and
6 literary studies, to focus just on the humanistic fields
7 of study.

8 My last point is to return to intellectual
9 property. The principle of openness is crucial in the
10 formation of public policy for scholarship. But advocacy
11 of openness for its own sake is not necessarily
12 sufficient. And I want to give you a few examples of how
13 our thinking about intellectual property policies need to
14 be deepened and sharpened.

15 First let me draw your attention to complex
16 intellectual property issues associated with the
17 arrangements between libraries and commercial entities,
18 such as Google, Microsoft, ProQuest and others.

19 Peter Kaufman in Ithaca made a useful attempt
20 last year to analyze the large variety of types of
21 relationships, some of which involve deals that do not
22 always articulate coherent and collective educational and
23 public interest objectives.

24 Additional work is especially needed on the IP
25 issues associated with emerging commercial services that

1 will likely make use of open-access materials.

2 Sophisticated publishers are increasingly
3 seeing that the availability of material in open-access
4 form gives them an important new business opportunity,
5 that is they can begin to incorporate and recombine
6 materials they and other publishers have produced with
7 data and other related materials in sophisticated
8 databases, subject them to a sophisticated search, data
9 mining and semantic algorithms, and then present these as
10 services to a variety of specialized audiences willing to
11 pay for the added value over and above the original
12 content.

13 These may be desirable outcomes in the end and
14 certainly represent opportunities for useful partnerships
15 among scholars, libraries and publishers.

16 However, what is worrisome about many arguments
17 in favor of open access is the lack of strategic thinking
18 about how open-access material will actually be used once
19 it is made available, and the faith-based assumptions that
20 only beneficial consequences will follow for providing
21 open access.

22 One worry is that open access to traditionally
23 published monographs and serials will cannibalize sales,
24 push smaller publishers into further decline and make it
25 difficult for them to invest in ways to help scholars

1 select, edit, market, evaluate and sustain the new
2 products of scholarship represented in digital resources
3 and databases.

4 The bigger worry, which is hardly recognized
5 and much less discussed in open-access circles, is that
6 the large, heavily capitalized publishing firms will
7 exploit open-access repositories, cherry-picking the most
8 valuable open-access products, combining them with the
9 most valuable new databases and resources, selling
10 services back to the academy, while chasing out sources of
11 capital from within the academic community that are
12 desperately needed to advance scientific, humanistic and
13 social sciences study.

14 One concrete step that the organizations
15 represented in this assembly can take is to begin to
16 engage the open-access advocates in this critical,
17 strategic and policy debate about the full life cycle of
18 scholarly communications, not just the trendy, glitzy
19 rhetoric about the initial step of making materials freely
20 available.

21 The questions have to be asked -- and some of
22 these were asked in earlier sessions -- open access for
23 what and for whom? And how can we ensure that there is
24 sufficient capital for investment in the dissemination of
25 new and emerging forms of scholarly output.

1 In the software arena a variety of alternatives
2 have been explored and articulated in the form of open-
3 source licenses, some of which facilitate desirable
4 downstream activities, and others do not. For content,
5 options like the Creative Commons license are important to
6 consider.

7 But there's so little experience in this area
8 of use it is doubtful that such a license represents a
9 sufficient answer. I'm tempted to close by calling for us
10 to lock arms in a spirit of cooperation and good feeling
11 as we march forward into this uncertain future.

12 Instead I would suggest a more complex
13 approach. There are certain areas, such as the
14 development of key elements of the infrastructure, in
15 which cooperation is absolutely necessary to achieve scale
16 and other benefits.

17 And we need some careful discussions about what
18 those elements might be. But some good old-fashioned,
19 aggressive entrepreneurship and some healthy doses of
20 risk-taking, and risk-taking competition among research
21 libraries continue to be needed to help advance
22 scholarship in various disciplines.

23 And this entrepreneurship and competition is
24 necessary to ensure the diversity in our libraries and
25 universities that President Duderstadt yesterday observed

1 is one of the strengths of our system of higher education.

2 Thanks very much.

3 FRED HEATH: Now we'll turn to Betsy.

4 BETSY WILSON: I'm going to speak from the
5 podium for two reasons. One, I can't see you all, and the
6 second is I'm freezing. So I thought if I got up -- I
7 thought it was supposed to be hot in Texas. We're going
8 to move outside for this.

9 Good afternoon, everyone. Early in the last
10 century -- that would be the 20th century, Henry Suzzallo
11 was the president of the University of Washington, a
12 fledgling institution way out in a rainy wilderness called
13 Seattle.

14 President Suzzallo's vision was to build a
15 "university of a thousand years." He knew that all great
16 universities had great libraries. So his first action was
17 to create a library to rival those in Europe. He called
18 it a "cathedral of books."

19 Up from the empty land rose a grand Gothic
20 structure with the Olympic Mountains and the Pacific Ocean
21 off in the distance. Suzzallo's university of a thousand
22 years had its cathedral. Since then the Suzzallo Library
23 has become known as the soul of the University and as a
24 beloved symbol for Huskies all around the world.

25 I should let you know that Suzzallo's cathedral

1 of books ultimately would get him fired for having
2 aspirations that the governor of Washington viewed as
3 foolish and extravagant. But President Suzzallo knew what
4 the 20th century library should be -- a magnificent
5 building of inspirational architecture, filled with the
6 finest books from all around the world.

7 It was so simple then. Suzzallo had a clear
8 vision. He did not have to look through a glass darkly.
9 Fast forward to today, and one thing remains the same.
10 The future of the university is inseparable from the
11 future of the library.

12 Or as James Duderstadt said yesterday, the
13 library of the future may indeed predict the future of the
14 university. The networked environment and the accelerated
15 pace of change has transformed our libraries and higher
16 education.

17 The rise of easy-to-use search engines
18 providing access to a vast array of content has changed
19 all of our daily lives. And now wonderful opportunities
20 now exist to create digital content from the library's own
21 stacks and make widely available those hidden treasures.

22 Libraries have reshaped their spaces into
23 flexible learning spaces to meet a variety of user needs.

24 Collaborative and individual study, high tech and high
25 touch instruction and caffeine and chatter. If President

1 Duderstadt is right, Starbucks may well have had more
2 impact on reshaping libraries than the web. Howard
3 Schultz, our hometown boy in Seattle, will be glad to hear
4 that.

5 Throughout this period of transformation,
6 libraries and librarians have been agents of change.
7 They've been innovative, creative and have brought
8 technology -- or at least tried to bring technology into
9 the service of learning and research.

10 And in many ways we have put the 20th century
11 of Henry Suzzallo out of business. But at the same time
12 we can't fully articulate the shape of the 21st century
13 library. However, I think we all know it will not be a
14 cathedral of books.

15 Our future, I believe, will be determined in
16 large part by how we collectively respond to the networked
17 world and anytime, anyplace expectations and realities.
18 Our speakers yesterday reminded us that education and
19 research in this century will demand a complex, integrated
20 and increasingly global information infrastructure.

21 Universities will be measured on how well they
22 manage and disseminate knowledge. Universities will need
23 to find new ways to share intellectual effort in order to
24 advance discovery and educate students for a future we
25 cannot even begin to imagine.

1 Yet during this transformation the mission of
2 the library has remained relatively constant: to meet the
3 information needs of its community through the gathering,
4 organization, preservation, creation and dissemination of
5 knowledge.

6 But we all know the tactics and the strategies
7 have changed. Like my fellow library directors here
8 today, I grapple with the shape and the form of the
9 emerging library every day. I ask, what will and what do
10 our faculty and students value?

11 How can we support the expanding university
12 vision that is increasingly focused on solving big, trans-
13 disciplinary, global problems? What are the
14 possibilities? What are the costs? What will we trade
15 off?

16 And where should we invest, where we have
17 limited resources, conflicting priorities and competing
18 and often contentious clientele. When it comes to making
19 predictions about the future, my mother always warned me,
20 those who make crystal ball predictions often end up
21 eating glass.

22 So at the risk of getting some shards in my
23 teeth, I'm going to look through the glass darkly, or to
24 paraphrase Karen Hunter, from an especially clairvoyant
25 1992 article on electronic publishing, through the

1 kaleidoscope darkly.

2 And I'm going to speculate a little bit about
3 the research library of the 21st century and pose some
4 questions that build on other that have been raised over
5 the last two days. So what do I see through my glass or
6 my kaleidoscope?

7 Well, I see a preferred future. I see in this
8 century a future in which scholars, faculty, students and
9 researchers will be able to access and use the information
10 they require when and where they want it and in whatever
11 form most appropriate to their need.

12 Better yet, make that a future where libraries
13 anticipate those needs and are woven into the fabric of
14 the search for knowledge. I hope, I anticipate, that
15 information will remain available for generations to come,
16 whether it's a 19th century book, a 20th century Maria
17 Callas recording or a 21st century political website.

18 I envision a future in which our physical and
19 virtual libraries are trusted, robust, and facilitate
20 collaboration. I envision a transformed scholarly
21 communication system that is both accessible and
22 affordable.

23 I envision digital libraries that have reached
24 their potential to improve research and facilitate
25 learning. And I envision a future in which our students

1 will be as information fluent as they are reading and
2 writing literate and technology competent.

3 We're trying to work on this future at the
4 University of Washington. In fact on Thursday the
5 University of Washington Library will launch its new
6 vision 2010, our new strategic plan based on a lot of
7 strategic thinking.

8 It's a plan steeped in the local with a reach
9 to the global. In it we commit to the vision of being an
10 international leader in imagining, creating and realizing
11 the promise of the 21st century library. Granted it is
12 easy to spew vision. But it's much harder to turn it into
13 reality. And as Kevin Guthrie said this morning, it's
14 always harder to change something that exists than to
15 create something new. So how do we get there? Where will
16 we at the University of Washington invest?

17 I can tell you we will continue to invest in
18 assessing the landscape, listening to our users, tracking
19 patterns and looking for places where we can make a
20 difference in connecting people with knowledge.

21 As an example, we recently focused efforts on
22 understanding the information needs of our burgeoning
23 numbers of bioscientists in figuring out how to better
24 serve them and better work with them. I thought I'd take
25 a few minutes and share with you what we learned about

1 this particular group.

2 Well, no surprise. We learned that everybody
3 wants more electronic access. Cliff is right. For those
4 folks the library is seen primarily as an e-journal
5 provider with a big checkbook. We learned that bioscience
6 researchers who work at the molecular or smaller level
7 don't use books. Bioscience researchers who work at the
8 systems or ecology level use books. Most faculty
9 researchers don't come to the physical library. In fact
10 they equate the fewer the number of visits to the library,
11 the higher their productivity.

12 We're glad about that. That was one of our
13 strategic directions, the anytime, anyplace library. Most
14 graduate students and undergraduates however come to the
15 physical library. Article databases are greatly underused
16 and declining.

17 Researchers are generating vast amounts of data
18 and are having difficulty managing it, and are expecting
19 the library to step in. There is great need for personal
20 information management. In fact many of the bioscientists
21 thought we were coming to talk to them and offering to
22 scan their file cabinets.

23 Most with grant support buy what books they
24 need from Amazon. The transaction cost from discovery to
25 delivery is too high in time and attention. There is a

1 need to integrate fragmented systems and processes.
2 Researchers are suffering, truly suffering from an
3 overwhelming amount of information, demands of immediacy
4 and management of expectations.

5 And bioscience researchers are multi-
6 disciplinary and multi-institutional collaborators. They
7 work with people at the university, across the nation and
8 around the globe. One typical researcher named at least
9 five different countries and over ten institutions with
10 which he collaborates every day.

11 This is Cliff's virtual community. They are
12 everywhere in scattered locations. The department is
13 simply a placeholder where they pick up their check.
14 Bioscience researchers are independent and self-sufficient
15 who rely on external funding for their existence. They
16 are free agents.

17 These findings have huge implications for our
18 strategies at the University of Washington libraries. And
19 this is just one segment of our diverse community. Know
20 that we will also invest in people, new kinds of people
21 with new kinds of diversified skills.

22 For instance we brought in a bioinformatic
23 scientist, thanks to a Howard Hughes grant, to build a
24 bio-commons. Ten years ago only librarians and library
25 technicians worked in our library.

1 Now we have professionals in computing, fund-
2 raising, grants administration, publications,
3 communications, graphics design, human resources,
4 organization development, assessment, diversity, financial
5 investment and usability.

6 And most of all we will invest in collaboration
7 and collective action. Our vision of the 21st century
8 library is only possible through collaboration -- deep,
9 true collaboration. Collaboration, I believe, will be the
10 defining characteristics of the library of this century.

11 We can no longer feel complacent or comfortable
12 about the artificial boundaries between libraries.
13 Libraries have a long tradition of cooperation. We have
14 operated for at least a century in a circle of gifts.

15 But libraries will be even more interdependent
16 and intertwined than ever before, not just with each
17 other, but with the stakeholders, information providers,
18 information creators and users.

19 ARL's strategic repositioning, the wise
20 investments of the Mellon Foundation, IMLS and others, our
21 partners in the publishing world, our commercial
22 alliances, and the coming together of OCLC and RLG and
23 organizations like DLF and others, and our colleagues in
24 information schools, these things all hold great promise
25 for building a robust, social and technical platform to

1 fuel this interdependence.

2 Somebody has suggested we might even be getting
3 close to having some planetary alignment. As Lorcan
4 suggests we must move what we can to the network level.
5 We must do only at the local level what can't be done
6 collectively or doesn't make sense to be done
7 collectively.

8 Wring out the unnecessary redundancy, I say. I
9 guess when it comes down to it, what we're really talking
10 about is an ecosystem. If I remember high school
11 biology -- and I didn't pay real close attention -- when
12 there's a weakness in the ecosystem the entire system
13 suffers, shifts and ultimately adapts.

14 My colleague from across Lake Washington -- and
15 that would be Randy Hinrichs of Microsoft -- and I have
16 been musing about the usefulness of thinking about all of
17 this as an ecosystem. We both think it might help us ask
18 questions we seem to routinely avoid.

19 Questions such as: what are the business models
20 for re-intermediation, making the ecosystem whole or
21 making a new ecosystem? Don has asked us to consider the
22 full life cycle of open access. What about transactional
23 systems? How about derivatives? How do we overcome the
24 constraints of competition? We should also be asking, we
25 think in this ecosystem, what role should and can

1 multinational corporations and foundations play?

2 Alice, wherever you are, you read our minds.

3 We need to be asking questions about
4 appropriate outsourcing, sharing, other services. And
5 what about the various learning and research communities,
6 accreditation interests, faculty reputations, student
7 experience, life-long learning?

8 And finally -- close to my heart -- what are
9 the new and critical roles for libraries? If we can bring
10 all the pieces together, the stakeholders of the
11 ecosystem, and ask the right questions and come to some
12 meaningful consensus, we think -- Randy and I -- that we
13 can begin to collectively drive forward tools, policies,
14 standards, research on a global scale.

15 To echo Kevin Guthrie's admonition this morning
16 to help us move from ad hoc decisions to purposeful
17 decisions. And maybe we can better define a pathway for
18 the 21st century library and university. If you're
19 interested in joining us in this conversation, let us
20 know. We'll buy the drinks.

21 Well, I have still lots of questions about the
22 21st century library. I am confident from what I heard
23 the last couple days, that it will be virtual and real,
24 flexible and networked, global and local, clear,
25 dependable and comprehensible, multidimensional and

1 integrated and part of an ecosystem sustained through
2 collective action and new modes of trustful operating.

3 So whether you are a domain expert -- I hate
4 that phrase -- either an authored faculty member who's
5 interested in sharing and promulgating your ideas, a
6 publisher disseminating research, an educator concerned
7 about your students' informational literacy, a
8 technologist designing information systems or a funder
9 choosing where to make investments, each of us, each of
10 you has a very important role to play in realizing the
11 library and thus the university of the 21st century.

12 For those of you who are interested I did bring
13 along a copy of the University of Washington's new vision
14 2010, not because it really speaks to your institutions,
15 but I brought it so you could see the framework of the
16 Suzzallo Library from 1920.

17 We chose to use the photo of this framework,
18 his cathedral of books, to symbolize the work that's ahead
19 for us in reframing or rebuilding the 21st century
20 library. I'll put copies out on the registration table
21 during the break.

22 So I've done my crystal-ball gazing and no
23 doubt have a few shards of glass in my teeth. The
24 possibilities are enormous. The uncertainties are even
25 more so. I'd like to thank The University of Texas for

1 providing this amazing service, great service, by bringing
2 us together to begin imagining the 21st century library.

3 And I hope in the concluding session, that
4 Duane will be facilitating, we will find ways to move this
5 conversation started here in Austin to action. Thank you.

6 FRED HEATH: We have a few minutes for
7 questions of the panel, for those of you who have
8 questions, please raise your hand.

9 VOICE: [indiscernible] ecology is a good one,
10 and stuff like that. But then you said eliminate the
11 redundancy. What I find when I look [indiscernible]
12 there's a lot of redundancy there. They do sort of weed
13 it out a little bit, but[indiscernible].

14 BETSY WILSON: I should have said unnecessary
15 redundancy.

16 VOICE: Yes. The amazing thing to me is that
17 Mother Nature -- I don't know what necessary or
18 unnecessary it is -- like five fingers, four. What's
19 magic about five? And there just seems to be lots of sort
20 of random amounts of redundancies today.

21 FRED HEATH: Are there other questions of the
22 panel?

23 Yes, Lorcan.

24 LORCAN DEMPSEY: Karen saying about
25 diversification of the revenue [indiscernible] I was just

1 curious what proportion of journal revenue comes from
2 academic libraries?

3 KAREN HUNTER: In the physical, life, social
4 sciences I would guess about 90 percent. It's very much
5 academic, government research, private institutions, but
6 library-based.

7 On the health sciences it's much smaller. I
8 don't know the exact number. But it's probably less than
9 50 percent, because you've got individual subscribers.
10 You have advertising revenue. You have corporate
11 pharmaceutical company. You have a whole different set of
12 revenue streams. That's one of the reasons the
13 subscription prices for clinical, medical journals are
14 significantly lower.

15 There's just so many other sources of revenue.

16 Overall you may be happy to know journals actually are
17 less than 50 percent of our revenue these days. We've
18 finally gotten that number pushed down. We're trying.
19 We're trying not to lean on you for growth.

20 FRED HEATH: Yes, Ann.

21 ANN WOLPERT: I have a question for the panel
22 that has to do with, I guess, with size of markets,
23 because it seems to me that in listening to this panel, I
24 was struck by the fact that if there's a comparative
25 market, and it's big enough, a commercial enterprise feels

1 comfortable coming into it to design and deliver a set of
2 products and build services around it.

3 But in the humanities for instance, where the
4 market is presumably smaller, more specialized, more
5 focused, it seems harder to understand how to create the
6 right kind of focus, how to define the markets -- how to
7 define the target audience, if you don't like the word
8 "market" -- for investments in resources and tools that
9 support a different kind of environment, which is
10 [indiscernible] Hughes, perhaps --

11 I wonder if you can speak a little bit about
12 how libraries should think about the investments that they
13 make in providing and developing services for different
14 markets.

15 DONALD WATERS: I'll take a small stab at that.

16 Part of the focus I was raising on disciplines is that
17 markets are -- I think markets might not be the right
18 word. But I understand what you're saying. And the idea
19 is that they're pretty diffuse.

20 The activity is all over the map. There are
21 opportunities within the disciplines. I think the study
22 in classics, this study in art history for example, have
23 helped focus the energies within that discipline of what's
24 needed next.

25 The more that we can do that kind of, not

1 exactly strategic thinking, but you see this all the time
2 in the sciences, where there are workshops held to focus
3 activity so that you get an umbrella theme, and everybody
4 working in a field connects to that theme, even if they're
5 doing very, very different and small activities.

6 But it helps focus the activity. The
7 hypothesis I would have is that similar kinds of
8 activities in the humanities would have similar effects.

9 ANN WOLPERT: The humanists are accustomed to
10 working in isolation. And scientists tend more to work in
11 groups, at least that's the conventional wisdom.

12 DONALD WATERS: Yes. I'm not suggesting that
13 you take people out of the monastic life. I'm suggesting
14 that you connect the work to a higher being.

15 BETSY WILSON: Your question made me think
16 about strategies that we have been using and can use even
17 more so now in a networked environment of where we have
18 one scholar at our institution that's working on
19 something.

20 And there's one over here, and there's one over
21 there, and how we can build, if you will, environments or
22 distributed collections or collections on the fly to
23 support those three scholars that in the past we weren't
24 able to do as easily.

25 And I think of the fine work that's been going

1 on with the global network out of ARL and CRL. Those are
2 really, I think, good examples of -- market might not be
3 the right word, but sharing that community or making the
4 community larger and then supporting it among these
5 different connections.

6 I think it was Cliff yesterday that talked
7 about that maybe the way of building alliances and
8 libraries that used to be geographic, we can now do by
9 disciplinary alliances that may come and go and change
10 according to what the community we serve is working non.

11 FRED HEATH: We'll have time for one more
12 question?

13 Jim.

14 JIM DUDERSTADT: It's actually a question that
15 Don might be able to respond to. It's actually
16 [indiscernible] thinking about the issues that we've been
17 raising during this conference, and how so many of them
18 have echoes to the last decade or more --

19 The question for Don was you referenced the
20 infrastructure and the potential that's emerging for parts
21 of that that require future infrastructures be delivered
22 [indiscernible]. You asserted it and then said, I'm not
23 sure what all those elements are, but we ought to get
24 together and talk some more about it.

25 I'm sure you do have some ideas about what

1 might be broken -- fertile areas for that land of --

2 DONALD WATERS: Well, I'll refer back to John
3 Unsworth's presentation as a pretty interesting and clear
4 example of the kinds of infrastructure in a particular
5 field that are needed. The ability to combine text for
6 certain kinds of data-mining activity is extremely
7 important.

8 That kind of activity has got to be undertaken
9 in a collaborative way. It's highly inefficient for John
10 to try to collect those texts. In order to demonstrate
11 what's needed he's munged them together and done the
12 reformatting and so on.

13 But we need to raise that to a level of
14 standard activities, so that that kind of bringing
15 together of text for various kinds of analysis is much
16 more easy to do. We can go down field by field, I think,
17 with those kinds of analysis.

18 That's really what I meant, is that the
19 collaboration aren't necessarily going to be universal and
20 common. But there needs to be partnerships and pretty
21 strategic partnerships among those institutions that have
22 interests to create that common infrastructure, so that
23 they can then go on with their business.

24 And I think that's really what I was calling
25 for, not that we don't know where those infrastructures

1 are needed. Some areas I think we still need to know
2 more. But there's a lot that we do know and we need to
3 act on.

4 KAREN HUNTER: If I can put one footnote on
5 that, not exactly responding to the same question. But
6 you reminded me now of something else John said. It's
7 just an example of what I was trying to say.

8 One of the things that we've heard that would
9 be helpful if all publishers did, and that's to attach
10 metadata to downloaded PDFs, so that people could, when
11 they download this, really have data with which to manage
12 those downloads.

13 That's the kind of thing I think that we can
14 try to push and push within the industry and get done.
15 It's not the kind of thing we can charge anything for. It
16 becomes another service, and that's fine, because it makes
17 the information more useful and usable.

18 But it's the dilemma that I think that
19 publishers are facing. There are lot of things we know we
20 can and should do. We probably can't recoup anything on
21 that as well.

22 FRED HEATH: Thank you. We will reconvene at
23 2:30 for the wrap-up with Duane.

24 (Whereupon, a short break was taken.)

25 DUANE WEBSTER: Okay. I'd like to get started

1 again with -- we have a very specific schedule target,
2 3:30. And I know we're going to accomplish that, because
3 Betty Sue and I are in charge. Betty Sue and I have been
4 tasked with tying up the loose ends and making sure that
5 we've charted the next steps and have taken care of all
6 the unanswered questions.

7 So we figure we can do that in five or ten
8 minutes. This is really a community-based discussion. So
9 it's really going to be you folks that are going to tie up
10 the loose ends and talk about what you have been most
11 impressed with in the course of these discussions over the
12 last two days.

13 So I'm going to suggest a way of structuring
14 this discussion to make sure that there is in fact a
15 broad-based exchange and not just one or two people
16 offering their viewpoints. I'm going to suggest that you
17 reflect on the last two days in terms of two aspects.

18 What are some of the highlights for you coming
19 out of these discussions, either comments, quotes, points
20 of view, positions being taken or something that has
21 provoked you, and make a list of those two or three items.

22 The other list I'd like you to think about is what issues
23 have we missed.

24 Where are the gaps in the discussions? Where
25 do we need to continue this sort of exchange? What does

1 need to be tied up and pursued at a greater length maybe
2 in a different setting.

3 I do think this sort of relatively small group
4 involvement in a discussion that is structured as this one
5 has been structured has been enormously valuable in
6 contributing to this process of exploring our future,
7 sharing our experiences, raising issues and debating
8 points of view.

9 I think the more our community can do that, I
10 think the richer we are. But this is not a single
11 exchange. I certainly have to salute The University of
12 Texas for putting this together, particularly putting this
13 together with the academic leadership in place, paying
14 attention and contributing to the design.

15 I think having President Powers here the first
16 day, noting his concern and interest in how we leverage
17 the investment in our research library as we look to the
18 future. I think that's a very critical point of view that
19 we're all thinking about.

20 And translating that into the collective,
21 massive, collaborative efforts -- if you will -- is really
22 a need that comes out of our worlds today. And it's not
23 going to be resolved with a single discussion at The
24 University of Texas.

25 We need to have additional discussions. We

1 need to find ways of doing it in this sort of small
2 session. I'm very much intrigued with the device Fred and
3 his colleagues used for putting this together. They knew
4 they wanted to limit this to 60 people -- 30 in, 30 out.

5 But the 30 outside people -- you know, I work
6 in an organization where if you start being selective on a
7 personal basis, you can get into a lot of trouble. But
8 their device is very nifty. They sent out 60 invitations.

9 And the first 30 people who were quick enough to see the
10 value of responding positively, those 30 people get to
11 come.

12 And I think that's a great way of illustrating
13 the need for paying attention to what's going on and being
14 able to respond. So make two lists: your lists of
15 highlights, your list of gaps. While you're making those
16 lists, I'm going to ask Ann Wolpert and Brian
17 Schottlaender to comment on some conversations that have
18 been taking place with the AAU provost on these same
19 issues.

20 As you know the provosts every year have a
21 retreat to San Diego. It was yesterday. Whatever topic,
22 whatever set of issues that are bothering them currently
23 they put on the agenda and have a discussion around. So
24 this year as has been the case over the last few years,
25 libraries have come up as an important set of issues that

1 they're thinking about.

2 And I believe the MIT provost came to Ann and
3 asked for her help. So Ann was the linchpin in putting
4 this together. And I thought she ought to say a little
5 bit about the planning on this event.

6 ANN WOLPERT: Well, whatever I'm going to say
7 is under false pretenses, because I queued it up and then
8 the weather gods intervened. So Brian Schottlaender did
9 all the work. What I thought was interesting about this
10 initiative was that the provost at MIT is relatively new.

11 And he's an electrical engineer. And his
12 response to being asked to organize a program for AAU
13 provosts on the topic of libraries was, We don't have a
14 clue.

15 So instead of listening to ourselves talking to
16 one another about something we don't know very much about,
17 we ought to invite people that actually know what's going
18 on, to comment and have a conversation with us. And
19 that's how the format of the program got teed up.

20 There were a couple of comments at this session
21 that struck me as being particularly relevant to the
22 framework that Brian and I set up for this meeting. One
23 of them was Betsy Wilson quoting Jim Duderstadt from
24 yesterday, to the effect that the future of the library
25 may very well predict the future of the university.

1 And secondly Karen Hunter's comments about the
2 value chain of the creation of new knowledge and how that
3 new knowledge is created out of a set of investments and a
4 research infrastructure that then produce peer review
5 literature that then loops back into that circle of virtue
6 and feeds research and education again and again and again
7 in a dynamic cycle.

8 I think many of us look at the current
9 environment and what Karen described as the shifting
10 landscape of responsibilities, and wonder what the future
11 of universities will be if universities lose control over
12 the cost, terms and conditions around what we use of the
13 intellectual content -- intellectual capital, if you
14 will -- that is created on these campuses.

15 So it was in that framework that Brian and I
16 tried to queue up the conversations with the provosts, not
17 around libraries as libraries, but rather as libraries as
18 that part of educational and research institutions that
19 manages this part of the environment for them.

20 And now I'll turn to it over to Brian.

21 DUANE WEBSTER: So Brian was there. How many
22 provosts were there, Brian?

23 BRIAN SCHOTTLAENDER: Forty.

24 DUANE WEBSTER: Forty.

25 BRIAN SCHOTTLAENDER: Of the 60 that could have

1 been there. So it was good turnout. I'll start with an
2 anecdote. Ann has warned me that Rafael was relatively
3 new, so I show up for breakfast, and I make a small joke.

4 So I understand you're relatively new. And he says, Been
5 there for a year, feels like 20.

6 So basically I went with the eleventh hour
7 assignment of channeling Ann, which is never a mean feat.

8 But I ended up actually channeling most of you who are
9 here today it turned out, because everything that we ended
10 up talking about yesterday morning we just talked about in
11 more depth today.

12 So basically I personally went with three
13 messages I wanted them to carry away. And those were
14 recognizing that the library is an interdependent agency.
15 It doesn't exist in isolation. Those interdependencies
16 exist with other libraries. They exist with the commercial
17 sector.

18 The content whose care and feeding we're
19 responsible for is increasingly interdependent itself. So
20 digital content is in many ways the yin to the analog
21 content's yang. We really can't talk about one without
22 the other.

23 The second thing I wanted them to leave with
24 was recognize that -- and we talked about libraries in
25 general, but afterwards [indiscernible] what I had really

1 come prepared to talk about, which is sort of the
2 collection management.

3 What we're really talking about is investment
4 and all of the activities that stem from that. This is
5 not language that we use. But in the economic environment
6 one could very easily take the rhetoric related to the
7 resource allocation, asset allocation, portfolio balancing
8 and apply that to the current library environment, all in
9 the context of return on investment.

10 And the return on investment aspect was very
11 much on the provosts' minds. I'll say a little bit more
12 about that. In California when the Google deal was
13 presented to the University of California regents their
14 only interest really and their only concern really was
15 return on investment.

16 So the way they articulated that was, How are
17 you sure that the deal you're making today will be a good
18 deal 30 years from now? And clearly that concern ran
19 through the provosts' minds. [indiscernible] to take a
20 leaf from Jim's [indiscernible] I wanted them to leave
21 with this notion of impact.

22 So Jim's articulation was not about survival.
23 It's about impact. So the message in part was for me,
24 We're doing just fine from a survival standpoint on the
25 one hand, but on the other hand we're not only doing just

1 fine, what we're doing has everything to do with how fine
2 you're doing.

3 So the impact that we have on the productivity
4 of the institution on whether it manifests itself in the
5 research cycle time, decreases in that, or whether it
6 manifests itself in classroom productivity increases is
7 all about what we're able to do and are going to do is all
8 about what you're able to do.

9 Basically in the Q&A that followed and Larry
10 Dumas from [indiscernible] panel session and
11 [indiscernible] Q&A. And there was good participation all
12 around --

13 There were sort of three things that came out
14 pretty clearly. And these would all resonate with you all
15 from what you've heard today and what I gather you heard
16 yesterday. First of all their view of the evolutionary
17 event horizon is shorter. So there was discussion in the
18 first instance about what will the library look like in 30
19 or 40 years. And within ten minutes it became abundantly
20 clear that 30 or 40 years is not the event horizon they
21 think is actually going to transpire. So I was thinking
22 about -- remember the Pew roundtable report?

23 DUANE WEBSTER: Oh, yes.

24 BRIAN SCHOTTLAENDER: How long ago did that
25 come out?

1 DUANE WEBSTER: Eight years.

2 BRIAN SCHOTTLAENDER: And that said, if I
3 remember correctly, the shift was going to take 30 years.

4 So a third of that 30 years is already gone. In the
5 provosts' mind the shift was transpiring much more quickly
6 than they had expected it to. And they think ten to 15
7 years is much more realistic.

8 The second thing they talked about at some
9 length is agreement with Alice's point that what will
10 distinguish libraries in this new environment is not
11 general collections, but in fact the special collections,
12 along with services. Some having a rather darker
13 articulation of that than others. There was reference to
14 the M word -- museums -- of special materials. But most
15 having a much more upbeat view about it.

16 Then finally -- and this was really
17 interesting -- they did not use this language, but what
18 Bernie and John and Lorcan were talking about this morning
19 was coming from the provosts as well.

20 And that is a focus on the future frankly less
21 on the library qua institution than on the people who work
22 in the libraries qua expert colleagues with whom to work.

23 So really a focus in their minds was less on
24 the library than on librarians, which I thought was not
25 only interesting but heartening.

1 They gave voice to basically three concerns in
2 their conference. The first was continuing unease related
3 to digital archives. So this is something we've been
4 hearing for a while. The University of California did a
5 Mellon-funded study on e-journal uptake.

6 The basic results were love it, give us more of
7 it. But we're kind of nervous. Will it still be here 50
8 years from now? They're still nervous. They're getting a
9 little bit more comfortable. It was nice to have Michael
10 McRobbie there. He's the provost from Indiana. He's a
11 computer scientist. So he could actually be somewhat
12 reassuring, and lend some credibility to my statement to
13 the effect that one way to avoid the medium going bad on
14 you is don't stay with the medium long. Keep moving it
15 forward as quickly as you possibly can.

16 The second thing they gave voice to is a
17 question as to what extent libraries -- and this relates
18 to Lorcan's comments as to what constitutes the
19 evidentiary record. To what extent should libraries be
20 responsible for facilitating access to and preserving
21 information resources that are outside our typical
22 purview.

23 So they were interested to hear about journals.
24 They kind of got that. They understand that. They were
25 interested to hear about books. They get that. They're

1 even getting multimedia to a certain extent. And they
2 even get primary, like raw data sets to a certain extent.

3 They're beginning to worry about blogs and
4 wikis and things that are much more fleeting in existence.

5 And not only to what extent your fear has to do with
6 [indiscernible], but to what extent we should be
7 responsible, so that they can have access to that --

8 But to what extent we're prepared and able to
9 undertake that responsibility. Now, in discussion with
10 Ann before going to this I was prepared for some giving
11 voice to the unfunded mandate. This is one instance where
12 I actually began to see that.

13 Again nobody used that phrase, but I could see
14 it there. Then last -- and this is certainly constant
15 with what Kevin had to say and with what Jim had to say --
16 a real thinking about -- I don't think concern is the
17 right word -- but a real thinking about how to reallocate
18 capital.

19 So it's abundantly clear to the provosts
20 that -- in fact Peter Lange from Duke talked about stack-
21 like spaces -- not stacks, but stack-like spaces -- which
22 can be reallocated as the need for stacks disappears.

23 So I think this notion of the reallocation of
24 space no longer needed to handle collections has not
25 escaped them by a long shot.

1 So I spent a considerable amount of time, Jim,
2 channeling you actually, talking about the need for
3 productive physical space, productive electronic space,
4 enhancing the faculty space, enhancing the student
5 experience. And they were getting in a big way. But you
6 could also see this little gleam in their eyes and little
7 references to "we need classroom space" and things like
8 that. It doesn't bother me personally. So all in all I
9 thought they were a very engaged group. All in all I
10 think they get it.

11 There was a little bit of fear about the 9,000-
12 pound gorilla, the Google gorilla. But that fear really
13 had more to do with, how's it all going to play itself out
14 in the long term. The one provost -- I think he
15 [indiscernible] -- actually did question whether Google's
16 motives were altruistic.

17 DUANE WEBSTER: How much time did they spend
18 with you on the library-oriented?

19 BRIAN SCHOTTLAENDER: [inaudible]

20 DUANE WEBSTER: The whole -- wow.

21 BRIAN SCHOTTLAENDER: The Q&A
22 was [indiscernible].

23 DUANE WEBSTER: Well, certainly the community
24 appreciates the fact that you're located there in San
25 Diego and can represent the community as ARL president.

1 And of course Ann, as past president, just happened to be
2 located at MIT and able to work with her provost.
3 Terrific. Thank you for that update.

4 Okay. I'd like to go back to your lists. And
5 I'm going to encourage you to be punchy and quick. Give
6 one item from either of your lists, and give me a
7 rationale for why it's on your list. And then let's move
8 along, see how many of the community can contribute to
9 this decision in the short time that we have available.

10 We're on target to close at -- I'm going to
11 hand it off to Betty Sue at 3:15.

12 BETTY SUE FLOWERS: But we can keep going.

13 DUANE WEBSTER: Who would like to go first?
14 John?

15 JOHN UNSWORTH: I was struck by Dan Connolly's
16 point about Tim Berners-Lee's 1991 submission to the
17 hypertext conference being rejected. In fact if you go
18 back and look at the records of those conferences I don't
19 think there's a mention of the web in the conference
20 proceedings until about 1994, by which time it was already
21 all over the New York Times.

22 So I think it's interesting, because I wonder
23 what we're overlooking right now. I think that was
24 overlooked or that was rejected because we understood
25 hypertext systems very well. And we could see that that

1 was a bad one. And the only thing it had going for it was
2 it would allow a lot of people to communicate -- link
3 point-to-point from within documents, do multimedia, put
4 one interface on everything, run almost anywhere. But it
5 was a bad system.

6 I think what was missed there basically was
7 communication trumps everything else. We've been talking
8 about a lot of things. Communication, scholarly
9 communication, it's sort of buried in there, it's
10 implicit. But I wonder what about the things that we're
11 talking about should we disregard because communication's
12 more important than X, whether X is gate-keeping or
13 disciplinary boundaries or what it is.

14 We think these things are obviously important.
15 We understand them well. So we know that's what we're
16 talking about.

17 DUANE WEBSTER: Good. Thank you, John.

18 Another highlight? Jim?

19 JIM DUDERSTADT: Something that didn't come out
20 that I thought might be are there differences in
21 libraries at public and private institutions, and whether
22 a relationship with the state or some public-commissioned
23 mandate colors our thinking about how we organize and
24 deliver library collections and services. Maybe that's a
25 moot issue, where we don't really have large public-

1 supported, state related institutions. So I'm surprised
2 that didn't come at some point.

3 DUANE WEBSTER: Geoff?

4 GEOFF LEAVENWORTH: I was struck by Betsy's
5 powerful image of Henry Suzzallo's cathedral of books.
6 And I was wondering, what is the latter day equivalent of
7 that? Then I saw this wonderful illustration on the front
8 of the brochure, which is the Suzzallo Library under
9 construction.

10 And if you look at what's in the building, it's
11 full of negative space and [indiscernible] stacks.
12 Perhaps that's what the next generation will look like. I
13 also observed this wonderful brochure I just picked up.
14 This could be an orphan work.

15 DUANE WEBSTER: Orphan work. There's a hot
16 issue for us. Okay. Another highlight or gap?

17 Don.

18 DONALD WATERS: I like that she said the
19 hallmark of the library in the 21st century is
20 collaboration. It wasn't exactly those words, but pretty
21 close to it. So what I'm realizing is that library
22 science is the interdisciplinary discipline.

23 And if you take that and you mix in the digital
24 technologies and the information technologies and a
25 certain amount of openness, that direction, you get people

1 that are qualified to help, people collaborating.

2 DUANE WEBSTER: The interdisciplinary
3 discipline. That's good. There are a few people who'd
4 vote for that.

5 Alice.

6 ALICE PROCHASKA: I guess to pick up on John's
7 point, I think there was an enormous amount of back and
8 forth about communication -- communication trumps
9 everything. But the feeling I get overwhelmingly is that
10 the move to communication openness and the gap that none
11 of us yet has quite been able to fill is how we cope. You
12 know, we all of us are dealing with it, strategies to help
13 our constituents, our universities

14 But how are we going to get together to fill
15 this great [indiscernible]? It's a cloud. What do you do
16 next --

17 DUANE WEBSTER: I think that is a real
18 opportunity to have additional discussions that might be
19 organized, structured and intended to develop action lists
20 with possible projects coming out of it. I think this has
21 been more of an exploratory.

22 What is happening? What do we envision? What
23 are some of the issues? What are some of the experiments
24 that are going out?

25 Kevin.

1 DR. GUTHRIE: Don and Karen spoke briefly about
2 open access [indiscernible] engaging in practical aspects
3 of how we can access [indiscernible].

4 DUANE WEBSTER: Yes. A blind belief in the
5 value of open access needs to be -- take the cautionary
6 advice that Don was suggesting. What are the
7 implications? How do we become more strategic. We've got
8 the attention of the Academy -- the provosts let's say --
9 in this arena of publicly accessible -- of federal-funded
10 research.

11 But how does that relate to open access, and
12 how do we make sure that the food chain is in fact
13 healthy, and that we move toward a blended model, and not
14 necessarily throw out the successes and the advantages of
15 the current model?

16 Bob.

17 BOB: I was struck by how little relevance
18 there had been in the last two days to LIS education. It
19 was exclusively mentioned only in Andrew's question at
20 lunch. It was implicit on a number of things that Jim
21 said.

22 But basically it's been absent from the
23 discussion in terms of what LIS programs should be doing
24 to prepare professionals to practice in the research
25 libraries. And from that I think that the point that

1 essentially begs the question, as Jim says, is that LIS
2 education is irrelevant.

3 PRESIDENT DUDERSTADT: I didn't say that.

4 JEFF: I know you didn't say that. I think you
5 [indiscernible] in observing it's essential assets for
6 this discussion.

7 DUANE WEBSTER: Or maybe it's the character
8 nature of the degree and how we're viewing the degree. I
9 think we're still looking to those schools certainly for
10 the type of talent they attract, how they select that
11 talent, how they groom it and prepare it for our
12 communities.

13 But whether or not they need to have the
14 traditional credential is maybe not as important to our
15 community, although we continue to look at, how do we
16 attract ABDs, PhDs, scholars and specialists into our
17 community.

18 If we can get them into the library school, our
19 information school environment, great. But we need that
20 talent one way or the other.

21 Lorcan.

22 DR. DEMPSEY: I suppose it's natural to talk
23 about collections. But Cliff made a very brief remark in
24 his talk about the differentiation on the basis of
25 services offered on a couple of things. Kevin came back

1 to the issue of services as well and made some comments
2 that integration would work well as to Karen.

3 But it was interesting that people only get
4 excited about collections. That seems [indiscernible].
5 But the issue of how one mobilizes one's resources in a
6 search and learning environment [indiscernible] much less
7 attention to that issue -- collection.

8 Of course it seems to me a major issue based on
9 research and how those resources are mobilized in the
10 research and not a learning environment --

11 That seemed to resonate much less proactively
12 within the group in terms of the specialty --

13 Joseph reported a portion of conversation --

14 DUANE WEBSTER: Good point.

15 Sarah?

16 SARAH: I sort of felt the other way that -- I
17 came in really worrying about how on earth we'll bring the
18 large general collections, and how we'll care for them and
19 [indiscernible]. And how to protect them.

20 And President Duderstadt -- you almost wouldn't
21 even know that large general collections existed
22 [indiscernible] of the [indiscernible]. Then I got to
23 feeling a little bit better --

24 And I've heard people [indiscernible] comment
25 saying, Oh, yes.

1 Take good care of our collection. They're
2 absolutely necessary, and we'll get this [indiscernible]
3 if we need it. So I was just feeling better until Brian
4 talked. And Brian said that the provosts have no inkling
5 of how they possibly think about how they can get their
6 hands on the [indiscernible] collections.

7 So I think future conversations would be
8 interesting -- not a whole two-day conference. It would
9 be interesting to talk more about how are we going to care
10 for those things. Maybe it what you're saying. Maybe it
11 is.

12 Maybe [indiscernible] as a major institutional
13 asset, how are we going to leverage and activate that
14 asset. I would like hear more discussion about it.

15 DUANE WEBSTER: Good.

16 Go ahead, Devon.

17 DEVON: Going back to what Bob said
18 [indiscernible] various models very different from what
19 we're accustomed to [indiscernible] other people can do
20 that, and how do we support the interest. Say, Okay,
21 here's the new model, run with it.

22 We're even saying [indiscernible] can keep up
23 with this. This also brings up the Center for
24 [indiscernible] acknowledging [indiscernible]. Almost a
25 cultural clash between that from the people in our

1 traditional [indiscernible], who seem themselves as the
2 keepers of the [indiscernible].

3 Whereas there's a perfect complement
4 [indiscernible] CIT people working with faculty and
5 technology issues --

6 DUANE WEBSTER: As well as building readiness
7 on the part of the staff to move into this new
8 environment.

9 VOICE: One of the things that struck me is
10 something that Karen said, which started making me think
11 about disruptive technologies. She said that this
12 community should be very proud of what they've
13 accomplished up to this point in adapting to the
14 cyberinfrastructure requirements on the universities.

15 But I just wanted to go one step further with
16 that and remind us for a second what a disruptive
17 technology could really do. And I look at the kids that
18 are highly productive, rather than consumptive, in the
19 sense that they're building new environments on the
20 internet all the time.

21 They have a different vision that is less
22 traditional [indiscernible] in the sense that they're much
23 more visional. And they're looking for streaming
24 technology, communications technologies.

25 And I think that it's possible that something

1 that we should consider in our thinking is there could be
2 a very disruptive technology, especially with e-Science
3 feeding on visualization through sensor-based technology
4 that will be ubiquitous, that we should consider thinking
5 about now.

6 The library could become the productivity
7 environment to enhance those generations.

8 DUANE WEBSTER: Good point.

9 Go ahead, Walt.

10 WALT: One of the things I [indiscernible]
11 because I saw friction between something that came up
12 several times, which is eliminating unnecessary
13 redundancy. And another thing that came up several
14 times [indiscernible] using the words.

15 But not the project, but the meaning -- lots of
16 copies [indiscernible] over the word unnecessary. I think
17 that there's a long process that [indiscernible] and the
18 difference that [indiscernible] is to be useful and
19 necessary --

20 That's an interesting topic.

21 DUANE WEBSTER: Is it five fingers or six
22 fingers that we need.

23 VOICE: One thing that I want to always point
24 back on is that scholarship is [indiscernible] technology.
25 Scholarship is a very labor-intensive activity. And

1 there's a tendency in a lot of our discussions to get
2 futuristic and talk about what's enabled by new
3 technologies.

4 What's enabled is [indiscernible] and action.
5 The collection [indiscernible]. The collections itself in
6 my view is not as interesting as in some views. So a part
7 of what we're trying to do is enable new [indiscernible].
8 The human species doesn't change that much.

9 A [indiscernible] system isn't changing as fast
10 as computer processes. So I think we can get a lot of
11 stability if we recognize that we're in a sociotechnical
12 environment. And let's not recycle [indiscernible].
13 There's too much of this talk of [indiscernible] Congress.

14 It tends to lose sight of the fact that we
15 should really be looking out for the human --

16 DUANE WEBSTER: Good point.

17 Sarah.

18 SARAH: So one of the themes that
19 [indiscernible] for me out of this meeting is not to
20 wonder --

21 And I was thinking of how difficult it is for
22 us in 2006 to be thinking about the library for the 21st
23 century, when we're just tiptoeing.

24 And then when I look back over my career
25 [indiscernible] access over ownership. And then we have

1 content is [indiscernible]. Then Lorcan [indiscernible]
2 from managing content to managing consumption. And we're
3 only thinking about user [indiscernible] in talking about
4 [indiscernible].

5 That's when you have the surveys that were done
6 by our biological scientists and how we could do that.
7 Jim talked about moving from [indiscernible] buildings
8 into the departments that [indiscernible] out there among
9 the [indiscernible].

10 And then the other thing that is connected to
11 this [indiscernible] watching is the thing from service or
12 servant to partner, and then today to peer -- I thought
13 was really interesting --

14 DUANE WEBSTER: It's an interesting point.
15 We've put quite an investment in developing the LIBQUAL
16 process, not just to better understand user perceptions of
17 our success, but in a very real sense to find a way in
18 which we can create common methodologies, in which we can
19 better understand our user and then to share that
20 information amongst our institutions in a way that
21 contributes to the community understanding of what is
22 happened with user behavior, as well as user preferences
23 and levels of user satisfaction.

24 I think that notion of operating at the local
25 level, gaining that knowledge and exploring that user

1 behavior, but then being able to share that amongst our
2 community, and to look at it over time.

3 That's one of the real accomplishments of the
4 ARL community is being able to look at user behavior and
5 preferences over time on an inter-institutional basis and
6 in a way that can challenge and stimulate a change in
7 allocation of resources and the local level.

8 I shouldn't get into marketing I suppose.
9 Other comments?

10 BETSY WILSON: I don't know if I can say this
11 correctly. I guess what I'm struck by is a need toward a
12 cultural and behavioral change. Maybe I'm detecting it.
13 [indiscernible] because I'm impatient with wanting to get
14 on with it.

15 And that has to do with a need for us as
16 institutions to base our prestige and our identify as
17 libraries attached to our institutions, as an
18 institutional [indiscernible]. We talked a lot about
19 competition today.

20 And I think it's real. It is important because
21 a lot of our -- collections have grown up from huge
22 amounts of [indiscernible] that added a whole
23 [indiscernible] that was put in the libraries here.

24 Can we get beyond this cultural behavior and
25 the need to identify ourselves as boats on our own

1 [indiscernible] to truly honoring collaborative work as a
2 prestige factor that allows us to take the next step
3 forward to the collaboration and the networking things
4 that we say that we absolutely have to do.

5 And if so, if that's needed, how do we
6 [indiscernible]. There's a need to honor the legacy
7 collections which North Carolina has or UT has and Texas
8 A&M doesn't have, because we all rely upon those. We'll
9 rely upon them [indiscernible], not only the digital
10 versions of them.

11 Can we honor that past and still move forward
12 into the future so that we honor in the same way --

13 DUANE WEBSTER: Good point. And it's a good
14 point to end on, because I need to hand it off to Betty
15 Sue. But I'd like to underscore again our appreciation to
16 the University of Texas for putting together such a useful
17 array of perspectives to stimulate the sort of thinking,
18 reflection and discussion that we've had over the last two
19 days.

20 Now, Betty Sue Flowers, who is the Director of
21 the Lyndon Baines Johnson Library.

22 BETTY SUE FLOWERS: That's right. I'm the wolf
23 in sheep's clothing among the lions and Daniels, I guess,
24 because I'm a federal bureaucrat, not an AAU person. I'm
25 here just to continue on. I'm really the relief pitcher

1 here, since he has to catch a plane.

2 So I think there's some other ideas floating
3 around here, before I try to link them into a conclusion,
4 because not everybody raised their hand. But everybody
5 had a list.

6 VOICE: First of all the smart things have
7 probably been said already. I think another set of
8 conversations could be extracted from the beginnings of a
9 remark Alice has a chance to [indiscernible].

10 There is a certain disconnect, an ironic
11 disconnect [indiscernible] with the fact that we are now,
12 even in this mid-term stage, able to put more and more
13 content in front of our users with more and more
14 sophisticated discovery tools.

15 [indiscernible] at least our anecdotal evidence
16 is that our students are more and more satisfied with
17 extremely abbreviated and fractional approaches, and our
18 extremely unsophisticated [indiscernible] material that
19 we're busily decided services around.

20 I think we need to figure out what we should do
21 about that. Two things should not be existing in the same
22 universe.

23 BETTY SUE FLOWERS: Very good point. Other
24 comments? Questions?

25 VOICE: From perspective of not being a

1 librarian [indiscernible] center and [indiscernible] with
2 the flood banks of the information that we already have,
3 which kind of simplifies our life. But we found it 1994
4 with the [indiscernible] of global resources is that --
5 bulk of the library and working with the internet.

6 The [indiscernible] of the group
7 [indiscernible] it's always had a [indiscernible] what the
8 scholars need. And you're also the group that brings
9 credibility to the type of information that you were
10 gathering.

11 And you're also dealing with such minimal
12 resources [indiscernible] to facilitate and access of
13 bringing documents online that [indiscernible] working
14 with the library [indiscernible] that it's very nice to be
15 working with individuals out there.

16 But the real strength over time with the
17 finding the internet I can tell you what should --

18 DUANE WEBSTER: Yes.

19 VOICE: I just wanted to make the following
20 comment. Is the ecosystem you discussed earlier
21 [indiscernible]. So I think it was the natural
22 information that [indiscernible] natural ecosystem -- if
23 you will.

24 So this whole question about what's unnecessary
25 duplication -- unplanned duplication. There's not a lot

1 of planning with natural ecosystems, because we don't
2 design a natural ecosystem. Therefore we can do planning.

3

4 And we make the decisions about what is
5 [indiscernible]. I like the metaphor, but I think the
6 natural impulses in [indiscernible].

7 DUANE WEBSTER: Well, maybe that should be a
8 lead-in to my closing five minutes, unless there's some
9 other comment here, because it's probably a closing three
10 minutes.

11 (No response.)

12 BETTY SUE FLOWERS: This group, which has been
13 commenting for this afternoon, do you have any comments?
14 You've been patiently observing us.

15 VOICE: I'll venture one. I happen to sit with
16 the Latin American microform program, which is CLR-
17 sponsored. Has a small amount of money to help in Latin
18 America. It usually has been with my company profits.
19 About two or three years ago we had this discussion.

20 Should we fund a first digitization project
21 related to Latin America using laptops? And so here from
22 Princeton and Yale and Harvard and Berkeley and ourselves
23 [indiscernible] in Florida. And this one hand went up in
24 the [indiscernible] section.

25 She said, you know, this is very much a first-

1 world problem. We don't have the technical electricity.
2 I say this to remind all of us of that great distance
3 throughout the world.

4 BETTY SUE FLOWERS: Thank you. Well, listening
5 here -- and I think my function is just to sum up, to draw
6 some threads together. I said seven threads that I think
7 would form the basis of a next meeting or a blog or
8 something.

9 And the threads are these. One -- what are we
10 overlooking? What are the disruptive technologies that
11 might create something totally unpredictable? I was at a
12 MacArthur-funded meeting a couple of years ago about the
13 future of education and technology.

14 And we played with an avatar system -- we
15 wanted to learn about Egypt. We designed what we wanted
16 to look like. We went as a team. I was a different
17 gender and very tall. We sent as a team to Egypt and
18 learned about Egypt together.

19 This was online. But we were collaborating.
20 You guys are going to be involved in that if it comes to
21 that. It's a gaming, online, interactive, because what we
22 like is we love to learn as human beings. We also love
23 communication.

24 We also love play. And the Starbucks in the
25 library is an acknowledgment of the learning and play and

1 communication together. I mean that's who we are as human
2 beings.

3 So I think one of the things we might be
4 overlooking is this behaving together in alternate virtual
5 worlds, in which the whole world is the library then, the
6 whole world, and how do we build those. That's just out
7 there.

8 Second, public mandates. Are there differences
9 between public and private, which leads to I think the
10 larger question, question number two. What is the public
11 mandate towards top university libraries? As we get more
12 expensive, as institutions of higher learning get to be a
13 bigger burden on the system as a whole, there are going to
14 be public mandates.

15 And you better believe they're going to be
16 unfunded. So if we can think in advance about what those
17 possibly might be in this domain, and be able to shape the
18 conversation in advance, it's something that behooves us
19 to think about for the future, ahead of the unfunded
20 public mandate that I believe is going to come down the
21 pike very quickly as our educational standing continues to
22 become lower in relation to the rest of this globalized
23 world.

24 Third, the profession of what used to be
25 quaintly called librarians. We used to think of them as

1 people guarding the books. You know, now both the
2 prestige and the necessity of informational technicians of
3 the content, of the people who know about archives -- all
4 these people, it's very interesting.

5 When I became the director this presidential
6 library, I thought I'd get a lot of applications of people
7 who wanted to work in the museum. Not so. It turns out
8 archives is a very sexy profession. I've got filing
9 cabinet drawers and people out of the blue writing and
10 saying, I want to be an archivist.

11 I actually saw someone with a t-shirt about
12 archives. I don't think when I was in college most of us
13 knew what the word meant. I'm just saying there's
14 something about content, the allure of lots of content,
15 that is sparking a new interest in this profession.

16 And you know how every academic could rank
17 every department in a university, not according to their
18 rankings in the world. But I mean physics is always at
19 the top, and education is always at the bottom. In the
20 past the library school was right there with education I'd
21 say.

22 It is rising. It is coming up in the world.
23 Now is the time to take advantage of that curve of this
24 profession coming up in the world really, really rapidly,
25 so that other academics really do have a peer relationship

1 in a way that never was the case when the librarians were
2 guarding the books.

3 Fourth, in addition to what are we overlooking,
4 the public mandate, the changing profession, this whole
5 issue of communication overload and the curation, both in
6 quality and quantity, of the top tier universities and
7 their libraries -- the curation of material on the web.

8 This is a key issue. We're in the leadership
9 of it. And we have to articulate that so the outside
10 world, including students, who use any old thing can
11 understand. Fifth, how will open access evolve? There's
12 a way to think about this.

13 My own experience is that the New York Times
14 sells some of our images that you could download free off
15 our web for \$300 to \$500. So I'm just saying that
16 because we're happy for people to make money off our
17 public domain documents, because the government never has
18 enough funds, even to have server space for the images,
19 much less put them all up on the web.

20 But the way to figure out how open access will
21 evolve is, where is the money to be made? And again this
22 is another get-out-in-front, because there will be -- it's
23 the nature of things, and I'm not criticizing it -- there
24 will be money made off access. Where will it be made?

25 So maybe the next conference we should have

1 some of our business colleagues modeling how money can be
2 made in this world, because that's where it will go.

3 Sixth, redundancy, unnecessary. The word of unnecessary
4 redundancy, the model of nature.

5 Nature is abundant. So I would rather, instead
6 of talking about redundancy, talk about abundance, and
7 where is abundance good, and where does abundance clog up
8 the system. Nature is profligate in its play. And
9 abundance is important, especially at the edges of
10 creativity.

11 Wasteful excess is the hallmark of creativity.

12 And you just look at the stuff left on the cutting room
13 floor. Last, finally, seventh and this conclusion. A
14 very important question about human behavior. I'm tying
15 Andrew's question with that last question that was raised
16 about the honor prestige system of academics.

17 We're in the model of Homer. That is we
18 compete to produce excellence. That's our model as
19 academics. And in the past we did that through
20 acquisition. And libraries and collections have the
21 quote, "People only get excited about collections."

22 The strength and reputations of libraries were
23 built on their acquisitions. And now, now and in the
24 future, the power of information has to do with capacity
25 to access and organize. It's not about acquisition. In

1 the same way -- and this is a human question --
2 collaboration is what we need.

3 The poet Auden, "We must love one another or
4 die." And that applies to libraries as well. But
5 prestige is not in collaboration. So this is part of -- I
6 think we're at the forefront in the world of information,
7 of the next evolution of humanity really.

8 I hate to be so large sounding. But actually I
9 do think this is really key to this. And I'm reminded of
10 this with my son. I went to a meeting of the Texas
11 Philosophical Society, which Sam Houston founded many
12 years ago.

13 And there was a speaker talking about how you
14 could soon have the Encyclopedia Britannica -- trying to
15 explain this to the older folks, who are most of the
16 people in the Philosophical Society -- you could have an
17 implant in your brain which would allow you to look up
18 everything. I mean that was the image.

19 And I was on the panel. So I could see that
20 everyone over 50 was looking horrified. And everyone
21 under 50 was looking intrigued. So I went home, and my
22 son, who was ten at the time, I said, You know, somebody
23 at the speaker talked about implants in the brain that you
24 could access knowledge.

25 He said, Oh, cool. So I was thinking, you

1 know, there's a whole cyborg phenomenon here that we
2 haven't even begun to think about that is part of the
3 evolution of humans in some profound way, that oddly
4 enough we find ourselves in the front of.

5 So I'm really delighted that we've collaborated
6 enough, that you've taken the time to come here to the
7 University of Texas and share your thoughts and ideas
8 together and the human warmth of interacting, because
9 leaders are always on two legs.

10 So I'm glad your two legs brought you here.

11 Thanks.

12 (Whereupon the symposium was concluded.)