

Transliterations MRG Proposal

[Abbreviated Version Without Some Appendices]

(May 2, 2005)

[*Note to Transliterations project members and Conference 2005: UCSB Conversation Roundtables on Online Reading participants:* This is the first of an anticipated series of grant applications for the Transliterations Project. This particular proposal is for a UC Office of the President Humanities Multicampus Research Group (MRG) award (maximum award: \$35,000/year for five years). The call for proposals is online at: <http://www.ucop.edu/research/HumanitiesMRGs.htm> For this proposal, only University of California faculty are listed as project members--though in the future Transliterations plans to recruit researchers from other institutions as well as possibly affiliate with other research programs. Also, because of the nature of this proposal, the rationale statement emphasizes the perspective of, and benefits to, the humanities. Future grant applications--whether for overall implementation of the project's intended technology initiative or for specific technological, social-science, or humanities aspects of the project--will expand upon other perspectives.]

1. Title Page

Name of group: Transliterations Project: Research in the Technological, Social, and Cultural Practices of Online Reading

Principal Investigator: Alan Liu

Title: Professor

Department: English

Campus: UC Santa Barbara

Email: ayliu@english.ucsb.edu

Postal Address: Department of English, University of California, Santa Barbara, CA 93106-3170

Fax: Department of English, (805) 893-4622

Campus Phone: contact through the English Dept: (805) 893-8711

Home Phone: (805) 685-5426

Amount requested: \$175,000

2. Abstract of Proposed Programs

Transliterations is a new project designed by members of the previous Digital Cultures Project MRG and additional UC humanities faculty to bring their historical, interpretive, and theoretical research on information culture into practical collaboration with computer scientists and social scientists. The Transliterations group--which will also include some UC faculty in engineering, communication, and political science--will address a problem central to both the humanities and the information age: online reading. The central goal of the MRG will be to create a technology that both improves reading in digital, networked environments and is founded on adequate historical, social, and interpretive understandings of what might make such improvement humanly meaningful. In a carefully sequenced set of activities, Transliterations will establish three working groups to study online reading from different perspectives; bring those groups into conjunction behind a shared technology initiative; publish research and demonstration software in an online "casebook" series on online reading (in addition to individual publication by members); seek extramural funds for implementation and evaluation of its pilot technology; and train graduate students working at the intersections of the humanistic, social, and technological disciplines. These activities will be supported by the following annual programs: a conference that brings members together to coordinate their research; a week-long graduate student seminar taught by two faculty from various disciplines (beginning in the second year of the project); inter-campus site visits by some members of the group; participation in an online collaboration and discussion system supplemented by teleconferencing or web conferencing; and extramural grant-seeking with the assistance of a grant-writing assistant. Transliterations will be based at UCSB and administered by the PI together with an advisory committee of representatives from different UC campuses.

3. Goals and Objectives

More than just a "successor" to the DCP, which is funding the June 2005 preliminary planning conference for the new project, Transliterations has a significantly different profile. Transliterations recognizes that the interpretive, theoretical, and historical humanistic research on information culture fostered by the DCP has been highly successful--as measured by the quality and level of the DCP's activities (see Appendix 5, "Summary of the DCP") or by the number of significant publications by DCP members. But it also believes that it is now time for a second stage of humanistic inquiry where digital humanists bring their expertise into practical collaboration with social scientists, computer scientists, and others.

Transliterations chooses the topic of online reading specifically for this purpose. Rigorous appreciation of textual experience is close to the core identity of the humanities--one of the central features that sets it apart from other disciplines. And far from diminishing in the face of digital, networked "new media," textual experience has proliferated as part of the new media. "Reading" has adapted to multimedia, networking, mobile computing, and text-encoding, even as, reciprocally, the new technologies actively remember older habits of reading. Using a browser, search engine, or blog site, for instance, subtly inflects reading; but, equally, familiarity with historical reading technologies--with "documents," "pages," or "indexes"--shapes the use of new technologies. Despite such cross-adaptation, however, we hardly understand the relation between older and newer ways of reading. Scholars trained in print thus often bring their projects online by designing search interfaces keyed to word-searching "just like" in a print index, even though metadata, stochastic, or large-unit pattern-recognition methods are possible. So, too, from the other viewpoint, technologists often do not know how to weave into new tools for browsing or searching the rich functionality of citation, allusion, commentary, or narration that evolved in print. In sum, we do not know how to conjoin the intelligences of the old and new reading into an organic "text-plus" experience (text plus multimedia, text plus networking, text plus mobile communications, etc.) that is more enriching, enjoyable, evaluative, critical, kind, individually rewarding, socially expansive . . . in a word: humane. Online reading is Transliterations's topic because this is the staging ground where humanists, social scientists, and computer scientists all have equal contributions to make.

Transliterations will pursue a sequence of activities and programs. In year one, it will create three working groups to study online reading from different perspectives. For example, one group might focus on a topic that arises out of the history of print; another on the digital public sphere; and a third on human-computer interfaces or peer-to-peer networking. Not only will these groups be strongly aware of each other (to the point of cross-membership), but in year two they will converge behind a single research goal: the development of a demonstration technology to enhance online reading. Most likely, this technology will be one that uses the

network to enhance the community experience of reading while accommodating different experiences of the same collection of texts by people of varying backgrounds, interests, or literacy levels. By year three, Transliterations will begin publishing research. Each of its disciplinary clusters will publish according to its own norm (e.g., articles, technical papers, demonstration software), but members will also contribute to an online "Transliterations casebook" (or series of casebooks). Years four and five would then be devoted not just to further research but to "building out" the project's demonstration technologies into usable tools. Toward such implementation, which requires full-time computer-science graduate students, Transliterations from its start will operate a grant-writing group (including a grants research assistant) to seek funding from government, industry, and other extramural sources. Annual programs that support the above development activities will include a conference; a week-long graduate seminar taught by leaders in the field (from year 2 on); visits by group members to each others' campuses; and extramural grant-seeking.

The institutional goal of Transliterations is to make the UC system a leader in collaborative humanities/engineering/social science research on information technology. Subsidiary institutional goals include strengthening the UC system's profile in the burgeoning humanistic field of "history of the book" or "early media"; bringing together UC faculty interested in digital media with UC faculty focused on earlier periods; and training graduate students who have interests that straddle the humanities, media or communication studies, and information technology. The project's wider, social goal is to improve online reading by bringing the full, interdisciplinary resources of a university to bear on the problem.

Significant preliminary steps have been taken toward launching Transliterations, including the recruitment of computer scientists and social scientists willing to join humanists; the organization of a planning conference (June 17-18, 2005); and the launch of the Transliterations Web site (<http://transliterations.english.ucsb.edu/>).

4. Detailed Description:

4.A. Background of Applicant Group

The following UC faculty will be members of the Transliterations MRG, with others to be recruited as the project develops and discovers additional interested faculty in various disciplines (including the social sciences, education, and engineering) across the UC system:

- * **Kevin C. Almeroth**, Vice Chair & Assoc. Prof. of Computer Science (and Media Arts & Technology Program), *UCSB*
- * **Bruce Bimber**, Prof. of Political Science & Communication; Director of Center for Information Technology and Society, *UCSB*
- * **Sue-Ellen Case**, Prof. & Chair of Critical Studies, Department of Theater, *UCLA*
- * **Mark Goble**, Assistant Prof. of English, *UC Irvine*
- * **N. Katherine Hayles**, Prof. of English and Design/Media Arts, *UCLA*
- * **Yunte Huang**, Associate Prof. of English; Director of Consortium for Literature, Theory, and Culture, *UCSB*
- * **Peter Krapp**, Assistant Prof. of Film & Media Studies/Visual Studies; Program Faculty Member of Arts Computation Engineering, *UC Irvine*
- * **Alan Liu**, Prof. of English; Director of Transcriptions Project (Literature and the Culture of Information), *UCSB*
- * **Peter Lyman**, School of Information Management and Systems, *UC Berkeley*
- * **Mark Meadow**, Associate Prof. of History of Art and Architecture, *UCSB*; Co-Director of UC Microcosms Project
- * **John Mohr**, Associate Prof. of Sociology; Associate Dean of the Graduate Division, *UCSB*; Chair of the UC-AGEP (Alliance for Graduate Education and the Prof.iate) Steering Committee; co-PI of the UC-DIGSSS (Diversity Initiative for Graduate Study in the Social Sciences) NSF grant
- * **Christopher Newfield**, Prof. of English, *UCSB*
- * **Robert Nideffer**, Associate Prof. of Studio Art & Information and Computer Science, *UC Irvine*; member of UCDarnet
- * **Lisa Parks**, Associate Prof. of Film Studies; Affiliated Faculty, Women's Studies, *UCSB*
- * **Carol Braun Pasternack**, Associate Prof. of English and Medieval Studies Program, *UCSB*
- * **Mark Poster**, Prof. of History, Film and Media Studies, and the Critical Theory Emphasis, *UC Irvine*
- * **Rita Raley**, Assistant Prof. of English, and Co-Director of English Dept.'s Literature & Culture of Information Specialization, *UCSB*
- * **Ronald E. Rice**, Arthur N. Rupe Prof. in the Social Effects of Mass Communication; Co-Director of the Center for Film, Television and New Media, *UCSB*
- * **Mark Rose**, Associate Vice Chancellor and Prof. of English, *UCSB*
- * **Warren Sack**, Assistant Prof. of Film and Digital Media, *UC Santa Cruz*
- * **James Tobias**, Assistant Prof. of English, *UC Riverside*
- * **Matthew Turk**, Associate Prof. of Computer Science and Media Arts and Technology, *UCSB*
- * **Noah Wardrip-Fruin**, Assistant Prof. of Communication [pending], *UC San Diego* [joining the UC San Diego faculty; see letter of intent from both Wardrip-Fruin and the Chair of the UC San Diego Communication Dept.]
- * **William Warner**, Chair and Prof. of English, *UCSB*; Director, UC Digital Cultures Project

This applicant group consists of 24 UC faculty representing at least 11 different disciplines from 7 of the UC general campuses. Fifteen faculty are primarily in the humanities; two work primarily in the arts; five focus on the social sciences; and two are primarily computer scientists—with many of these faculty also overlapping in appointments and expertise with other disciplines. Members of the group represent a majority of UC humanities faculty active in research on the digital humanities—including internationally recognized figures who have published major monographs and editions, created well-known online and other digital projects, or initiated significant programs in digital studies. Non-humanities members include a select number of internationally known figures in communication, political science, human-computer interface research, and networking technology. The Principal Investigator is Alan Liu, whose work includes the Voice of the Shuttle Web page for humanities research (started 1994), the creation of the Transcriptions Project on literary history and information culture (started 1987), and a recent book, *The Laws of Cool: Knowledge and the Culture of Information* (U. Chicago Press, 2004). Liu is also a member of the UC Humanities Technology Council, the UCSB Information Technology Board, the UCSB AAU Task Force Group for Reinvigorating the Humanities, and the Board of Directors of the Electronic Literature Organization.

There is strong cohesion among the applicant group because of its established track record of collaboration on previous projects related to information technology, new media, or digital culture. For example, William Warner was director of the Digital Cultures Project MRG, and Case, Goble, Hayles, Liu, Meadow, Poster, Raley, Rose, and Sack were active DCP members. In addition, Huang, Liu, Newfield, Pasternack, Raley, and Warner are members of the UCSB Transcriptions Project (Literary History and the

Culture of Information). Almeroth, Bimber, Liu, Parks, and Warner work together in the UCSB Center for Information Technology and Society (directed by Bimber). Hayles, Liu, and Wardrip-Fruin are collaborators on the Board of Directors of the Electronic Literature Organization (a national organization devoted to new media writing), with whose Preservation, Archiving, and Dissemination initiative Raley and Warner are also affiliated. And Almeroth and Turk collaborate in the UCSB Media Arts & Technology program.

In the future, Transliterations plans to include additional UC faculty and additional UC campuses as it discovers the relevance of scholars across the broad spectrum of areas related to its topic.

4.B. Administration, Organization, Staffing, and Infrastructure

The Transliterations MRG will be based at UCSB, where the English Dept. has been home to the Digital Cultures Project, the NEH-funded Transliterations Project, and the Early Modern Center (whose digital and early modern media interests include the production of an online, text-encoded collection of Early English ballads). UCSB is also particularly appropriate because of the dense cross-weave of collaboration it has established between the English Department and such other departments or programs with a strong focus on information technology as Art, Film Studies, Media Arts & Technology, and the Center for Information Technology and Society. Transliterations will be administered by a Director and a rotating Advisory Committee consisting of representatives from the participating UC campuses. Transliterations also plans in the future to recruit to its Advisory Committee a smaller number of researchers from other universities or industry (e.g., some of the extramural participants invited to the June 2005 Transliterations planning conference; see section 4.C.1 below).

Alan Liu (Transliterations PI) will serve as Director, and the following have agreed to serve on the first year's Advisory Committee: Sue-Ellen Case, N. Katherine Hayles, Peter Lyman, Mark Poster, Rita Raley, Warren Sack, William Warner. Staffing for the project will be provided through UCSB cost-matching by the UCSB English Department's MSO, Financial Assistant, Computer Systems Specialist, and a graduate-student research assistant for grant-writing; and through MRG funding for a project research assistant and partial course relief for the Director. The MRG will have office space in the UCSB English Department (specifically, in the Transcriptions computing lab). It will be supported by the technology infrastructure developed by that Department for the DCP and the Transcriptions Project. This infrastructure includes a database server, a Windows-based Web server, and an "open source application" server (running PHP and Apache).

4.C. Programs and Activities

(For an overview and rationale of the following outline, see section 3. "Goals and Objectives" above):

4.C.1. Pre-MRG Planning Activities

Planning for Transliterations began in spring 2004 and continued extensively throughout academic year 2004-2005. On June 17-18, 2005, Transliterations organizers are mounting a conference sponsored by the DCP (with additional support from UCOP) titled "UCSB Conversation Roundtables on Online Reading." This conference brings together leaders in the fields of history of the book, literary theory, new media studies, education, literacy studies, digital art, computer science, the sociology and political science of online culture, communication studies, film studies, and organizational psychology to discuss "Reading, Past and Present," "Reading and Media," and "Reading as a Social Practice." The conference will culminate in a planning session that specifically discusses the design of the Transliterations Project. (See the Transliterations web site for more information on the conference: <http://transliterations.english.ucsb.edu/>.) A further goal of the conference is to begin establishing the human network of collaboration across the UC campuses and between UC and other institutions and industry that will be necessary to the long-term development of Transliterations. Extramural participants in the conference include: * **Anne Balsamo** (Director of the Institute of Multimedia Literacy, USC) * **Walter Bender** (Director of MIT Media Lab) * **John Seely Brown** (Visiting Scholar, USC; former director of Xerox PARC) * **Nicholas Dames** (Columbia Univ. English Dept.) * **N. Katherine Hayles** (UCLA English Dept.) * **Adrian Johns** (Univ. of Chicago History Dept.) * **Cynthia Lewis** (Univ. of Iowa College of Education; Program Coordinator of U. of Iowa Language, Literacy, and Culture Program) * **David Link** (digital artist in Germany, creator of The Poetry Machine installation) * **Peter Lyman** (UC Berkeley School of Information Management and Systems) * **Jerome McGann** (U. Virginia English Dept.) * **Tara McPherson** (USC Cinema TV; founder of the Vectors journal at the USC Institute for Multimedia Literacy) * **J. Hillis Miller** (Research Professor, UC Irvine English and Comparative Literature) * **Anne Pascual & Marcus Hauer of Schoenerrwissen** (creators of the Ttxtkit open source visual text mining tool) * **Christiane Paul** (MFA Computer Arts Dept., School of Visual Arts, NYC; Adjunct Curator of New Media Arts at the Whitney Museum of American Art, NYC) * **Leah Price** (Harvard Univ. English Dept.) * **Warren Sack** (Film & Digital Media, UCSC) * **Brigitte Steinheider** (Psychology Dept., Univ. of Oklahoma, specialist in collaborative organizational work processes) * **Curtis Wong** (Group

Manager of Microsoft New Media Research Group).

Other preliminary activity includes the development of a new open-source application server in the UCSB English Department built to support Transliterations. The server went online in January 2005. The Transliterations site that on this server (<http://transliterations.english.ucsb.edu>) was designed with an eye to the future. The site is built around an open-source content management system that will allow project participants to collaborate through shared editing, online discussions, and uploading of links and images.

4.C.2. Sequenced Development and Implementation Activities:

I. Year One (2005-2006): Working Groups and Early Extramural Grant-Seeking: Transliterations will form three working groups consisting of UC faculty and experts from other programs (See Appendix 7, "Related Research Programs"). These working groups will study the problem of online reading from different viewpoints intended to include the several kinds of expertise in the project. For example, one group that includes "history of the book" scholars could focus on research into earlier collective reading practices. (How did communities of readers form in eras dating from the invention of writing through the 20th century?) Another group that includes social scientists could focus on the social practices that currently allow information technology to create a public or political sphere. (Who is actually reading the many political or journalism blogs? How do such blogs relate to each other through "backtracks"? And how does readership of blogs interact with readership of print journalism?) And a third group that includes computer scientists could focus on the interaction between current human-computer interface design and new networking technologies. (How can the reading interfaces adapt to such innovations as distributed "Web services," peer-to-peer networking, RSS aggregation, instant messaging, and Wiki-like open-editing environments for which conventions borrowed from print do not satisfy readers lost among rapidly changing configurations of documents, versions, authors, and readers?) These three working groups will appoint overlapping members so that a humanities-intensive group will include social scientists or engineers, and vice versa. Also, the choice of group topics will be coordinated so that there is cross-group awareness. As indicated by the example topics above, it is likely that all three groups will share an interest in the social or collective dimension of online reading.

Transliterations will also begin seeking extramural grants from its very beginning, with each stage unlocking further targets for application. With the aid of Holly E. Unruh, Senior Analyst at the UCSB Interdisciplinary Humanities Center, Transliterations has thus drafted a grant-raising strategy designed to take advantage of its cross-disciplinary nature (see Appendix 6, "Identified Extramural Fund-Raising Targets"). It will establish in its first year a grant-application group consisting of its Director, a small subset of members, and a grant research assistant sponsored by the UCSB English Dept. (working in consultation with Unruh and the UCSB Development Office) to begin seeking these grants. (See letters of intent from the UCSB's IHC, included in Appendix 2. "Letters of Intent from Participating Faculty and Development Staff.")

ii. Year Two (2006-2007): Convergence on Project-Wide Technology Development

Initiative: In its second year, the three Transliterations working groups will choose a single technology development initiative upon which their research will converge. An example of such an initiative might be the design of a demonstration technology to improve the community experience of reading while accommodating different experiences of texts according to age, literacy level, nationality or background, professional or personal interests, and so on. (For details, see section 4.E. "Description of Research Resources to Be Developed or Expanded.") Such technology development will be integrated with humanistic and social-science research (empirical, historical, interpretive, critical, aesthetic) that explicitly questions what "improve" or "community" might mean. The idea is to exploit the cross-disciplinary expertise of the UC system to approach online reading from multiple angles simultaneously, rather than just as an engineering problem, just as a hermeneutical problem, or just as a social problem. The goal, in other words, is avoid producing a quick-fix extra "feature set" for online reading, but instead to create a demonstration technology founded upon deep, wide reflection on the issues. To pursue the project's new common goal, the three working groups may at this point be reconfigured to take on new functions (see under Section 4.G. "Timetable" for details).

iii. Year Three (2007-2008): Publishing Initial Results: By this year, Transliterations members will begin publishing research and demonstration software in a way that respects the publishing norms of their own discipline while also contributing to project-"branded" online publication through a series of online "Transliterations Casebooks on Online Reading." (For details, see section 4.E. below.)

iv. Years Four and Five (2008-2010): Implementation Development (and Intensification of Extramural Fund Raising): In these years, Transliterations will not only continue the research and publishing activities described above but seek to implement the technology part of its initiative through full-scale engineering development, testing with social groups and students, and interpretive evaluation. Because "building out" a pilot technology requires funding on a scale adequate to computer-science faculty who need to hire full-time graduate-student research assistants according to their disciplinary norms, the scale of this phase of the project will depend on Transliterations's ability to raise additional extramural funding. Transliterations will have started applying for grants from the outset (see Section 4.C.2.i above and Appendix 6, "Identified Extramural Fund-Raising Targets"). But with the plans, designs, and publications of previous years now achieved, grant-seeking will intensify in years 4 and 5. At this time, Transliterations will seek funding on both a modular and project-wide basis for each of the areas of humanities, science/engineering, and social sciences as well as for interdisciplinary conjunctions between fields.

v. Annual Activities in Support of Development and Implementation: Each of the steps described above will be supported by the following important annual Transliterations programs:

* A working conference. A Transliterations conference each year will allow project members and working groups to present research in progress and expose their work to the criticism of experts in other aspects of the common project. Besides disseminating the project's research to the larger university community and the public, these conferences will also include a closed session devoted to coordinating ongoing research and development. The location of this conference will rotate if possible among UC campuses so that project members can also visit each others' facilities, labs, and research programs.

* An annual, week-long "Transliterations Seminar" for graduate students (beginning in year 2). The first of these seminars in 2006-7, for example, will be entitled "New and Old Reading: Practices, Cultures, and Technologies." Transliterations seminars will be timed for the week before or after that year's faculty conference so that it can be led by project members (and other scholars and industry figures from around the world) invited to the conference. The goal is to offer graduate students access to leaders in the several disciplines related to online reading--including history of the book, early media, art, communication, education, library or information sciences, the sociology and politics of digital culture, computer science, and industry. The seminar will thus be a "pipeline" that helps professionalize the increasing number of graduate students with hybrid humanities, social science, and technology interests. (UCSB, for example, is currently seeing such students in Media Arts and Technology, English, and Comparative Literature; and will likely welcome similar students to its new Film Studies graduate program and proposed cross-disciplinary Ph.D. Emphasis in Technology and Society. Other UC campuses have equivalent programs and students.) Attending students chosen through a competitive process will be provided with lodging. The seminar will be led by two faculty, and will be restricted to 15 students.

* Inter-Campus Site Visits. Transliterations members (especially, but not exclusively, the Director) will conduct occasional site visits to other members' campuses to consult with working group members, see site facilities, visit programs and courses, etc. Location visits will be an important step in discovering the full human network of relevant researchers and programs at campuses.

* Participation in online collaboration and discussion system supplemented by teleconferencing or web conferencing. The Transliterations Web site has already been implemented in an early form through the WordPress open-source content management system, which allows participants to set up forums for discussions according to group, topic, project; to create and edit content collectively; and to keep up with recent postings through RSS feeds (<http://transliterations.english.ucsb.edu>). Periodically, working groups in Transliterations will also convene through real-time teleconferencing or web conferencing.

* Extramural Grant-Seeking. As described above (and in section 4.E. "Description of Research Resources to Be Developed or Expanded"), Transliterations's grant-writing group will each year apply for extramural funding appropriate to the progress of the project at that point.

4.D. How the Proposed Program is Relevant to Humanities Issues

The relevance of the Transliterations project to the humanities is introduced above under Section 3. "Goals and Objectives." The essence of the case may be stated more fully as follows. During the last decade, humanities faculty at UC and elsewhere have evolved interpretive, theoretical, and historical approaches to the digital world so as to create the emergent fields of "new media studies," "media archaeology" (comparative

studies of old and new media), "electronic literature," "digital cultural studies," "gaming studies," and so on. However, while humanities scholars have made headway in collaborating with digital artists in establishing these fields, they have not so far followed the lead of digital artists in collaborating with engineers and others in the university. It is now crucial to the development of humanities research into information cultures to cross the divide and contribute their expertise to technologists and social scientists in ways that might have both intellectual and practical application. Thus will the full logic behind the humanistic interest in information technology follow through to its conclusion. That logic is that information technology should not be just a transparent or neutral tool that others build and humanists "use" to do their ordinary work. Instead, much is to be gained intellectually, critically, and even ethically in thinking about or with (not just through) the new tools. Teaching "how to write and read" at the university level, for example, is not complete without also teaching students to think about the technologies with which they write and read--such technologies as word processing programs, Dreamweaver, PowerPoint, and so on that elementary schools today are already training K-12 students to use just as they once taught penmanship and typing. In a sense, the ideal humanities or arts student of the future will be someone like David Byrne (lead singer of the Talking Heads), whose recent lecture series entitled "I Love PowerPoint" (performed at several UC campuses in 2005) demonstrates an acutely reflective, critical, and artistic appreciation of a workaday information technology tool. (PowerPoint is not just a presentation tool, Byrne argues, but a performance medium comparable to certain kinds of theater. Learning to use it well means understanding larger issues about its capabilities and limitations as a means of human performance.) Such is a prototype of the kind of information-technology user that the future humanities need to educate. Following through with such a logic of treating information technology as more than "just" a tool implies, ultimately, that humanists must join in the work of those who are actually developing the new information tools and testing them in social situations. This is the deep rationale behind moving humanists beyond talking among themselves about information technology to collaborating with other disciplines.

The topic of online reading is chosen both because it is an obvious staging ground for productive collaboration between humanists and other disciplines and because the textual experience goes to the heart of the humanistic disciplines. The humanities are now exploring multimedia and other forms of "new media," but their specific identity and expertise continue to derive from their profound relation to words. There is also a specific relevance of the Transliterations project to UC humanistic inquiry. Much of the most highly evolved practical research in digital humanities has occurred (especially in East Coast universities, in association with major research libraries) in the area of text-encoding--for example, the Text-Encoding Initiative (TEI) and the large-scale print-to-digital projects that have made use of TEI specifications at such universities as Brown, Virginia, Michigan, and elsewhere. Text-encoding development continues to be a crucial direction for the humanities. However, the underlying paradigm of the text-encoding approach as it has been deployed in the humanities--large repositories of print works that need to be digitized according to standards sophisticated enough for multiple kinds of works and multiple outlets--sets only one possible direction for applied digital-humanities research. In the UC system, by contrast, the humanities have been relatively backward in text-encoding expertise. Yet the UC system has been strong in digital humanities and arts premised on such "born digital" paradigms as the database, peer-to-peer networking, "agents," "emergent" systems, computer games, and text-encoding oriented not toward print fidelity but other purposes (e.g., XML for dynamic or interactive electronic literature and database-to-XML Web services). (See c.v.'s of participants below.) Transliterations has the potential to cement the leadership of the UC system in some of these latter areas of digital humanities by creating a bridge between humanists and engineers and social scientists.

4.E. Description of Research Resources to Be Developed or Expanded

As described in overview above (see section 4.C.2. "Sequenced Development and Implementation Activities," especially under the headings: iii. "Year Three: Publishing Initial Results" and iv. "Years Four and Five: Implementation Development [and Intensification of Extramural Fund Raising]), Transliterations will publish materials leading toward the implementation of a technology that improves online reading and gives this technology a historical and interpretive meaning. The major products of the MRG will be as follows:

4.E.1. Individual and Collective ("Casebook") Publications

Project members will publish their results individually according to the norms of their discipline, but they will also contribute original articles, excerpts, or reprints to one or more "Transliterations Casebooks on

Online Reading" that package individual research with project-wide material (e.g., theoretical or contextual overviews, excerpts from conference proceedings, demonstration software, etc.) to create a whole greater than the sum of the individual humanistic, artistic, social science, or engineering parts. The emphasis will be on the convergence, rather than divergence, of interdisciplinary approaches to online reading. For example, the first casebook could present the following set of richly complementary materials: a collection of essays titled "Community Reading Practices, 500-2000 A.D.: Five Case Studies"; a technical paper on new human interface, networking, or text-encoding technologies; a white paper on best practices for reading in networked organizations; and a demonstration browser plug-in that puts the conclusions of the essays and papers into practice. The goal is to orchestrate a diversity of products--conformant to a diversity of disciplinary protocols--that will enrich each other. In this light, the software portion of the casebook will be far more than the usual "supplementary" CD or Web site now accompanying many textbooks or technical books. The demonstration technology that Transliterations includes in its casebooks will be summations of the humanistic, social science, and engineering research that went into its making.

Currently, of course, online scholarly publication is in flux for a variety of technical, institutional, economic, and intellectual-property reasons. Transliterations will form a small subgroup of members during the project's first years to recommend online publishing options of its casebook series. For example, whatever a scholar publishes individually in a discipline-specific journal or pre-print series, it would be ideal if an excerpt, reprint, or supplementary original work could be published in a Transliterations casebook under one or more current plans for open scholarship--including the California Digital Library's eScholarship Editions and eScholarship Repositories (<http://osc.universityofcalifornia.edu/responses/escholarship.html>), the Academic Commons "library" (<http://www.academiccommons.org/>), and various other Open Access (<http://www.createchange.org/resources/brochure.html>) and Open Content initiatives (<http://www.opencontent.org/>). In addition, Transliterations will explore the UC Humanities Research Institute's new humanities technology repository, Grid, and virtual collaboration platforms to see whether these imminent UCHRI and Haystac (Humanities, Arts, Sciences and Technologies Advanced Collaboratory) venues might provide the right publishing platform.

4.E.2. Project Technology Initiative

As described above, the Transliterations working groups will converge on a project-wide technology development initiative. A good guess--given the current state of the Internet and the interests of many of the Transliterations participants--is that the initiative will focus on a demonstration technology that both augments the ability of readers to be part of a community of readers (in ways that online technologies are uniquely able to foster) and accommodates different experiences of the same collection of texts based on varying ages, literacy levels, backgrounds, and so on. Balancing flexibly between public and private perspectives, indeed, may be the problem that online technologies--including the new media of reading--were born to address. Some specific scenarios for technology development might be as follows, though the exact project will not emerge until after the Transliterations working groups have had a chance to do their work and subsequently coordinate with other groups. One possibility is that Transliterations could create ways for readers to attune to organization- or community-wide reading patterns in a manner akin to project participant George Legrady's Making the Invisible Visible: What the Community is Reading art installation (which dynamically interfaces with a Seattle library's information-technology system to visualize the collective circulation of books in a community). Or Transliterations could build a plug-in for a search engine that allows users to organize the relevancy of "hits" according to such criteria as "scholarly-level discourse," "journalistic discourse," or "grade five discourse"--where such criteria are applied on the fly through algorithms that model evolving, society-based metrics of internal complexity and pattern-recognition. Or, again, Transliterations might build an open-source, cross-platform annotation tool that allows readers to make quick annotations on a variety of document or image types and share their annotations as XML metadata with others viewing the same document.) There are many other possible technology projects that Transliterations could settle upon. The ultimate goal of such a demonstration technology is not the technology itself but the demonstration of "how to make a technology" in the most meaningful way--through the collaboration of humanities, arts, social sciences, and computer science.

4.F. Anticipated Outcomes and Benefits of the Program

Transliterations will distinctively position the digital humanities in the UC system by advancing the field to a next stage of collaboration with social scientists and computer scientists. It will contribute to society not just by "improving" online reading technologies but by showing how technological improvement can be founded on broad human concerns. Transliterations will create a training "pipeline" for graduate students working at the boundaries between different corners of the humanities, arts, communication and media studies, social sciences, and technology disciplines. Transliterations will work to bring extramural funding into the university from government, private, and industry sources. (These outcomes are described in detail above under in sections: 3. "Goals and Objectives," 4.C.2. "Sequenced Development and Implementation Activities," and 4.D. "How the Proposed Program is Relevant to Humanities Issues.")

To cite the first question to be asked in the conversation roundtables at the June 2005 project planning conference: "What is good reading today, and yesterday?" The ultimate benefit of Transliterations is that it will act on this question so as to create a general research paradigm able to bring humanistic methods into engagement with the technological future. What do we have to understand about the humanities, arts, society, and technology in concert to make the goal of amelioration--in today's terms, "innovation"--a fully human goal?

4.G. Timetable for Major Components of the Program (see also Appendix 4)

An overview of activities is set forth above in section 4.C.2, "Sequenced Development and Implementation Activities." A timetable for major activities is as follows (for a more detailed timetable, see Appendix 4):

Fall 2005 * Organization of the three working groups, which will define their foci and timetables. The groups will also recruit members from programs elsewhere. (See Appendix 7. "Related Research Programs with Which Transliterations May Affiliate.") * Organization of the grant-writing group. **Winter 2005** * Deadline for each working group to draw up a planning document stating goals, approaches, deliverables, and working schedule. * Regular online discussion and teleconference meetings among the groups. (This activity will continue throughout the rest of the project, and will hereafter not be listed separately.) **Spring 2006** * First annual Transliterations conference, which will conclude with a planning session. The purpose of the first planning session is to allow the working groups to agree upon a common technology initiative and accompanying suite of humanistic and social-science deliverables. **Fall 2006** * Reconfiguration of the working groups to support the common project initiative. For example, it is likely that Transliterations will shift from theme- or approach-based groups to functional groups that focus on historical research, publication strategy, software or technology specifications, intellectual property issues, testing and social evaluation, and theoretical justification. **Winter 2006** * Deadline for first drafts of planning documents on historical research, publication strategy, software or technology, intellectual property issues, testing and social evaluation strategy, and theoretical justification. **Spring 2007** * First annual Transliterations graduate seminar on "New and Old Reading: Practices, Cultures, and Technologies." This seminar will be timed for just before or after the Transliterations conference this year. (The graduate seminar will be a continuing activity in later years, and will not hereafter be separately listed.) * Second annual Transliterations conference. The planning session at the end of this conference will be devoted to coordinating the various action plans produced by the project groups. **Fall 2007** * Planning for the first Transliterations online "casebook" on online reading. * Intensification of grant-seeking activities. Now that Transliterations has detailed planning documents and initial publications, it will pursue funding opportunities that may not have been feasible earlier (see Appendix 6. "Identified Extramural Fund-Raising Targets"). **Winter 2007** * Deadline for first drafts of writings and pilot software for the first Transliterations casebook. **Spring 2008** * Online publication of the first Transliterations casebook. * Third annual Transliterations conference; second annual Transliterations graduate seminar. The focus of the planning session at the end of the conference will be on extramural grant applications and possible industry tie-ins. Invited experts at the conference will include representatives of major funding agencies and selected companies. **Years 4-5 (Fall 2008-Spring 2010)** * Continued Transliterations conferences, graduate seminars, and casebooks in these years. * Additional development of the project technology with supporting historical and theoretical research. * Visits with campuses outside the UC system to present the technology initiative. * Continued extramural fund-raising activities. * Additional activities in these years--especially full-scale software or other technological implementation of the pilot project--will depend on the success of extramural fund-raising.

Appendix 3. Budget and Budget Justification

[Not included here]

Appendix 4. Detailed Timetable of Activities (Supplementary to section 4.G. "Timetable for Major Components of the Program")

Year One (2005-6)

Fall 2005

- * Organization of the three Transliterations working groups (following upon pre-MRG discussion of these groups during the June 2005 planning conference). Through online discussions and teleconference/web conference meetings, the Director will coordinate with the workgroups to define their foci and individual timetable of activities. The workgroups will set up their own schedule of discussions and teleconference/web conference meetings for the year. At this time, the workgroups will also invite selected new members from research programs elsewhere (or form strategic associations with such programs. (See Appendix 7. "Related Research Programs with Which Transliterations May Affiliate.")
- * Teleconference meeting of the MRG Advisory Committee led by the Director to set the agenda for the year.
- * Organization of the Transliterations grant-writing group, consisting of the Director, a subset of the Advisory Committee, and a grant-writing research assistant. This group will begin consultation with university development officers and others to set up a timetable of applications.
- * Set up lab space in the UCSB Transcriptions Studio and staff infra-structure in the UCSB English Dept.
- * Further development of the existing Transliterations Web site and content management system.

Winter 2005

- * Deadline for the working groups to draw up a planning document stating goals, approaches, deliverables, working schedule, and questions or suggestions for other groups.
- * Regular online discussion and teleconference meetings among the working groups. (This activity will continue throughout the rest of the project, and will hereafter not be listed separately.)
- * Inter-campus visits by representatives of groups to each other's research facilities, programs, and courses--as well as to other working groups--to knit together the human network of the MRG. (This activity will continue when needed throughout the rest of the project, and will hereafter not be listed separately.)

Spring 2006

- * First annual Transliterations conference at UCSB (subsequent conferences to rotate to other UC campuses if possible). MRG participants and other invited experts will present their research, and the working groups will present and defend their planning documents (with members of other working groups appointed as respondents). Initiating a yearly tradition, the conference will conclude with a half-day closed planning session. The purpose of the first planning session is to allow the working groups to agree upon a common technology development initiative and accompanying suite of humanistic and social-science deliverables.
- * Follow-up online and teleconference discussion to begin drawing up a common planning document for the technology development initiative.

Year Two (2006-7)

Fall 2006

- * Reconfiguration of the working groups to support the common project initiative. For example, it is likely that at this point Transliterations will shift from theme- or approach-based groups to functional groups that focus on historical research, publication strategy, software or technology specifications, intellectual property issues, testing and social evaluation, and theoretical justification.
- * Online and teleconferencing of the project groups to define goals, specifications, development, and implementation plans individual parts of the common project initiative.
- * Planning for the first annual Transliterations week-long graduate seminar later in the academic year. The

Director will line up two faculty for the seminar and put out a call for student applications.

Winter 2006

- * Deadline for first drafts ("requests for comment") of planning documents on historical research, publication strategy, software or technology, intellectual property issues, testing and social evaluation strategy, and theoretical justification.
- * Review of student applications to the graduate seminar.

Spring 2007

- * First annual Transliterations week-long graduate seminar on "New and Old Reading: Practices, Cultures, and Technologies." This seminar will be timed for the week before or after the Transliterations conference this year. (The graduate seminar will be a continuing activity in the project, and will hereafter not be separately listed.)
- * Second annual Transliterations conference. The closed planning session at the conclusion of this conference will be devoted to coordinating the various action plans produced by the various project groups.

Year Three (2007-8)

Fall 2007

- * Planning for first online Transliterations "casebook" on online reading. Since the casebook will have permanent, archival value, Transliterations at this time will arrange with an appropriate repository (e.g., the CDL, the UCHRI humanities grid, etc.) and settle upon an appropriate intellectual property strategy.
- * Intensification of grant-seeking activities. Now that Transliterations has detailed planning documents and initial published results, it will pursue funding opportunities that may not have been feasible earlier (see Appendix 6. "Identified Extramural Fund-Raising Targets").

Winter 2007

- * Deadline for first drafts of writings and pilot software for the first Transliterations casebook; preliminary editorial and formatting work on these materials.

Spring 2008

- * Online publication of the first Transliterations casebook.
- * Third annual Transliterations conference and second annual Transliterations graduate seminar. The focus of the closed planning session at the end of the conference this year will be on extramural grant applications and possible industry tie-ins. For this reason, invited experts at the conference will include representatives of major funding agencies and selected companies.

Years Four and Five (2009-10)

- * Continued Transliterations conferences and graduate seminars in these years.
- * Continued Transliterations publications and casebooks in these years.
- * Additional development of the project technology, historical research, theoretical justification, and documentation.
- * Visits with campuses outside the UC system to present the technology initiative and place any appropriate tools at testing locations elsewhere.
- * Additional activities in these years--especially full-scale software or other technological implementation of the pilot project--will necessarily depend on the success of extramural fund-raising in Transliterations earlier years.

Appendix 6. Identified Extramural Fund-Raising Targets

Working with Holly E. Unruh, Senior Analyst at the UCSB Interdisciplinary Humanities Center, Transliterations has developed a grant-raising strategy designed to take advantage of its cross-disciplinary nature. The strategy is to initiate a multi-track grant application process targeting organizations and industry in each of the areas of humanities, science/engineering, and social sciences (matching specific funding sources to relevant components of the project). Transliterations will begin making contact with grant officers and industry contacts shortly after its June 2005 planning conference to begin tailoring its development activities to specific sources. The highest priority funding sources are as follows (Note: these sources were current as of the beginning of 2005, but, of course, may change in the future):

a. Humanities Research Funding Sources:

National Endowment for the Humanities	
Grant Program	Collaborative Research Grants
Brief Description	Supports "research that significantly adds to knowledge and understanding in the humanities; . . . research that uses the knowledge, methods, and perspectives of the humanities to enhance understanding of science, technology, and medicine; and conferences on topics of major importance in the humanities that will benefit ongoing research." One- to three-year funding for "combinations of scholars, consultants, and research assistants; project-related travel; field work; applications of information technology; and technical support and services."
Relevance to Transliterations	This grant program is designed for collaborative research that embeds humanities research in a larger context of concerns, including social and technological.
Award Range	\$25,000 to \$100,000 per year
Deadline	November

b. Science & Engineering Funding Sources:

National Science Foundation	
Grant Program	Science of Learning Centers (SLC) Catalyst Grants

National Science Foundation	
Brief Description	<p>"The Science of Learning aims to understand what learning is and how it is affected at all levels, ranging from the digital to the societal. The science of learning emerges from the intersections of diverse disciplines across the biological, cognitive, computational, mathematical, physical, and social sciences, engineering, and education. Areas include psychological, social and pedagogical aspects of learning, the biological basis of learning, machine learning, learning technologies, and mathematical analyses and modeling of all of these. This growing body of knowledge is extending our understanding of learning and connecting learning research to the scientific, technological, educational, and workforce challenges of our time.</p> <p>The Science of Learning Centers program (SLC) offers awards for large-scale, long-term Centers that will extend the frontiers of knowledge on learning and create the intellectual, organizational, and physical infrastructure needed for the long-term advancement of learning research. Centers will be built around a unifying research focus and will incorporate a diverse, multidisciplinary environment involving appropriate partnerships with academia, industry, all levels of education, and other public and private entities.</p> <p>Catalyst awards will also be made during the initial years of the program. Catalyst awards are designed to enable partnership-building and research activities leading to the creation of new Centers. These are likely to include workshop and planning activities, as well as exploratory research aimed at establishing proofs of concept and initial collaborative research outputs."</p>
Relevance to Transliterations	This program is of special relevance to the whole research range of Transliterations.
Award Range	Up to 10 years of support at \$3 to \$5 million per year (smaller awards for initial "Catalysts" seed grants)
Deadline	August

National Science Foundation	
Grant Program	Directorate for Computer and Information Science and Engineering Research Resources (CISE-RR) Collaborative Research Program

National Science Foundation	
Brief Description	"The Collaborative Research Resources component of the Program provides grants to support the establishment, enhancement, and operation of major resources for multi-investigator, synergistic research or integrated research/education. Awards may be for activities solely within a single academic department, activities drawing from several departments in a single institution, and activities spanning several different institutions. Research activities requiring the resources supported under the program are expected to demonstrate synergy among the activities and researchers. Integrated research/education activities should significantly contribute to expanding the numbers of minority and women students attracted to and retained in computer and information science and engineering. Interdisciplinary activities are strongly encouraged, but emphasis should be on advancing knowledge in and increasing capacity for information technology research. There should be an existing core of active researchers with a track record of research in areas of science and engineering supported by CISE. An important consideration is whether the resources will enable the researchers to undertake important activities that otherwise would not be possible under individual awards."
Relevance to Transliterations	General relevance to Transliterations.
Award Range	\$200,000 to \$500,000 per year
Deadline	February

National Science Foundation	
Grant Program	Societal Dimensions of Engineering, Science, and Technology (SDEST)
Brief Description	"In SDEST, Ethics and Values Studies (EVS) focuses on ethics and science, and technology and society. Research on Science and Technology (RST) supports examination of social priorities for research investment. In each of the past few years, the program has made about 25 new awards, with a budget of about \$2.5 million."
Relevance to Transliterations	Funding source for the interdisciplinary focus of Transliterations on the social use of technology.
Award Range	\$10,000-\$390,000
Deadline	February

c. Social Science Funding Sources:

National Science Foundation	
Grant Program	Directorate for Social, Behavioral, and Economic Sciences (SBE) & Division of Social and Economic Sciences (SES) Sociology Program

National Science Foundation	
Brief Description	"Supports research on problems of human social organization, demography, and processes of individual and institutional change. The Program encourages theoretically focused empirical investigations aimed at improving the explanation of fundamental social processes. Included is research on organizations and organizational behavior, population dynamics, social movements, social groups, labor force participation, stratification and mobility, family, social networks, socialization, gender roles, and the sociology of science and technology."
Relevance to Transliteracies	A funding source for the community reading component of Transliteracies.
Award Range	
Deadline	August

d. Industry Funding Sources:

Verizon Corporation	
Grant Program	Southern California Region 2004 Literacy and Community Technology Development Awards
Brief Description	Supports projects that advance literacy and technology for "underserved communities."
Relevance to Transliteracies	A funding source for the community reading component of Transliteracies.
Award Range	"A total of \$1,000,000 will be distributed to non-profit organizations in Verizon California's serving territory in 2004. This is the fourth time that Verizon Foundation is distributing \$1,000,000 to non-profit organizations through the RFP process."
Deadline	May

Appendix 7. Related Research Programs with Which Transliterations May Affiliate

One of the goals of Transliterations will be to discover and possibly affiliate with other relevant research programs. The inclusion of extramural participants in the June 2005 Transliterations planning conference is an initial step toward establishing the human networks that may lead to the inclusion of members of other research programs within the Transliterations working groups. Examples of related research programs include:

- * UCSB Center for Information Technology and Society
- * USC Interactive Media program
- * USC Annenberg Center Institute for Multimedia Literacy
- * Univ. of Iowa Language, Literacy, and Culture Program
- * NINES (Networked Interface for Nineteenth-Century Electronic Scholarship), based at Univ. of Virginia
- * Univ. of Virginia SpecLab (Speculative Computing Laboratory)
- * Electronic Literature Organization, with institutional nodes at UCLA, Univ. of Iowa, and Univ. of Illinois--Chicago

Appendix 8. List of URLs for Mentioned Projects and Other Resources

- Transliterations Web site: <http://transliterations.english.ucsb.edu>
- Digital Cultures Project: <http://dc-mrg.english.ucsb.edu>
- UCSB Transcriptions Project: <http://transcriptions.english.ucsb.edu>
- UCSB Center for Information Technology and Society: <http://www.cits.ucsb.edu/>
- UCSB Media Arts and Technology Program: <http://www.mat.ucsb.edu/>
- Electronic Literature Organization: <http://www.eliterature.org/>
- Text Encoding Initiative: <http://www.tei-c.org/>
- California Digital Library's eScholarship Editions and eScholarship Repositories: <http://osc.universityofcalifornia.edu/responses/escholarship.html>
- Academic Commons: <http://www.academiccommons.org/>
- Open Access: <http://www.createchange.org/resources/brochure.html>
- Open Content: <http://www.opencontent.org/>
- Haystac (Humanities, Arts, Sciences and Technologies Advanced Collaboratory): <http://www.hastac.org/index.html>
- USC Interactive Media program: <http://interactive.usc.edu/>
- USC Annenberg Center Institute for Multimedia Literacy: <http://www.annenberg.edu/projects/project.php?id=44>
- Univ. of Iowa Language, Literacy, and Culture Program: <http://www.education.uiowa.edu/llc/index.html>
- NINES (Networked Interface for Nineteenth-Century Electronic Scholarship): <http://www.nines.org/>
- Univ. of Virginia SpecLab (Speculative Computing Laboratory): <http://eotpaci.clas.virginia.edu/speclab/>