The University of Southern California (USC) and the University of California at Los Angeles (UCLA) have a rivalry which makes Harvard-Yale look like a love-fest. When they aren't knocking heads on the gridiron, they're fighting each other for every dime Uncle Sam, Fortune 500 companies, and civic-minded multimillionaires toss their way.

How USC and UCLA are using CD-ROM technology to make their case for being first-class teaching and research facilities while attempting to maintain academic integrity is an example of how even America's elite institutions have been forced to semi-prostitute themselves in order to survive as skyrocketing costs keep higher education further and further out of the reach of more and more people.

USC: THE BIG PICTURE

Walking on a Tightrope

As Dr. Tyler Blake, Creative Director of USC's Distance Learning Systems, sees it "CD-ROM is slow, you can't update it, and there's no connectivity." The Internet is also slow, "but it's current, it's updated, and you can connect." The solution: ANDES (Annenberg Network Distance Educational Systems), a hybrid of CD-ROM, video, and the Internet, which will be offered to students for the first time in the Fall '97 semester.

ANDES is a three-way partnership between the USC School of Cinema-Television (CNTV), the Annenberg Center for Communication, and New Mexico-based IMLearn, which was created for the purpose of marketing "The Language of Cinema" - the course which ANDES is to support - to schools, universities, and individuals; Annenberg will fund ANDES and develop its software. Blake is part of the ten-member team who created ANDES, and is now supervising its CD-ROM production.

ANDES currently supports thirty-five workshops - some text-based, others interactive - all of which are contained on CD-ROM. In one workshop - "Script Narrative" - students will be able to rearrange scenes from a movie as a window displays the actual script in the new arrangement. ANDES will also be able to customize interface dynamics, modify instructional programming, allow students to interact with an Online Section Leader (OSL) via a chat line, and submit their work over Internet phone lines in real time.

By using the lectures of top academics, (which students will be able to log onto), ANDES will "free teachers up to do more work, instead of wasting their time repetitively giving the same lectures." Blake believes ANDES will enable businesses and schools to cut their overhead while tapping into new revenue. Students thinking about college and/or

graduate school will be able to evaluate their interests and aptitudes. And adults, whom otherwise are unable to attend college, will now be able to take courses at home.

But most importantly, people from all walks of life will be able to communicate while being exposed to what USC has to offer without the expense (tuition is over $23,000 per/yr). "The chat line goes through a computer, but you should see how much (the students) say to each other," Blake noted enthusiastically. "The bottom line is human beings are social creatures. We still need to interact."

New World Order

Dr. Marsha Kinder is Professor of Critical Studies at the USC School of Cinema-Television, and has produced the acclaimed CD-ROM "Blood Cinema," which explores 60 years of Spanish Cinema, represented by 3-to-5 minute excepts from 15 films, along with audio commentary by Kinder and written commentaries by film scholars. The CD-ROM was designed to accompany her book of the same name, although she stresses the CD-ROM "in no way substitutes for the films."

"Blood Cinema" includes not only clips from Luis Buñuel and Pedro Almodóvar, but works by lesser known filmmakers, even a movie ("*Raza*") based on a novel by dictator Francisco Franco. "Blood Cinema" is the first in a series of bilingual CD-ROMs being produced through a grant from the Annenberg Center for Communication, and is a joint venture between Annenberg, Intertexts Multimedia, and CineDisc, the company Kinder founded after her attempts to get her publisher, the University of California Press, interested in producing a CD-ROM produced only frustration. "So, I got some grants, got a crew, and went ahead on my own," she stated. "The primary goal was not to make money, but to learn how to use CD-ROM as an alternative means of publishing serious scholarship -- one that takes full advantage of its unique potential for interactivity and multimedia."

CineDisc's next project, "Immature Bodies: Cultural Anatomy of Early Russian Cinema," based on the book of the same name by the University of Chicago's Yuri Tsivian, will explore silent films were made in the former Evil Empire before it became The Evil Empire in the context of modernism. Other projects include: "Cuban Cinema," which will explore the connection between Cuban films and its art, music, politics, and literature; "Anthology of Asian Cinema," which will explore how cinema and television have been used to reconfigure Asia's social, economic, and political dynamics; and "Remastering Italian Cinema," which will re-contextualize the works of Antonioni, Fellini, Rossilini, and others.

To Kinder, cinema and CD-ROM are a match made in techno heaven: "Film studies can take full advantage of multimedia dimensions, and demonstrate that it's possible to make visually exciting CD-ROMs without sacrificing intellectual depth."

ROM and Reason

In May 1996, the National Science Foundation announced that it will fund a $12.4 million Engineering Research Center on Multimedia at USC. With contributions from the State of California, the City of Los Angeles, and 40 major corporations, the Center's funding jumped to $50 million. A spin-off of the Center is Misconceptions Synthesis Project Database (MSPD), which is being headed by William McComas, Assistant Professor of Science Education at USC's School of Education, who is currently working with 22 Co-Principal Investigators representing each of USC's major disciplines. Once in place, MSPD can be used directly by teachers who are planning lessons to construct CD-ROM-based instructional models and to test models in the classroom.

MSPD will be a compendium of the results of analytical studies of students' science misconceptions based upon Constructionism, an umbrella term covering fifteen different theories each with the basic premise that a student's future learning is based upon what he or she already knows. To McComas, who has taught elementary, middle, and high school students, a misconception "is a wide-spread, widely-held false notion of some aspect of the natural world." For example, if one believes that Man and Dinosaurs co-existed and that person repeatedly comes across information that fails to mention either Man or Dinosaurs, "this causes a problem in future learning."

MSPD "is not just an academic exercise," McComas continued. "We're going to produce this database in such a form that when a teacher gets ready to teach a lesson, he or she would be able to access information to find out what the students are likely to know already, and craft lessons accordingly. We have to understand that our students already have lots of pre-formed notions about the way the world works, and it's important to be able to use those ideas instead of just saying, 'No, Johnny, you're wrong.'" Such products with this "smart" software as a control system, McComas explained, will permit learners to be given a guided tour of a subject based on what they want to learn and what they already know, as it allows them to proceed down their own individual pathway. "Only then," McComas noted, "will CD-ROM reach their true potential as educational tools and rise above their present status as glitzy information sources. The culmination of this project will be to couple a misconceptions database with an effective conceptual change model for instruction, and build this into the next generation of educational CD-ROMs."

UCLA: THE NEW FRONTIER

The Big Bang

"I could care less what digital delivery system is being used. All I'm interested in is helping to expand interactivity." With that, Robert Winter, Presidential Chair in Music and Interactive Arts at UCLA has launched the first salvo in the war to change the way colleges educate-not only students but faculty-by opening the Center for Digital Arts (CDA) at the School of the Arts and Architecture. As co-director, Winter envisions the Center as an all-inclusive think tank "a hothouse where students and faculty can come together to explore and to invent." Part of his current arsenal includes CD-ROM which "in spite of its limitations, is far more expressive and powerful than anything we had in the past." Nonetheless, his blood pressure begins to climb when he examines the current crop of CD-ROMs such as Microsoft's Encarta, which Winter denounces as "the homogenization of human knowledge and experience. It epitomizes all that a truly digital encyclopedia should not be."

Winter is also president of Calliope Media, which produces interactive programs in the arts, entertainment, and the humanities. His latest CD-ROM, "Crazy for Ragtime," has been greeted enthusiastically by music scholars, _Newsweek_, and _The_ _New_ _York_ _Times_. The fundamental problem in academia, Winter sees it, is the university system of power distribution "which is based on the old German model that rewards narrow scholarly inquiry and elitism where individual departments claim autonomy, and an atmosphere is created in which professors and researchers are encouraged to compete against one another for the slightest crumb." And when it comes to technology -- forget it. "Universities take a hardware approach to everything. It's hard to get them to think creatively. And media labs too often resemble so many widget factories. Students need to be prepared for the world they're going to enter. This is not the same world you entered 10 years ago or that I entered 22 years ago."

But thanks start-ups like the Center, Winter can now hear the death knell for education as we know it. "Digital technology signals the dissolution of conventional departmental structures. Why are dance faculty clamoring for video cameras with sound? Because they understand that sound is also a part of movement. There's a convergence between practical and theoretical considerations being formed." And places such as CDA could ultimately solve the eternal problem of beating the proverbial drum for money. "If I go to Apple or Intel with a proposal," Winter said. "What do you think would prove more attractive to them: a school wide center, where everyone is in on it, or departmental fiefdoms? To paraphrase Marx, I want to say to disillusioned and embattled academics, Faculties of the world, unite! You have nothing to lose but your chains!"

It Has a Nice Beat and You Can Dance to It

Dr. Daniel Neuman is Dean of UCLA's School of the Arts and Architecture, and is the author of the "World Music Navigator" (WMN), a MAC-based CD-ROM interactive, soon to be released by Schirmer Books, a division of Simon and Schuster. By utilizing maps, articles, images, sound and a glossary, users will be able to learn about music traditions throughout the world. "WMN will allow the user to have access to a large sample of performance in context through the use of video clips," Neuman explained, "albeit, within the limits of the current CD-ROM technology, which means the video clips are fairly short, about 30-to-120 seconds. Yet since WMN is basically a Geographic Information System application, it can be adapted to wherever there is a map-based video clip system." For example, potential buyers could "visit" a house before seeing it in person, and do so by selecting the house's location on a map. WMN will also allow the user to include original text and graphics.

Working with CD-ROM can be something of a double-edged sword. "The advantage of CD-ROM is its large data carrying capacity," Neuman stated. "Its portability and capacity makes it ideal for augmenting text, because CD-ROM can display the two kinds of information that books cannot: sound and moving images. And its random-access capability can access information that is serial in structure in a non-serial and, therefore, very efficient manner. But it has also has a limited data carrying capacity. What I mean by that is, by the standards of the recent past, CD-ROM technology had enormous capacity, and, by its very enormity, invited projects such as WMN, which immediately taxed its capabilities. This is why DVD looks like the way to go."

Neuman thinks that CD-ROM will have a longer life in the classroom because "it's cheap and now accessible in a way that could not have been imagined just 48 months ago. WMN is not directed at any one department," he continued, "but was and is addressed at wherever world music and ethno-musicology subjects are taught, from K-12 to college. WMN is designed as an introduction to world music traditions." Neuman eventually wants to port WMN to a Windows platform in order to make it more widely accessible, "and I would like to see if its authoring features are useful in the real world" by allowing users to import materials from other media and create their own "navigator" on any subject they wish. Does he feel about all the gee-whiz-bang technology creating a society right out of "*1984*", where the Creator winds up servant to the Creation? "I'm not worried about serving the technology, but I am concerned about the hype. '*The Economist*' had a recent article on multimedia in which they claim CD-ROMs have rarely succeeded as viable commercial products and that costs have made CD-ROM production very risky business. I think that DVD can provide the technology CD-ROM promised but couldn't deliver because of its bandwidth limitations, yielding unsatisfying video and disappointing users who had expected more because of the hype."

Getting Down With Your Bard Self

For those of you who have read "*Macbeth*" but just didn't "get it", you can now bellow "thees" and "thines" like they did at the Old Globe Theatre, thanks to David Rodes, Director of the Grunwald Center for the Graphic Arts and Senior Lecturer in English at UCLA.

Edited by UCLA English professor Albert Braunmuller with commentary by Rodes, "The Voyager Shakespeare: '*Macbeth*'" was released in 1994. "Braunmuller and I think of it both as an interactive CD and as an expanded book," Rodes explained. "Like a book, it has a table of contents and chapters and, like a book, its 'spine' is Shakespeare's text of '*Macbeth*'."

In 1992, Robert Stein, president of the Voyager Company, approached Rodes with an idea for a CD-ROM after attending his "Macbeth" class. "I said I didn't know enough about multimedia, or, indeed, about '*Macbeth*', to do the project." So, Stein hooked Rodes up with producer Michael Cohen; Rodes, in turn, brought Braunmuller on board. "Stein never asked us to leave something out or reduce the level of the project. So, after a lot of brain-storming, we were ready to begin. I was astonished at how difficult it was to secure rights to use material. The owners thought they were being asked to sign off on a potential gold mine. Likewise, I was struck by how many illustrations one needs to animate a project."

Rodes's favorite feature is "Macbeth Karaoke," which the user listens to two members of the Royal Shakespeare Company read three intensely-paced scenes between Lord and Lady Macbeth as they plan then murder Duncan as the script on the screen scrolls by. The user can then replace one of the actors by dropping out the actor's voice and perform that part himself, but with the same pace. "As in a propulsive string quartet, you either keep up the pace and varied rhythms or the elephants trample on you!" A Shakespeare karaoke bar opened in London, inspired by "Macbeth Karaoke."

"I think [CD-ROM] offers a pleasant, multi-faceted way for a rich variety of 'readers' to explore a great and inexhaustible play. The great problems for me are two: 'a', it still lacks the vibrancy, physical energy, and one-of-a-kind responsiveness of good live theater for which Shakespeare conceived these amazing, endlessly reinterpretational plays; and 'b', I still always feel 'lost' in a CD-ROM, as opposed to a book, whose organization is linear and familiar. Any future project would need to have many, many, many more graphic and sound dimensions. This kind of project hungers for illustrations, examples, and vividness." CD-ROM's ultimate role may be of "an adjunct to teaching, almost like a language lab, but certainly not ideally independent from the personal give-and-take of the classroom or from seeing live and filmed productions. Our 'Macbeth' is also designed so that the student can take notes and assemble information as part of the writing of a research and/or critical essay. I also hope 'Macbeth' is something that actors, writers, directors, designers, and audiences might work through as a way of preparing themselves for the new performances and new ways of seeing."