

Phi
Kappa
Phi

FORUM

A Publication of
The Honor Society of Phi Kappa Phi

SUMMER 2005

Featuring:

2005
Phi Kappa Phi
Award Winners

The Layperson's Guide to
Creating a Computer Game

Game Design and
Game-Development
Education

Good Video Games
and Good Learning

Women, Games,
and Women's Games



Computer Games

Phi Kappa Phi FORUM

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The views expressed in this publication are not necessarily those of the staff of *Phi Kappa Phi Forum* or the Board of Directors of The Honor Society of Phi Kappa Phi.

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The Honor Society of Phi Kappa Phi was founded in 1897 and became a national organization through the efforts of the presidents of three state universities. Its primary objective has been from the first the recognition and encouragement of superior scholarship in all fields of study. Good character is an essential supporting attribute for those elected to membership. The motto of the Society is *philosophia krateitō phōtōn*, which is freely translated as "Let the love of learning rule humanity."



Phi Kappa Phi encourages and recognizes academic excellence through several programs. Through its awards and grants programs, the Society each triennium distributes more than \$1,400,000 to deserving students and faculty to promote academic excellence. These programs include its flagship Graduate Fellowship program for students entering their first year of graduate study, Promotion of Excellence grants for faculty-led projects, Study Abroad grants for undergraduates, and Literacy Initiative service grants. For more information about how to contribute to the Phi Kappa Phi Foundation and support these programs, please write Perry A. Snyder, PhD, Executive Director, The Honor Society of Phi Kappa Phi, Box 16000, Louisiana State University, Baton Rouge, LA 70893 or go to the Phi Kappa Phi web page at www.phikappaphi.org.

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President's Page

Paul J. Ferlazzo

President of The Honor Society of Phi Kappa Phi



New members of Phi Kappa Phi frequently ask me for the names of “famous members.” With a membership list of nearly one million dating back 108 years and representing every discipline in modern higher education, one can offer only a highly selective list of recent notables. I hope the following short list will suggest the rich diversity of talent and achievement that we enjoy in Phi Kappa Phi.

Jimmy Carter is perhaps the best-known individual in the area of government service. He was a Georgia senator and governor, and the 39th President of the United States. He was awarded the Nobel Peace Prize in 2002 for his worldwide efforts to advance the causes of peace, democracy, and human rights. **Hillary Rodham Clinton**, the former First Lady, is currently a senator from New York. **Al Gore**, former Vice President of the United States and candidate for the presidency during the 2000 election, remains active in public service, particularly on behalf of the environment. His book, *Earth in the Balance* (1992), remains an important document in the struggle for environmental recovery. In addition to these Phi Kappa Phi members, we count numerous current and recent governors, senators, and members of Congress from more than fifteen states.

In the field of literature, Phi Kappa Phi boasts at least five current novelists. **John Grisham**, attorney and author of eighteen novels, has sold millions of copies in numerous languages of his legal thrillers. Many of his books have been made into popular films, including *The Firm* (1991), *The Pelican Brief* (1992), *The Client* (1993), *The Rainmaker* (1995), and

Runaway Jury (1996). **David Baldacci**, also a lawyer and prolific mystery writer, is probably best known for his novel *Absolute Power* (1996), which was made into a successful film starring Clint Eastwood. **James Lee Burke**, who has written more than twenty-five books, is best known for his series of a dozen novels set in New Orleans and in the bayous of Louisiana and featuring the colorful detective, Dave Robicheaux. **Tony Hillerman** has written eighteen novels set in the American southwest featuring the characters Joe Leaphorn and Jim Chee, members of the Navajo Tribal Police. His mystery novels combine genuine suspense with an authentic rendering of Native American culture, earning him special recognition from the Mystery Writers of America and from the Navajo Nation.

Ernest Gaines has won numerous awards and honors, including a MacArthur Fellowship and the National Book Critics Circle Award for his depiction of the African American experience. He is probably best known for his novel, *The Autobiography of Miss Jane Pittman* (1971), which was made into a television special that received nine Emmy Awards.

Among visual artists two individuals should be mentioned. **James Turrell**, an installation artist whose projects can be seen all over the world, works with light and space to affect the emotional and psychological conditions of the viewer. Critics eagerly await the completion of his massive project at Roden Crater, an extinct volcano in the Arizona desert which he has been tunneling into and reshaping for the past twenty years. The sculptor **Glenna Goodacre** is best known for the Vietnam Women's Memorial (1993) in Washington, D.C., and for her design of the Sacagawea dollar coin.

In the world of college athletics, **Kim Mulkey-Robertson**, coach of the 2005 NCAA-champion Baylor University Women's Basketball team, has been a member since her All-American point-guard playing days at Louisiana Tech University. Mulkey-Robertson became the first women's coach to win a national championship as both a player and a coach, joining the ranks of Dean Smith and Bobby Knight as the only other individuals to have accomplished this feat. Clearly a winner in the classroom as a collegian, Mulkey-Robertson has also won as an athlete at every level in which she has competed: four high school state titles as a player, two national championships as a player, and now her first as a coach in just five years at Baylor.

Music enthusiasts will recognize the names of **Ellis Marsalis** and **Dave Brubeck**, both acclaimed jazz pianists. **Jim Barksdale**, the founder of Netscape, and **George Olah**, the 1994 recipient of the Nobel Prize in Chemistry, are two other members whose achievements reinforce the multidisciplinary nature of Phi Kappa Phi.

This brief list is merely representative of all the talents and gifts that our members have. The list may be somewhat slanted by my own interests and perspective, so please feel free to send me the names of other Phi Kappa Phi notables whom you feel should be included in a list of “famous members.” I would be happy to include them in a future column.



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Forum on Education & Academics

Andrea Ickes-Dunbar



Testing, Testing

Nothing is simple about educational testing, popular belief notwithstanding. The illusion of objectivity is extremely appealing to everyone's deep wish for fair and precise tools to assess learning and to predict future success for students. Tests, in all their various forms, hold high credibility in American society as valid and reliable indicators of achievement and aptitude.

Unfortunately, the intuitive trust that the American public places in standardized testing reflects a widespread naiveté which discourages questioning test validity. The current public demand for test results is apparently motivated by a reasonable need to measure whether students are acquiring knowledge and a perceived need to hold teachers and programs accountable for competency and efficacy.

However, the complexities of test reliability and validity are poorly understood, even by those who are directly affected. These people include teachers, who generally lack the expertise to evaluate assessment tools; students, who accept their role as passive consumers of tests; and parents, who want their children to "do well" on any and every test.

In the face of this pervasive public trust, it is no surprise that standardized testing can easily be transmuted into a political tool rather than a bona-fide measurement of student progress. If we examine the subtext of the current testing phenomenon, we begin to discern a covert agenda at work. Despite the appealing cachet of "no child left behind," high-stakes standardized tests have the actual effect of sorting students along socioeconomic and linguistic divides and also the deleterious "backwash" effect of blaming teachers and students

themselves for substandard performance.

Testing researchers advise us to beware of unintended negative consequences for individual students and groups of students, even when tests seem to be serving important social or educational-policy purposes. Educators should be resisting the current trend toward a test-driven curriculum. But resist how? Analysis and discussion of testing practices among teachers is forsworn by compulsory signed affidavit: "I will not review any test questions, passages, or other test items with pupils or any other person before, during, or following testing." The intent of such "gag orders" can only be to forestall analysis and criticism from those who are most directly affected — teachers.

Teachers frequently notice discrepancies in tests and inequities in testing administration or reporting procedures, yet they are pledged to silence. Such repression of intellectual inquiry is inconsistent with healthy educational practice. Careful scrutiny by all participants should be the norm if tests are to serve a legitimate educational function.

Even direct-writing samples and "authentic" reading selections may not be as straightforward and evenhanded as they seem at first glance. A particular prompt may assume prior knowledge that skews the performance of certain groups of students. The norming of extremely high Standard English-proficiency levels at ever-younger ages is contrary to what we know about language acquisition and metacognitive development of children. The tracking of high school freshmen based on seventh-grade test performance seems ill advised.

Like the obsessive dieter who weighs in many times a day, who

charts with joy or despair each minuscule loss and gain, over frequent testing and reliance on results is not healthy educational practice. The intense and unrelenting demands of test-driven seat work and paperwork on immature students already seem to be manifesting a negative rebound effect in behavior and performance, particularly in boys.

Why then would a fair-minded public endorse such testing practices? Why, indeed? Claims of "objectivity" and "educational reform" create an aura of well-intentioned underlying motive that is extremely convincing to the lay public. However, the actual outcomes of high-stakes standardized testing give the lie to euphemistic rationale. Perhaps this pseudoscientific student-sorting and the resulting punitive burdens imposed on the nation's public schools are deliberate.

There is continuing tension in American society between the "haves" and the "have-nots," between "mainstream" and "subculture," between "religionists" and "secularists," between long-established and recent immigrants, between speakers of "standard" and "dialectical" or "rudimentary" English. This ongoing class struggle is at odds with the overt cultural maxim of equality for all in the land of opportunity. As demographics shift and cultural diversity increases within U.S. borders, jockeying for social advantage is framed in altruistic rhetoric. Standardized tests, because they seem impersonal and impartial, may actually be a vehicle for carrying out a covert political-power agenda under the guise of equal opportunity.

Disabling the public schools by imposing unattainable timelines and unreasonable achievement goals causes an irreversible progression toward the eventual collapse of an overburdened system. Blaring headlines announce

(continued on page 9)

Forum on Business & Economics

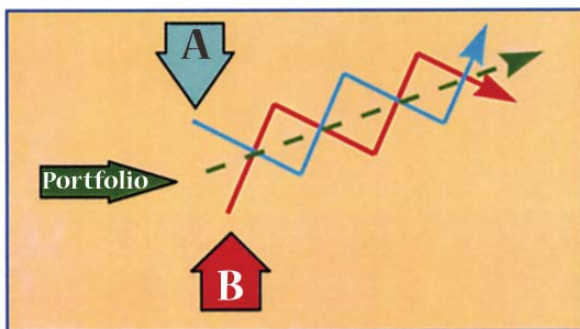
Larry Chambers

International Investing: More than Just Diversification

The following information is based on an interview with Wendy Trevisani, Managing Director at Thornburg Investment Management located in Santa Fe, New Mexico. Ms. Trevisani is the Associate Portfolio Manager of the Thornburg International Value Fund.

First, how does investing in foreign equities accomplish diversification?

Academic studies have always supported the idea that diversification using foreign stocks or funds can reduce portfolio volatility without giving up return (or improve return at the same level of risk or volatility). The man given credit for this idea is Harry Markowitz, who with others created a concept known as Modern Portfolio Theory. This revolutionary concept earned Markowitz the Nobel Prize in Economics in 1990. Markowitz found that if you blend two investments, even so-called "risky" or volatile investments, that move up and down in value at opposite times to one another, you cancel out or reduce the overall portfolio's risk or volatility (see chart below).



The presumption is that, at any given time, certain regions of the world may be experiencing economic and market performance divergent from the United States. In theory, equity markets in those countries will reflect local economic performance and not be tightly correlated

with the U.S. market. For example, in 2004 most international markets were in positive territory and well ahead of the U.S. indices. The Morgan Stanley Capital International (MSCI) Europe, Australasia, Far East (EAFE) Index returned 20.25 percent versus total returns of 10.88 percent for the Standard & Poor's (S&P) 500 Index, 9.15 percent for the Nasdaq Composite, and 5.3 percent for the Dow Jones Industrial Average. Emerging markets were particularly robust, as the MSCI Emerging Markets Index rose 25.95 percent, with an outstanding return from Mexican equities of more than 48 percent.

Aren't those high returns the real motivation for investing in foreign equities?

It's true that part of the motivation of investing abroad is to capitalize on visible socioeconomic change. In Europe, pan-European currency, tax, pension, and accounting changes may well alter the competitive alignment among established financial leaders. Where there is change, there is opportunity. U.S. financial institutions may participate, but they are not likely to emerge as the major beneficiaries.

That being said, the international market valuations are currently below those of the United States. The forward EAFE price-to-earnings ratio (P/E) of 14.9 times earnings compares with the S&P at 16.8 times earnings, and the emerging markets look particularly cheap measured against their western counterparts at 12.2 times earnings. This difference occurs despite the fact that GDP growth in these regions tends to be higher — for example, in 2004 it was 9.7 percent in China and 6 percent and increasing in India.

Dividend yield is another intriguing aspect of investing in both emerging markets and Europe, at 2.7 percent and 2.45 percent, respectively, versus an anticipated 1.65 percent 2005 yield on the S&P. The Thornburg International Value Fund has taken advantage of this through our stake in companies such as Lloyds (7.2 percent dividend), Petrobras (4.6 percent), and GlaxoSmithKline (3.6 percent).

Industrial enterprises compete globally, although historically U.S. companies have had the advantage of being based in the world's largest and perhaps most innovative market. When competitive advantage erodes in a freely competitive environment, companies that develop sustainable advantage gain market share and prosper. In today's global markets, winning companies need not be U.S.-based. Nowhere is this more apparent than in the auto industry, where U.S. manufacturers have suffered a trend of market-share loss for years as foreign auto makers continue to gain globally.

China has become a larger trading partner not only to the United States but also to Europe and Japan. India, with its largely educated, English-speaking population, has become a growing source of interest to American companies looking to decrease costs and outsource various aspects of their businesses. European retailers are also establishing a larger presence in developing parts of the world. U.K.-based Kingfisher has a leading position in the do-it-yourself retail space in China; British Tesco operates the biggest hypermarket chain in Poland; and once-stodgy Burberry is outfitting much of Asia with its signature plaid fashion pieces.

How does the fluctuation of the dollar figure into international investing?

A stronger dollar makes overseas companies' exports more attractive

and can be economically expansive for foreign economies; however, the declining dollar has been a notable factor influencing foreign investing in recent years, as any price appreciation in foreign currencies is magnified when translated back into dollars. Of course, a strengthening of the dollar would have the opposite effect, and we have seen some signs of this early in the year.

Funds with a policy of hedging foreign-currency exposure mitigate this possibility. American Depositary Receipts (ADRs) are a logical alternative, but at times, these trade at substantial premiums to local shares, which can wipe out the value proposition altogether — as in the case of Infosys, where the ADRs have been trading at more than 40 percent premium to the local shares, and as high as a 68 percent premium last fall. Direct investment in foreign securities can be prohibitive, because of transaction, registration, and other potential costs. The more rational way to gain exposure to local shares is through a fund that is appropriately registered. Most international mutual funds will have the size to invest in more highly priced securities and the operational skills to purchase less liquid stocks in more restricted regions.

Then, what is the best way for an investor to take advantage of opportunities overseas?

The most popular investments are still ADRs, exchange-traded funds (index funds), mutual funds, and direct investments in foreign securities. Some of the overseas publicly traded investment opportunities are simply not available as public companies in the United States; examples include airports, such as those in London, Frankfurt, and Vienna; or the leading German stock exchange, Deutsche Boerse. Somewhat surprisingly, the leading suppliers of regional-jet aircraft are not based in the United States, but in Brazil (Embraer) and Canada (Bombardier). Almost all of the wafer steppers critical to the manufacture of electronic semiconductors are made by the Dutch (ASML) or Japanese (Canon, Nikon). Consumer-electronics brands are also mostly Japanese. Alternatively, international exposure can be garnered by finding U.S.-domiciled companies,

which do a majority of their business overseas.

Individual-stock purchases overseas are not without complications. Most of the western world will allow purchase of shares through a broker, although stock prices in some regions can be awkward for the average investor (for example, NTT DoCoMo, the largest Japanese cellular company and a leader in Internet telephony, sells for 320,000 Japanese yen, or about \$2,500 per share). As a further deterrent, some countries such as Taiwan will not allow purchase of shares without prior shareholder registration, which can take a long time and require advance deposit of local currency.

Ms. Trevisani offers one last cautionary thought:

The United States is still the largest market in the world in terms of capitalization and, most would agree, is also the fairest and most transparent, recent events notwithstanding. Over time, public companies both here and abroad will continue to become more accountable and comparable. Nonetheless, foreign-stock valuations continue to reflect discounts and premiums related to political and currency risk, accounting, tax, and control issues. For both retail and institutional investors, stock selection still seems the best form of risk control, whether investing locally or internationally.

The views expressed by Ms. Trevisani reflect her professional opinions and should not be considered buy or sell recommendations. These views are subject to change. You can reach her at WTrevisani@thornburg.com, at www.thornburg.com, or call (877) 215-1330.



Larry Chambers is a financial writer living in Ojai, California. He has authored more than 1,000 magazine articles and thirty-four business books. His latest book, *The First Time Investor*, 3rd edition, McGraw Hill, will help you get a good start in a disciplined investment process. He welcomes feedback at Lchamb007@aol.com. You can find his books at www.competitiveforce.com.

WATCH

Mornings, I strap it to my wrist.
My bondage. I hide its face
in pocket, sleeve. What a shame.

When I fear someone would be
offended by anything longer, I
steal a glance. Pornography,

private life. I study it while others
regard their own. High society,
communion of hours. Lunch.

I flash it at the world to prove
I'm sober, mean business.
Now, it pounds, whispers, scolds.

Ha, ha. Tsk, tsk. It's music
I must forget to hear, report
from dark's edge. Skin-slacker,

crawler, bone's clack, peristalsis,
signature of my mortality,
unfinished symphony. Day-break.

DAVID CITINO

David Citino teaches at Ohio State, where he is Poet Laureate of the university. He is the author of twelve books of poetry, most recently *The News and Other Poems* (University of Notre Dame Press), *The Invention of Secrecy*, *The Book of Appassionata: Collected Poems*, and *Broken Symmetry*, named a Notable Book by the National Book Critics Circle. He writes on poetry for the *Columbus Dispatch* and is contributing editor of *The Eye of the Poet: Six Views of the Art and Craft of Poetry* (Oxford U. Press). A book of essays, *Paperwork*, is just out from Kent State University Press.

Science & Technology

Devlin M. Gualtieri

Get the Lead Out

You wouldn't think that lead was important, given that fewer than one out of every ten billion atoms in the universe is an atom of lead. Closer to home, the odds of finding lead are a little better. One out of every million atoms of the earth's crust is lead. Because of its useful properties, humans have mined vast quantities of lead since antiquity. We have been aided by the simple chemistry required to extract lead from its ore, galena, a combination of lead and sulfur. Lead is refined from galena simply by heating it in air to drive off the sulfur and to form an oxide of lead. This oxide is then heated with carbon to release the oxygen as carbon monoxide, leaving a mostly pure form of lead. Lead was an attractive material to our ancestors. It is lustrous and malleable, like gold and silver, but it has a conveniently lower melting temperature. More importantly, lead was cheap.

The Romans made extensive use of lead and its compounds for piping, cosmetics, wine goblets, and ceramic glazes. Lead, however, has a dark side. It is a toxic material that has significant health consequences if it is inhaled or ingested. It has even been conjectured that one cause of the decline of the Roman Empire was lead poisoning of its ruling class. Lead would be dissolved into wine from goblets, and lead compounds were sometimes intentionally added to wine to improve flavor. You may think that the health risk of lead is a recent discovery, but the ancients also recognized some of the dangers of lead. A peculiar malady caused by ingestion of lead was named Saturnine Gout, after the Roman god Saturn, who was associated with the metal. The word *saturnine* expresses the mental state associated with lead poisoning.

Lead was a fairly common commodity metal in the last century, but its use has declined because of

the potential health risks. Efforts to remove lead from consumer items have accelerated in the last few decades. Some of us may remember that the simulated icicles on holiday trees, now made from aluminized mylar plastic, were once lead. Lead compounds were common pigments for paints; homes had lead water pipes; and automotive fuels had lead anti-knock additives. In fact, the word *plumbing* is derived from the Latin word for lead, *plumbum*, and scientists use the symbol Pb for lead. According to the U.S. National Academy of Science, the annual demand in the United States for lead had reached about ten pounds per citizen by 1980.

Leaded paint for residential use was banned in the United States in 1978, but it is still present in some older homes and buildings. Lead carbonate, or white lead, was used in paint because of its ability to hide underlying colors. The government has estimated that nearly 5 percent of preschool children have had an unacceptable exposure to lead. The lead limit for paint in the United States is now 300 parts per million (ppm).

Lead was introduced into gasoline in the 1920s in the form of tetraethyl lead (TEL), a compound of lead and four organic molecules. TEL causes gasoline to burn at a slower rate to reduce engine "knock." The health problems of TEL were first discovered among formulation-plant workers, but only in 1973 did the EPA begin to regulate TEL. TEL is harmful not only in itself, but burning TEL in gasoline also causes a constant deposition of lead in solid form as lead oxide along urban roadways. The lead oxide is then tracked into homes to be inhaled or ingested. Another toxic compound of lead, lead-bromide gas, is produced by combustion of fuels containing ethylene dibromide. The TEL content

allowed in gasoline was reduced to a tenth of a gram of lead per gallon in 1982, and lead for most vehicles was finally banned starting in 1996. TEL is still allowed in fuels for racing, farm machinery, and aircraft. Vehicles with catalytic converters cannot use leaded fuels because the lead will "poison" the catalyst and kill the function of the converter, which burns waste hydrocarbons in the exhaust.

So, your house is of recent construction, it has no lead paint, and your automobile does not use leaded fuel. Then what is the highest concentration of lead in your house? You may have remembered that car batteries contain a huge quantity of lead, but there are other sources of household lead. Your curio cabinet may contain items of leaded glass. Lead oxide is added to glass because its high refractive index adds a sparkle to cut glass. If we look past these items, the next greatest quantity of lead may be in your computer. The integrated circuits and other components are soldered to their wiring boards with a solder that is about 60 percent lead and 40 percent tin. The lead in this form is fairly safe because the alloying with tin significantly reduces lead's chemical activity. Your computer monitor is likely to have leaded glass to protect you from x-rays, but the lead is stable in this form as well because it is much like leaded-crystal glassware. The real problem is when consumers scrap their computers for the next model, something that happens about every three years. If these computers end up in landfills, acidic ground water can leach lead into the aquifer, although recent research indicates that the EPA estimates for leach rates may be too high.

More than twenty-million new personal computers are purchased in the United States each year. A television and a CRT computer monitor contain lead in rough proportion to

the screen area, and they can contain anywhere from three to eight pounds of lead. The National Safety Council (NSC) estimates that a combined total of 10,000 televisions and personal computers are taken out of service *each day*. The NSC also estimates that by the year 2007, about five-hundred million personal computers will have been scrapped in the United States alone. According to Collective Good International, one-hundred million cellphones are discarded annually. The EPA estimates that in the year 2000 more than four million tons of electronic waste were dumped into landfills, and the trend is increasing.

Government and industry are taking action on electronic waste. The European Union (EU) *Restrictions on Hazardous Substances* (EU RoHS) directive outlaws all but trace quantities of lead, cadmium, mercury, and high-valence chromium in nearly all electronic devices. The RoHS directive, which will be in force July 1, 2006, specifies a lead limit of 1,000 ppm, somewhat higher than the U.S. limit of 300 ppm for paint. Computer manufacturers have already begun to reduce the amount of lead in their products. As early as April of 2004, VIA, a major computer-motherboard manufacturer, introduced the first lead-free computer motherboard. Dell Inc. has announced computers meeting the EU RoHS directive, and Dell includes information about its lead-reduction program on its web site. Japanese electronics-manufacturer NEC has announced that it will also meet the lead-free directive. Taking the lead out of electronic circuits is not easy. Whereas the conventional lead-tin solder melts at about 180° C, the accepted replacement tin-silver alloy with minor additions melts at about

215° C. This significant temperature difference complicates component specifications and manufacturing processes. Furthermore, lead-free solder fractures more easily than leaded solder, which can lead to broken connections on circuit boards.

According to NSC estimates, less than 10 percent of electronic waste was recycled in 2000. Germany currently requires equipment manufacturers to recycle their products when returned by consumers. This recycling mandate soon will be applied to the entire EU via the EU *Waste Electrical and Electronic Equipment* directive. At the end of 2003, PC manufacturers in Japan were required to accept unwanted household PCs for recycling. Japanese consumers pay about thirty dollars per computer for this recycling. Japanese industry generally has been at the forefront of recycling efforts that have included recycling washing machines, refrigerators, air conditioners, televisions, and PCs.

Some states have not waited for the federal government to act on electronic waste. California has added a recycling fee to all sales of CRT computer monitors. It also has passed laws that mirror the EU RoHS and recycling directives. Recycling electronic waste is not cheap. The cost of adequately disposing of a PC is about thirty dollars, precisely what is charged in Japan, but there is a human cost as well. Most recycling in the United States is exported to other countries, notably China and India, and environmentalists are concerned that we are outsourcing our electronic-waste problem, rather than addressing it properly. Recycling merely shifts the environmental problem to a third-world country. A United Nations

report in March 2004 suggests that extending the life of PCs, typically by upgrades, is the best way to reduce electronic-waste hazards.

Unfortunately, the spotlight on electronic waste makes it appear that this is the major problem. Lead in electronic products comprises less than 1 percent of total lead use. Storage batteries use more than 80 percent of the world's lead and ammunition about 5 percent. Five percent of the world's lead is still used in paints. If the world really wants to "get the lead out," it needs to look past electronic waste.



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Upcoming Issues of the Forum:

Fall 2005: College Athletics

Winter/Spring 2006: Nutrition and Health

Summer 2006: Television



Whatever Happened to Classical Music?

I read an article in *Time* magazine recently reporting that the members of the St. Louis Symphony had settled a labor dispute with the orchestra's management. After their contract had expired, the musicians were on strike for nearly two months, returning after the two sides reached an agreement on salary and benefits. Jeremy Caplan, the author of the article, also cites several other problems with major and minor orchestras in the United States, including aging audiences and rising production costs outstripping endowment money. These observations seem familiar and troubling. Is it conceivable that some years down the line, the United States could be without major orchestras, and even worse, without classical music?

Because I spend the majority of my time teaching and studying classical music, this thought is particularly disturbing to me. I must admit that at times I have gazed out at the students in my classes and wondered what they would be doing in ten years; surely not all of them will become members of top symphony orchestras, college professors, or even lounge pianists at the Holiday Inn. Despite these moments of doubt, I continue to believe in the power and force of classical music and argue that to eliminate it from our culture would be a devastating mistake that is shortsighted, naïve, and harmful.

Americans understandably have a tepid reaction to classical music. Unlike in most European countries, this music is not native to the United States; moreover, most of America's well-known composers achieved success only since the twentieth century. Additionally, there is much diversity in the kinds of music found in the United States, from fiddle tunes to blues, from sacred harp singing to hip-hop. With

this variety of styles, is it any wonder why classical music — which requires some background knowledge for full appreciation — has slipped under the radar of most Americans?

I would like to propose several ways that we can enlarge the audience for classical music and change some of the attitudes that dissuade people from attending a concert or an opera. The first and most important of these is not to dumb down the music for the audience. To be sure, everyone enjoys attending a "Pops" concert and humming along with tunes that they know. Indeed, some fine pieces written by celebrated composers are featured prominently on collections entitled "The Greatest Hits of Classical Music." However, if this is all we do, we help to propagate the hackneyed attitude that music exists only for entertainment. In a recent column, music critic and author Norman Lebrecht explains that "electronic gizmos and kid soloists" are "gimmicks bred of desperation, not a coherent approach to cultural crisis." By continuing to play works of high quality, audiences can become acquainted with music that has survived for hundreds of years and that still moves people.

Second, classical music must be viewed as necessary and beneficial to our society. This effort should begin in elementary and secondary schools, where a younger audience can be cultivated. With continuing tight budgets and a seeming obsession with testing, making room for the arts in K–12 curricula has become an ongoing battle. It must be made clear to school boards, parents, and the community that fine arts are not merely frills where kids paint pretty pictures and blow a few screechy notes on the clarinet. Rather, education in the arts can expose students to some of

the greatest expressions of the human spirit that can teach immeasurable lessons outside of the classroom. Why is it that some schools are quick to eliminate music and art programs, but then keep the sports teams no matter what the expense? Redoubling our focus on arts education, even if it can be included only one or two days per week, sends the right message to our students. Moreover, it would be terrific for artistically inclined parents to volunteer their talents in the classroom as well; I fondly remember some of my friends' mothers acting as "picture ladies" in grade school, sharing information on fine art while allowing us to gaze at prints by Picasso and Monet.

A third way to ensure viability for classical music is to teach our aspiring music majors to be versatile and knowledgeable in all styles. In my own teaching, I include a unit on popular music that prepares the students to speak intelligently about the structure and mechanics behind an increasingly important repertoire. In today's competitive marketplace, a violinist who can play the Beethoven concerto on a Friday night might be asked to participate in a background orchestra for a popular singer on Saturday night. While there is still a place for someone trained exclusively as a classical musician, attaining a greater facility with other genres of music can enhance and enrich that performer's experience. Furthermore, audiences might be inspired to learn more about classical music after seeing a particular violinist in various settings. To that same end, classical composers have attracted a wider and more diverse audience by writing music that fuses elements of other styles. Some notable examples are composers Steve Reich and Philip Glass, whose compositions feature influences from non-Western sources such as African drumming and Indian music, and Christopher Rouse, some

of whose works appropriate elements of rock-and-roll in a classical setting.

A fourth way for classical musicians to support their art is to become more visible in society. Unfortunately, we cannot rely on professional orchestras alone to carry the weight of this endeavor. As an alternative, many performing arts series are beginning to emphasize chamber groups over larger and more-expensive orchestras. A smaller ensemble such as a string quartet or a woodwind quintet can be an attractive selling point for venues strapped for cash; while not as expensive as an orchestra, they can play music of high quality and educate and entertain an audience at the same time. An innovative example of this approach occurred in 1997, when the Ying Quartet participated in the Chamber Music Rural Residencies program sponsored by the National

Endowment for the Arts. The string quartet spent two years in Jesup, Iowa, where they engaged with the townspeople by holding an eight-concert series with guest artists along with free music-education classes and lessons in the evenings. This project epitomizes the type of creative thinking needed to sustain classical music.

I believe that is the primary message we must take from stories such as the labor dispute in St. Louis. For classical music to survive in the United States, its advocates must continue the often-frustrating task of educating and reshaping audience attitudes. Like Lebrecht, I strongly disagree with the argument that we need to make classical music “relevant” to twenty-first century audiences by spicing it up with light shows and teenage “prodigies” warbling poor arrangements of “Ave Maria.” This music has

been around for hundreds of years, and nobody will forget Mozart or Beethoven any time soon; instead, we must beat the drum (no pun intended) for its inclusion in our world. I remain positive and encouraged by so many creative people who continue to be passionate about their art. Let’s thank them for sharing their talents with us by buying a ticket to the symphony, opera, or recital.



David Thurmaier is an assistant professor of music theory at Central Missouri State University. His musical interests include Charles Ives, American music of all types, and the Beatles. He is also an active composer and performer on horn and guitar.

LETTING GO

Should I talk as some people do,
about houses, jobs,
parties and old stories
to pour myself
into thin crevices of history?
If I were not afraid
of vanishing, I wouldn't
think to seek a cure.

I could practice for death —
no, maybe let go, unhurriedly
forget the cure,
the erasure,
and leave as a water bird
might leave an enormous sea
windblown with dark ridges:
lift out slowly, giant wings
shaking the Earth away.

ELLEN RACHLIN

Ellen Rachlin’s chapbook, *Waiting for Here*, was published by Finishing Line Press, 2004. Her poems have appeared in various journals including *American Poetry Review*, *North Atlantic Review*, *White Crow*, *Links*, *Confrontation*, and *The Comstock Review*. She is an investment professional and serves as treasurer of the Poetry Society of America.

(continued from page 3) **Testing, Testing**

the disgrace of entire schools and districts that are summarily placed on public “failure” lists. Students are encouraged to flee “failing” public schools. Discrediting the public schools paves the way for the semi-privatization of the school system using public funds — hence the proliferation of charter schools, which permit the teaching of special-interest curricula by special-interest teachers. Parents, responding to media hype, gravitate to “hope-and-opportunity” programs for their children, further depopulating the mainstream school system. Dehumanization of the public school teaching force through scripted curricula, obsessive diagnostic testing, over-documentation, and routinized lock-step articulation is already causing teachers to flee the profession, further weakening the quality of instruction.

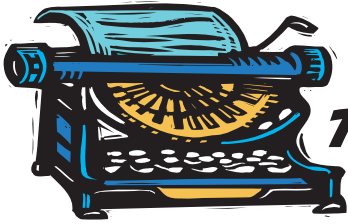
If the real intent of high-stakes standardized testing were to ascertain individual-student growth toward academic excellence, then such testing would reflect current constructivist views of knowledge and learning. Of course, the cost of highly individualized testing or “authentic-performance” assessment is exorbitant. Financial considerations outweigh all others in the underfunded real world

of public education. Besides, there is widespread public endorsement of current testing practices. Standardized testing is quick, efficient, cost-effective, and produces easily codifiable data that can be crunched into a variety of charts and graphs for public consumption. No one out there is clamoring for alternative assessment.

Teachers must become emboldened to assume a role of advocacy for fair-assessment practices. Our muttered protests must become audible. We must become informed and vocal on behalf of students. Only then will we be certain that we have offered all of our students the most beneficial educational opportunities possible. And that, after all, is our mission.



Andrea Ickes-Dunbar teaches seventh and eighth grade English and Spanish to a second generation of students in a multigenerational K–8 California public school. She is convinced that “No Child Left Behind” is a misbegotten political agenda that makes retirement more alluring than ever!



A Note from the Editor

James P. Kaetz



IN THIS ISSUE

I probably have said this before in this space, but it is worth repeating: I love computers. I love what they can do and what they allow us to do. When I became editor just twelve years ago, the World Wide Web was still in its infancy. If we wanted to contact a potential author and did not know where that author was located, our only recourse was to call the publisher of the author's book, a process that often resulted in ignored voice-mail messages or a refusal to provide that information. Now, one can simply put the name in a search engine and invariably find a Web site at the author's university or organization that will have all the contact information that we need. In rare cases, we have even located authors simply by searching in a nationwide telephone database. Admittedly, this ease of finding out information via the Internet is a little frightening, too — but it does make our lives easier.

All that said, before we decided to do this issue I knew virtually nothing about computer/video games. I am not even a good pinball player, so you know that my skills in the few computer games that I have tried are abysmal. Yet when I see other people play them, I am absolutely fascinated by their realism, and I envy the skill and patience that it takes to master them. Because video games are often seen as the “bad guys” in the computer world, the purveyors of mindless violence, we decided to go beyond the surface impression by letting some of the people who work with, create, and teach the creation of such games tell us about their experiences. The result has been an issue in which we have all learned quite a bit about games and those who play and create them.

To lead off, Jon Skinner of Southern Methodist University's Guildhall program (described as “an intensive eighteen-month certificate program in digital-game development”) takes us through the complex

process of creating a computer game. Skinner describes the careful planning and teamwork that it takes to put together a computer game, including those who conceive of the idea, manage the project, the coders, the artists, and so on. Donald Marinelli then tells us how he went from being a professor of drama to co-director of Carnegie Mellon University's Entertainment Technology Center. In the process, he relates what he has learned from designers and players of games, how he had to open his mind to a world view very foreign to his own.

John Borland and Brad King next tell us about the world of Alternate Reality Games (ARGs), the descendants of games such as *Dungeons and Dragons*. Borland and King talk about how tens of thousands of people all across the world will communicate and work cooperatively to solve puzzles and reveal a game's secrets — a reality almost completely unlike the stereotype of the bloodshot-eyed gamer sitting in isolation in front of a screen for hours on end. Elizabeth Sweedyk and Marianne de Laet then describe the course they have created to encourage women to participate in developing and using computer games. As they point out, gamers and game development have been primarily male domains, and attempts by the industry to create and market games to women often have depended on flawed and simplistic gender stereotypes.

In the next two articles, we turn to some academic and educational aspects of computer games. Mohan Rajagopalan and David I. Schwartz discuss the difficulty of creating a game-design program and curriculum at a university. Because designing a game is a true multidisciplinary effort, figuring out how to construct such a degree and where to house it in the university are difficult problems to resolve. Then, in perhaps the most thought-provoking article in this issue, James Gee talks about what video games can teach us about learning

and about classroom practices. Gee identifies sixteen principles of learning in video games that, he argues, if adapted to the classroom would make learning the invigorating experience it ought to be.

Finally, we offer an article that recently appeared in the *New York Times* and which we thought was worth reprinting. Seth Schiesel writes about the *America's Army* video game, a free online game that essentially serves as a recruiting tool for the Army. Schiesel follows game developers as they experience real training exercises to get the feel of battle so that they can improve the realism of the game.

AWARD RECIPIENTS

Be sure to recognize and celebrate the many recipients of Phi Kappa Phi's awards programs for 2005, beginning on page 46. Recipients of the Graduate Fellowships, Awards of Excellence, Literacy Grants, Study Abroad Grants, and Promotion of Excellence Grants are all featured. You will not see a more impressive group of students, volunteers, and faculty anywhere else, nor will you see a more generous set of awards from any other honor society.

APPRECIATIONS

All of us here at the *Forum* want to say thanks to our two Professional Writing practicum students for the Spring 2005 semester, Staci Wilson and Jennifer Shifferd. Jennifer and Staci provided us with fresh eyes and new perspectives as they read, edited, and proofed for us. Their help was greatly appreciated, and we wish them good luck and future success as they both graduate and head to the larger world.

Enjoy the issue — and leave yourself some time to play!

Jon Skinner

The Layperson's Guide to Creating a Computer Game

I wrote this article to provide some insight into the processes behind creating computer games. The computer-games industry is huge; it generates more revenue each year than the movie industry. It is spreading into almost all walks of life — you can now play games on your mobile phone; on portable consoles such as the GameBoy, PSP, and Nintendo DS; on the Internet; on home consoles and on PCs. We are now seeing numerous television advertisements for games, something that was previously unheard of.

Games are now being used in a variety of situations; not only are they considered entertainment, but they also are being used in such diverse fields as medicine (games allowing cancer patients to “attack” cancerous cells while they are undergoing treatment, games allowing psychologists to help people understand and overcome phobias) and the military (the game *America's Army* has been developed to train personnel in field tactics before live exercises) [See article on page 38].

Some games take only a few months to develop, whereas other games can take as long as five years. Although game developers have their own methods for the development cycle, they all have the same basic progression:

1. Concept and Research
2. Documentation and Prototyping
3. First-Playable
4. Alpha
5. Beta and Quality Assurance
6. Gold

Let's examine each of these stages, explaining what they are and how they all come together to form the whole.

CONCEPT AND RESEARCH

One of the hardest things about game design is finding an idea that is fun yet original in some way. Because so much of the game industry is (sadly) marketed towards the young male population, a plethora of games features guns, cars, blowing things up, or combinations thereof. Some games, however, break the mold — a recent excellent example is *Katamari Damacy* (Playstation2). It appeals to a wide variety of gamers, casual to hardcore; it is very simple in design, yet the gameplay is very engaging.

So we start with a game idea. This idea has to be fleshed out in several different areas — the overall goal, the individual goals for each level, character progression, storyline. We need to decide if the game will be singleplayer or multiplayer; do we want people to play alone, or do we want players to interact in groups over a medium such as the Internet? This is a major decision that can lead to problems further along in the development cycle if the wrong choice is made.

Not only do we need to define what the gameplay is, we also need to determine where the game will be played — on arcade machines, on home consoles, on home PCs, on mobile phones, or on the Internet. Each of these areas has different and very specific limitations for how the game will run. Mobile-phone games are traditionally less graphically complex than those played on a home console, but the gameplay is designed to be the same as if the game were being played on a home console or PC.

Once this technical decision is made, a team is assigned to research different aspects of the game such as the core-gameplay mechanics, what kinds of limitations the game may need to keep within or work around, and how easy it will be to create custom content. If the game is an Intellectual Property (IP), such as working with the Marvel Comics franchise, there are defined and explicit instructions for adhering to the IP. Deviating from these instructions can result in the project being canceled, so every effort must be made to ensure compliance.

One final decision made at this stage is choosing the team that will be needed to develop this game. Team leads, the people who will manage each specialization (Art, Level Design, Programming) are assigned. Their job is to maintain constant contact with the members of their department, ensuring that development is proceeding at the required pace and quality. They also communicate directly with the game designer, the person holding the overall vision of the game.

DOCUMENTATION AND PROTOTYPING

Often the bane of game developers' lives, documentation is at the core of bringing a game together. Everything about the game must be written down to provide a standard base from which all of the developers can work; without this standard base, departments or teams within a company could create assets that cannot be placed together in the game.

Several different types of documentation are used:

- The *Level Design Document*, used by level designers (sometimes called content designers), details each level within the game: how each level should play, the goal of each level, what the player should do every step of the way. Drawings of all game levels are contained in this document, from high-level outlines to low-level detail drawings of specific gameplay areas. It shows lighting, sound, environment, puzzles, and storyline or plot progression — every detail about each level.

FIRST-PLAYABLE

Everything before this stage has been preproduction, a preparation for the actual creation process. With First-Playable, the first generation of the game engine and game assets is created. Not all game functions will be implemented, only the features necessary to core gameplay. It uses the research and prototyping from previous stages, and it allows the developers to see the game in action. Is the game working as it is designed to? Do the game mechanics function as they should? Is this game going to be fun to play?

At this stage, hardly any custom assets have been created, so the game may not graphically resemble the final product. It usually contains placeholder graphics that the artists and level designers created very quickly as substitutes for the proper assets to be created at a later stage.

First-Playable is also the time that the previously designed pipelines are put to use. Does the process for bringing a character into the game work efficiently, or can it be refined?

- The *Technical Design Document* is used by the programmers. It contains code snippets, examples of how to write and use every routine in the game. It details how specific game systems work (such as player health or how the game physics are used). Flowcharts are a great help here, as they show how the different game systems interact at a high level.
- The *Art Bible* is for artists. It contains the concept drawings for all game assets, reference images, details of how characters are animated, scale charts (so that all assets are in correct proportion to each other), and so on. It is constantly referred to by both level designers and artists when creating assets for the game.

These three separate documents are then brought together into one big master document called the *Game Design Document*, which has a twofold purpose. If the company takes on new employees, they are given the Game Design Document to read, and they should then understand everything about the game being made. It also serves as a reference during the game-creation process; if a change is being debated, such as altering a character design or a gameplay mechanic, the change can be examined in the context of the whole game.

Why are these documents created? In the early days, development teams were tiny — sometimes fewer than five people. These small

groups could hold the vision of the game within themselves; discussion and contact between team members were extremely easy. However, with development teams sometimes reaching two hundred people scattered throughout the entire country (or even different countries), the ability to quickly discuss and alter a design has been lost. With these documents, the group has a clarity and singularity of vision. It is entirely possible, for example, to outsource the Art Bible to another company, which will then be able to create assets that match the game's needs and vision.

Throughout this documentation phase, prototyping of all the systems and pipelines has happened. Often multiple applications are used to create all the content for a game, and there needs to be a seamless method of bringing all of these separate assets together into a form that can be used by the game. If these pipelines and methods do not exist before production begins, huge delays could occur at later stages.

Delays in production are usually fatal to a project. Publishers want to see constant progress with their product, and if a game falls too far behind in production, the publishers may move the game to another developer or cancel the project altogether. Of course unforeseen delays always happen during production, but this documentation phase is designed to prevent the majority of problems that could arise.

ALPHA

Often called “process complete,” at this stage the core game is essentially finished. Gameplay mechanics are implemented according to the Game Design Document and have been tweaked or altered to ensure that the game is enjoyable to play. It has built on the lessons learned during prototyping and First-Playable, often directly implementing those prototyped ideas into the First-Playable game.

At least one of every custom asset has been created and brought into the game. Why only one? First, it demonstrates that the pipelines (both departmental and game-related) are all working correctly. Second, it is more efficient. If assets are created that do not match the game vision, time could be wasted reworking those assets. In an industry where time is money, every game company strives to develop and use the most efficient processes possible during development.

BETA AND QUALITY ASSURANCE

Beta is where the game is 95 percent finished. It is regarded as “content complete” — all custom assets have been finished and implemented into the game. The gameplay system is constantly being refined, but it is just that — refinement. No major changes should be needed at Beta, as most problems should have been encountered and dealt with in the previous stages.

Reaching Beta often can be the longest stage of development, as it relies on all custom content being created. Platforms have different specifications for content; an artist working on a mobile-phone game might need one week to draw a two-dimensional animated character, whereas a modern-console or PC-game artist can often take two to three months to create and fully animate a character.

This stage is also where professional quality-assurance (QA) testing takes place. Companies differ on their approach to QA, and it sometimes depends on the game being developed. Some companies prefer internal testing, an approach taken by large publishers such as Activision or Ubisoft. Activision has

a department designed specifically to test the games that it is publishing. Other companies use external testing, providing the game to an outside company, which then provides regular feedback.

Multiplayer and singleplayer games often require different methods of testing. Because of the different basic-game dynamics between the two types, multiplayer games can require much more testing than singleplayer games. For example, id Software has provided a downloadable demo of its game *Quake3Arena* on the Internet. Instead of using a company or department to test the software, which could have a maximum of maybe a hundred people, the company allowed the entire world to play the demo version and find problems with the game. This was a very intelligent move by id Software, as it also generated prerelease interest in the game.

Although testing probably has taken place during the entire development process, this stage is where the game is tested to the breaking point. Previously the game has used either placeholder graphics or has not had all gameplay systems implemented; at this step, it is nearly final.

GOLD

This final stage is what all developers long for. The game is considered finished; the content is complete, game mechanics are complete, and as many problems as possible have been resolved. The game is delivered to the publisher, which then distributes and markets it.

I hope this article has lifted the curtain of mystery from the process of game development, or at least pulled back a corner of that curtain. Making games is not all fun; it involves a lot of hard work and extreme dedication from each individual. Working on a game that takes five years to complete can be very trying, as there is almost a year between each major milestone. But there are huge personal rewards in creating something that people enjoy playing, and it is for this reason (not purely monetary ones, as many people believe) that we devote so much time to giving other people enjoyment.



Jon Skinner is a professor of Level Design at The Guildhall, Southern Methodist University. The Guildhall at SMU is an intensive eighteen-month certificate program in digital-game development. The curriculum was designed by expert teachers working with leaders in the gaming industry to provide students with a solid foundation in game development. Visit the program at <http://guildhall.smu.edu>.



I Still Don't Quite Get It: Video Games and New Realities

Donald Marinelli

I still don't quite get it, even though I have lived with and taught aspiring video-game developers since migrating from the Carnegie Mellon School of Drama eight years ago to serve as co-founder of the then-new Entertainment Technology Center. "It" is the whole social dynamic of interactive video games as a pinnacle expression of individual personality and social intercourse in young people of the twenty-first century.

When I gave up my position as Associate Head of Carnegie Mellon Drama, the nation's oldest degree-granting drama program and an eminently famous one, I did so with the intention of helping the nascent art and entertainment form called "video games" to become more than the equivalent of a digital comic book. My aim was to help it aspire towards nothing less than artistic achievement. Falling through the looking glass and entering this wonderland, I found that everything about this form of entertainment seemed mired in contradiction and irony. Eventually, it dawned on me that contradiction and irony are among the highest qualities of great works of art and literature, something I know quite a bit about.

IN LOVE WITH DIGITAL

An ongoing source of professorial glee for me is to observe how today's students are enamored of all digital technology. Like the three-eyed aliens in *Toy Story* who are transfixed by an arcade crane, the youth of today ogle at and are in awe of every new technological advance. They engage in conversations about graphics-engine capabilities in the same way

that adolescents of my generation discussed V-8 versus V-6 engines. The fast cars of our adolescent fantasies have been replaced by fast processors; the tie-dye T-shirt has given way to a color palette on a computer monitor that can render six million shades of color. That reality, however, is secondary to the fact that the computer is flat-out capable of rendering colors we cannot even detect. I mean, how much cooler can you get than that? This generation might be the first modern one capable of embracing the unknown and the unseen on a par with prehistoric tribes.

Observing gamers for the past six years has opened my mind to the possibility of, well, anything. Among the technological marvels of interactive game play that I really enjoy are "physics engines." These are computers capable of sustaining and implementing whatever the internal physics of an imaginary world might happen to be. For example, let's drag race on Venus. With the right physics engine, everything we do in our race will embody and reflect the physical, chemical, and gravitational laws of Venus. I used to get excited when I saw a chart telling me how much I would weigh on Jupiter, Mars, or the moon. Forget that now, unless you are content with a Paleolithic level of wonder and satisfaction.

Then, there's the phenomenon of MMORPGs. Oh — sorry about the acronym. Nowadays, everything is an acronym. MMORPG stands for Massively Multiplayer Online Role-Playing Game. After saying that aloud once or twice, you can see why we are all willing to speak in acronyms. You just need to get your acronyms straight. For instance, when I say that a HUD is part of an RPG, I do not mean that

the Department of Housing and Urban Development is using Rocket-Propelled Grenades! I mean that a “heads-up display” is part of a “role-playing game.”

Massively multiplayer games give us the seemingly oxymoronic reality that one's nerdy child, huddled away slaying dragons on the Internet, may actually be a real, live, fully functioning social human being with more friends across the globe than we could ever have imagined or that we have ever had. You see, in worlds such as *Everquest* or *Star Wars Galaxies*, your child is playing not against the computer, but rather against other players logged on simultaneously across the globe. These other players, like your child, have created characters with psychological and physical artistry, oftentimes on a par with an accomplished playwright or portrait artist. It is now commonplace to find players selling their “virtual personae” on eBay. This practice of selling avatars is becoming a new kind of Christie's art auction.

By the way, these are *worlds*, not *games*. A world is a persistent imaginary environment that continues to exist, even after the individual player has departed the playing field. No one quite knows what “winning the game” really means. Because belonging to these worlds requires monthly subscription fees, companies are in no rush for the players to declare victory and leave triumphant — or worse yet, to be slaughtered even more quickly and leave in dejection.

As a fairly spiritual person, I was taken aback at first when students referred to one whole genre of video games as “God games.” These are games where the player literally functions as a deity. *The Sims* is the best example. In *The Sims*, the complete range of human behaviors has been modeled and made available to the characters created by the player. “Creations” have specific human attributes and can be made as intelligent, dumb, crafty, unsettled, scatterbrained, creative, wealth-driven, passive, sexy, or astute as desired. The player/God then gets to watch them make their way in their world.

Or not. I have seen way too many *Sims* worlds where the particular human “deity” in charge functioned more like a god from Greek mythology. Content to strike down hubris-enamored humans with either agoraphobia, dominant antisocial attitudes, or, cruelest of all, major bladder problems, the deity often responds with uproarious laughter. The ancient Greeks were right!

The next generation of *The Sims* will come close to emulating actual human DNA. And while this might result in some bizarre genetic engineering on the human level, it should at least result in a greater appreciation for the wonder of random pairing. Let's face it, homogeneity has lost its luster in everything but milk processing. Forget the melting-pot imagery,

and you can even dispense with the fruit-salad analogy. Video games are all about the bar scene in the first *Star Wars* movie. You want multicultural? Well, you have it in spades, thanks to *The Sims* and myriad other related video games.

It is ironic that MMORPGS might be the first truly individualized yet inherently social experience of the twenty-first century. It is normal nowadays for strangers to gather around computer monitors and walk away as friends, without ever meeting in person. The notion of playing by yourself “with others” used to be a sure sign that something was not quite right with you. Today, it is anything but. I still recall the world before the scourge of Attention Deficit Disorder (ADD). Now I preside over a generation with this “gift.” Indeed, the “deficit” has been redefined, as “lots of attention, to lots of things.” It bespeaks of a new DNA, conveying the ability to multitask everything. Video games in turn have taught me to love and accept ADD — in fact, to wear it proudly, almost as a badge of honor.

NEW REALITIES

Here is an example of twenty-first century multitasking that literally changed my life. I recall walking past two of my students as they worked at their desktop computers. I noticed that both had Instant Messaging windows open and were chattering away — well, “clacking” away — on their keyboards. Ever the dutiful professor (Neanderthal throwback, as it would turn out), I stopped and snidely commented about this dubious multitasking and obvious wasting of time. Well, it is true that hell hath no fury like a young person misunderstood. Outraged, they informed me that they were talking *to each other*, discussing the program that they were working on. I was informed — no, educated — that rather than having caught them wasting time, I misapprehended the situation. I was informed that Instant Messaging each other while seated side-by-side was in actuality a logical, rational decision that allowed these students to strengthen their bond of friendship while accomplishing the work task at hand. Indeed, had they stopped typing and turned towards each other to ask that same question verbally, that would have been the true waste of time. To them, this was as obvious as the noses on their faces. To me, it was a twenty-first-century epiphany. Yet, I do not think that I had ever felt so utterly stupid and ancient. I could not have felt more reactionary had I chastised them for passing notes to each other.

You cannot play video games without starting to believe in reincarnation. Players die and come back to life repeatedly in games and, in the best karmic fashion, they strive to learn something from the previous

incarnation and not to repeat the mistakes that they made in that previous life. What's more, they actively crave the desire to stop time, to rewind, to do over that last dumb move, that wrong decision, that wayward step on their character's journey through his or her imaginary existence.

There is something very appealing and encouraging about young people acknowledging, through game play, that getting it wrong, making a mistake, downright "screwing up," is indeed part of the game play of life. It might be my own imagination, but I find game players to be a very forgiving lot in their real-world incarnations. It is as if their brief lifetimes as interactive video-game players have given them enough experiences to recall doing many stupid things that they have come to regret. Lord knows, I was raised believing there is no "reset" or "pause" button in life. Looking back on fifty-one years on this planet, however, makes me wish that I had put more faith in second, third, fourth, or even fifth chances.

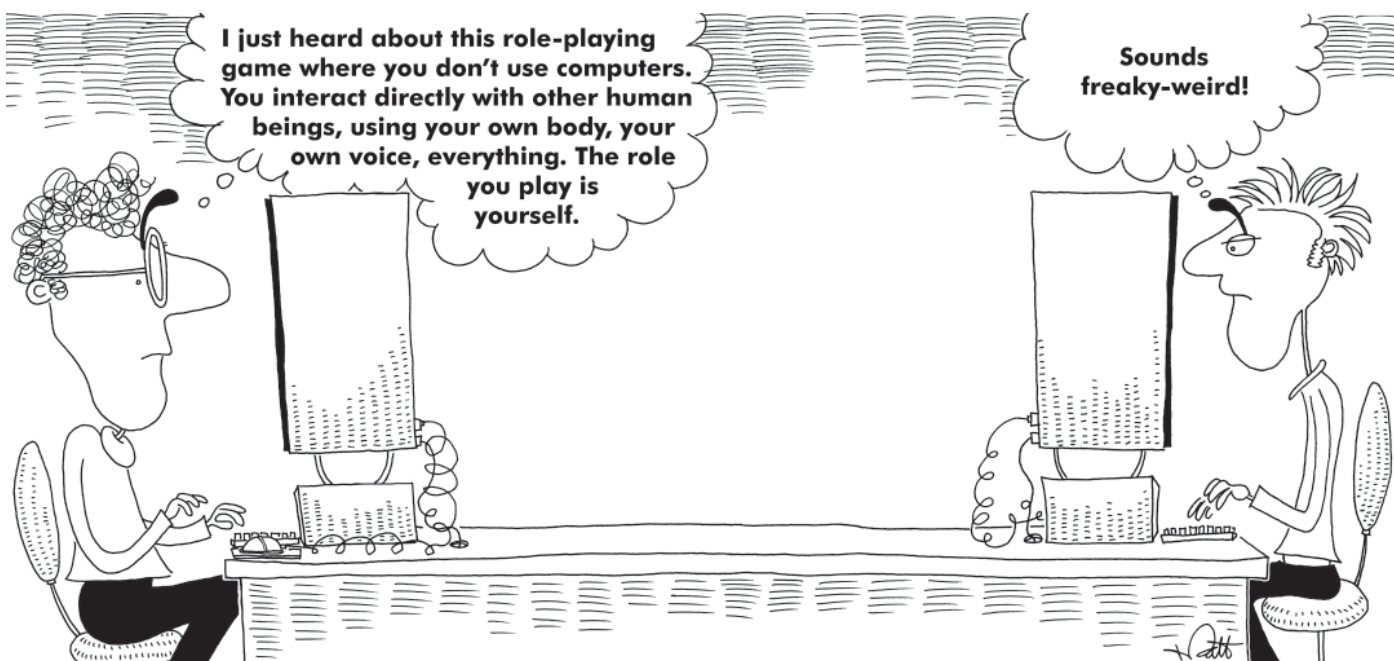
Another potentially shocking reality of the virtual universe is the ability that it gives kids to live alternate realities to their current incarnations. In days past, we called this daydreaming. I always imagined myself as manager of the New York Yankees. Well, now I can be the manager of those very same Yankees, albeit in a virtual major league. Not only that, but it is no longer me against the machine — or to be more historically accurate, dice and paper baseball cards. The graphic quality of today's video games will make you believe that you are in the dugout at Yankee Stadium, waiting for Mariano Rivera to close out the ninth.

Perhaps the greatest, but little-appreciated, achievement of games can be found in the fact that today's young people may very well have the most incredible manual dexterity of any generation. Forget bulging biceps and bodybuilding competitions. Have you seen the thumbs on these kids? It is a proven fact that the U.S. military finds young game players to make better soldiers, not just because their minds have been trained by the ceaseless extermination of alien races hell-bent on world domination but also because these kids have trigger fingers on them that would have made Wild Bill Hickock jealous.

So, while I still don't *quite* get it, I do know that I admire it. I admire it in the same way that I admire math geniuses, or sculptors, or engineers. I have believed all of my life that each one of us has been endowed with special gifts. The imagination and logic to craft a video game is as much a gift as the ability to draft an award-winning screenplay. Furthermore, it just might be a gift to be able to consider, contemplate, and act upon the myriad possibilities inherent in a nonlinear imaginary world. The fact that I am rather bad at video games does not bother me at all, no more than knowing that my acting would never win a Tony Award. The gift for me is being in a position within my university to help make young peoples' dreams come true. I consider this a tremendous gift, and I am loving every minute of "it."



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HIBISCUS

Freed from winter sidewalks
sheeted with ice, we revel in the heat and the hibiscus
blooming along roadways south of Miami: not the brash red
of a stop sign, but cheek-flush,
that pink.

While you drive, bemused,
I wriggle into shorts, slough off shoes and socks.
Once again, maybe forever . . . toes bare as Eden.

I like to sweat,
you tell me. It reminds you of summers
on the shore, your father home from the war.

You promised me the Everglades
and I imagined something lush
and Amazonian, not the browned flatland
we cruise by car, driving from waterhole
to waterhole, alligators lying near the surface,
their scaly backs like old logs
floating in the shallows.

They fool me every time, until I catch
an eyeball shifting, a snout yawning
as if to say, *my what luscious toes*
you have, my dear, what generous cheeks.
Backing off, I will myself to think of hibiscus,
its frills defining edge, its fragile insouciance.

CLAIRE KEYES

Claire Keyes is the author of *The Aesthetics of Power: The Poetry of Adrienne Rich*. Her poems and reviews have appeared in *Calyx*, *Orbis*, and *poetrymagazine.com*, among others. Her chapbook, *Rising and Falling*, won the Foothills Poetry Competition. Professor Emerita at Salem State College, she lives in Marblehead, Massachusetts.



John Borland and Brad King

BEES, ARGs, AND THE BIRTH OF THE COLLECTIVE DETECTIVE

Steve Peters was home with his wife in Las Vegas last year when the Federal Express delivery truck brought a sticky envelope to his door.

It was addressed to ARGN — the Alternate Reality Gaming Network of Web sites that Peters had helped found not long before. “A new game,” he thought. More than one would-be “puppet master” had started a game by sending him cryptic mail. He brought the bulky envelope inside and tore it open. Inside was a plastic bear-shaped jar of honey. It had leaked in transit and was warm from the July afternoon heat.

He showed it to his wife, and they both noticed the bits of black suspended inside the honey. A clue to something? They strained the honey through a colander and found black letters left behind. A few minutes spent rearranging them as an anagram revealed no obvious message: EVIL something. SLEEVE...

“What about ‘I love bees?’” his wife suggested.

They tried going to Ilovebees.com. The site was transparently amateurish, apparently dedicated to a young woman’s beekeeping hobby.

“My wife said, ‘I don’t think this is it,’” Peters remembered later. “Then the black box came up, and she said, ‘Steve, I think you better take a look at this.’”

That black box, the first contact with what purported to be an artificial intelligence taking over the beekeeping site, was the beginning of a months-long “Alternate Reality Game” (ARG) culminating in the release of Microsoft’s *Halo 2* video game. Before it ended, it would draw tens or even hundreds of thousands of people into its mix of puzzle-solving, fractured storytelling, and collective detective work, and it would set a milestone in a new genre of online gaming.

Peters and his wife immediately got online and asked other people whether they had gotten their own honey bears. Nobody in the small ARG community had. He posted pictures and began studying the “I Love Bees” Web site. Other messages emerged: text encoded subtly inside pictures and source code for the site that was far too sophisticated for the amateur or “grassroots” project he had initially anticipated. Something big was at work.

A week later came the rumors. Somebody had seen the Ilovebees.com address flashed at the end of a theater advertisement for *Halo 2*. New people started finding their way to the ARGN “Unfiction” bulletin boards where Peters’s community was already discussing the “Haunted Apiary.” Finally, the video game’s trailer was posted online, and it was confirmed. Microsoft was behind this one, which meant money, sophistication, and very likely the team that had created *The Beast*, the original ARG associated with Stephen Spielberg’s movie *A.I.*

The game was on.

TRANSFORMING REALITY, OR UNRAVELING TRUTH?

Games have always been about altering reality in some small, adventurous way. Chess is simulated warfare; baseball an escape into a society where explosive glory is possible with the swing of a bat; *Halo 2* a sci-fi epic that lets players join in saving the world.

ARGs take these adventures and let them bleed out of living rooms, off the television screen, and into everyday life. They are built around puzzles found online or in your local newspaper’s classified section, and they might make you answer your phone in the middle of the night to unlock a new clue.

They are a blend of improvisational theater, storytelling, and old-fashioned detective work. At their best they create a seductive sense of paranoia that makes virtually everything — every Web site, every license plate on a passing car, every chance encounter on a London street corner — a potential part of the game.

An ARG is a modern version of a role-playing game that has dispensed with knights and elves and instead asks players to play themselves — as if they were suddenly transported into a time and dimension where the game’s story was truth.

And like most video games, they trace their roots back to Gary Gygax and Dave Arneson, the creators of *Dungeons & Dragons*, the game that introduced role-playing to a generation of kids coming of age just as the computer industry was taking off.

This confluence of events in the early 1970s set an unmistakable stamp on early electronic gaming. The first computer networks were riddled with games called *Dungeon*, *Oubliette* (French for dungeon), and the like, often written by players for fun and distributed for free. The first online multiplayer game was written in England and dubbed the Multi-User Dungeon, or MUD. All were written by committed *D&D* players and wore their influence on their sleeves.

The 1980s saw an explosion of computer games on the Apple II and other platforms as a commercial medium, and many of the top sellers were role-playing-based games such as Richard Garriot’s *Ultima*. In the 1990s, a new fast-paced type of shooter game, exemplified by the nightmarish worlds of id Software’s *Doom* and *Quake*, took off. But these too were created by dedicated *D&D* players John Carmack and John Romero. Indeed, *Quake* is named after a character in the developer’s long-running *D&D* game.

The biggest movement in the late 1990s, which continues today, was the massively multiplayer online game, where tens of thousands of players might simultaneously play in virtual worlds that exist whether or not an individual player is online. The most popular worlds have developed full-fledged economies, mythologies, and communities that are uniquely their own.

ARGs draw on all of these predecessors without being identical to any of them. Much of their organization has been drawn from video games — a puzzle is solved or a task is completed to progress to the next stage. Instead of points, players are rewarded with another segment of story or another puzzle to solve.

What is unique to the medium is the sense of community participation — the “collective detective” made up of anywhere from a few stalwarts to thousands of people collaborating to figure out what is happening. In a very real sense, the players, who are connected by Internet Relay Chats (IRC), Web-site bulletin boards, Short Message Service (SMS) messages, and midnight cell phone calls are themselves the medium of these games.

“The Internet basically is about searching for things and gossiping, and we invented a way to tell stories that are about searching for things and gossiping,” said Sean Stewart, the novelist who, along with director Elan Lee, created *I Love Bees* and its predecessor game, *The Beast*.

PLAYING WELL WITH OTHERS

For the hardest of the hardcore players — and do not be mistaken, these people can be anyone you know — solving the problems posed by these games nearly becomes an obsession. But it cannot be done alone — that is the point of the games.

Jason Barbacovi, a Seattle-based writer, was one of the early *Bees* players, who collectively dubbed themselves the “Beekeepers.” In early August of 2004, 220 numbers labeled as “axons” appeared on the “I Love Bees” Web site, and like other players, Jason instantly began trying to find meaning in the list. Within minutes, they had figured out that these were Global Positioning System (GPS) codes, and just a few minutes after that, Excel spreadsheets appeared online with locations plotted around the United States.

Meanwhile, a new countdown on the site had begun that simply said, “Axons go hot.”

Players — including Barbacovi, who found four locations near his home and work — began scouting the locations looking for clues as to what made those particular places special. After some fine-tuning by the puppet masters, gamers figured out that the GPS locations pointed to pay phones, a move that started one of the most interesting, and obsession-inducing, parts of the game.

When the axons went hot (dubbed “enhottenating” by players), the phones began ringing. At first, players simply had to respond to the phone calls with words of the day. The tense Beekeepers sometimes clashed with outsiders who were trying to use the phone for more ordinary purposes. Barbacovi remembers one moment when the word of the day was “Apocalypse.” “There was a guy loitering by the payphone with me, and when it rang, I grabbed it like I was waiting for a call (which I was) and mumbled what probably sounded like ‘Apocalypse’ into the receiver,” said Barbacovi. “He gave me a really funny look, and for a second I was worried he was going to go get a cop or something.”

Eventually, the “Axons Go Hot” game segment became a study in extraordinarily efficient decentralized communications. Once players found their way to the phones, they were asked to do increasingly more-difficult things. Initially, one person would show up at the phone, receive a call, and listen to a riddle (which was read by live actors). The players would have forty-five minutes to solve that riddle and have the answer ready, sometimes at another pay phone thousands of miles away, to unlock the successive elements of the story that moved the game forward.

As the game wore on, that time dropped to a seemingly near-impossible forty-five seconds. To do

that, players had to set up an intricate communication network with strangers.

The chain typically would be one person manning the pay phone and using a cell phone to contact another player sitting in front of a computer ready to transcribe the riddle. The riddle would then be sent to a chat room filled with other players. Once the message was sent down the line, it would need to be solved and sent back up the line to the computer operator, who would then give the original player the correct answer, which needed to be repeated to the actor on the other end of the phone.

The phone calls and riddles were deeply integrated into the complicated plot of time travel, conspiracy, and damaged artificial intelligences and could only be finished and solved through the players’ actions.

THE ORIGIN OF THE ARG

It was early in 2001 that these games were born. *I Love Bees* director Lee remembers sitting in the Microsoft office of another long-time game maker, Jordan Weisman, when the phone rang. “What if that was the game calling you?” Weisman said.

The two had been struggling to find a way to create a new kind of gaming experience, something that could immerse thousands of people in a collective scavenger hunt. They looked to the Michael Douglas movie, *The Game*, for inspiration and even back to the “Paul is Dead” theories, which led people to scour the Beatles’ albums for clues to the assumed conspiracy to hide Paul McCartney’s death.

They got their chance when Dreamworks Pictures called. The studio wanted a unique promotion to go along with Spielberg’s *A.I.* Weisman and Lee suggested an online mystery that filled in the movie’s back story, and they hired novelist Stewart to write the story.

The result was *The Beast*. It was comprised of hundreds of Web sites with thousands of pages, containing puzzles that required knowledge of everything from sixteenth-century lute tablature to microbiology. They hid clues in the most unlikely places, figuring that someone would stumble on them eventually.

“We were placing a bet that we could put an ad in newspaper in Uzbekistan, and some kid in Iowa will be analyzing it that afternoon,” Stewart said. “That’s what the Internet means.”

In every case, the players delivered. Indeed, the power of the “collective detective” caught the creators off-guard. They had started *The Beast* with what they expected to be three months’ worth of puzzles and story. The players solved it all in a day. What emerged was improvisational storytelling on

the run, with Stewart and Lee drawing elements from the players' discussions and theories and integrating them into the game, always just one small step ahead of the players themselves.

I Love Bees was their next venture after leaving Microsoft and starting a new company called 42 Entertainment dedicated to the work. Microsoft wanted a game based around the *Halo 2* world, and they were happy to deliver. Others tried similar projects, but with less success. Game giant Electronic Arts launched its own ARG in mid-2001 called *Majestic*, but because its plot revolved heavily around terrorist activity, it was canceled post-9/11.

STILL IN THE HORSELESS-CARRIAGE STAGE

It is an open question whether ARGs can develop into a long-lasting medium. Stewart and Lee are searching for a format that is not so heavily puzzle-based. Simply sending people through varying sets of obscure cryptographic-decoding exercises is not enough to sustain peoples' interest forever, they think.

The community of players itself is helping to expand and sustain the genre, however. In between Stewart and Lee's efforts have come a number of "grassroots" games, developed and played by the ARG players, as well as a handful of smaller games funded by corporations.

As with any amateur productions, these have been met with mixed reviews. But they are getting better. In early 2005, a new, well-funded effort called *Perplex City* launched, run by some of the original players in *The Beast* and funded by venture capitalists as well as other initially unknown business partners. The idea of the game was to be self-sustaining financially rather than serving as a marketing device, its authors said.

"If they succeed, we're going to be very happy for them. And completely envious," Stewart said.

To the players, the marketing aspect of the games has been largely moot, however — OOG, or "out of game," and thus to be evaluated separately. If a well-written story of a rogue artificial intelligence just happens to be associated with an Xbox game, well, so be it. Many of the players believe that they are not the ones being marketed to in the first place, that

the games are really designed to win publicity for the associated products, rather than to sell the products to the players.

"*Bees* was not just a typical marketing ploy; it was a game in and of itself, a very high-quality, fulfilling experience with excellent writing," Peters said. "I never got the feeling that I was just being manipulated into buying a product because they never mentioned the product. If they had mentioned it, it would have driven people away in droves."

That's not to say there is not crossover. Salt Lake City "Beekeeper" Matthew Freestone says that his *Halo 2* clan — a team that plays and practices together — was drawn in large part from people who met playing *I Love Bees*. He said that *Bees* appealed to a wider audience than did ordinary video games, but that the two games shared some attractions.

"*I Love Bees* seemed to attract people who weren't even gamers," Freestone said. But the community aspect of *Bees* did carry over to the *Halo* game. "It has been my experience that with team games it is far more important for people to work together than to be good players," he said.

For now, ARG progenitors Lee and Stewart are still digesting the lessons of their first two big games and watching the development of *Perplex City* and others. They see ARGs as being at a turning point, ready to break through to a larger audience and to evolve into a genuinely new blend of art and gaming. What ARGs will look like five years from now, they are not sure.

"I really believe that we are in the equivalent of the film industry of 1903," Stewart said. "We'll look back and see this as the horseless-carriage stage."

"We have no idea what the answers are," Lee added. "We're in a wonderful situation."

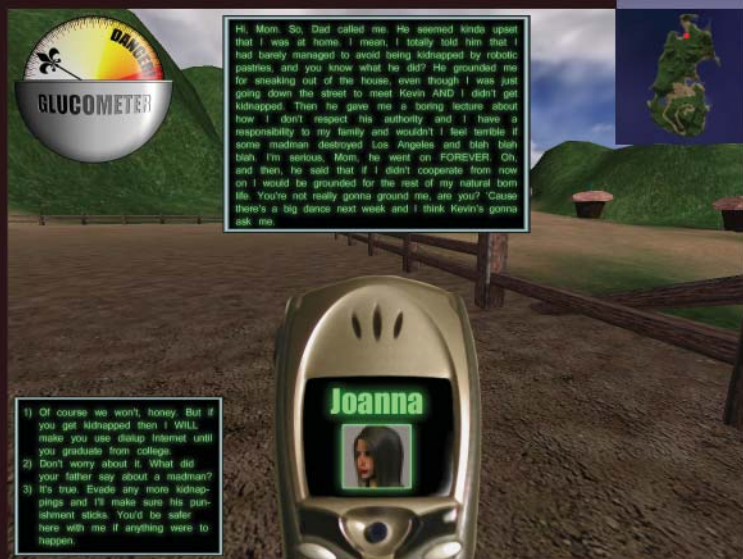


John Borland and Brad King are co-authors of *Dungeons and Dreamers: The Rise of Computer Gaming Culture from Geek to Chic*, published by McGraw Hill/Osborne Media. Borland is a senior writer at Cnet News.com; King is editor of MIT's *Technology Review* Web site.



Perfect Parent is a first person shooter conceived by Eric Hall and Faith Dang and developed by Z Sweedyk, Sean Bouchard, Faith Dang, Siobhan Shier, and Robin Schriebman.

PERFECT PARENT



Elizabeth Sweedyk and Marianne de Laet

WOMEN, GAMES, AND WOMEN'S GAMES

During the last twenty years, computer and video games have become a huge commercial market. But as the computer-game industry has grown, it has spawned a gender gap — a gap that shows up in the demographics of computer-game players and designers alike. Games are, for the most part, built by and for men. And when the industry *does* target girls and women, it usually fails miserably.

We should care about this, for it is often through games that boys and men become proficient with computer technology. The gender gap in computer-game play results in a gender gap in computer literacy (AAUW). Furthermore, computer games are a source of enormous pleasure for men; women are arguably missing out. Finally, computer games have become a powerful cultural force; as compelling, interactive, and immersive environments for story telling, they have the potential to reshape perspectives, norms, and values. If such a reshaping is taking place, women need to have a voice in this process.

So why is it that women do not play computer games? Can we — should we — build games for women? If so, what would these games be like? And would women play them? To explore these questions — and the assumptions and values that we bring to

them — we have developed a new course on gender and computer games that combines cultural criticism of games with game-building exercises. Our course mixes theory and practice — computer science and cultural analysis. With this course we aim to bring together men and women from a variety of disciplines and with different levels of expertise in the development of digital technology. We seek to provide budding game designers and builders with the tools of cultural criticism. Most importantly, we want to interest women in game-building — because we believe that their involvement will lead to better games.

WHY WOMEN DON'T PLAY COMPUTER GAMES

Common wisdom has it that women do not play computer games. Or do they? Actual numbers are much higher than one might guess: almost 40 percent of all computer/video-game players are female (The Electronic Software Association), and for online games the number is more than 50 percent (Taylor). If these statistics surprise you, think *Bejeweled*, think *Solitaire*, think online *Bridge*. These are the games that women play; these are the games that they play a lot.

But *Bejeweled*, *Solitaire*, and *Bridge* do not spring to mind when we think “computer game.” Our students — who are, after all, the experts on computer games — tell us that *Bejeweled*, *Solitaire*, and *Bridge* are not “real” computer games. Yes, these are games; yes, these games are played on computers — but real computer games they are not. What, then, makes a computer game “real”? Is it a matter of cost and revenue? Is it a matter of genre? Is it game play, or graphics, or technical complexity?

We know “real” games when we see them: *Grand Theft Auto*, *Halo*, *Half-Life*. These games offer rich, three-dimensional (3D) worlds, complex technology, and intricate game play. They are expensive and time-consuming. They are games that gamers play. But what matters is not so much what these games *are*, but what they *do*: these “real” games *make* gamers. They act as rites of passage into the gaming world. “Real” games are the material objects around which this gaming culture organizes; they are the objects by which the culture defines itself. These games embody the shifting and unarticulated aesthetic of the gaming community — and it is embracing this aesthetic that makes one a player in this community. But as the gaming culture defines “real” games it also defines what does not count as “real.” The misperception that women do not play computer games stems from the fact that the gaming culture does not consider the games that they *do* play as “real.”

BOYS' TOYS

Computer and video games have not always been toys for boys. In 1972, Magnavox marketed the first home console, the Odyssey, as a family-entertainment device. Early games such as *Pong* were gender neutral; they bear far less resemblance to present-day “real” games than they do to games such as *Bejeweled*. But the evolution of computer games went hand in hand with advancements in computer graphics. The power of computers to create fully interactive three-dimensional worlds was seized by technology developers to create worlds that realized their fantasies. These developers were men; their fantasies led to game formulas that are highly gendered.

Today, men spend more money on computer games than they do on music (*The Detroit News*). The huge growth in the sale of computer games has come about because of the boys who started playing games in the early 1980s and who never stopped. Boys are inducted into gaming culture at an early age and remain loyal members as they grow up. The industry recruits new game designers from their ranks. “A passion for games” is often explicit in job advertisements, and it goes without saying that the

advertisers are seeking a passion for “real” games. And so it is that gaming culture reproduces itself.

It is this culture that sets games apart from other types of technology and other types of media. Gaming culture is unquestionably a male domain. It is “male,” as in the opposite of “female.” We mean this in the sense that the culture dichotomizes gender to the extreme. Conventional “real” games imagine gender as two fixed and stable categories that stand in stark contrast to one another. As a consequence, it is hard to conceive of the relation of games and gender without resorting to stereotypes. “Real” games value “victory over justice, competition over collaboration, speed over flexibility, transcendence over empathy, control over communication, and force over facilitation” (Bruner, Bennett, and Honey). And with gender so dichotomized, men become the norm, while women default to being the “other” (Consalvo), the “ab-normal” (Tarvis).

It is not easy to be the *other*. Still, women do choose to venture into the world of gaming. The women in our class, for example, do play “real” games. They play these games in spite of the fact that most of their girlfriends do not, in spite of the scarcity of female avatars, in spite of hackneyed portrayals of women as objects to be rescued, in spite of the fact that they do not normally fantasize about going to battle in a chain-mail bikini. Women venture into the world of gaming in spite of the constant reminders of their *otherness*. They do so because they *love* playing games and, especially, because they love to play “real” games (Taylor). What is not clear is whether these women can be, or want to be, full citizens of the gaming culture — a culture in which they are configured as the *other* by definition, by exclusion, and by default.

GIRLS' GAMES

In 1996, Mattel released *Barbie Fashion Designer*, which sold more than a million units. By gaming culture's standards *Barbie* was not really a game and, most certainly, it was not a “real” game. Nevertheless, it had a profound effect on the industry. It suggested that, contrary to conventional wisdom, girls would play on computers. The games industry responded with a “pink” games movement, scrambling to turn out games that would appeal to girls. None of these games were able to reproduce the success of *Barbie*. Within a year or two the industry had backed off, deciding that “*Barbie* was a fluke,” and that girls would not play computer games after all (Graner Ray, 2004).

Barbie was indeed a fluke: the popularity of *Barbie Fashion Designer* reflects girls' interest in Barbie — not their interest in computer play. But to

conclude that girls — and by extrapolation women — will not play computer games would be too hasty. Rather, we should ask why girls did not want to play these *particular* games. It might be that these were just not very good games. In trying to build games that would appeal to girls, “pink” game designers construed girls’ games as the opposite of boys’ games (Glos & Goldin). Emphasizing justice over victory, collaboration over competition, flexibility over speed, empathy over transcendence, communication over control, and facilitation over force, these games may have lost some of their tension, their challenge, their edge.

Gender differences exist. As both the literature and incredulous parents report, there are — particularly at a young age — differences in play styles and game preferences between boys and girls. But differences do not necessarily translate into opposites. While most girls do not play American football, they do not necessarily want its reverse. They do play soccer — which is not opposite, but different. “Pink” game designers missed this point: they concocted a girly *antithesis* to boys’ games, rather than coming up with an *alternative* that girls wanted to play.

WHAT DO WOMEN WANT?

Who knows? There is no collective, shared aesthetic that captures “women’s desires.” But while there is no *everywoman*, research in the area of women and computer games all too often takes for granted that such a collective desire exists, again dichotomizing gender at the outset. Such research reinforces gender stereotypes rather than problematizing them.

Problematizing these stereotypes means to investigate whether the assumptions that we make about what women like and do not like are based on actual preferences, or whether these preferences are already informed and mediated by the stereotypes themselves. In other words, it means to understand gender dichotomization as an effect of — among other things — computer games, rather than taking them for granted as characterizations of women and men. It means to acknowledge that some women and not all men enjoy violent computer games or hyper-sexualized female characters. (As one of our students said in a class discussion: “I don’t mind if they are hyper-sexualized, but please don’t make them so stupid.”) And it means to realize, as Graner Ray observes, that “girls and women are a market, not a genre” (Graner Ray, 2005).

Problematizing gender opens the way for new kinds of games: games that offer the possibility of acting against stereotype, games that play with conventional stereotypes to make them ironic and “strange,” games that act as cultural critique.

ALTERNATIVE GAMES

To build these games, we need designers who can query gender stereotypes as they are building games. This is where a course such as our Gender and Computer Games comes in.

In their first game-building exercise in the course, teams of students experimented with gender connotations in games. They discovered that it is much easier to build in gender signifiers than to avoid them and that it requires thoughtful processing to eschew the suggestion of gender in characters and design. In another game-design exercise they were asked to take gender critique a step further and to design a game that plays with, and undermines, gender expectations.

This second exercise yielded interesting game variations. *Perfect Parent* is a first-person shooter in which the player, a James Bond-like character, is pulled out of retirement after twenty years to face an old arch-nemesis. The game is about balancing the battle against the arch-nemesis with cell-phone calls from the protagonist’s teenage children, who demand attention in increasingly intrusive ways.

Helpless Kittens is an on-line role-playing game in which players can choose their avatar from a list of stereotypes: for example, one can choose to be a feminist or a chauvinist. For each of these a series of roles signifies — and ironizes — increasing power.

Galen is a retelling of the story of Perseus and Medusa from the perspective of Perseus’s eleven-year-old sister, Galen. This tile-based adventure game, in the style of *King’s Quest*, casts Perseus as a bumbling fool whose mistakes must be rectified by Galen. Onlookers credit Perseus with the solutions — and so the game explains how the character of the hero gets made.



Agent 808 and text message from James. From *Perfect Parent* game by Faith Dang and Eric Hall, artwork by Faith Dang.

While these games are just a start, they point to new directions. Each of them represents a thoughtful examination of gender-related issues in games, an examination that required the participation of *both* women and men.

CONCLUSION

We may not know what women want, but we do know that there are richer and more diverse games to come. We know that these games will appeal to both women and men. We know that they will disrupt rather than solidify gender stereotypes. We also know that they will be imagined by creative and insightful designers much like our students — maybe even our students — and that many of them will be women.

Teaching our course in Gender and Computer Games has been a remarkable experience. Our students' passion for gaming, combined with their intelligence and creativity, has informed and reformed our views of what computer games can and will be. We thank them all.



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INFATUATIONS

follow your infatuations down the street
ring them up at the dead of night

shove your mind like the burst seed
of a dandelion into their hands

your mind that refuses to close
its eyes like wheels spinning spokes
speak the raucous language of
sharp rain

burns your mouth
with ecstatic tongues
drunken breath

doves with half open wings
do their sticky steps the scent
moist cobblestones trail through
open doors in the dark

CATHERINE NEUHARDT-MINOR

Catherine Neuhardt-Minor has work forthcoming in *POETRY: The Portable Workshop* by Jack Myers, *Chelsea*, and *Owen Wister Review*. Her work has won many conference prizes and has been published in *Peregrine*, *Bloomsbury Review*, *Folio*, and was a finalist for the Lullwater Prize, the *Lullwater Review*.

Mohan Rajagopalan and David I. Schwartz

Game Design and Game-Development Education



Not so long ago the idea of learning to create video games in college classes was outrageous. If you were a student then, thinking about following your passion for creating games, even if you managed not to be laughed at, ridiculed, or otherwise disparaged, you were unlikely to receive much guidance. Other than vague notions that you should probably learn how to program, no one really had much advice to offer.

Now, it takes only a quick look at the “Schools” section of Gamasutra.com to see that the situation has changed dramatically. Gamasutra, a popular site featuring game-industry news and articles on all aspects of game development, now lists more than three hundred schools that provide game-development courses. Academia now takes seriously what students have been demanding for years: instruction in the creation of video games.

And why shouldn't it be taken seriously? Games are a juggernaut of entertainment. Figures vary, but it is generally accepted that the North American interactive-entertainment industry is as big as, if not bigger than, the North American film industry. Games are now ubiquitous in popular culture. More than 40 percent of U.S. households own some kind of game system. Kids now spend more time playing games than watching television. Mobile phones feature full-color polyphonic games as a matter of course. The latest heated debate about the best game system rages over the various handhelds that you can throw into your backpack. Live orchestral concerts featuring exclusively video-game music play to packed houses. Video-game franchises regularly spawn books, comics, cartoons, action figures, board games, card games, and, for better or for worse, feature-length films. The addictive popularity of massively multiplayer online games is so well understood that such games are featured in the Sunday comics.

OBSTACLES TO GAME-DEVELOPMENT PROGRAMS

In short, games are big. And universities know it just as well as everyone else does. So, what is an institution of higher learning to do? Offer game-development courses, naturally. But it is not quite that simple.

Game development as a cohesive industry is extremely young and as an academic discipline certainly in its infancy. That means there are virtually no textbooks, no set curriculum, and no experienced teachers. Conventions of terminology and instruction have yet to be established. No benchmarks have been set for what students should know before or after taking a game-development course. The schools that do have such courses are generally forced to figure things out as they go.

And institutions themselves often demonstrate internal resistance. Although many schools have embraced game creation as a legitimate and worthwhile endeavor, it is still a hard sell for many academicians. Most professors did not grow up playing games, and many view them as a distraction from more worthwhile pursuits. Without sincere support from the faculty, emerging game-development efforts will be sunk before they ever set sail. Without question, games will have to battle the stigma of being

frivolous for some time to come. Meanwhile, proponents of game development in academia will have to campaign all the harder.

Perhaps the most profound obstacle to incorporating game development at the college level is one that is too often overlooked: game development is heavily and inextricably interdisciplinary. Game development is not programming. Nor is it 3D modeling and animation. It is not writing. It is not filmmaking. It is not artificial intelligence, game theory, human-computer interaction, interactive art, adaptive music, or any of the other diverse components of game creation. Game development encompasses a vast array of disciplines, making it very difficult to find the right place and way to offer game courses.

This dilemma should not be taken lightly. It is far too easy to place game development within the context of computer science without a second thought. Certainly it was once true that a game was developed almost entirely by a couple of programmers, but nowadays game-development teams can include upwards of fifty people, including designers, artists, producers, and others who have nothing to do with coding. Unless a school is lucky enough to have a department capable of encompassing all the aspects of development, game creation does not properly belong in any one field, other than its own. And generally, creating a new department proves at best impractical.

HOW DO YOU SET UP THE PROGRAM ?

One might argue that categorizing courses is, well, academic. Is it not the content of the courses that matters, rather than the particular departments involved? Even if you ignore the significant logistical problems with any effort that lacks a department, the categorization issue is, in truth, a content issue. With all the varied aspects of game development, what does one actually teach in a game-development course?

A direct approach would be to create many offerings, each covering a specific development topic in a specific discipline: Game Programming, 3D Modeling for Games, Game Design, Artificial Intelligence in Games, Game Animation, Network Programming for Games, Art Design in Games, Narrative in Games, Scoring Music for Games, and so on.

This approach has a couple of problems. The first is that such specific courses are valuable only if offered along with a vast array of similarly specific courses. Otherwise, the richness of development is not fully appreciated. But most schools just starting their game-development offerings are not in the position to offer so many new courses all at once. Even if

they were, it is still risky to launch any new endeavor at that scale.

The second and more important problem is that none of these individual courses provides a complete context in which to create a game. Programmers cannot develop games without artists, and vice versa. Even more so than in most disciplines, practical experiences are critical to game-development education, and insular courses simply cannot provide that.

Schools must offer a more encompassing game-development course — a practical course in which students of different disciplines can come together to create games. Other courses may provide some specialization, but at the core must be a unified course. Programmers, artists, designers, producers, musicians, writers, and everyone else should be joined in the same environment, working to make fully realized games.

Well, this approach is problematic as well. The most obvious problem is the feasibility of providing adequate instruction in so many different areas in the context of a single course. Even armed with a large, diverse, and well-coordinated teaching team, it still is not clear as to how to deliver the instruction. With such a varied audience, most topics would be unsuited for most students. Intricate animation techniques would be lost on programmers, just as sophisticated search algorithms would be lost on artists. One might conceive of an elaborate scheme, alternately unifying the students from different disciplines and separating them into sections based on a complicated, multi-threaded lecture schedule, but this scheme quickly becomes overwhelming and impractical.

THE CURRICULUM SOLUTIONS

The solution for how to provide such diverse instruction in a single course is, ironically, not to provide it at all.

Recruiters in the game industry will tell you that what they look for when they hire new college graduates is a solid education in a core discipline. They want their programmers to have knowledge that you can get only from a rigorous computer-science degree. They want their artists to have the traditional skills that you can get only from a comprehensive art program. They tend to be unimpressed with overly specialized game-development programs. In every case, they will tell you that there is no substitute for a serious degree program within a specific discipline.

Trying to teach programming for games, or modeling for games, or writing for games, or any other techniques specifically for games generally does the students a disservice. Certainly game developers do employ specialized techniques. But more than any

other industry, the game industry constantly and rapidly evolves. Standards, practices, and technologies change from one year to the next. Specific techniques learned in college probably will become obsolete by the time that students graduate. The only hope is to provide to students the solid theoretical foundations within their disciplines that will allow them to adapt with each paradigm shift.

Therefore, a good game-development course should not teach mastery within each discipline but rather should expect it from its students. It should rely on strong existing courses in those disciplines to prepare students to create games. In fact, expertise in each discipline is absolutely critical in an interdisciplinary team. The most difficult aspect of any interdisciplinary student project is effective communication between the students in different areas. The only way to express the capabilities and limits of your discipline's contribution to a project is to have a deep understanding of that discipline.

THE KEY TO A SUCCESSFUL COURSE

What then, if not specific instruction within each field, should a game-development course teach? It should not focus exclusively on a practical project, as that exacerbates the problems of obsolescence of techniques. Some amount of specific instruction is useful, but the course needs a cohesive lecture series of relevance to the whole class. There needs to be instruction that is not specialized to any one discipline but still aids students in applying their specialized skills.

The key is game design.

The job of game designer is without question the “sexiest” in the industry. When kids dream of making games, they dream of being able to take all of those game ideas in their heads and make them into real games that people can actually play. They dream of being designers. Designers get to come up with the ideas, have the most creative control, and get the most credit. It is definitely a great, sought-after job.

But most game developers are not designers. Design is difficult, demanding, and extremely competitive. And even among the select few who get to be designers, the truly great game designers — the ones who can innovate, the ones who understand the subtleties that make one game fun but another game routine — are extremely rare. It is not hard to list skills that a designer must have, but it is very unclear as to how to find, train, or hone those skills. No one really knows where great designers come from.

So why should a game-development course focus on the most difficult, least understood, and most select job in the industry? Because design is the soul

of game development. It drives, guides, and binds all other aspects of game making. All development tasks have the overarching goal of meeting the vision of the designer. Every development decision is motivated by design.

That the fundamental training of a designer is such a mystery is actually a blessing for academia. It means that, in some sense, every student is equally eligible for game-design instruction. All the students in a game-development course will have their own game ideas, their own dreams of making the perfect game. In the industry, very few developers have any design control. But in the context of a game course, with development teams much smaller than for the typical commercial game, every student can have the opportunity to contribute to the design. The design of the game can be a collaborative effort among students from each discipline — programmers, artists, writers, musicians — each experts in their disciplines, each having a say in the design.

This experience cannot be replicated in the industry. Development teams are too large for such collaboration, schedules and publishing deals too rigid for experimentation, and the financial risks too high for creativity. But this kind of experience is exactly what creates outstanding game developers. With a course that brings together students from different disciplines to make games and that also teaches design principles to everyone, all students learn the fundamentals of design and how design applies to their particular role. An understanding of game design is what allows good developers to adapt to the ever-changing industry. Technologies and techniques may change, but design principles will remain the unchanging core of development, the anchor around which developers can adapt.

The need for developers to adapt occurs even within the scope of a single project. Because it is virtually impossible to know if a game is fun without actually playing it, games are developed using an iterative process. A prototype will be designed, implemented, and then playtested. Using the feedback from playtesting, the developers will redesign the game and then implement and test it again. This cycle continues until the developers achieve the game that they want to make. Potentially, the game can change dramatically at each iteration. These changes create new and unexpected tasks for every developer at every phase. Without an understanding of design principles and the reasons for those changes, developers will be slow

to process those new tasks. If developers understand design well, designers can communicate the changes quickly and effectively, and the other developers can communicate with each other, filling in the inevitable gaps created by the rapid iterative process. Overall development time is dramatically reduced. Games are made both better and faster when everyone has a good sense of design.

An encompassing game-development course really should be an interdisciplinary game-design course. The course not only should teach design principles but also have practical game-development projects. By learning design, students will enhance their expertise within their own disciplines and be better able to communicate with team members in other disciplines. They will learn the skills to supplement traditional courses in their field; once in the industry, even as nondesigners, they will be able to adapt to the changing demands of the game industry.

Eventually, in the process of teaching game-design courses, both academia and the game industry are bound to start unraveling the mysteries of design. We will develop the terms, principles, and techniques that will allow the industry to push design frontiers and create new kinds of games. Schools will start producing great designers right out of college. We will start seeing greater variety and quality in games as publishers become more willing to take risks with this new wealth of talent.

We will figure out game design. And once we do — once designers have the tools to break new frontiers and all developers have the design sense to follow them there — games will be much better than we can imagine. Games are just getting started, and the best is yet to come.



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Visit our Web site at <http://gdiac.cis.cornell.edu>.



James Paul Gee

Good Video Games and Good Learning

I played my first video game four years ago when my six-year-old son, Sam, was playing *Pajama Sam: No Need to Hide When It's Dark Outside*. In *Pajama Sam*, child “superhero” Sam goes off to the “Land of Darkness” to find and capture “Darkness” in a lunch pail and thereby alleviate fear of the dark. Darkness turns out to be a big, lonely softie who just needs a playmate.

I wanted to play the game so that I could support my son’s problem-solving. Though *Pajama Sam* is not an “educational game,” it is replete with the types of problems that psychologists study when they study thinking and learning. When I saw how well the game held Sam’s attention, I wondered what sort of beast a more mature video game might be. I went to a store and arbitrarily picked a game, *The New Adventures of the Time Machine*. Then again, perhaps it was not so arbitrary, as I was undoubtedly reassured by the association with H. G. Wells and literature.

As I confronted the game, I was amazed. It was hard, long, and complex. I failed many times and had to engage in a virtual research project via the Internet to learn some of the things that I needed to know. All of my Baby-Boomer ways of learning and thinking did not work, and I felt myself using learning muscles that had not had this much of a workout since my graduate school days in theoretical linguistics.

As I struggled, I thought: Lots of young people pay lots of money to engage in an activity that is hard, long, and complex. As an educator, I realized that this was just the problem our schools face — how do you get someone to learn something long, hard, and complex, and yet still enjoy it? I became intrigued by the implications that good video games might have for learning in and out of schools. And, I also played many more great games such as *Half-Life*, *Deus Ex*, *Halo*, *Elder Scrolls III: Morrowind*, *Rise of Nations*, and *Legend of Zelda: The Wind Waker*.

Good video games incorporate good learning principles, principles supported by current research in cognitive science (Gee 2003, 2004). Why? If no one could learn these games, no one would buy them, and yet players will not accept easy, dumbed-down, or short games. At a deeper level, however, challenge and learning are a large part of what makes good video games motivating and entertaining. Humans actually enjoy learning, though sometimes in school you would not know it.

A QUESTION OF CONTENT

Before I talk about learning in games, I must deal with the “content” question. People are prone to say, in a dismissive way, “What you learn when you learn to play a video game is just how to play the game.” Ironically, we actually find here our first good learning principle. Some people think of learning in school — for example, learning biology — as all about learning “facts” that can be repeated on a written test. Decades of research, however, have shown that students taught under such a regime, though they may be able to pass tests, cannot actually apply their knowledge to solve problems or understand the conceptual lay of the land in the area that they are learning (see Gardner 1985).

A science such as biology is not a set of facts. In reality, it is a “game” that certain types of people “play.” These people engage in characteristic sorts of activities, use characteristic tools and language, and hold certain values; that is, they play by a certain set of “rules.” They *do* biology. Of course, they learn, use, and retain lots and lots of facts — even produce them — but the facts come from and with the doing.

Left out of the context of biology as activity, biological facts are trivia.

So, ironically, just as in part what you learn when you successfully play a good video game is how to play the game, so too, what you learn when you learn biology should be how to play that game. However, for both video games and biology, it is not a case of “anything goes” — this is not a permissive “progressivism” writ large. You must inhabit the identity that the game offers (be it Battle Mage or field biologist), and you have to discover what the rules are and how they can best be leveraged to accomplish goals. Perhaps the word “game” rankles — some use “simulation” instead. However, keep in mind that a game such as *Full Spectrum Warrior* is a game when I buy it off the rack, but it is a serious learning tool when a soldier “plays” the professional-training version.

LEARNING PRINCIPLES

So, let’s take a brief look at some of the learning principles that good games incorporate (Gee 2003, 2004, 2005).

1. Identity

No deep learning takes place unless learners make an extended commitment of self. Learning a new domain, whether it be physics or furniture-making, requires the learner to take on a new identity: to make a commitment to see and value work and the world in the ways in which good physicists or good furniture makers do. Good video games capture players through identity. Players either inherit a strongly formed and appealing character — for example, Solid Snake in *Metal Gear Solid* — or they get to build a character from the ground up, as in *Elder Scrolls III: Morrowind*. Either way, players become committed to the new virtual world in which they will live, learn, and act through their commitment to their new identity. Why should the identity of being a scientist and doing science be less appealing?

2. Interaction

Plato in the *Phaedrus* famously complained that books are passive; you cannot get them to talk back to you in a real dialogue the way that a person can face-to-face. Games do talk back. In fact, nothing happens until a player acts and makes decisions. Then the game reacts, giving the player feedback and new problems. In a good game, words and deeds are all placed in the context of an interactive relationship between the player and the world. So, too, in school, texts and textbooks need to be put in contexts of interaction where the world and other people talk back.

3. Production

Players are producers, not just consumers; they are “writers,” not just “readers.” Even at the simplest level, players co-design games by the actions that they take and the decisions that they make. An open-ended game such as *Elder Scrolls III: Morrowind* is, by the end, a different game for each player. In a massive multiplayer game such as *World of Warcraft*, thousands of people create different virtual careers through their own unique choices in a world that they share with many others. At a higher level, many games come with versions of the software with which they are made, and players can modify them. Such modifications range from building new skate parks in *Tony Hawk* or creating new scenarios in *Age of Mythology*, to building whole new games. Players help “write” the worlds in which they live — in school, they should help “write” the domain and the curriculum that they study.

4. Risk Taking

Good video games lower the consequences of failure; players can start from the last-saved game when they fail. Players are thereby encouraged to take risks, explore, and try new things. In fact, in a game, failure is a good thing. Facing a “boss” (that is, a new level of problems), the player uses initial failures as ways to find the boss’s pattern and to gain feedback about the progress being made. School too often allows much less space for risk, exploration, and failure.

5. Customization

Players can usually, in one way or another, customize a game to fit their learning and playing styles. Games often have different difficulty levels, and many good games allow players to solve problems in different ways. In a role-playing game, the distinctive attributes that players choose for their characters determine how the game will be played.

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Players can even try out new styles, thanks to the risk-taking principle above. Customized curricula in school should not just be about self-pacing, but about real intersections between the curriculum and the learner's interests, desires, and styles.

6. Agency

Thanks to all the preceding principles, players feel a real sense of agency and control and a real sense of ownership over what they are doing. Such ownership is rare in school.

7. Well-Ordered Problems

Research has shown that when learners are left free to roam in a complex problem space — as they sometimes are in permissive “hands-on” environments — they tend to hit on creative solutions to complex problems, but these solutions do not lead to good hypotheses about how to solve later, even easier problems (Elman 1991). In good video games, the problems players face are ordered so that the earlier ones are well built to lead players to form hypotheses that work well for later, harder problems. It matters how the problem space is organized — that is why games have “levels.” Equal attention needs to be paid to how to order problems in a rich immersive space in a science classroom, for example.

8. Challenge and Consolidation

Good games offer players a set of challenging problems and then let them solve these problems until their solutions are virtually automatic. Then the game throws a new class of problems at the players, requiring them to rethink their now taken-for-granted mastery, learn something new, and integrate this new learning with their old mastery. In turn, this new mastery is consolidated through repetition (with variation), only to be challenged again. This cycle has been called the “Cycle of Expertise” (Bereiter & Scardamalia 1993); it is the way anyone becomes an expert at anything worth being an expert in. In school, sometimes the poorer students do not get enough opportunity to consolidate, and the good students do not get enough real challenges to their school-based mastery.

9. “Just-in-Time” and “On Demand”

People are quite poor at dealing with lots of words out of context; that is why textbooks are so inefficient. Games almost always give verbal information either “just in time,” that is, right when players need and can use it; or “on demand,” that is, when the player feels a need for it, wants it, is ready for it, and can make good use of it. Information should work the same way in school.

10. Situated Meanings

People are poor at learning what words mean when all they get is a definition that spells out what it means in terms of other words. Recent research suggests that people know what words mean and learn new ones only when they can hook them to the sorts

of experiences they refer to — that is, to the sorts of actions, images, or dialogues that the words relate to (Barsalou 1999; Glenberg 1997). This gives the words situated meanings, not just verbal ones. And, indeed, words have different situated meanings in different contexts (consider “The coffee spilled, go get a mop” versus “The coffee spilled, go get a broom”). Games always situate the meanings of words in terms of the actions, images, and dialogues that they relate to, and show how they vary across different actions, images, and dialogues. They do not just offer words for words. School should not either.

11. Pleasantly Frustrating

Thanks to many of the principles above, good games stay within, but at the outer edge, of the player’s “regime of competence” (diSessa 2000). That is, they feel “doable,” but challenging. This state is highly motivating for learners. School is often too easy for some students and too hard for others, even in the same classroom.

12. System Thinking

Games encourage players to think about relationships, not isolated events, facts, and skills. In a game such as *Rise of Nations*, for instance, players need to think of how each action taken might affect their future actions and the actions of the other players playing against them as they all move their civilizations through the ages. In our complex global society, such system thinking is crucial for everyone.

13. Explore, Think Laterally, Rethink Goals

My schooling taught me, as it did many other Baby Boomers, that being smart is moving as fast and efficiently to your goal as possible. Games encourage a different attitude. They encourage players to explore thoroughly before moving on; to think laterally, not just linearly; and to use such exploration and lateral thinking to reconceive one’s goals from time to time. This process sounds just like what many a modern high-tech, global workplace wants (Gee, Hull, & Lankshear 1996).

14. Smart Tools and Distributed Knowledge

The virtual character or characters that one manipulates in a game — and many other aspects of the game world — are, in reality, “smart tools.” Characters have skills and knowledge of their own that they lend to the player. For example, in *Full Spectrum Warrior*, the soldiers whom the player controls know how to move to and to take various formations in battle. Thus, this information is something the player does not have to know. What the player must know is when and where to order each formation so that the soldiers can move safely from cover to cover. The knowledge that it takes to play the

game is distributed among the player and the soldiers. In a massive multiplayer game, players work in teams where each member contributes his or her distinctive skills. The core knowledge needed to play the game is now distributed among a set of real people and their smart virtual characters. Smart tools and distributed knowledge are key to modern workplaces, though not always to modern schools.

15. Cross-Functional Teams

When players play a massive multiplayer game such as *World of Warcraft*, they often play in teams (parties) in which each player has a different set of skills (say a Mage, a Warrior, or a Druid). Players must each master their own specialty (function), because, for example, a Mage plays quite differently from a Warrior, but they also must understand enough of each other's specializations to integrate and coordinate with the others (cross-functional understanding). Furthermore, in such teams, people are affiliated by their commitment to a common endeavor, not primarily by their race, class, ethnicity, or gender. These latter are available as resources for the whole group if and when they are needed and if and when the player wishes to use them. Again, such forms of affiliation are commonly demanded in modern workplaces, though not always in modern schools (Gee 2004).

16. Performance before Competence

Good video games operate by a principle just the reverse of most schools: performance before competence (Cazden 1981). Players can perform before they are competent, supported by the design of the game, the “smart tools” that the game offers, and often, too, the support of other, more advanced players (in multiplayer games, in chat rooms, or standing there in the living room). Language acquisition itself works this way. However, schools frequently do not. They often demand that students gain competence through reading texts before they can perform in the domain that they are learning.


So the question that I leave you with is not about the use of games in school — though using them is a good idea — but this: How can we make learning in and out of school, with or without using games, more game-like in the sense of using the sorts of learning principles that young people see in good games every day, when and if they are playing these games reflectively and strategically? Figuring out how to achieve this goal is a worthwhile endeavor.



For a more extended discussion of games and learning see “Video Games and the Future of Learning” by David Shaffer, Kurt Squire, Richard Halverson, and James Paul Gee at <http://www.academiccolab.org/initiatives/gapps.html>.

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Seth Schiesel

On Maneuvers With the Army's Game Squad

Camp Guernsey, Wyoming

The seven-vehicle United States Army convoy set out from grid coordinate EG223785 just after 1:30 p.m. on Feb. 8, bound for an improvised landing zone a few miles southwest. Intelligence reports indicated that enemy forces equipped with small arms, rocket-propelled grenades, and mortars were active in the area.

The convoy's hulking five-ton trucks bore nervous civilians in need of evacuation. As the convoy bounced along snow-dusted trails and high plains, Clayton Montgomery, a wiry twenty-four-year-old known to his colleagues as Monkey, swiveled from side to side. "Anyone spot any Opfor?" he said, using shorthand for opposition forces as he scanned the looming ridges.

"I have the feeling they'll see us first," said another passenger, Randy Brown.

He was right. At 2:25 p.m., as the convoy pushed slowly through a wooded ravine, the air erupted with automatic-weapons fire. Green smoke wafted through the truck's open sides. Through the haze, the camouflaged ambush team could be seen behind boulders and brush as the convoy's machine-gunners returned fire.

The fight was over in a minute, and the convoy rushed toward the landing area. Soon two Black Hawk helicopters were swooping through canyons, carrying the evacuees to safety.

There were no casualties. That was probably because the ambushers and the convoy guards were shooting blanks. But the guns were real. The helicopters and the trucks were real. The subzero wind chill was real.

Rather than evacuating a crew of aid workers, the Army detachment was shepherding a few dozen programmers, designers, and marketers who have been working on one of the Army's latest recruiting tools: a computer game called, simply enough, *America's Army*. Rather than the mountain passes of Afghanistan, the convoy was traversing the equally rugged terrain at this remote Army base one-hundred miles north of Cheyenne, which is sometimes used to train Special Forces units.

America's Army lets users play soldier online, band together with other Internet warriors, and battle enemies in detailed ten-minute scenarios that the Army says are more realistic than any other game. It is available free for downloading at americasarmy.com. (A retail version for console systems will be released in the summer.)

Since its introduction on July 4, 2002, *America's Army* has registered about 4.7 million users, and on a typical day more than 30,000 people log on to the game's official servers, in addition to the thousands who play in unofficial leagues. That makes it one of cyberspace's more popular combat games. Since the game's release, the Army's civilian developers have released updates on the Web every few months. Now, the Army is beginning to use the game's technology to help train its own people.

The Army regularly sends soldiers to advise the project's civilian designers, who are Pentagon contractors. But when it comes to making the game realistic, nothing compares to sending programmers to the Army. So twice a year the Army sends the designers to play war games for a few days in what it calls Green Up events.

"The whole idea is for the designers to get a feel of what it's like to be with soldiers, what they do for

a living, what it sounds like, what it feels like, even what it smells like," said Col. Casey Wardynski, who dreamed up *America's Army* as the director of the Army's Office of Economic and Manpower Analysis at West Point. "You can't put a lot of that into the game, but the experience helps make the game more realistic."

The Army has no detailed figures on the game's success in encouraging young men and women to enlist, but a 2003 survey indicated that the game, which costs the Pentagon about \$6 million a year, is more effective at delivering the Army's messages to young people than the hundreds of millions of dollars a year the Army spends on advertising, Colonel Wardynski said.

Just about every Army recruiting station stocks copies of the game, and some recruiters are organizing *America's Army* tournaments. The game's latest update, to be released online shortly, is called *Firefight*. The focus of the update is adding administrative tools to streamline online tournament play.

The way the Army sees it, the game's appeal is rooted in its realism. And the Green Up events are an important way of instilling it. As James Cowgill, a designer of the project, said as he braced for another potentially tongue-severing pothole in the back of the truck: "It's the new Wyoming dude ranch. You go on a convoy and get ambushed."

THE SOLDIER'S LIFE

Strapped into a bucket seat and wearing earplugs to protect him from the Krakatoan roar, Erich A. Blattner, thirty-four, the game's quality-assurance director, could not make himself heard as the Black Hawk helicopter lifted off from a landing zone.

But it was easy to read his lips and the teeth that showed through his broad smile.

"You can't buy this!" he shouted into the din.

It isn't often you can elicit expressions of pure wonder (tainted by hints of queasiness) from a dozen adults packed in close quarters. Racing them barely fifty feet above the spectacularly coarse Wyoming landscape in a military helicopter at more than one-hundred miles an hour is a good way to do it.

A couple of the developers indicated that they were attracted to the job largely because the Army probably wouldn't go out of business any time soon (as small game companies do all the time). But for many of the programmers, artists, and designers, working on *America's Army* seemed a way to indulge their yen for things military without the boot camp.

As they took apart assault rifles, shot with simulated and real weapons, peered through night-vision goggles and rode on military vehicles, it seemed that at least some of the developers were feeding an underindulged part of themselves.

"This whole experience kind of makes me wish I had joined," Mr. Blattner said between rifle training sessions. "Essentially I'm very much a cynic, and in my job being cynical comes in handy because as a Q.A. manager I have to question everything. But the people I see in the military genuinely believe and feel that they are doing the work of good." His age and physical condition would be barriers to enlistment now, he said, and besides, "I'm not good at following orders."

Mr. Montgomery, aka Monkey, a 3-D level designer, often appeared more military than the soldiers. Walking out of the mess hall about 7:15 a.m. swathed in camouflage and a black balaclava and face mask, and draped with numerous pouches and straps, he looked ready to infiltrate enemy lines.

Maj. Randy Zeegers, a Special Forces commander who has been the main liaison between the project and the operational Army (he is scheduled to return to Afghanistan at the end of the month), called Mr. Montgomery the Ninja.

"These guys are passionate about their work, and you can see that in how seriously they take it," Major Zeegers said. "It's their way of contributing to the war effort."

Rea M. K. Giner-Sorolla, forty-two, a quality-assurance manager and the only woman on the game development team, had a different perspective.

"I never considered joining the military," she said in the back of a five-ton truck on the way to observing an airdrop from a C-130 cargo plane. "For me, this is a look into a different way of life, and I think this is where I differ from some of the boys on the team. I've enjoyed firing the weapons, but I'm more interested in seeing how these Army men relate to one another, how they behave and work together."

Aside from the atmospheric and surrogate soldiering, the developers came away with a lot of concrete information. Toward the end of the summer they hope to release a module called *Special Forces: Overmatch*, which will allow gameplay as a member of the Green Berets. Many of the vehicles they rode and weapons they fired will appear in the game.

The elements they took from the mountains were more subtle. One developer said he wanted to add a jostling video effect when the players were in the back of a truck. After spending a few minutes under the targets at a 100-meter firing range, another developer said he would change the "whizzing" sound

effect when a bullet passed by to a more realistic “crack” that emulates the miniature sonic boom that a military round really creates.

“The players may not notice each thing, but this trip will find its expression in the game’s overall realism,” said Michael J. Aubuchon, known as Ace and the game’s twenty-nine-year-old associate producer.

But even realism has its bounds. For all of the olive drab trappings, there was no pretense in Wyoming that the game experts were actually experiencing combat conditions. The designers (and accompanying journalists) had to get up early, but at least they had beds. The weather was cold, but a morning session planned for the obstacle course was canceled because of icy conditions.

Likewise, while the equipment and uniforms in the game are designed with maximum realism in mind, the same approach does not apply to other aspects of the military experience, such as death and injury. In contrast to other popular computer games, in *America’s Army* limbs are never blown off. Instead, wounds are marked by a puff of red smoke. Maimed foes never writhe or scream in agony.

“We have a Teen rating that allows thirteen-year-olds to play, and in order to maintain that rating we have to adhere to certain standards,” said Chris Chambers, a retired Army major who is now the project’s deputy director. “We don’t use blood and gore and violence to entertain. That’s not the purpose of our game. But there is a death animation, there is a consequence to pulling the trigger, and we’re not sugarcoating that aspect in any way.

“We want to reach young people to show them what the Army does, and we’re obviously proud of that. We can’t reach them if we are over the top with violence and other aspects of war that might not be appropriate. It’s a choice we made to be able to reach the audience we want.”

THE WORK IS IN THE DETAILS

The search for that audience begins on the bluffs of the Monterey Peninsula in California, where the *America’s Army* development team is based. Except for its location in a former military hospital protected by guards, the office may resemble that of any other game company. The shades are usually drawn, so as to block out any possible glimpses of the Pacific Ocean and so the designers can better view the gargantuan computer monitors before them.

The week before the Wyoming event, Major Zeegers and Sgt. First Class Doug Davidson, another Special Forces soldier, spent a few days reviewing the game team’s latest efforts. When they weren’t encased

in motion capture suits to record the latest urban assault techniques, they reviewed the game’s latest mission assignment documents to ensure that they conformed with Army argot. When they were not recording video clips that will be used to explain various Special Forces roles to the game’s players, they were engaging in arcane exchanges with the developers about the latest Army hardware.

“In the next-generation version of the game we’re going to have the new 249,” Mr. Aubuchon said to Sergeant Davidson, referring to a type of machine gun. “And it will have the new Picatinny Rail on top, but do you know if that uses the ACOG?”

ACOG is the Advanced Combat Optical Gunsight, but it is apparently not best suited for the 249.

“Well, the ACOG is used mostly on the M4, not on the 249,” Sergeant Davidson replied. “On the 249 you would normally use an M145,” another kind of gun sight.

In a few minutes, the sergeant moved on to comparing an informal Army training video on demolition techniques, set to Jimi Hendrix’s “Voodoo Chile” and AC/DC’s “Back in Black,” with the explosives-charging animations in a recent version of the game. “Ah, so it’s more of a pulling motion than a twisting motion, is that right?” Mr. Aubuchon asked the sergeant.

The emphasis on technical minutiae is all part of what Mr. Chambers called the game’s mandate to “strategically communicate the Army’s values to the American public.”

In the game, if players try to run off on their own rather than work with their team, they will almost surely lose. If players consistently kill civilians or their own teammates, they end up in Leavenworth.

“We don’t expect that a young person is going to play the game and run out and join the Army,” Mr. Chambers said. “That was never the point. We want the game to help us form a more long-term connection with the young person.”

From *The New York Times* on the Web. ©The New York Times Company. Reprinted with permission.

I Am a Teacher

Terry Palardy

Our school principal was approaching retirement, and his model of service leadership was a tall order to fill. Nearly forty applicants responded to the job posting, sending résumés, transcripts, and glowing letters of recommendation within their packets. It is inspiring to read through those pages and see what leaders are doing in education. The committee of parents, teachers, and administrators interviewed eight top candidates, chosen by a reading committee. I participated in reading résumés (I am very good at weeding through paper) but elected not to sit and interview: I learned long ago that every candidate comes to the table wanting to please, and my style as a teacher is to respond positively and receptively to someone who is trying to please me. This approach works very well in my classroom with my students but serves only to muddy the waters in interviews. You see, I would want to hire them all, sure that we could make room for everyone, growing with them and adding something to their lives. You can imagine the difficulty that could cause at the table.

I did smile when I was asked why I had not applied for the position; it echoed the question someone had asked me three years ago when I had not applied for the assistant superintendent's position. The reasoning behind the question was that "You've taught so many subjects, at so many levels, in different settings — you would have the credibility that our faculty demands of the person in charge of the K-12 curriculum." I answered quickly, without much depth; I said simply that my family commitments precluded the increased time and responsibility that an administrative position would demand.

I missed an opportunity then — not the opportunity to apply for the administrative position, but the chance to explain why I intend to stay in the classroom. In truth, my family has normalized the amount of time that I spend at home on school work; my husband and son often pitch in and help when I am swamped with the record-keeping pieces of responding to a hundred young writers. My choice to stay in teaching is not really a question of time. It is a question of who I am — a teacher.

Although many new administrators claim to be "lead teachers," most administrators are truly encumbered by the offices that they hold. The buzzword in the résumé packets is "stakeholders" — the many-faceted population that consumes an administrator's time and attention. Their days and evenings are spent

in committees of power-seeking constituents; their efforts are spent researching and complying with grant requirements and budget strategies, government mandates and reporting forms; their energies are expended in cyclical conflicts and compromises. They work very hard, with great personal determination and commitment, to provide the best possible learning environment for students. Despite their best efforts to connect with those students, though, the few minutes that they might have for such personal interactions inevitably limit the lasting impressions that they can make on young, individual minds.

Teaching, in comparison, is full immersion — with teammates who share high standards and faith in the students; with a wide variety of excited, enthusiastic students and their daily activities and emotions; with leaders who share ideas and thoughts; with theories and practices and successes and mistakes and resolutions — all of which have profound implications in young lives and in our future.

I love my job. I did not find a teaching position until I was in my thirties, and I have struggled through many learning curves and cyclical changes within this career. But I know that what I do, I do well, with honesty and with heart, old-fashioned as that might sound. And the wonderful thing is, I do it in a building that I truly love, a place where I am the norm, surrounded by colleagues who do the same. Mother Teresa is quoted as having said: "We can do no great thing, only small things, with great love." Every day, every hour, I have a chance to do small things, one at a time, with and for so many.

One of the greatest compliments I have ever been given came to me recently. We were leaving the teachers' lunch room, having talked about retirements and position shifts in the building. Someone asked me whether I would stay with the English curriculum advisor/teacher position, or move back to math. We were interrupted at that point by another teacher who had stopped a few of our students for running in the hall. I asked the boys why they thought running might not be okay in the corridors and, being eleven-year-olds, they answered in unison, "We'll get in trouble." I said, "Exactly right — at least, that's the right answer for an eleven-year-old. Rules are important; people who break rules have consequences. But wait, aren't you having a birthday next week? You're almost twelve? I can tell you, then, because you're ready for it — or can you guess what the twelve-year-old answer is?" The boy smiled, and said that yes,

he thought he knew: that someone else could be hurt if he ran into them, and even if someone didn't get hurt, it just wasn't a safe place to run, even if he didn't get caught. His buddy, not yet near twelve, looked at him with a serious expression and asked me if he were right. I asked him in return if he thought his friend could be right, and he said yes. I told him that he was probably ready, then, too, to think like a twelve-year-old. The boys walked on to class, and the teacher who had been asking me which subject was my passion said, "Never mind — I can see that you don't need a content area to define you — you just teach, wherever, whatever."

Our assistant principal has worked for many years as a co-leader in this building and has gained a familiarity with the community and an understanding of the goals and vision and mission of this school. Before appointing him as our new principal, our superintendent reviewed the search committee's findings and met with the finalists. She then held table discussions for faculty, parents, and students to ensure that our chosen candidate was the right leader. She asked the tough, probing questions: Are we recommending him because his longevity invites loyalty? Are we afraid of change? The answers provided her with a steady review of the innovation that he has supported, of the extension of our enrichment programs that he has enabled, of the collaboration that he facilitates, and of the thoughtful, respectful guidance that he has provided in his seventeen years in our school. With his continued leadership, this school will continue to be the safe, successful center for learning that our leaders have nurtured. And as for me — well, my family is my first commitment — and each year, this school is more a part of my family than ever before. I care deeply about the leadership of our school; I am happy that he is a person who cares just as deeply. He is one whom I can respect, and trust, and follow, a person who will respect and trust me to do what I love to do, what I strive to do well: I teach.

Terry Palardy is a middle school teacher in Massachusetts and also is a former "Forum on Education and Academics" columnist.

THE LADYLIKE COUGH

This is the ladylike cough, discreet
in the hand or the lace hankie.

This is the cough that hates to interrupt —
it tiptoes out of the hall to wait in the lobby;
it swallows itself.

This isn't the editorial cough that poses
a wordless critique complete with the look —
you know that look,

nor coughs from my baby sister's room
where I made it my job to be certain
she breathed.

This isn't my geriatric dog gagging.

This isn't the raggedy man waiting outside
the Thriftway for change and coughing
inside the rain.

If the man and his smell step into this poem,
I'll hand him two quarters and try not to hold
my breath.

I'd like to think I'd give him this whole wedge
of sharp white cheddar and my beautiful loaf
of nine-grain bread.

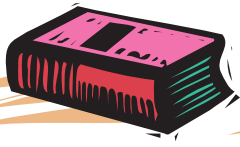
I'd like to believe I'm telling you the truth

just like I'd like to believe I can't be stuck
coughing in jail or an alley or deep
in the yellow mud of a refugee camp.

Some of us are born with lace hankies.
Some of us only think so.

PENELOPE SCAMBLY SCHOTT

Penelope Scambly Schott is the author of *The Perfect Mother* and two book-length narrative poems, *Penelope: The Story of the Half-Scalped Woman*, about an early New Jersey settler, and most recently, *The Pest Maiden: A Story of Lobotomy*. She now lives in Portland, Oregon.



Book Review

Glenn P. Marcel. *Chasing Elvis. Arlington, VA: The Invisible College Press, LLC, 2004. 261 pages. \$14.95.*

Chasing Elvis is a funny, clever book by Glenn Marcel, who happens to be the husband of Kathy Marcel, Chapter Liaison director in Phi Kappa Phi's headquarters at Louisiana State University. This is Marcel's second published novel. From the opening pages, *Chasing Elvis* is a comic romp with a couple of mysteries thrown in to boot; it is a delightful book that is worth a look.

A warning: Early printings of this novel have some serious editing flaws that for an English major like me are hard to ignore. All too frequently, a truly egregious error appears that grates on the nerves — for example, “shuttered” when the author means “shuddered,” “waived” when he means “waved,” and so on. Such errors appear much too frequently in a book that is otherwise well-written and tightly plotted, and the publisher of the book did the author a profound disservice by not having had a good copy editor proofread the manuscript at least once before it went to press. As I understand it, subsequent printings of the book will eliminate most such errors. Nevertheless, you fellow grammar-sticklers out there, be prepared for a few discordant notes if you end up with one of the earlier printings.

The book opens in 1982, five years after Elvis Presley's untimely demise, with a comical scene as a supposed Elvis impersonator and would-be bank robber bungles his way through a robbery, yet pulls it off despite his own incompetence. A Memphis police officer, Adam Vaughn, on leave to pursue his own obsession with finding out if Elvis is truly dead, begins following up leads related to the robbery and is killed in a freak car accident; he leaves behind his five-year-old daughter. The next chapter flashes forward to 1999, where we meet two drugged-out and promiscuous California high school girls, products of largely absentee, wealthy parents working in the entertainment industry; the girls discuss the sorts of things one would imagine drugged-out, promiscuous high school girls discuss. This apparently incongruous chapter is the beginning of a second, separate plotline that Marcel alternates with the main plot, the two of which become inextricably intertwined as the book dashes to its climax.

Flash forward a few more years, to the “present day.” Melissa “Mel” Vaughn, the five-year-old left an orphan after her father's accident, is now grown and a reporter for *Weird Magazine*, a supermarket tabloid that specializes in alien abductions, Bigfoot sightings, and “Elvis is Alive” stories. Through a series of sometimes unfortunate, and always amusing, events (including a hilarious hunt for Bigfoot in the northwest), Mel also ends up on the trail of Elvis. Attending an annual Elvis festival for *Weird* in Moscow, Tennessee



(which happens to take place by the very spot where her father died twenty-two years before), Mel is drawn into the case that he was then pursuing. In the meantime, another series of events eventually points Lannie Drees, one of the now slightly older California girls (leading an aimless life of shopping and boredom), toward Tennessee, too. In the space of just a few days, loves are kindled, secrets are revealed, and Elvis “sing-alike” contests are won as the two plot lines collide and resolve to a couple of surprising endings.

While I do not want to try to make *Chasing Elvis* out to be the great American novel, it does have some interesting motifs. The most interesting of these is one of missing fathers. Mel Vaughn's father left her an orphan as a result of his Elvis fixation (Mel's mother died when she was born, the result of still another Elvis-related situation, and the cause of Adam Vaughn's quest). Obediah Felton, the mayor of Moscow, Tennessee, and Mel's eventual lover, also is without a father. Lannie Drees likewise has never known her father, and her mother's death sets Lannie on the trail of a mysterious songwriter that ultimately leads her to Mel and Obediah. In another way, this novel also is about redemption and peace, as several characters find direction and purpose as the plot unfolds. And it all revolves around the death of that somewhat dubious American icon, Elvis Presley.

Above all, this is a hilarious book. From the bungled robbery, to the wild Bigfoot chase in the American northwest, to the oddballs and hangers-on who have made their livings in life by signing autographs and telling their stories at Elvis festivals such as the one in Moscow (even if their connection to the King is peripheral at best), *Chasing Elvis* offers characters and situations that amuse and intrigue.

So go pick this book up, and have some fun with it. It is available only in paperback, and it can be found online at Amazon.com if you cannot find it at your local book store. Rumor has it that some of these same characters will be appearing in a sequel (okay, no rumor — Glenn Marcel has told me he is working on one). I for one am looking forward to getting reacquainted with them.



Pat Kaetz is the editor of *Phi Kappa Phi Forum*.



Letters to the Editor

FORUM ON EDUCATION & ACADEMICS

Thoughts after reading “2005: The Year of Languages” by Jennifer Stolpa [“The Human Brain,” Winter/Spring 2005]: Perhaps some day a second language will be taught in our elementary schools and beyond. Little ones learn so easily.

It would be nice to read in the original language, go to a theater or movie and not have to read the subtitles, understand a foreign newscast or a speech, read a foreign newspaper. How much more enjoyable is a visit to another country if you can speak the language?

Considering the size and depth of our educational institutions, we should be awash in linguistics, but obviously this is not the case. How many of our ambassadors and diplomats to foreign countries speak the language of the country to which they are assigned?

Henry V. Neumayer, Sr.
Louisville, Kentucky

ICARUS IN FLEETWOOD

It lay there in the roadbed surrounded by boys, all mumbling reverentially, heads hung low as if they had just driven their cruisers back into childhood to come face-to-face with its most elemental taboo.

I was sure what it meant — it was a summons, served in the infinity of a glimpse, cheek flush up on the cold road, burst umbilicus meandering underneath in a ribbony scribble down the macadam. The purity of its bearing made its sleep seem purer than the cops’ stuporous huddle or my own puny stab at what may or may not have happened.

Looking up, I saw that he’d flung himself, really flung himself in enormous effort out and upwards toward a receding sun in spite of what his father may have said, in spite of what his mother may have thought, in pure, full faith.

I have seen the dead in homes with velour chairs, in hospitals, in nursing homes, propped up in parlors, in my own house, and I know what that’s like. He, though, was the deadest, a quick end to a brief flight by a man heading nowhere but down.

FRED YANNANTUONO

Fred Yannantuono was born in Yonkers, New York. He studied Latin and Greek in high school and literature and psychology in college. He has work appearing or forthcoming in numerous publications including *Borderlands: Texas Poetry Review*, *Brooklyn Review*, *CQ: California Quarterly*, *The Chrysalis Reader*, *Eureka Literary Magazine*, *Flyway*, and *Georgetown Voice*.

PAPER_WALUIGI’s Short Video Game Glossary:

Console: a home video-game system. Examples: the Nintendo GameCube, the XBOX, and so on.

Fanboy: one who blindly promotes a single video game company or console. Example: Me.

Katamari do Mashi [Damacy]: a PS2 exclusive with a really odd concept. Translated it means “Clump of Souls.”

Nintendo: a Japanese video game company that has been around since 1889. They produced the first popular home video game system.

RPG: Acronym for Role-Playing Game, where the player assumes the role of a character. *Dungeons and Dragons* is an example of a non-video game RPG.

MMORPG: Acronym for Massively Multiplayer Online

Role-Playing Game. Examples: *World of Warcraft*, *Everquest II*.

Mario: the famous Nintendo guy. Example: what?! You need an example?!

Shigeru Miyamoto: If there was such a title as “Ultimate Lord of Video Game Creating,” it would belong to him. He created many well-known Nintendo characters and series such as Mario, *The Legend of Zelda*, and so on.

Video Game: those newfangled doohickeys that young whippersnappers warp their minds with. It’s been mentioned in this issue a few times. Examples: *The Legend of Zelda* series, the Mario games, *Halo*, *Katamari do Mashi*, and on and on.

TRYING TO SEPARATE RUMORS FROM SACRED SECRETS

You must follow the footsteps of Eve past the natural
history of distractions, into all the extraordinary

circumstances that make up the sounds of history.
You will meet those who believe they bring thunder

by dancing and making music on wooden flutes,
oracles who claim you have sins they can dissolve

through incantations and the blessing of bread, seers
and clairvoyants who will tell you details of your past

life on Atlantis or who to marry, for pennies on the dollar.
You will meet a plethora of folks who believe they were

put on earth to tell others how to live. Look deeply into
their lives. Forgive them and move on. You must learn

from the language of the cells, old age and the dreams
of insects. Listen to the voice within. It knows

the meaning of everything, the big picture, what was
written in your bones long before you were born,

the original prayer that took you from the gates of the first
dream to the land where you had to learn to make the devil

dance alone, speak in your own voice, let the body take
ascendance, and learn the hard way about how people fall in love.

FREDRICK ZYDEK

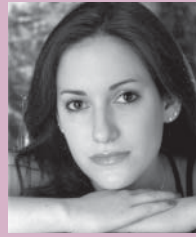
Fredrick Zydek has published five collections of poetry. Holmes House Publications recently released his collection titled *Dreaming on the Other Side of Time*, and *T'Kopechuk: The Buckley Poems* is forthcoming from Winthrop Press. His poetry also has appeared in *The Antioch Review*, *Cimmaron Review*, *The Hollins Critic*, *Nimrod*, *Poetry*, *Praire Schooner*, *Poetry Northwest*, *Yankee*, and others.



Zeeshan Ahmed
University of
Southern California



Katie Bruno
University of Texas-
Austin



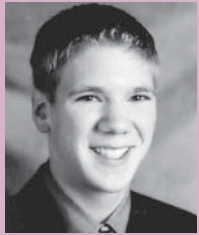
Emily Elarde
University of Illinois-
Urbana-Champaign



Nandita Gatla
University of Illinois
at Chicago



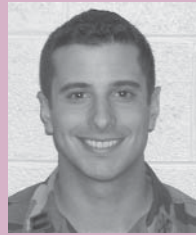
Nicole Gugliucci
Lycoming College



Thomas Baker
Indiana University of
Pennsylvania



Kristen Carey
Villanova University



Joseph Faiella
United States Military
Academy



Sravanya Gavini
University of Alabama-
Birmingham



Mohamad Halawi
University of Houston-
University Park



Nicholas Ballor
Michigan Tech
University



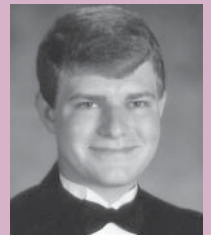
Deanna Cettomai
The Ohio State
University



Joseph Finckel
Plattsburgh State
University



Neil Gibson
California State
University-Fresno



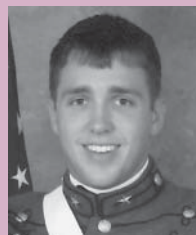
Steven Heffner
Appalachian State
University



Allison Bigelow
University of Maryland



Miraj Desai
Miami University



Raymond Foltz
The Citadel



Anthony Gregory
Purdue University



Jessica Heier
Kansas State University



Elaine Brown
Northern Arizona
University



Delyan Dimitrov
Shippensburg
University



Samuel Ford
Western Kentucky
University



Andrea Grimes
Northeastern
University



Jan Hrabovsky
North Georgia College
& State University

2005 Graduate Fellowship Recipients



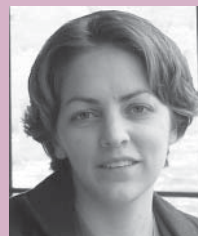
Aja Johnson
Elon University



Rachel Lim
Samford University



Sze-Ling Ng
Michigan State
University



Vanessa Russo
University of Tulsa



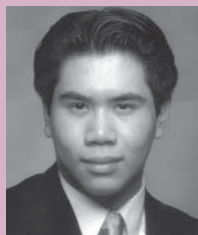
Trevor Thompson
United States
Naval Academy



Ezekiel Kimball
University of Southern
Maine



Brandon Litzner
Wichita State
University



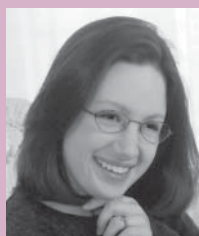
David Nguyen
California State
University-Los Angeles



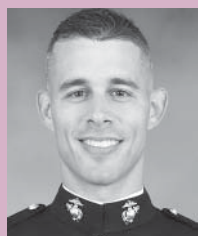
Katherine Sparks
Montana State
University



Allison Thorp
West Virginia
Wesleyan College



Rachael Langston
Texas Tech University



Michael Lorence
Virginia Military
Institute



Jennifer Ogg
University of
Tennessee-Martin



Lauren Stewart
University of Kansas



Robert Todd
North Carolina State
University



Lindsey LaBoon
University of Florida



Irene Ma
University of New
Mexico



Mark Oshida
Brigham Young
University



Sterling Swallow
Brigham Young
University-Hawaii



Katherine Uyhazi
The College of
New Jersey



Marlana Li
University of Utah



Rushda Majeed
Eastern Kentucky
University



Erin Rooney
Wesleyan College



Skeetora Taylor
University of Arkansas-
Little Rock



Patrick Valentino
Montclair State
University

2005 Graduate
Fellowship Recipients

continued



THE HONOR SOCIETY OF
PHI KAPPA PHI



Jana Vandegrift
Berea College



Timothy Weisman
University of Evansville



Kathleen Agres
Carnegie-Mellon
University



Travis Cotton
Texas A&M University



Rachel Giannini
California State
University-Fullerton



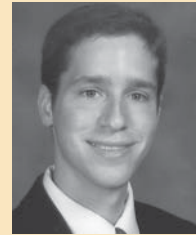
Curtis Voss
North Dakota State
University



Ashley White
Virginia Polytech Institute
& State University



Alison Antes
Indiana State
University



Jason Curry
Clemson University



Jennifer Gibson
Ball State University



Peter Vu
East Tennessee State
University



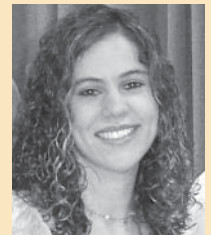
Carol White
University of
Tennessee-Knoxville



Angelica Balsamo
Millikin University



Jennifer Davidson
Youngstown State
University



Ashley Glade
Iowa State University



Rex Watkins
Utah State University



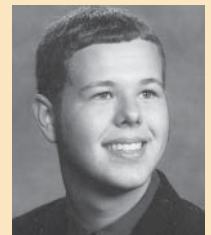
Jordan Williams
South Dakota State
University



Kevin Bauerle
Louisiana State
University



Heather Edverson
Coe College



Ryan Gordon
Western Illinois
University



Brett Weed
East Carolina
University



Brandon Yuan
Oregon State
University



Jonathan Beever
University of Maine

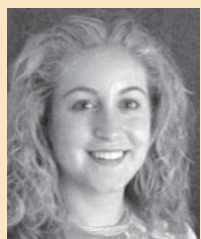


Maureen Foley
University of North
Florida



Drew Hall
University of Nevada-
Las Vegas

2005 Award of Excellence Recipients



Denise Harbaugh
Millersville University



Candice Luebbing
Truman State
University



Roscoe Mutz
Washburn University



Shea Robison
Boise State University



Amelia Swanson
University of
Wisconsin-Madison



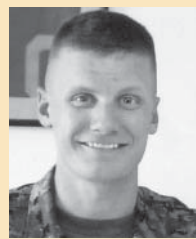
Sarah Hashemi
University of Puget
Sound



Elizabeth McCune
Central Washington
University



Keiko Odashiro
Eastern Oregon
University



Brian Ross
University of Alaska-
Anchorage



Jennifer Vandever
Ohio Northern
University



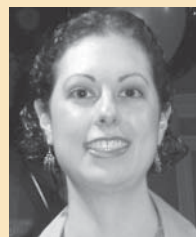
Heather Kaiser
Wright State
University



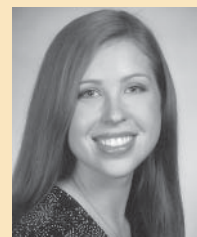
Sarah Mathis
University of North
Texas



Erin Oneida
University of
California-Davis



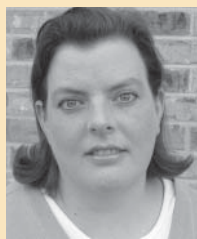
Erin Schultz
Florida State University



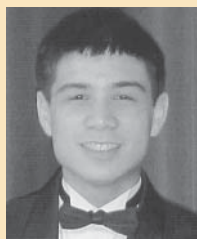
Lauren Ware
University of Delaware



Alethea Kimmel-Guy
Ohio University



Julianna Morrison
University of
Wisconsin-Milwaukee



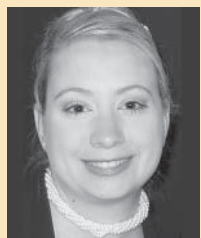
Mark Portolese
Illinois Wesleyan
University



Takara Shourot
James Madison
University



Amy Winkler
Southern Illinois
University-Edwardsville



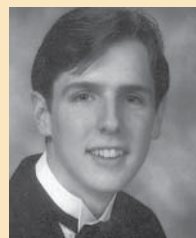
Stefanie Lockwood
University of
Massachusetts



Daniel Mosel
Nebraska Wesleyan
University



Joseph Reidy
Kennesaw State
University



Eric Shows
Mississippi State
University



Klif Wommack
University of North
Carolina-Charlotte



Partners for Progress

Nancy E. Harris
Elon University

Provides Andrews Elementary School with additional leveled-guided reading sets and student volunteers from Elon.

Legacy for Literacy

Mary Waibel-Duncan
Bloomsburg University of Pennsylvania

Creates a children’s library at a local shelter for children who have been exposed to domestic violence and/or sexual assault.

Adult Literacy Tutor-Training and Tutoring Program

Peter Meyers
North Carolina A&T State University

Will plan, promote, and participate in training community volunteers to serve as tutors to adult learners in the community.

Camping for Literacy and Communication

Andrea Bilello
University of Maine-Orono

Will use two summer-camp settings to address the needs of two different special populations — hearing, visually impaired or multihandicapped children.

Seeds For Success

Eric S. Rhind
United States Military Academy

In cooperation with Big Brothers/Big Sisters, serves the community through a school-based mentoring program in which cadets spend one to two hours a week at a local middle school engaged in one-on-one mentoring of under-privileged children.

Born to Read

Misty R. Clifton
Southeast Missouri State University

Will purchase Little Golden Books to be distributed to parents of newborns to encourage them to read to their babies.

Achieving Together

Rachelle E. Toomey
Troy University

Designed to work with the Troy Housing Authority in meeting the educational and social needs of children ages five to sixteen who are living in public housing by enhancing the library facilities of the after-school program, purchasing/installing educational software for the children to use, and providing student volunteers to act as mentors and tutors.

Baby TALK

Cynthia N. Fletcher
Iowa State University

Supports a partnership with pediatricians by targeting the six-month well-child check-ups for infants and children as a “teachable moment” for literacy.

Stillwater Hispanic English-Language Initiative

Aaron T. Christenson
Oklahoma State University

Services provided by SHELl include English placement testing, instruction, academic advisement, community orientation, and child care among recent immigrants and migrants from Mexico and other parts of Latin America.

Cultural Literacy for English-Language Learners

David W. Worley
Indiana State University

Designed to bring Indiana State University Phi Kappa Phi members’ love of learning to adult students in the Vigo County Public Library’s English as a Second Language program by providing facilitated programming with related free books that focus on cultural, financial, and family-literacy skills.

2005 Literacy Grants Recipients

CAPCR – Oak Park Cares Literacy Arts Scholars

Mary E. Anderson

California State University — Sacramento.

Brings CSUS faculty and students into the public schools and grassroots community organizations as mentor-tutors to increase literacy among youth in a low-income, crime-congested Sacramento neighborhood.

Learn and Serve the Community with Phi Kappa Phi

Patricia Kalivoda

University of Georgia

Computer-literacy program for Latino students and adults to provide valuable computer-literacy training, conducted by UGA and Phi Kappa Phi members.

A Town and Gown Living History

Diane G. Smathers

Clemson University

Phi Kappa Phi undergraduates tape and summarize interviews with retired Clemson University faculty and retired Clemson-area business and community leaders to showcase the growth, development, and interface of a university and a community through written and oral presentation.

Youngstown State University English Festival

Sandra W. Stephan

Youngstown State University

Promotes literacy among junior high and high school students by having them attend the English Festival on the YSU campus in April, where they will participate in a variety of competitions, workshops, and presentations and have the opportunity to meet, listen to, and talk with authors of some of the Festival books.

Mayor Reads Initiative

Danna M. Gibson

Columbus State University

Phi Kappa Phi chapter volunteers read to at-risk children and engage them in interaction (coloring pictures, activity sheets, question/answer, role play) about the story that they have just read.

Tennessee State University/ARP Literacy Project

Maximiano Rivera

Tennessee State University

Purchases books that will be read to children by student volunteers in the Honors Program and then given to the children to take home as their own.

The Booked Literacy Program

Amber T. Thom

University of Utah

Grant will purchase educational materials used by community-volunteer tutors who work one-on-one with prisoners.

Write On! Creative-Writing Initiative

Richard J. Holden

University of Wisconsin-Madison

Program pairs Phi Kappa Phi members with third- through fifth-grade students at a Madison elementary school to participate in creative writing and other literacy-related activities.

Phi Kappa Phi Literacy Kits for Even-Start Families

Odena I. Harper

Indiana State University

Even Start provides children from six weeks to seven years-old the opportunity to participate in an early-childhood educational program, while their parents attend classes to prepare for their GED or to obtain their high school diploma. The Literacy Grant will provide books and materials for literacy kits to be given to families during bimonthly home visits.

2005 Study Abroad Recipients



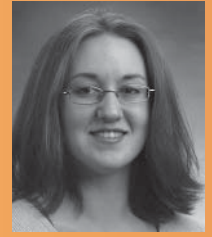
Andrus Ashoo
University of Mississippi
Amman, Jordan



Andrea Boh
University of
Wisconsin-Eau Claire
Scotland



Andrew Coughlin
North Carolina State University
Lima and Cuzco, Peru



Amber Flynn
Indiana University of
Pennsylvania
Beth Shean Valley, Israel



Rachel Baer
Coe College
Grenoble, France



Katie Bumgardner
Indiana State University
Segovia, Spain



Michelle Culbertson
East Carolina University
Argentina



Michelle Foard
Truman State University
Greece & Italy



Jill Bannink
Grand Valley State University
Jamaica



Rachael Bush
Indiana State University
New Zealand



Christopher Deal
Iowa State University
Madrid, Spain



Steven Fortune
Indiana State University
Chambéry, France



Kelly Bastow-Cox
East Carolina University
England



Meredith Camp
University of Georgia
Cadiz, Spain



Nicole Faschingbauer
University of
Wisconsin-Eau Claire
Dalkieth, Scotland



Tammy Hauck
Kennesaw State University
Grenoble, France



Melanie Charrier
Southeastern Louisiana University
Rome, Italy, Greece, and Turkey



Elizabeth Fielder
University of Nebraska
at Kearney
Seville, Spain

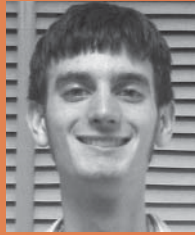


Steven Hawley
Lycoming College
Cuenca, Ecuador

2005 Study Abroad Recipients



Edward Hsu
University of Illinois
at Urbana Champaign
Versailles, France



Joshua Mastenbrook
Michigan State University
Panama



Lindsay Rosenquist
Wesleyan College
Berlin, Germany



Breckyn Westbrook
University of Georgia
Cortana, Italy



Rebecca James
Western Kentucky University
Chile and Argentina



Jessica Morgan
Southwest Missouri
State University
Preston, England



Katherine Spencer
North Georgia College
and State University
London, England



Danielle Winter
Arcadia University
Granada, Spain



Holly Kennin
University of
Wisconsin-Eau Claire
Scotland



Ashley Nelson
California State
University-Chico
Florence, Italy



Adrienne Stolwyk
Kansas State University
Queretaro, Mexico



Andrea Ziffer
Coe College
Landau, Germany



Lucas Loureiro
Columbus State University
Oxford, England



Krystal Plomatos
Florida State University
Valentia, Spain



Hannah Swecker
West Virginia University
Paderno del Grappa, Italy



Megha Makam
University of Illinois
at Urbana-Champaign
Heredia, Costa Rica



Danielle Richardson
Kansas State University
Jacunda, Brazil



Jenna Tajchman
Kansas State University
Prague



PHI KAPPA PHI

2005–2006

Promotion of Excellence Grants

State of North Carolina Undergraduate Research Symposium

Dr. George T. Barthalmus
North Carolina State University

A statewide annual undergraduate-research symposium for fifty-three state and private universities in North Carolina is planned for four hundred participants across all disciplines.

University of Southern California Spring Recital Series

Dr. Valerie Stern
University of Southern California

A recital series designed to provide USC music students with performance opportunities, as well as to bring free classical-music concerts to the public.

Elmhurst College Honors Program Retreat & Cultural Experience

Dr. Mary Mulvaney
Elmhurst College

An overnight retreat for first-year Honors Program members and a program-sponsored campus-wide cultural experience will enhance the existing curricular components of the Elmhurst College Honors Program.

The Creatively Engaged College Campus — Wright State University Honors Institute

Dr. Susan Carrafiello
Wright State University

Establishes a creatively engaged campus as a model for learning that links scholarly and civic engagement through an interdisciplinary approach to classroom learning, a scholarly conference, and a community project.

Interdisciplinary Learning Experience for Students & Faculty

Dr. Veronica Watson & Dr. Yaw Asamoah
Indiana University of Pennsylvania

The College of Humanities and Social Sciences will provide an interdisciplinary student symposium and offer development workshops to train and support faculty in interdisciplinary, collaborative teaching methods.

Strategies to Promote Excellence in Alabama College Students

Dr. Janis Beaird
University of West Alabama

A student conference will provide a forum in which students from Alabama's colleges and universities can share their current research and gain information about graduate school, including opportunities in Phi Kappa Phi.

New Member Benefit!

Phi Kappa Phi invites you to post your résumé online at www.phikappaphi.org. The résumé database is available to active members through the secure server portion of the Web site. All you will need to get started is your member number and password. Member résumés will be made available at no charge to employers seeking top-quality candidates for available positions. Employers will be able to search for potential candidates in several ways, including field of study, experience, and region.

Make a career connection today!

www.phikappaphi.org/career.shtml

New Phi Kappa Phi E-zine now Available

**The first issue of the Phi Kappa Phi
E-zine has been posted at
www.phikappaphi.org/ezine.shtml.**

**It features articles on traveling
abroad, the job search, and fitness,
as well as member profiles, the Phi
Kappa Phi Bookshelf, and links of
interest to all members.**

Check it out today!

Announcing Phi Kappa Phi's Premier Webinar

Become a "Friendly Pest": Networking Tips for Students and Young Professionals

Tuesday, August 2, 2005

1:00–1:45 p.m. Central Time



Presented by Laura Pennino,
Founder and CEO
of Pennino and Partners

Get a crash course in professional networking from expert business development and business communications consultant, Laura Pennino. Strong networking skills can give you an edge and set you apart from an ever-growing field of qualified job seekers. Laura Pennino has coached thousands of students and young professionals on how to land coveted entry-level positions and successfully advance in their careers.

Register now to participate in Phi Kappa Phi's premier Webinar. This opportunity is **FREE** to active (annual dues paid) Phi Kappa Phi members. Registration is limited to the first fifty participants. To learn more and to reserve your "seat," visit www.phikappaphi.org/webinar.shtml.

Note: Laura Pennino also will have an article on networking in the second issue of the Phi Kappa Phi E-zine, out in October.



Webinars

- It's easy to participate — all you will need is a phone and computer with internet connection.
- It's convenient — participate from your computer at work or at home in your pajamas and fuzzy slippers.
- This is an opportunity for you to "connect" with other Phi Kappa Phi members nationwide on a topic of common interest.
- **FREE** access for active members to experts who normally charge a high-priced consulting fee.

Show your pride of affiliation with

THE HONOR  SOCIETY OF

PHI KAPPA PHI

ORDER BY PHONE 1.800.804.9880, ext. 10

HOURS: M-F, 8:00 a.m. - 4:30 p.m. Central Time

ORDER ONLINE www.phikappaphi.org

APPAREL

A. T-SHIRT

Offered in white and navy, this 100% cotton Hanes T features an embroidered Society name and Greek letters. Available in unisex sizes S-8X. For sizes 2X and 3X, add \$3. For larger sizes please call for pricing. (1 lb.)

(White) Item #APP10 . . . \$17

(Navy) Item #APP11 . . . \$17



SWEATSHIRTS

Two styles available, both in unisex sizes S-1X.

B. Grey crewneck sweatshirt made of 43% cotton/57% polyester features distinctive navy and white appliqué logo. (1 lb.)

Item #APP31 . . . \$42



C. White crewneck sweatshirt made of 50% cotton/50% polyester with embroidered Society name and logo. (1 lb.)

Item #APP30 . . . \$34



D. LONG-SLEEVE T-SHIRT

100% heavyweight cotton T-shirt is pigment dyed and features the Society name and Greek letters in deep navy blue and gold embroidery. Reinforced seams and collar help shirt retain its shape wash after wash. Available in unisex sizes S-XL. (1 lb.)

Item #APP12 . . . \$22

E. FLEECE JACKET

Navy jacket has a full length zipper with hood featuring the ΦΚΦ embroidered logo. (2 lbs.)

Item #APP70 . . . \$49



F. FLEECE PULLOVER

Pullover zips from chest to chin featuring the ΦΚΦ embroidered logo. (2 lbs.)

Item #APP71 . . . \$46

G. BUTTON-DOWN COLLAR TWILL SHIRT

Made of 100% ringspun combed cotton twill with detailed embroidery work, this long-sleeve shirt offers both style and comfort. Perfect for both office and weekend attire. Available in white and navy, and in men's and women's sizes S-XL. (2 lbs)

(White) Item #APP60 . . . \$29.00

(Navy) Item #APP61 . . . \$29.00

Now Only \$19.50

H. PINPOINT OXFORD SHIRT

Sure to be an office standard! This white, long-sleeve pinpoint weave shirt features an embroidered Phi Kappa Phi logo and is available in men's sizes: S (14 1/2 x 32/33), M (15 1/2 x 32/33), L (16 1/2 x 34/35), XL (17 1/2 x 34/35) and women's sizes: 4 - 20. (2 lbs)

(White) Item #APP40 . . . \$27.00

(Blue) Item #APP41 . . . \$27.00

Now Only \$19.50

I. BASEBALL CAP

Made of durable, wheat-colored canvas and embroidered with the ΦΚΦ logo, this baseball cap makes an ideal present for any ΦΚΦ member. (.5 lb.)

Item #ACC11 . . . \$15



ACCESSORIES

PEN SETS

K. Blue marbled pen and letter opener in attractive case is an ideal gift for the new initiate. (.5 lb.)

Item #ACC70 . . . \$20



L. Handsomely engraved black pen, pencil, and letter opener set is sure to become a ΦΚΦ keepsake. (.5 lb.)

Item #ACC71 . . . \$25

M. CANVAS SADDLEBAG

Made of durable canvas and embroidered with the ΦΚΦ logo, this zippered saddlebag makes an ideal carry-on item for those ΦΚΦ travelers. Includes separate storage areas for pens, disks, calculators, or business cards; as well as two additional outside pockets, carrying handle and shoulder strap. Now available in two colors! (1.3 lbs.)

(Blue) Item #ACC12 . . . \$24

(Black) Item #ACC13 . . . \$24



N. COFFEE MUG

Navy blue and white 12 oz. ceramic coffee mug is perfect for everyday use. (1 lb.)

Item #ACC20 . . . \$7



Q. LICENSE PLATE FRAME

Die cast metal license plate holder features a chrome frame and the ΦΚΦ Greek letter monogram on a blue background. 12"x6". (2 lbs.)

Item #ACC21 . . . \$15



R. BRONZE PLATED PAPERWEIGHT

Handsome and functional, the Phi Kappa Phi hand-crafted paperweight features an antique gold finish and is embellished with the Society seal. Backed with velvet. 3" diameter. (1 lb.)

Item #ACC22 . . . \$10

GREEK LETTER CHARMS

Vertical Greek letter charms are crafted in sterling silver and 10K gold. (1 lb.)

S. Sterling Silver Charm — Item #JE24 . . . \$16

T. 10K Gold Charm — Item #JE25 . . . \$32

