

The Classroom

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Teaching the Future Ethical Leader

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Life at Tech is busy and it is so easy to get lost in our “departmental trees” and lose sight of the “institutional forest.” However, every now and then, I like to look over the Institute strategic plan just to check in and see how we are doing. For those of you who haven’t done this in a while, here is our mission statement:

“Georgia Tech will define the technological research university of the 21st century and educate the leaders of a technologically driven world.”

There is a line that follows later in the strategic plan later that states: “...we expect that all members of our community will conduct themselves with the highest ethical principles.” Since we are expecting the Georgia Tech community to be a community of ethical individuals, I am going to ask you to presume that our mission includes the intention that the leaders of the technologically driven world whom we create will be ethical leaders.

For the next few minutes, I invite you to concentrate on this part of our mission and to ponder with me what it means for one of our graduates to become an ethical leader of a technologically driven world.

A leader... this person must have a vision and be able to rally those around her to follow this vision, she must have the ability to plan the attack on this vision, and to enlist the very best trained supporters to implement it. Not only must the leader be well qualified in most aspects of this implementation, but also she must set the tone, the atmosphere for success, and know how to motivate the very best from everyone. How that atmosphere is created, what motivations are used, and how an organization’s psyche is fed will determine the nature and future path

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of that organization – will it shine when put under a spotlight, or will fatal flaws in the communal ethos be exposed?

How does this all change when the world in which this leader operates is technologically driven? Surely, the necessary content areas of expertise are more quantitative – since this leader must also lead the technology. But what else changes? How do the organizations within this technologically driven world differ from those in a low-tech world? How are the pressures and issues different, how do the motivations and atmosphere change?

I am not going to pose any answers to these questions, but I do think that collectively, the people on this campus should be thinking about them. It is my premise that it is one of the roles of this institution to teach both the content and the process of being an ethical professional. In this issue of the newsletter, we begin to address the question of how the teaching and learning environment can assist in this goal.

There are two major angles along which one can approach the issue of teaching ethics. One is the content in the context of a subject area. What knowledge must an engineer possess to make ethical decisions and to lead other engineers ethically? How about a scientist? A manager? In an interview with Professor Charles Mulford of the DuPree College of Management, this issue is addressed in accounting. With the recent accounting scandals at Enron and

WorldCom, we thought it would be interesting to hear about how a Tech accounting professor addresses the topic of ethics in this profession in his courses.

The other angle is through process. In the heyday of total quality management, the popular phrase was “Walk the Walk.” So we set out to look at do we “walk the walk?” That is, are we using pedagogical methods in our classes that encourage an ethical education? Are we teaching by doing – do we behave ethically towards our students? How does this all change when the education we deliver is itself technologically driven? In his article, Professor Andrew Ward of the School of Public Policy looks at some of the philosophical issues related to computer enhanced education. In the current frenzy to offer more and more of our content on-line, we are interested in what potential compromises this introduces to the education that we provide.

You will note that we have stayed away from the issues of academic honesty and the honor code and the related question of how we ensure an ethical community of learners. These are charged topics that we feared would detract from our real concern – how do we educate the ethical leaders of tomorrow. Yes, they are related – it is much more difficult to take academically dishonest students and turn them into ethical professionals...but our roles differ in the two questions, and we wish to focus on the ethical graduate right now. Perhaps we can help to lead a discussion on the other topic in the future.

So, please sit a while and read a while, and continue to ponder with me – are we making progress towards our mission? How will we measure our success? What else can all of us be doing to fulfill this role of our institution? ✍

In the CETL Library

A Book Review

by David J. Shook, Ph.D
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The Practice of Instruction and Ethics

Fundamentals of Ethics for Scientists and Engineers

Seebauer, Edmund G. and Robert L. Barry

New York: Oxford University Press. 2001.

ISBN 0-19-513488-5

Information: www.oup-usa.org

Available in the CETL library.

Seebauer is Professor of Chemical Engineering at the University of Illinois (Urbana-Champaign) and Barry is an ethicist, developing programs for the U.S. Air Force and at UIUC. In their opinion, “many scientists and engineers remain inadequately prepared to contribute to moral debates in a useful way, even in their own disciplines” (p. xiii). Therefore, this text is the authors’ attempt to give scientists and engineers the tools needed to identify and discuss modern ethical issues in their particular camps.

The text itself consists of 16 chapters organized into four units of four chapters each. Unit One, “Foundational Principles,” lays the groundwork for the reader to begin analyzing and discussing ethical issues. Especially important in this unit is the discussion of the four main virtues (prudence, temperance, fortitude, and justice), which the authors prescribe as the basis for making good moral decisions.

Unit Two, “Resolving Ethical Conflicts,” treats the complexity of ethics and how moral responsibility enters into ethical discussions. In this unit, principles and methods for approaching ethical cases are described, and Seebauer and Barry emphasize the necessity of examining the intentions of our actions in order to preserve us from ethical failures.

The application of the virtue of justice is the unifying theme of Unit Three. In these four chapters, the authors discuss truth and fairness as they relate to person-to-person and social interactions. Unit Three demonstrates the similarities and differences in the way that scientists and engineers talk and behave, and then discusses how those groups should approach their talk and behaviors ethically, both in personal interactions and within the context of working and living within their societies and their natural world.

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Q & A:

An Interview With Dr. Charles W. Mulford

Invesco Chair and
Professor of Accounting
DuPree College of Management

Charles W. Mulford is Invesco Chair and professor of accounting in the DuPree College of Management at Georgia Tech. Since joining the faculty in 1983, he has been recognized ten times as the Core Professor of the Year and twice as the Professor of the Year by the Graduate Students in Business Administration. In 1999 the graduate students voted to rename the Core Professor of the Year Award the “Charles W. Mulford Core Professor of the Year Award”. An additional teaching award received in 2000 was the university-wide W. Roane Beard Class of 1940 Outstanding Teacher Award.

Dr. Mulford’s scholarly pursuits include the publication of numerous papers in scholarly as well as professional accounting and finance journals. His research interests center on the effects of accounting standards on investment and credit decision-

making, earnings forecasts, the relationship between accounting-based and market-based measures of risk and international accounting and reporting practices. More recently, his research interests have turned to the use of published financial reports in the prediction of financial distress. He has co-authored three books, Financial Warnings, published in 1996, Guide to Financial Reporting and Analysis, published in 2000, and The Financial Numbers Game: Identifying Creative Accounting Practices, published in 2002. In 2002, Dr. Mulford founded the DuPree College’s Financial Reporting and Analysis Lab, which is dedicated to conducting unbiased stock market research.

Professor Mulford has a doctorate in accounting from the Florida State University and is professionally qualified as a Certified Public Accountant (CPA) in Florida and Georgia. Prior to joining the Georgia Tech faculty, he practiced public accounting with the firm of Coopers & Lybrand. He was an audit senior in the firm’s Miami office.

Q: What is your definition of ethical behavior within the context of management in the world of business?

Dr. Mulford: Ethics are a set of standards against which to judge right from wrong. In management, ethical behavior acknowledges and does not unduly infringe upon the interests of all stakeholders.

For example, the interests of a purchaser of shares of stock have been infringed upon when a transaction is recorded in a manner that is inconsistent with its underlying economic fundamentals, resulting in an improperly higher price.

Q: Given all the high-profile cases of accounting fraud lately, have you changed the content of the courses you teach? How about the ways you teach?

Dr. Mulford: In our MBA program, we added a course titled Financial Warnings. I will be teaching it starting in Fall, 2003. Financial Warnings teaches our students to use corporate financial reports to identify

much of the course's content is directed toward providing students with the skills they need to uncover such actions.

Since moving to a semester system, the course material for Financial Warnings has been included as a half-semester subset of another course, Financial Reporting and Analysis of Technology Firms. It fit there because, for many reasons - their high growth, their high earnings expectations, the newness of their industries, etc. - accounting misdeeds have been common at technology firms.

However, given the high-profile nature of accounting problems of late and the explosion of examples and the range of steps taken to effect such misdeeds, it seemed appropriate to raise the profile of the Warnings course. Accordingly, a decision was made to begin offering Financial Warnings as a stand-alone, full-semester course.

The content of Financial Warnings will change from previous offerings by the inclusion of many more examples and methods of misreporting. The approach used to teach the class, a combination of a case-based and lecture format, has proven to be successful and will not be altered.

Q: Many of the recent corporate scandals were perpetrated by executives with M.B.A.'s. Are you concerned that business schools hold some of the blame for these scandals by having failed to emphasize ethics in the educational process?

Dr. Mulford: Research has shown that financial fraud occurs when three factors are present - conducive conditions, motivation, and attitude. Take away

“ We should not forget that even though the number of financial frauds that took place during the late 1990's seemed high, such actions took place in a very limited number of firms . . . It is not as though business managers all collectively lost their ethical direction at one time.”

the warning signs of possible future earnings declines. The idea is to help them avoid negative earnings surprises that often accompany or precede a decline in the value of a corporation's debt or equity securities. Ethical lapses that lead to accounting misdeeds are often the precursors of earnings surprises. Such accounting misdeeds are used to cover up, at least temporarily, developing operational problems. Thus,

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one of the three factors and fraud typically does not occur. Conducive conditions permit the commission of fraud if a manager or managers are so inclined. For example, a lack of checks and balances on corporate actions, such as the absence of a strong and independent board of directors and audit committee, makes it possible for fraud to take place. Motivation is a reason, a driving force that moves managers to commit fraud. An interest in propping up a company's share price in an environment of high expectations is a strong motivator. It is no coincidence that we saw so much financial fraud during the bull market excesses of the late 1990s. Attitude is a lack of reverence for rules and authority. It is another way of saying that there is a lack of ethical direction.

If MBA education were culpable in the apparent increase in financial frauds that occurred during the late 1990s, it would be a failure to instill a proper attitude in MBA graduates. It is only in recent years that MBA education has begun to more openly stress training on issues of ethics. Aware of the need for ethics in business education, the American Assembly of Collegiate Schools of Business (AACSB), the accrediting body for MBA programs, added an ethics requirement to the MBA core. We too changed our core to include a separate course in ethics.

In my view, the apparent increase in financial frauds that occurred during the late 1990s was not due to an insufficient amount of training on ethics in business programs. Nor was it a sudden decline in the ethical composition of business managers. I think that it was more a function of the high expectations for performance that accompanied the excesses of the recent bull market - the so-called motivation factor accompanied by conducive conditions. As pressures to perform increased and were accompanied by potentially outsized payoffs, more managers succumbed. These managers were

encouraged by an apparent lack of meaningful penalty and found themselves in situations where they could carry out fraudulent acts at what they viewed to be a minimal risk of being caught. It was more a function of the times - another manifestation of the excesses that occurred during the so-called bubble economy.

However, we should not forget that even though the number of financial frauds that took place during the late 1990s seemed high, such actions took place in a very limited number of firms. It was not as widespread as we might think based on media reports. It is not as though business managers all collectively lost their ethical direction at one time.

Q: Based on your experience, do Tech students show an interest in thinking about their future ethical behavior, or do they tend to not take it seriously? What methods work best to demonstrate to our students that this should be an area of importance for them?

Dr. Mulford: When I teach cases that include acts of financial fraud, students typically express an interest and show their concern by asking, "What happened

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to them?" Thus, their interest focuses, at least initially, on the penalty for ethical lapse. I think that this is only natural as we are more likely to behave if we think that the potential costs outweigh the possible benefits.

Students seem more aware of the penalties for lapses in financial conduct in more recent offerings of my course than they have in the past. This is a positive

development and shows that they are at least thinking about the issues at hand. This increased awareness can be attributed to the much higher number and profile of the cases being prosecuted. It does not take many examples of corporate officers being charged with criminal conduct and hauled off in handcuffs for students to get the message. Moreover, many of our students have experienced first-hand a significant financial loss due, at least in part, to financial fraud. Our press is filled with stories of SEC investigations, corporate bankruptcies, and class-action suits that undoubtedly make indelible impressions on our students. As a result, as they see many more managers being held responsible, our students are more likely to think carefully about the consequences of their actions.

In my view, the best way to demonstrate the importance of ethical behavior in the workplace is to emphasize the positive returns that accrue for such behavior and the negative results that accompany ethical lapses.

Q: Some think there's a different view pertaining to ethical behavior in the business world today – is this a product of the environment out there or are students really different? Have you seen a trend in our students across the years of how they view accounting and business ethics in general?

Dr. Mulford: I wouldn't accept the view that business managers are somehow collectively less ethical or more tolerant of unethical behavior than in the past. I would make that same observation about our students. I do think that in response to varying environmental pressures we will see periodic increases in unethical behavior by a limited number of people. Though our society seems to react and correct it.

When I graduated in accounting in the early 1970s, we also were experiencing a very large number of financial frauds. At the time it was KPMG, then known as Peat Marwick Mitchell, who was the

auditor of record for many of the frauds carried out at public companies. I don't think that around that time business managers generally were less ethical. I also don't think that they then became more ethical during the intervening years only to lapse again during the 1990s. Some managers, actually very few relative to the whole population of managers running companies, responded improperly to differing economic pressures. Even without changes in ethical standards, as the rewards for unethical behavior were perceived to be high, more managers made a mental calculation and unfortunately decided that it is worth it to proceed.

Q: What are your thoughts on the best way to teach ethics? Should there be a stand-alone class, or should discussions about ethics be woven into the context of existing courses?

Dr. Mulford: There is a debate on whether ethics can even be taught at the college level. Some would argue that ethics, like knowing right from wrong, are learned at a much younger age. My view is that while students may know right from wrong, they typically haven't faced relevant ethical questions in a business context. I think that it is the context in which fundamental ethics are being applied that can be taught. Just like ethics in medicine or in sports have their own context or set of questions, business ethics too have a separate context with unique situations and questions. Teaching ethics in business school gives students experience in applying ethics in dealing with questions they likely have not faced.

In redesigning our core curriculum, our MBA curriculum committee struggled with the question of how to teach ethics. Should we have a stand-alone course on ethics or incorporate it throughout our core? We decided that it would be best to allow someone with experience in teaching business ethics to introduce the business context of ethics in a one-hour, stand-alone course. We would then reinforce what was learned with examples in our other business courses.

Q: What are some effective ways to get the idea of ethical accounting across to Tech undergraduates? Are there some things that students relate to that make it “stick”?

Dr. Mulford: For me, actual examples and cases work best. As mentioned earlier, pointing out the penalties levied on misbehaving managers is also very effective. Another useful tool is a questionnaire that Professor Comiskey and I administered to various financial professionals regarding the propriety of accounting treatment afforded various transactions. Students are often surprised to see how their views differ from those of financial professionals or of the Securities and Exchange Commission.

Q: Your recent book (The Financial Numbers Game – Detecting Creative Accounting Practices, co-authored with Eugene E. Comiskey) is aimed at the general reader to teach them to detect fraudulent behavior of companies through their financial reports. Do you use these techniques in your classes? If so, how is this approach received?

Dr. Mulford: The course, Financial Warnings, uses these same techniques to uncover financial frauds. While the book, The Financial Numbers Game: Detecting Creative Accounting Practices was purchased by members of the public at-large, the target audience was more informed users of financial reports - financial analysts, professional investors, lenders, CFOs, and CPAs, among others. There is a certain level of accounting expertise that is expected of the reader and of the Georgia Tech student.

The course has been well received as evidenced by enrollment and course evaluations. Students find the course material to be interesting and fortunately, or unfortunately, depending on your point of view, somewhat entertaining as they see the lengths to which some managers went to mislead the investing public.

Q: One of the topics in the book is the range of opinions on what is allowable and what is not. We have found the same thing to be true on campus in terms of academic integrity issues – do you have any opinions on how to get everyone within a given community onto the same page?

Dr. Mulford: What you are referring to from the book are the answers we received to the questionnaire administered to financial professionals. We asked them to respond to a series statements regarding the method used to account for various transactions. Their response could be (1) the transaction was accounted for well within the boundaries of generally accepted accounting principles (GAAP), (2) the transaction was accounted at the outer limits of the boundaries of GAAP, but was still acceptable, (3) the transaction was accounted for beyond the boundaries of GAAP but did not constitute fraud, or (4) the transaction was accounted for in a fraudulent manner.

Responses to the questions were varied, suggesting that there is limited agreement on what constitutes ethical behavior in an accounting context. However, the questionnaire was administered by mail with no opportunity for respondents to get clarifications of questions raised. Interestingly, when I have administered the questionnaire to groups of people where clarifications could be offered, there tended to be more agreement on what was proper accounting treatment.

What this says to me is that clarification and understanding of the issues can work to bring disparate views into agreement. Interestingly, I think that this observation is consistent with the view that ethics in a business context can be taught. It also says to me that we could gain more community agreement by teaching ethical issues of academic integrity.

Q: How do you use your consulting and other professional experience in your teaching and advising of students? Do you have any interesting stories or lessons learned that you would like to share with the readers?

Dr. Mulford: I am proud of the consulting work that I do and the interactions I have with numerous reporters at various financial publications. I personally find the experience to be stimulating, educational, and rewarding in many different ways. It provides a real world view that permits me to couch the academic topics that I teach in a practical, applied framework. I teach with cases and stories based on these experiences. Students respond well when they get to see first hand the applicability of the material they are learning.

One story I enjoy relating to students is that of a

“In my view, the best way to demonstrate the importance of ethical behavior in the workplace is to emphasize the positive returns that accrue for such behavior and the negative results that accompany ethical lapses.”

small electronics manufacturer, Comptronix, Inc., that was based in Alabama. Over several years, managers at the company perpetrated the most systematically planned financial fraud I have ever seen. The numbers involved were not as large as some of the more recent names, like Enron Corp., or WorldCom, Inc. However, what they lacked in size they overcame with gall. The fraud involved fictitious sales, inventory, equipment, and cash flow. It was allegedly carried out by many members of management who met on a regular basis to discuss fraud strategy. There were fictitious customers and vendors alike. It grew in such proportions that after a few years, the numbers were mostly all fictitious. The interesting

lesson is that it was never discovered. Key personnel at the company simply gave themselves up. Apparently, they grew weary of the charade.

Q: How can we as faculty members a) motivate Tech students to investigate the ethical environment/behavior of their future employers, and b) train them to do so efficiently?

Dr. Mulford: The well-publicized failures of companies exhibiting unethical behavior should be motivation enough for Tech students to understand the importance of identifying ethical employers. It may cost them their jobs! A few reminders from us wouldn't hurt.

Public filings with the Securities and Exchange Commission are useful repositories of information regarding prosecutions of ethical lapses. The proxy statement, also known as the shareholders' meeting announcement, which is an annual filing, will include a biographical sketch of the corporation's officers. I've seen interesting pasts described here, including a financial officer who had committed payroll fraud and a CEO who had spent time in prison for tax evasion. Another useful source of information is the collection of SEC Accounting and Auditing Enforcement Releases. These are reports from the SEC of actions taken against companies for lapses in the integrity of their financial reporting. All filings with the SEC, including the Accounting and Auditing Enforcement Releases, can be found on the SEC's website at www.sec.gov. ✍

Philosophical Reflections on the Limitations of Computer Mediated Communication on Educational Contexts

by Andrew C. Ward, Associate Professor
School of Public Policy at Georgia Tech
and Brian T. Prosser, Instructor
San Jose State University

- Abstract -

Andrew Ward is an Associate Professor in the School of Public Policy at Georgia Institute of Technology, the Director of the Georgia Institute of Technology's "Philosophy, Science and Technology Program", and a faculty member of Georgia Institute of Technology's Cognitive Science Program. While at Georgia Institute of Technology, Ward has also served as the Director of Undergraduate Studies for the School of Public Policy. Prior to coming to Georgia Institute of Technology, Ward was a faculty member at schools such as the University of Minnesota and San José State University, and was a Research Fellow in the Institute for Advanced Studies of the Humanities at the University of Edinburgh, Scotland. Ward's current research interests include the impact of information technologies on the development of communities and their politics, measurements and conceptions of (health) underinsurance as they bear on the formation of national and state-level policy decisions, ethical issues in the allocation of health care resources, and pragmatist conceptions of explanation in the social sciences and cognitive sciences

Brian T. Prosser currently teaches Philosophy at San José State University (CA) and Evergreen Valley College (San Jose, CA). He holds a bachelor's degree in Physics from the Georgia Institute of Technology and graduate degrees in Philosophy from San José State University and Fordham University (NY). His areas of interest include issues of ethics in technology, moral phenomenology, and the works of Kierkegaard and Levinas. He has published articles in Continental Philosophy Review, International Philosophical Quarterly, and other journals.

In his 1938 *Experience and Education*, John Dewey wrote that the "belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educational." Dewey's admonition is especially pertinent as computer mediated communication systems increasingly play a central role in the delivery of education. In this paper, we critically examine some of the potential problems associated with the use of such systems in an educational context. We conclude that it is important to carefully sort contents appropriately suited to computer mediated instruction from content whose transmission requires there being actual persons, located in actual classrooms, conducting face-to-face exchanges.

The advent of computers networked through Internet Service Providers (ISPs), together with the downward spiral in the cost of such computers and connections, has contributed to a change in the traditional topography of secondary and post-secondary education. Students can now take classes over the Internet without ever leaving the confines of their homes. More than this, students, using "laptop computers" and the ubiquitous ISPs can now (literally) travel anywhere and still have access to instruction. Similarly, students no longer need physically attend public lectures and symposia in order to receive at least some of the benefits provided by both. With suitable foresight and a modicum of technological expertise on the part of the lecture and symposia sponsors, it is possible to transmit both via the Internet to a geographically non-localized, albeit technologically linked, audience. Indeed, a recent

survey from Market Data Retrieval, a Dun and Bradstreet educational research company, reveals that for 1999 – 2000, 34% of two- and four-year colleges offer degrees via Computer Mediated Communication (CMC), compared to 15% in 1998.

Many have welcomed this shift from the traditional to the virtual classroom. For example, in November of 1996, Minnesota Governor Arne Carlson announced a comprehensive K-12 technology program “designed to boost student achievement by linking every Minnesota public school to the Internet...” Such a linkage, said Governor Carlson, “will allow students, teachers, parents and businesses to learn and communicate statewide, nationally, and internationally over the Internet. Most importantly,” he continued, “it will give our students a leg up on the advanced skills they need to compete and win in the global economy of the 21st century.” Governor Carlson’s statements echo an earlier claim by the University of Idaho School of Engineering that one of the advantages of distance education using CMC is an “increase [in] access. Local, regional, and national networks link resources and individuals, wherever they might be.” Building on these ideas, Vice President Al Gore claimed in a November 30, 1998 speech that we should hasten the completion of the “information superhighway” because

“Any organization that believes it will automatically get the same level of ethical response when it substitutes a terminal for a voice or a face is wrong . . . because it is disregarding the importance of emotional reinforcement in promoting ethical behavior.”

such a technological infrastructure would significantly contribute to the building of a “global electronic village”. Creation of this global electronic village, Gore continued, would “expand access to all forms of communications . . . improve the delivery of education

and health care and all services, and . . . create new jobs and even whole new industries as yet unimagined.”

There are also reasons to be chary about the CMC shift. A 1998 study conducted at Carnegie Mellon concluded that “[G]reater use of the Internet was associated with small, but statistically significant declines in social involvement as measured by communication within the family and the size of people’s local social networks, and with increases in loneliness . . . [and] with increases in depression.” The study goes on to say that the paradox of the Internet is that it is “a social technology used for communication with individuals and groups, but it is associated with declines in social involvement and the psychological well-being that goes with social involvement.” Furthermore, in their commentary on the Carnegie Mellon study, Michelle Weil and Larry Rosen write that “[W]e are not surprised that Internet usage leads to changes in both psychological and social variables. Our work over the past 15 years studying peoples’ reactions to technology suggests the same . . . We have found that increased computer use in the home can envelope people in what we call a “TechnoCocoon” – isolating them from others as they spend more time in front of the screen.” A 1999 – 2000 Stanford University study that polled 4,113 individuals and 2,689 households, including both Internet users and nonusers, reached the same conclusion. What the study revealed, according to Norman Nie, the principal investigator for the study, was that “the more hours people use the Internet, the less time they spend with real human beings.” Nie goes on to claim that the Internet is creating a broad new wave of social isolation in the United States, “raising the spectre of an atomized world without human contact or emotion.”

The writings of the 19th century Danish existentialist philosopher Søren Kierkegaard offer a diagnosis of these different views, and a prescription for resolution. As Kierkegaard saw it, the use of technologies, such

as those exemplified by the 19th century popular press, to disseminate information distorts our relationship to that information in a way that caters to irresponsible modes of communication. This irresponsibility relies explicitly on an ability to ignore the potential “meaningfulness” of a particular piece of information. As Kierkegaard wrote in 1846:

Evaluation by newspapers will gradually be extended to cover subjects never dreamed of. The other day one of the provincial newspapers reported that a man had been executed by executioner John Doe, who performed the job with fine precision; executioner David Roe, present to whip someone publicly, also performed satisfactorily.

For Kierkegaard there is a link between the power of our information technologies to uninhibitedly disseminate information to everyone and a concomitant desire of participants to transcend the local, personal involvement of information. That is, the power to disseminate vast quantities of information rests directly in a technology’s power to disembody and dislocate information. Kierkegaard writes that “all mankind’s great inventions (railroads, telegraph, etc.) tend to develop and encourage windbagery” – an ever increasing quantity of information about everything and anything.

The problem is not simply that developments in information technologies result in an increase of readily available information. In addition, such developments lead to a movement away from interpersonal connectivity. “[P]ersonality,” Kierkegaard writes, “has been abolished.... All communication is impersonal - and here in particular are the two most dreadful calamities which really are the principle powers of impersonality - [mass communication] and anonymity.” In a similar vein, psychiatrist Elissa Ely, in late 1998, wrote in *The Boston Globe* that “[O]n the Internet ... It is infinity without a face ... there is something removed and empty in the contact it provides. It has no being and is no being.” Both writers suggest that our technologically “enhanced” communications transform our relationship to information in ways that promote anonymous and impersonal communication.

In sum, from a broadly Kierkegaardian perspective, there are three principal concerns associated with CMCs:

1. Information Overload – CMC systems, like newspa-

pers in the 19th century, permit and facilitate the dissemination of increasing amounts of information. This has two results: (a) The distinction between what is important and trivial, what is private and public, breaks down; (b) The ability of people to discern accurate from inaccurate, veridical accounts from opinions or propaganda, breaks down. Both (a) and (b) lead people to take a detached and superficial interest in everything and anything. People take a vicarious interest in the trivial, and come to believe that any opinion about what is “right and wrong” is as well supported as any other.

2. Anonymity - CMCs greatly enhance the opportunities for anonymous information exchanges. People can go “on-line” 24 hours a day, 7 days a week and find other on-line personae with whom to exchange information. More importantly, these exchanges can be anonymous with the participants choosing to reveal as much or as little as they want. In the so-called interactive world created by CMC – what Kierkegaard would call “the Public Sphere” – anonymity encourages a lack of seriousness and erodes the reason and desire for responsibility. In his 1999 book, *Knowledge in a Social World*, Alvin Goldman makes a similar point. He writes:

In face-to-face communication, a hearer knows a reporter’s identity. If the report turns out to be false, it can be laid at the doorstep of the known individual. In a face-to-face community, the threat of punishment or disapproval serves as a deterrent to deliberate deceptions. On the Internet, however, sources are often wholly anonymous or hard to trace.

3. The Personal Element in the Formation of Self-Image - Genuine/authentic communication involves a personal commitment. In such communication a person both reveals and finds himself or herself. This last is especially important. If the interactions we have with people via CMCs are “artificial”, arbitrary, and unbounded, then the identity one creates in such dialogues is itself artificial, arbitrary and unbounded – in effect, inauthentic. Increasingly surrounded and enticed by the ephemeral world created by CMCs and its anonymous “citizens”, what is missing is a passionate commitment to anything or anyone. Young people appear particularly adept at recognizing and exploiting the fact that technological mediation

attenuates the sense of relational commitment implicit in communication. A recent report on PBS's *News Hour with Jim Lehrer* claimed:

Among the younger set, e-mail offers a way to avoid social interaction altogether. For 18-year-old Dorothy Nederman, for example, it's a convenient way to connect with former boyfriends, without, of course, really connecting [:] "You won't talk to them for a while, and then, you'll just decide, well perhaps I will e-mail them and see how they are doing without actually having to talk to them."

"If the purpose of using computer mediated communications (CMC) in educational contexts is to prepare students to be successful as citizens and professionals, then it is important that we do not conflate the use of CMC as a tool with the use of CMC as an end in itself."

While such uses of e-mail are social interaction of a sort, the important point is that interpersonal communications presuppose a relational context, often attenuated by the use of CMC, that in important ways condition any sense of a "real connection".

Interestingly, some view increased anonymity and impersonality to be a positive rather than a negative effect of the on-line environment. For example, Ron Barnett welcomes these effects when evaluating his experience teaching Philosophy over the Internet:

There are no voices or accents, no noises, nor distinctions based on gender, race, ethnicity or age. Only ideas, and ideas about ideas, formulated, written, and rewritten, expressed and revisited. In fact, the ongoing discussion in the class is the set of ideas expressed. A participant becomes, in a sense, a Platonist in cyberspace, instantiated by material objects and electricity!

Similarly, Maia Szalavitz, in a Newsweek editorial, writes that she "was immediately hooked by a world where what you write not how you look or sound is who you are. It had definite appeal to someone who

has always found socializing difficult." However, it is not always clear to what extent we are motivated by real educational (or social) improvements rather than merely desiring to cover over perceived personal weaknesses. As Szalavitz suggests, we often appreciate not having to deal with the "difficulties" that traditional contexts require. Nevertheless, isn't there something "healthy" – personally, professionally and pedagogically – about learning to deal with those difficulties? Too often, our attempts to reach beyond the framework of traditional face-to-face relationships

occur because we are trying to escape them. In the world of CMC, we are anonymous, we often escape the consequences of our "information exchanges", and we can find every position advocated and defended; thus, we need not commit ourselves to anything. This is a special concern for educational institutions and other organizations for whom "ethical education and behavior" are important. As Harry B. DeMaio, expert in information security, privacy, and

international information trade, writes:

... ambiguity is the ethical order of the day for electronic information ... [T]he emotional reinforcement one's conscience receives in a personal relationship is missing in an electronic connection. Therefore, any organization that believes it will automatically get the same level of ethical response when it substitutes a terminal for a voice or a face is wrong ... because it is disregarding the importance of emotional reinforcement in promoting ethical behavior.

Consequently, the challenge is to question the motivations for wanting to displace face-to-face, passionate and committed relationships. What we need to do is acknowledge the ambiguities inherent in the CMC shift and be willing to question motives for it, rather than automatically deferring to presumed educational and social benefits.

Appearances to the contrary, the conclusion is not that there is no room for CMC in education. CMC has often proved to be an effective and efficient tool for purposes of information acquisition and exchange. In addition, use of CMC in educational settings will

prepare students for work in an increasingly “wired world”. As noted in a report by the Pew Internet and American Life Project, most of today’s college students “will have experience with email and the Web, and most will be familiar with a wide range of software packages.” However, without the appropriate guidance and mentoring relationships, students will be left adrift in a “morals wasteland” with no guidance for how to sort through the information or what use to make of it. Thus, unless education making use of CMC can be clearly demonstrated to be better than real-classroom interaction, we should be cautious about moving more and more students into virtual classrooms at the cost of diminishing more traditional classroom environments. Perhaps an example of a more balanced approach is the one adopted by the Kansas Collaborative Research Network, based in the Kansas City, Kansas School District. There, students created a Webpage (www.arthes.com/community) designed to be both a resource on and about communities, as well as an opportunity for students to work together on a collaborative project. This required the students to reach out to one another and to work with one another. Significantly though, these students combined their Web-authoring activities with face-to-face communications with one another, members of their geographically based communities, their families and friends. If the purpose of using CMCs in educational contexts is to prepare students to be successful as citizens and professionals, then it is important that we not conflate the use of CMC as a tool with the use of CMC as an end in itself. As John Dewey wrote in *Experience and Education*, the “belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educational.” Thus, what we must do is carefully sort contents appropriately suited to computer mediated instruction from content whose transmission requires there being actual persons, located in actual classrooms, conducting face-to-face exchanges. ✍

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In the CETL Library *(continued from page 4)*

A Book Review: Fundamentals of Ethics for Scientists and Engineers

Finally, Unit Four, “Advanced Topics,” comprises a mixture of topics including resource allocation, safety and risk, differing ethical systems, and making ethics a part of our habits and intuitions. Most of these topics provoke much deeper thinking and analysis than those covered in the first three units of the book.

The most appealing aspect of this text is its flexibility and adaptability, which is a credit to the authors. They have produced a text that can be used in any level of technical course dealing with ethics. For example, the text could be the principle book in a semester-long seminar in ethics; or, each unit could serve as an area of focus over a four-year curriculum; likewise, various chapters could be inserted into established ethics courses as supplemental readings—the possibilities are vast. At 262 pages, this book is quite manageable. Another innovation is the use of real as well as a fictionalized serial of case studies as points of depar-

ture to stimulate reflection and discussion. Finally, end-of-case discussion questions round out the package.

While written for scientists and engineers, it is clear that this book would be appropriate for inclusion in most classes—not just technical classes—that treat the issue of ethics; however, for those faculty members teaching scientific and engineering ethics classes, *Fundamentals of Ethics for Scientists and Engineers* should be perused and many of its ideas considered for inclusion in the class. ✍

Spring 2003 Events

Faculty Development Seminars

January 16	Teaching International Students
March 20	Faculty Showcase - Using a wireless audience response system in a large class

Other Events:

March 26	Celebrating Teaching Day
April 3	Outstanding Teaching Assistant Award Luncheon
April 9	Faculty/Staff Honors Luncheon
April 16	Student Honors Luncheon

For more information on these events, visit the CETL website or call us at 404-894-4474.

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