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*CAP goes to school: an
assessment and analysis of
instruction in cyberethics*

The *Computers and Philosophy* international collaborative of practitioners and scholars provides a forum for presentation and discussion of ideas that inspire and incite. A by-product of my participation in these conferences during the past several years has been the enhancement of my research in computer ethics, resulting in new course development in the area of cyberethics. During the 2002-2003 academic year two new courses premiered on the regional campuses of Indiana University, the fabric and structure of which were instigated by ideologies and concepts I had met up with through CAP. This article is a discussion and description of the evolution of those courses, as well as pedagogical reactions to the implementation of the course plans. Selected texts, materials and lab activities will be described and discussed, but perhaps most importantly, this article will explore the intricate ideological infrastructure of computer ethics revealed through course creation, and the special challenges which emerge for cyberethicists and their students as they progress with their work in this field.

THE EVOLUTION OF IDEAS

Course creation generally begins with curiosity and interest – both in terms of the subject to be taught and the best way to teach it. For me, inquiry into the philosophy of technology and metacomputing began in the early eighties with the reading and study of Robert Pirsig's provocative book *Zen and the Art of Motorcycle Maintenance*. Pirsig's explication of the relationship between human rationality, technology and values created an interesting environment in which to raise questions about newly emerging computer technologies and how they might affect the quality of life. These initial inquiries in the eighties came to manifest themselves in a myriad of my other projects over the next twenty years. Among these was an exploration of design thinking among my thesis in the Ball State University College of Architecture and Planning.

In 1989, I joined forces with practicing architect and educator Carole Teirnan in authoring the article, 'The Future of Creative Work and the Artistry of Invention.' Here we raised questions about how emerging technologies, computerization among them, impacted the ideological landscape in which our students would think, work, and live. Our ultimate goal was to decipher and deploy pedagogical approaches in the studio which would equip our students with the necessarily flexible skills to design effectively and efficiently in the wake of rapid change and complexity. Over the next few years, I had the opportunity to further explore these ideas through working with a number of students whose theses engaged like questions. Among these was a young German student named Hauke Fishbeck whose thesis question focused upon the interplay between 'man, machine, and meaning,' and again, the role of computerization loomed large in the uniquely precarious working conditions for the modern practitioner and his design.

In 1996, the scope of my study and interests crystallized with my involvement in the international conference “Patterns of Progress and the Challenge of Change.” This project brought together Asian and American scholars in dialogue about the relationship between values, culture, and globalization, and the ways in which these ‘new evolutionary forces’ were reshaping our world. One module developed was that which explored information technologies, and specifically, computer mediated communication. Through this collaborative, and subsequent conversations with Dr. Inae Kang and Dr. Inhee Lee, both of Kung Hee University in Seoul, South Korea, I found myself moving forward in my own investigation to the study of the precise effects of computerization on human decision making. It was at this point that I began in earnest consistent research into the area of cyberethics.

THE ANATOMY OF CYBERETHICS

As a researcher in the early nineties, I came to understand cyberethics as a new and emerging sub-science that could be understood in part through the application of existing theory. I approached the area with the idea that existing ethical concepts were applicable to cyberethical analysis, and as a result, preliminary delineation of the issues came from the traditional, bifurcated perspective of normative and non-normative thinking. What little scholarly literature existed at the time, and what could be had of the subject through the periodical literature, seemed to indicate that cyberethics was a field at once concerned with exploring meta-ethical questions about the substance and structure of cyberspace, while at the same time absorbed in the internet-driven inquiries about application oriented challenges and concerns. This realization impacted how I crafted early presentations on the subject, and how those presentations became transformed into university courses later on.

The method of delivery for preliminary findings from my cyberethical research was a series of capstone presentations in my ethics classes during their final course unit on current issues. The pedagogy of this early work attempted to capture the connections between the macrocosmic and microcosmic features of cyberethics, providing for an exploration of both its substance and its structure. These early presentations began with a review of the traditional ethical theories of divine command, utilitarianism, egoism, Kantianism, and the Rawlsian contract, and proceeded with a discussion of the reliance of these theories upon static variables of values, agency, and interests. Next the metaethical argument was posited that these variables became mutated in cyberspace, creating a need for a re-visioning of traditional theory, and the development of new methods by which to morally reason and decision make. The time and space of single-dimensional reality in which traditional theory had been crafted was replaced by the multi-dimensional possibilities of cyberspace, calling for the emergence of new values for consideration in moral theory and ethical practice. The dichotomy in cyberethics between non-normative and normative concerns revealed itself early on, solidifying the challenge of choosing effective materials and presentational strategies for use in the cyberethics classroom and beyond.

CREATING A CYBERETHICS COURSE

During the academic year 2001-2002, I was given the opportunity by Indiana University to convert my cyberethics research presentations into course plans for deployment in readings/special study classes in the departments of Philosophy on two of its regional campuses. The courses were designed to acquaint students with the discipline of Philosophy first of all, as the courses would have no listed pre-requisites. Yet more specifically, the courses were to familiarize students with the academic study of Ethics and the sub-science of cyberethics in all its varieties and forms. The initial course plan consisted of four units/3.5 wks each:

- 1) History of Cyberethics
 - brief review of ethical concepts
 - 'history of' computer, cyberissues, cyberethics (Wiener / Floridi)
- 2) Computer Ethics
 - Maner and Johnson
 - case study and field study work
- 3) The Internet: a CMC case study
 - Graham
 - current issues
 - field study work
- 4) Undergraduate research project

The course plan reflected what the research had revealed as the bifurcated nature of the field. Readings and textbook selections attempted the same. Wiener's book was chosen because of its communicated vision of science and technology. His exposition of messaging, organization, and automata was intriguing and provocative, yet more importantly, it acknowledged the non-normative, meta-ethical problems embedded in cyberethical investigation. His theories' contribution to the pedagogy of the course came in the form of the conceptual map they provided with which students could navigate the area 'in-between' the present and the future. His was the macrocosmic vision of the philosophical challenges presented by the substance and structure of cyberspace. Although he dabbled in the normative, Wiener's focus was by and large deontological and metaethical in nature. Floridi's article was chosen for much the same reason. His discussion of the infosphere and the 'transvaluation of values' in cyberspace forward Wiener's hypothesis in real and rewarding ways for the researcher and for the student.

In shifting focus from the non-normative to the normative features of cyberethical study the Johnson text was immediately attractive because of its transitional chapter on the

application of traditional ethical theories to new problems. It was also highly desirable as a course text because of its case studies. From pragmatic and pedagogical points of view, the case studies are interesting, attractive, and highly accessible to students due to their readability and experiential nature. Ideologically, the Johnson text was a good choice because its creation sprang in part from the author's reactions to and analyses of precedent inquiries by discipline master Walter Maner, one of the original cyberethicists.

Gordon Graham's commentary on the internet was a natural choice for the cyberethics course for several reasons. First of all, its preoccupation with being a philosophical inquiry was attractive since so many other forms of writing in the field take on the trappings of other disciplines or the elements of other biases or agenda. The value of using the formal philosophical method to explore a philosophical problem in a philosophy course was self evident. Secondly, Graham's exploration is microcosmic in nature by focusing exclusively on the internet, yet he posits his notions against a macrocosmic landscape that again compels intellectual navigation of the in-between. Anecdotes and other good narrative strategies make the complexities of Graham's theories a manageable read for students, all the while enabling them to nurture their understanding of cyberethics as a study both non-normative and normative in nature.

Listed below are the key concepts that were emphasized for each article or text:

Norbert Wiener	<ul style="list-style-type: none"> Patterns of messaging and their relationship to cybernetics Parallelism between human and non-human cultures with regard to messaging and communication The relationship between minds, brains, and computers The concept of entropy and its consequences The nature of information – past, present, future
*Luciano Floridi	<ul style="list-style-type: none"> Nature of the infosphere Comparative analysis of Truth, knowledge and information Philosophical methodology as it applies to cyberspace
*Walter Maner	<ul style="list-style-type: none"> The special nature of computers (levels of justification for computer ethics)
Deborah Johnson	<ul style="list-style-type: none"> Traditional ethical theories and their relationship to cyberethics Professional ethics and policy vacuums Legal issues and elements of liability Internet ethics – local and global issues*
Gordon Graham	<ul style="list-style-type: none"> Evolution of the internet The 'McDonaldsization' of America Challenges of globalization and the digital divide** User Rights and Responsibilities*

Course readings were augmented by field study and writing assignments to further students' understanding of each thinker and his or her work. They were as follows:

Field Literature-Based Assignment

Upon completion of the semesters' readings consisting of Wiener's *Human Use of Human Beings*, Johnson's *Computer Ethics*, and Graham's *The internet: A Philosophical Inquiry*, conduct a comparative analysis of how each thinker deals with Computer Mediated Communication (CMC) via the internet. An enhanced explanation would posit students' hypothesizing about Weiner's reaction to today's WWW in light of his assessment of messaging, automata and entropy.

Field Study Assignment (Business Ethics)

After critical analysis of the classic business ethical perspectives of Friedman and Stone, create a questionnaire for area business professionals consisting of a ultra-brief synopsis of both points of view and a request for respondents' reaction to them. Ask for feedback with regard to the accuracy of theorists' perspective on the day-to-day realities of the working world and the particular challenge of modern life. An enhanced explanation would encourage variation in respondent pool and analysis of data with regard to particular variables of interest (sex, race, position, education, etc.)

Field Study (Computer Ethics)

Upon completion of the semesters' readings consisting of Wiener's *Human Use of Human Beings*, Johnson's *Computer Ethics*, and Graham's *The internet: A Philosophical Inquiry*, conduct journaling of students' PC use, paying special attention to interactivity with messaging, CMC, and other ethically volatile practices. Then conduct a comparative analysis between students' PC practices and national and international attributes and trends. Anchor findings by sampling the local community for longevity, type and frequency of personal computer use.

Along with text-based and field study work, computer lab activities were also developed.

SESSION ONE	User Skills Assessment	Arrange with University Computer Lab to have its director or assistant conduct an orientation session for students; create 'minimum skills checklist' to be completed by second session
SESSION TWO	User Rights/Responsibilities	Invite Director of Information Technology in to discuss User Guidelines and their rationale Find info pertinent to IU statement(s) on line; find other universities' sites/statements Create exercises for compare and Contrast work with statements
SESSION THREE	Search Engines	Invite an 'engine expert' in to describe and discuss the anatomy and infrastructure of search engines Explore commercial and 'political' implications of listing strategies and techniques; create in lab exercises to utilize a variety of engines for a variety of uses and to check theoretical hypotheses
SESSION FOUR	The World Wide Web	Invite a well established web designer in to describe and discuss the evolution of the web page phenomenon and the connection between local and global entities on the internet. Discuss 'hits' 'cookies' 'caches'...'McDonald's & 'Garage Sale' Concepts; create tracking exercises/activities for in-lab use
SESSION FIVE	In's and Out's of CMC	Instructor-led explorative activities and discussion of instant messaging, chat rooms, bulletin boards, listervs banners, pop-ups and spam

THE IMPLEMENTATION OF COURSE PLAN - STUDENT DEMOGRAPHICS

Indiana University students who enrolled in cyberethics represented a surprising variety of profiles. The student I envisioned when I created the course was an upper classman with at least an introductory philosophy course under his/her belt and some skill in critical reading, writing and research. The students in these courses in reality brought quite a different set of characteristics 'to the table.' During both semesters, on different campuses, students ranged in academic age from first semester freshmen to graduating seniors, in philosophical experience from none to having had several courses in the discipline. A similar polemic would accurately characterize the package of academic skills students brought with them, the depth and range of both owning an exponential relationship to their years of collegiate experience. The pedagogical impact of this became played out in revised lecture plans, reduced reading loads, and compromised expectations for critical analysis and comprehension of course material. Likewise, students came to the course from a variety of majors. Initially, I had envisioned the enrolled student to come from areas like Computer Science, Philosophy, Business, History, perhaps Psychology. In reality, the majors or interest areas of the students in the course were as varied as the experience levels of the students themselves. Because of this, some students came at problem solving, analysis, and creative thinking from perspectives thick with influence from their respective disciplines. In one way, this diversity is delightful and provides for invigorating conversation and exchange. But this patchwork of perspectives can become a pedagogical nightmare with regard to an area as complex as cyberethics. Finding common ground for explanation or assimilation of material becomes very challenging, and sometimes impossible. The complexity of the discipline becomes compounded in presentation as each infrastructural discipline or issue attached to the cyberethical milieu is intellectually ingested and processed out from totally different perspectives, using totally different landmarks and polestars from which to reason.

*NOTE: Post-course results of mastery of material from both semesters verify that even students with minimal background in the discipline of philosophy came away from the course with a solid knowledge base about *issues* that are cyberethical, and they report that their experience was valuable...and so it was with me as their professor. I certainly enjoyed them, and had learning experiences that I would not have had without those particular individual students. My point here is that pre-course visioning about students had impacted preliminary course development. Realities of student demographics became an impact variable which created a sufficient condition for revisiting that preliminary course plan. Certainly restrictions and/or pre-requisites could be built into the course such that more control over the demographic could be exacted; however, it has been my experience that too many restrictions can prove fatal to accomplishing enrollment goals, especially in a new course. Likewise, I have also discovered in my tenure at the university that no matter how many safeguards you attempt to build into the enrollment structure, there is always that academic advisor - or crafty student - out there who 'beats the system' thus corrupting your student pool in the end anyway.

EVALUATION OF COURSE IMPLEMENTATION

Once the semester got underway (in both semesters), it became clear that the students had come into the class with a wide variety of backgrounds and abilities not only with regard to philosophy and ethics, but also in terms of performing at an acceptable quality level as

university students. Several course modifications occurred immediately because of that.

Unit One immediately expanded to include a much fuller discussion of Philosophy, both in terms of substance and of methodology. Next was a more fully developed tutorial on ethics, with its complement of specialized concepts, constructs, and vocabulary. Again, both the matter and the method of the discipline mattered, as both were critical in ultimately understanding cyberethics – the final goal of the course.

Because Unit One grew, all the other units had to shrink, and an interesting consequence occurred. Since Wiener's work was broader and more metaphilosophical in scope, we spent more time studying his theories about cybernetics and society than on the more popular normative issues. The larger concepts of the history of ideas we were learning more easily plugged into his deeper emphasis on the macrocosmic, deontological concerns. The same was true about Floridi's work with the nature of information, a good ideological companion to Wiener's ideas. The blend of the history of ideas and the history of cyberethics worked well, but the presentations and discussions were time consuming, and by the time we were on to Maner, Johnson and Graham, half the semester had passed.

Having to find a way to squeeze three units into a time frame designed for two, I decided to create a dialectic between the work of Maner and Johnson, taking her discussion of normative issues and problems embodied in the case studies and present them as anecdotes to what Maner had described as special features of computers. In this way, students could judge for themselves whether or not the theories of Maner and/or Johnson convinced them of the justifiability the perception of computers as objects in need of special ethics. Along with this, I took Johnson's work with the Internet and posited it in a comparative mini-unit with parallel chapters and points in Graham. In this way I was able to shave off presentation time while maintaining the integrity of the original syllabus. A last time-saving strategy I used was to modify Unit Four - the undergraduate research unit. During the Fall semester, I combined the requirement for the students to complete a formal research project with critical analysis that still needed to occur with regard to Maner, Johnson, and Graham. Using a prompt of comparative analysis, students were asked to use fresh literature-based research to affirm or deny one or more claims they shared about the special nature of the computer and CMC – especially that furnished forth by the internet. In the Spring term, I combined the research cycle with the study of Graham's theories, and used a field study format as opposed to a literature-based research assignment. Earlier in the semester, students had been asked to log their computer use, differentiating between processing functions and internet functions. In this final research-based stage, students were asked to re-visit their self-study, and this time, expand it to include ten people drawn from as diverse a demographic pool as feasible, considering the restrictions inherent in their research situation. They were asked to find respondents who were all adults, but in a variety of age, economic, education-based and racial groups. They were then asked to poll their respondents with regard to habits of internet use, attitudes toward computer-mediated environments, and reactions to cyberethical hotspots like privacy, security and private morality issues. The students then conducted a critical analysis of whether or not their empirical data supported or denied the theories posited by Maner, Johnson, Graham.

Moving the final research component of the course to a field research study was an

effective strategy, and it worked well in making the course syllabus actionable. But it was also a better choice for the students Spring semester because frankly, they felt so overwhelmed by the volume of concepts enveloped in the discussion of the infrastructural disciplines and the theories embedded in the required readings that they simply could not bear anything more. They were already struggling with assigned material; I could not imagine their having any measurable degree of success in effectively analyzing then assimilating new, additional data in a research setting. In any case, like the rest of the semester, the end turned out to look very different than I had imagined it would when first envisioning the course and the learning outcomes for students.

REFLECTIONS AND RESULTS

The success of this course and its revised presentational plan can be verified in part through the final grades of the 50+ students who completed the courses (all passed with a grade of C- or better) and the overwhelmingly positive evaluations submitted by students at the end of the term. However, for me success had to also be measured against the goals I had set for the students regarding what I held to be key parts of each theory. Although I am unconvinced all of my students mastered all concepts, I remain fairly convinced the cluster of topics is an effective combination of theories that when added together, comprised a brief, yet suitable introduction to cyberethics.

Bibliography of Resources

Phil 342/200

Computer /Business Ethics

American Philosophical Association Central Division Ninety-ninth Annual Meeting
West Michigan Avenue, Chicago, Illinois, April 24-27, 2002. Concurrent Session
Notes; presentations by Barbara Becker, Gordon Graham and Charles Ess.

Floridi, Luciano. "Information Ethics: On the Philosophical Foundation of Computer Ethics." <http://wolfson.ox.ac.uk/~floridi/ie.htm>.

Graham, Gordon. *the internet: a philosophical inquiry*. London: Routledge, 1999.

Harnack, Andrew and Kleppinger Eugene. *Online!: A reference guide to using internet sources*. New York: St. Martin's Press, 1997.

Harnish, Robert M. *Minds, Brains, and Computers: A Historical Introduction to the Foundations of Cognitive Science*. Malden, Massachusetts: Blackwell Publishers, 2002.

Hirschbul, John J., Ed. *Computers in Education, Sixth Edition*. Guilford, Connecticut: The Dushkin Publishing Group, 1994.

Johnson, Deborah G. *Computer Ethics*, Third Ed. Upper Saddle River, New Jersey:

Prentice Hall, 2001.

Maner, Walter. “Levels of Justification for the Study of Computer Ethics.”
<http://www.bgsu.edu/maner/ethicomp95/keynote3-LEVELS.html>.

Wiener, Norbert. *The Human Use of Human Beings: Cybernetics and Society.*