Meaning and Persuasion: The Personal Computer and Economic Education

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In the last days of 1982, the corporate-funded business education nonprofit Junior Achievement (JA) began distributing 121 donated personal computers—Xerox 820s, Hewlett Packard HP-86s, and IBM personal computers—to classrooms in 25 cities across the United States. The donated machines were part of JA’s new high school course, Applied Economics. The course curriculum had been designed with the goal of teaching economic principles, business skills, and the appreciation of private enterprise to high school students. The personal computer, JA executives hoped, would draw student interest toward the course and its perspective on American economic life. The course, including its classroom lectures, in-class activities, computerized bookkeeping, and management simulation software, would present a vision of American economic life in which market forces organized the economy, with necessary but decidedly minimal interventions by organized labor or the state.

The research for my dissertation focused on the production of these kinds of corporate-sponsored “economic education” media: television documentaries, public service announcements, and school curricula that sponsors and producers hoped would instill an appreciation of private enterprise in the American public. Sponsored economic education media productions were particularly prevalent from the New Deal era through the late Cold War period. Sometimes, corporations directly sponsored and produced economic education materials. More often, however, nonprofit advocacy, outreach, or education groups acted as institutional intermediaries, taking corporate grants or sponsorships to fund media production. These media productions—ranging across diverse forms such as pamphlets, films, television programs, filmstrips, textbooks, and digital software—were efforts to maintain and buttress the social legitimacy of capitalism and private enterprise in the public imagination.

Many of the groups involved in economic education were interested in what personal computers could help them communicate to the public. The act of embracing computer technology could help an economic education group signal a forward-looking orientation. Furthermore, economic education groups were interested in software because it could represent complex ideas: from their perspective, software was communicative and therefore potentially persuasive.

Maintaining Meaning
Recent scholarship has emphasized the importance of the maintainers—that is, the people who “keep ordinary existence going” by repairing and maintaining our technological systems. Technological systems, however, are not the only systems that require maintenance. Systems of cultural meaning—that is to say, ideologies—must also be carefully maintained to accommodate changing conditions and avoid ideological breakdowns that could shift the distribution of power, wealth, and perceived social legitimacy within a society. In other words, the advocacy groups, education nonprofits, and corporate sponsors involved in making economic education media were maintainers of a different sort. They used media in their efforts to repair and maintain ideologies, in the process framing a particular set of American capitalist institutional practices and social values as “ordinary existence.”

We can examine these maintenance efforts by exploring not only the traditional media such organizations produced, but also their turn to and deployment of computers. JA’s adoption of computing in the Applied Economics curriculum illustrates how this nonprofit business education group conceptualized personal computer hardware and software: as a means of drawing the attention of disengaged students toward an appreciation of free market perspectives, and as a means of aligning a learning-by-doing tradition with the rhythms and norms of the secondary school classroom.

This is not to suggest that there is something intrinsic or natural that links computing to capitalism in the abstract or to the many and varied ways Americans practice capitalism. Rather, the case provides one more example of the myriad ways computers were drawn into, and became modes of expression for, political and economic ideologies. Links drawn between capitalist ideology and computing include Thomas Streeter’s critique of Silicon Valley’s “two guys in a garage” mythos, for example, which draws out the romantic individualism embedded in 1980s personal computing lore. Similarly, Fred Turner’s unraveling of the 1990s cyber-elite’s countercultural roots helps illuminate the emergence of techno-libertarianism. Other works such as Eden Medina’s account of socialist computing visions in Allende’s Chile and Benjamin Peters’ chronicle of Soviet attempts to build a nationwide networked system of computers, however, show that noncapitalist
political and social meanings, too, have been attached to computers. In each case, digital technologies became entwined with the work of maintaining, updating, and enacting existing ideological configurations.

**The Company Experience**

For the 62 years prior to the debut of Applied Economics, JA had offered after-school programs to high school age participants as a way to foster good relations between business and the community. JA’s signature offering was the “company experience,” in which teen-aged participants ran a small door-to-door sales business with the sponsorship and guidance of a local businessperson. Through these activities, teenagers could learn manufacturing, marketing, and managerial skills that, the organization promised, would lead to good jobs after graduation. However, participation in JA’s afterschool programs dropped in the mid-1970s. A confluence of economic and social factors led JA facing lowered youth enrollments and high operational costs.

JA experimented with a variety of diversifying strategies that eventually led to its adoption of computers for classroom use. Most notably, it developed Project Business, an in-school program for junior high school students that took place on school grounds, thus cutting facility costs and reaching a wider audience. Project Business’s success inspired JA executives to develop Applied Economics, a semester-long high school course designed to capture low-engagement students with an experience-rich curriculum. Alongside traditional lectures on the principles of managerial economics, students assembled small gift products (such as novelty memo pads) and sold them to classmates over the course of the semester. Students used the donated computers to keep their company books and to play competitive business simulation games using custom software inspired by the simulation games then in use at Harvard Business School.

These activities set Applied Economics apart from other high school level economics curricula, drawing both praise and consternation. A majority of students in the pilot study reported that the course was enjoyable, useful, and interesting. However, educators involved in the pilot and subsequent rollout of the program reported that recreating the company experience in the classroom was unwieldy. Too much time went to assembling merchandise, teachers reported, and some administrators banned the company experience altogether due to concerns that students’ selling activities conflicted with pre-existing in-school selling projects.

The personal computer, already present and in use for bookkeeping and simulation games, offered a solution. In 1986, JA developed Computerized Student Company Software for use in Applied Economics that allowed students to make hypothetical sourcing, marketing, and management decisions without the need to handle cash or inventory. Instead, students used the software to plan budgets, place orders for raw materials, and navigate virtual representations of assembly lines and warehouses. In essence, students shifted their use of classroom time from assembling goods for sale to making decisions in concert with computer software. The software gave students opportunities to practice technological and decision-making skills that would help them prepare for the demands of managerial jobs, but it reduced their firsthand experience with job roles such as product assembly and sales. In this adjustment, white-collar activities came to the forefront while blue-collar activities—specifically, the embodied activities of laboring, the interpersonal activities of selling, and the organizational activities of negotiating with management as a salesperson or laborer (either individually or collectively)—receded into the simulation software. In the years that followed, JA continued to experiment, in time introducing new live-action activities in which students could choose from a wide range of blue-collar and white-collar roles. Even so, using software to bring the company experience into alignment with existing classroom rhythms had representational consequences: students using the Computerized Student Company Software experienced the workplace mainly from a managerial perspective.
Mapping Intermediaries’ Computer Histories

In a recent Annals Think Piece article, Joy Rankin called for a history of social computing, one that considers the social and cultural aspects so computing. I take her call as a prompt to consider how organizations have adopted computer hardware and software as elements in wider campaigns to communicate with the public. For example, business historians, labor historians, and historians of capitalism are creating a growing body of literature on American industrial advocacy in the 20th century; many mention the sponsored economic education media productions that reflected, and aimed to maintain, favorable public understandings of private enterprise. The details of media production, distribution, and use, however, are often left out of these historical accounts. Historians of computing can enrich this discourse by exploring how corporate-sponsored nonprofit groups made use of software in their public outreach efforts. More generally, we can map how computing was enfolded into ongoing ideological maintenance efforts, and we can attend to the ways institutional intermediaries perceived personal computer hardware and software as persuasive technologies.

This type of scholarly inquiry can bring to light how efforts to maintain systems of social and cultural meaning involved technology in complex and contingent ways. JA’s initial decision to include donated computers and custom software in the Applied Economics curriculum was premised on the notion that students would be more interested in an economics course that offered engaging, technologically mediated experiences of business and commerce. Although one of JA’s goals for Applied Economics was to foster an appreciation of private enterprise, the inclusion of blue-collar and white-collar job roles in JA’s subsequent offerings suggest that Applied Economics was not necessarily a strategic, purposeful effort to make of every student a corporate manager in training. Yet, the need to respond to the temporal and spatial constraints of the classroom prompted the development of the Computerized Student Company Software, which relegated the activities of laborers and salespeople to the background. In this sense, the adoption of computers and custom software in Applied Economics had a variety of ideological implications, only some of which may have been intended. Computer historians are well placed to excavate the factors that may have contributed to the Computerized Student Company Software (and other applications like it) in its final form, including institutional intermediaries’ organizational cultures, their perceptions of what software could or should do, and the professional and organizational backgrounds that may have shaped those perceptions.

As the personal computer became associated with business identities in the final decades of the 20th century, software became an increasingly viable site for reflecting, maintaining, and shaping cultural understandings of business and economics. Mapping the history of how business advocacy and education groups came to adopt software as a means of representing work and commerce can offer new insights on how systems of cultural meaning have been attached to, and expressed through, computers and computing.

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References

8. I allude here to media theorist Stuart Hall’s writings on ideology and media, in which Hall argues that ideology is produced through struggles over the meaning of language and symbols. According to Hall, media production provides social actors with an opportunity to decouple (or as he puts it, disarticulate) certain terms and symbols from their existing meanings and to articulate to those terms and symbols preferred meanings that advance different political projects. For further reference, see S. Hall, “The Rediscovery of ‘Ideology’: Return of the Repressed in Media Studies,” Culture, Society and the Media, M. Gurevich et al., eds., Routledge, 2005.

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