ARCHAEOLOGICAL EDUCATION AND CAREER PREPARATION: ASPECTS OF A MULTIPLE-CLIENT APPROACH

JOSEPH L. CHARTKOFF

California educators have been preparing students for archaeological careers since the days of A.L. Kroeber and Max Uhle. Then, however, archaeological careers were almost exclusively based in museum work and college teaching. In recent years, employment has changed radically. Under Cultural Resource Management laws and policies, about 25 percent of all the practicing archaeologists in the United States now live and work in California. Of them, about 90 percent are involved in cultural resource management in various respects. College education has evolved considerably to include Cultural Resource Management components. A great deal has been done to enhance educational models so that student preparations can develop greater competence in Cultural Resource Management areas. Much more could still be done, however, to make college training increasingly appropriate for career entry and progress. Comparisons with fields such as engineering and technology show how approaches such as communication between educators and the various client groups using education and its results can provide a stronger strategy for archaeological education.

This commentary looks at historic changes in the relationship between archaeological education and archaeological careers in California, not to criticize but to ask how we might address current needs more effectively. The nature and varieties of California's archaeological careers have changed dramatically since the field was launched over a century ago. Although our institutions of higher education have made significant changes to accommodate those career shifts, inevitably more possibilities exist than have been explored. The goal of this paper is to relate some developments that have emerged in other disciplines, including here in California, in order to consider what aspects of them might strengthen our own efforts to better prepare the coming generations of California archaeologists.

At this time, somewhere around 10 percent of the population of the United States lives in the State of California. By contrast, around 25 percent of all the professional archaeologists practicing in the United States live and work in California. This disparity is not fully explained by just the state's outstanding environment, society, university system and archaeological record alone, of course. California's unique system of laws, which apply historic preservation and environmental protection principles well beyond limits used elsewhere, has created an industry of applied archaeology of a size and scope found in no other state. This industry, most often called Cultural Resource Management or CRM, involves the participation of about 90 percent of all the archaeologists who live and work within California.

The need to train people to serve in this industry has been a significant challenge for educators, and a number of areas of progress have already been made in meeting the challenge. Just as one example, Cabrillo College now offers an Associate of Science degree in Archaeological Technology. Cabrillo College also participates in a training consortium with nine other area colleges in a certification program, and the program works in cooperation with two area campuses of the University of California to provide continuation to the baccalaureate level.

It is worth appreciating just how dramatically the landscape has changed in this regard. When college education in California archaeology first emerged around the end of the nineteenth century, its practice was essentially entirely academic. Pioneers such as Alfred L. Kroeber and Max Uhle at the University of California, Berkeley, prepared many of the first generations of scholars who conducted archaeology in the state. Career options were almost all associated with college professorships and museum staff positions in those days. Archaeological education was geared toward preparation for such careers.

The Great Depression in the 1930s saw the beginning of a trend toward the establishment of government employment positions in archaeology at both the Federal and state levels. Archaeologists in government agencies included individuals who were involved with research in the traditional sense, but also ones who assumed administrative responsibilities for their organizations and the resources managed by those agencies. The development of management career paths in archaeology, both for management of archaeological resources and for management of administrative agencies, opened new career paths outside of academia for archaeologists.

Joseph L. Chartkoff, Department of Anthropology, Michigan State University, East Lansing, MI 48824-1118

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Such career options were not radically different from those in academia, where some researchers moved into administrative positions such as department chair or museum director. Graduate education rarely included preparation for such career options, however, but instead focused on academic content of archaeology, usually from an anthropological perspective. Individuals who opted to pursue nontraditional interests within their career tracks generally had to rely on motivation, competence and experience. The experience of operating research projects tended to give archaeologists a good deal of valuable experience in management, it should be noted, but not the professional preparation associated with graduate and professional tracks in other disciplines, such as the Master of Business Administration degree.

The decades following World War II saw the gradual expansion of funded research opportunities for archaeology, and expansion of government programs, following which the passage of CRM legislation worked to produce the dramatic growth of the CRM industry. Today this industry might be said to have three primary components. First, those who oversee CRM serve in government agencies, primarily at the state and Federal levels.

Next, those who conduct the great amount of CRM research activities fall into two groups. One set is associated with colleges and universities as an extension of the traditional research element of museums, Anthropology departments and research centers. For them, CRM constitutes applied Anthropology: a professional application of competence to public service, and one which brings in revenues to the institution. Today, these applied efforts constitute between 90 percent and 100 percent of all the archaeological research done in California by participating institutions.

The other set is located in the private sector of the economy: consulting businesses which provide their services to government agencies or those entities regulated by government agencies. These consulting firms range in scale from single-researcher consultants to significant corporations whose work covers several states and with multi-million-dollar budgets. More than half of all the contract archaeology done for CRM in California now involves private-sector firms, a category that did not even exist 40 years ago. This proportion is reflected in such sources as position announcements in the AAA *Bulletin* and the SCA Web site.

Higher education, in general, has been attempting to keep pace with the rapid changes emerging in the field of archaeology. Field and laboratory training, development of skills in new technologies, courses in cultural resource management, and connection with the growth of scholarly knowledge continue to be relevant and valuable features of university programs. Inevitably, and necessarily, more can be done to improve student preparation for these career tracks. My purpose is not to criticize existing programs for any asserted failures, however, nor to offer superior models of curriculum. Instead, it is to shed light on some approaches to the planning and design of archaeological training that might offer some significant advantages over the present system.

My recent administrative experience at a career-oriented university in Michigan, Ferris State University, gave me some exposure to academic planning strategies used in some applied fields that are in some contrast with my experience in Anthropology as a discipline, and at research-oriented universities as an environment. Ferris State is hardly the only school to pursue these approaches. One can find them at numbers of technology-oriented schools from coast to coast. Here in California, the state polytechnic universities at San Luis Obispo and Pomona can offer comparable examples. Even though archaeologists currently teach at those campuses, however, the planning strategies used in the technology and engineering programs, and a number of other career-oriented preparatory programs, at those schools, tend not to be reflected in archaeology education. Thus it may be helpful to outline some features of those efforts here.

Ferris State has a number of outstanding, nationally-ranked programs, just one example of which is automotive technology. Its faculty forms part of their College of Technology. The faculty there are engaged in careers that combine education with research and service. The program's students are trained to be well-prepared to enter careers in their fields, not just academically and technologically but also through internships and other on-site work experiences gained while still undergraduates.

In helping to prepare students for their postgraduate lives, the automotive technology faculty, along with their colleagues in other fields, have developed a series of ongoing, working relationships with the practitioners of the industry, who also are potential future employers of their students. These relationships provide both access to educational and

employment opportunities for students, and feedback from the employers as to their own needs in terms of the preparation of well-qualified future employees.

For example, each program in Ferris State's College of Technology forms an advisory panel composed of key corporate representatives from the businesses connected with their field. The panel meets with a faculty committee from the program at least once or twice yearly to review the content of the program's curriculum and to assess its relationship to the skills and competences felt by the employers to be needed from their new employees. Many of the panel members also are former students at Ferris State, who bring their connection to the university and their concern for its well-being to the discussion. In this sense, these review panels constitute something like an informal accreditation advisory body for that program. While the faculty retain authority over program content, they benefit from direct input from employers about the relationship between program content and adequacy of preparation of new employees from the program.

In addition to these program-specific advisory panels, the College of Technology itself forms its own Dean's Advisory Board. This board consists of executive officers of major corporations in the relevant industries. Thus the college as a whole maintains an advisory dialogue with senior officers of the industry, while each program has regular advisory input from operations-level officers at a more local level.

At the same time, the automotive technology program, like most others at Ferris State, makes active use of required student internships as part of the degree requirement. Students typically spend from a summer or semester to a full academic year at a job site, working as paid employees. Arrangements for placement are made between faculty and the firms that typically employ graduates of the program. A company supervisor at the work site serves as supervisor for the student employee, but at the same time a faculty member is assigned to visit each work site on a regular basis to observe the student at work, to interview the student, and to interview the supervisor. The internship functions as a credit course for transcript purposes. A typical supervisory load may give a faculty member 15-25 internship sites to visit repeatedly during a semester, in lieu of an on-campus course assignment.

Once the internship is completed, the student returns to campus to complete his or her degree program. Typically he student then writes a report on the internship experience and presents the report to the program's faculty and to fellow students. At the same time, the faculty observer also writes a report and documents his or her observations along with the contents of interviews with each student intern and intern supervisor.

Not only does the student gain valuable on-site work experience, but valuable lessons are learned about the culture of the workplace, the realities of work and needed competences, the formation of relationships, and the connections between academics and careers. Students also come to appreciate needs for competence outside their formal field, such as business administration, finances, communications and social organization analysis. The experience at Ferris is that between ½ and ¾ of the interns will be offered opening jobs by the firms where they interned. The firms, for their part, have come to rely on the strong supply of skilled, talented and dedicated new employees to which they gain access.

Here in California archaeology, such a model might prove very useful in bringing the concerns and perspectives of private CRM firms and government agencies which involve cultural resources together with the university programs which educate students in the field. For example, departments which prepare students for CRM careers could form their own advisory boards made up of both CRM officers in government agencies and officers in private CRM firms. Meetings between these boards and program faculty could review the kinds of competences found to be needed in the practice of the profession. These panels could help to advise departments as to the success that students from those programs experienced upon entering the workplace in CRM, and those aspects of job performance for which the students proved less well-prepared. Faculty could then use such advice in helping to assess the effectiveness of their own degree curricula.

Faculty also could become more active in recruiting a larger number and wider range of student internship opportunities so that students could get a wider range of professional practice experience before entering the postgraduates job market. For Government agencies and for CRM contracting firms, the internship path could prove to be a good source of low-cost but high-quality temporary staffing. It also could prove to be a valuable provider of access to good-quality prospective permanent employees. For students, the opportunities to gain professional experience beyond field school, to gain financial support while still in college, to gain access to invaluable experience for the resume and to gain greater access to career employment should be

profoundly attractive. For the academic programs, the ability to place students in ongoing internships should function both as an important source of financial aid for the program and a vital means to gain status by being more successful in helping students gain career job placement. Such advantages may, in turn, help make the program itself more attractive to university administration, to the industry, and to future students.

Departments which approach this option as a learning experience rather than as a threat to academic sovereignty may find themselves in much better positions to be educationally innovative, financially supported and attractive to new majors than at present. The approach therefore might be well worth closer examination.