The establishment, design, and location of American higher education institutions correlate directly with the evolution of American thinking regarding the nature of democracy, the knowledge required by the citizenry for full participation in democracy and the "American Dream," and the progression of the American economy from an agrarian to an industrial, and later to a technological base. Early American colleges were based upon the model of European colleges, which provided liberal arts curricula to ruling and upper class youth. In the increasingly industrialized society of the late 1700's, an influx of technological ideas created a need for a better educated population, and the demand for public support and control of higher education increased. Two articles of legislation provided major public support of higher education: the Morrill Act of 1862 provided 30,000 acres of public land to each congressman for the establishment of colleges of agriculture and mechanic arts, while the Servicemen's Readjustment Act of 1944, commonly known as the "G.I. Bill of Rights," provided tuition, subsistence, books, supplies, and counseling services for World War II veterans. Another major impetus on higher education has been the Basic Grant Program first passed by Congress in 1972. These monies have allowed millions of previously disenfranchised students access to higher education. Community colleges, which had their greatest growth during the 1960's and 1970's, began in the early 1900's as junior colleges designed to provide free or inexpensive education beyond high school to the area's citizens. Because the American economy is becoming more knowledge based, community colleges should provide educational facilities and support services, allowing other institutions to provide upper division and graduate instructional programs. Figures showing fastest growing occupations by general training requirements are included. Five footnotes contain reference information. (MAB)
New Models for American Higher Education

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NEW MODELS
FOR
AMERICAN HIGHER EDUCATION
by
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INTRODUCTION

The establishment, design, and location of American higher education institutions correlate directly with the evolution of American thinking regarding the nature of our democracy, the knowledge and skills needed by our citizenry to fully participate in a democratic society and obtain "the American Dream," and the progression of our economy from an agrarian, through an industrial, and into a technological base. Tracing the logic of that correlation through the history of higher education will, hopefully, lead to prudent thinking about the nature of higher education institutions in the future.

The purpose of this paper is to illustrate the points previously made and to lead the reader to think creatively about the structure of American higher education for the 21st Century.

THE HISTORICAL BASE OF AMERICAN HIGHER EDUCATION

The church in western society had been the education and intellectual arm of government in the centuries preceding the establishment of America. Since little education was necessary to obtain gainful employment or to fulfill one's obligations as a citizen, previous societies could exist quite well with little emphasis on education. European colleges were, therefore, run primarily by religious denominations for the purpose of training ministers and teachers for parish work. European parish and/or private schools did educate sizeable numbers of students to a minimal level as education was definitely considered "a general good," nice for individuals to have, as it aided mankind in thinking through religious concepts and in "finding one's way to God."

But a firm principle of the newly formed American version of democracy was the separation of church and state, and education at the grammar school
level was firmly established as a state function by the early 1600's. A series of Massachusetts General Court laws in the 1640's, first mandated parents to see to the education in their children, stressing the political necessity of education in a democracy. These laws noted the need for citizens to be able to read and understand government to be full participants in a democracy. These laws also encouraged the learning of useful vocational skills to provide regional economic vitality and gainful employment of the citizens. By 1647, however, Massachusetts had passed an act requiring each town to establish a school at public expense.

As would be natural in a primarily agrarian economy, very few youth went on to higher education and the role of higher education in the new democracy was minimal. When our ancestors first envisioned college they looked to the inherited pattern they had known in Europe. Harvard, established in 1636, and William and Mary in 1693, were designed in the British tradition of Oxford and Cambridge, and the curriculum was organized accordingly. The colleges were considered preparatory institutions for ruling and upper class youth and had basically liberal arts curriculums. Special courses in professional interests were all the vocational preparation available at that point in our history. However, even these colleges exhibited an early desire to free themselves of the domination of established religions. Although they were private colleges, not state controlled institutions, they were generally governed by a private corporation, usually consisting of the president and the resident teachers who were entrusted with the internal operation by an external board of governors. It was their intent to guard against control by either religious denominations or the state.

From the late 1700's through the mid 1800's, our society took on a character which set it apart from that of our ancestors. We had progressed from a society which accepted governance and affluence as the prerogative of the rich and well-born, to a society which truly believed the doctrines of equality and "natural rights." Free land, and the "frontier" mentality had proven that Americans not born to wealth and privilege could "make it rich." These years became the era of the "common man" in American history and social democracy became a reality. With the influx of technological ideas and industrial society, the "common man" needed more than a grammar school education. Demand for public support and public control of secondary education mounted and became a trend moving through one community after another.

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2 Ibid, p. 127.
Records denote very early discussion in our nation's history regarding the need for state supported higher education for talented individuals. Thomas Jefferson's "Bill For A More General Diffusion of Knowledge" (introduced in the Virginia Assembly in 1779) envisioned the need for state supported opportunities for talented students to progress through college. His suggestion provided for state payment of tuition for such students at William and Mary College, a private institution. A subsequent bill proposed amendments to the college's charter and substantial public endowments which would have moved the college well along toward becoming a public institution. Neither bill passed at that time.

Discussions of publicly supported universities to cap the system of publicly supported common schools occurred in many states during the early nineteenth century. Numerous states established normal schools and state universities during those years.

However, it was really the Morrill Act passed in 1862, which made the state university an established institution in America. This act provided 30,000 acres of public land (or its equivalent in scrip) for each congressman, the proceeds to be devoted to the establishment of colleges of agriculture and mechanic arts. Although initially there was considerable opposition from private institutions, "land-grant" colleges were established in every state in the union. It is interesting to note that although public universities were established to allow the "common man" to become educated to the highest level as part of the underlying American democratic principles established by our forefathers, the law specifically mentioned the establishment of colleges of agriculture and mechanic arts, which puts a definite economic development tone into the purpose. The country was moving from its agrarian base to an industrial society, but farming was still a vital and important facet of the economy.

With the precedent of public monies moving to support not only grammar and secondary schools, but now higher education, states and communities moved to continue the pattern with the number of public institutions increasing in an attempt to provide the necessary labor force to meet the growing sophistication of the rapidly changing economy.

NEW WAYS OF PUBLICLY SUPPORTING HIGHER EDUCATION

One of the greatest impacts on the history of American higher education came with the passing of the Servicemen's Readjustment Act of 1944, commonly known as the "G.I. Bill of Rights." This act, which provided tuition, subsistence, books and supplies, equipment and counseling services for returning World War
II veterans to continue their education again established the principle that higher education was a "public good," necessary for developing individuals to their full potential, and also important in providing a quality work force to a changing post-war economy. More important, the presence of these adult students forever changed the nature of the college setting and made it socially acceptable for individuals to start higher education later in life. A second major impetus on higher education has been the infusion of federal dollars into the direct support of students in higher education. Passed first by Congress in 1972 as the Basic Grant Program, these monies (commonly known now as the Pell Grants after Senator Pell of Rhode Island, the author of the current legislation) have allowed millions of previously disenfranchised students access to higher education. States, also, have organized extensive loan and grant programs to allow students without readily available resources an opportunity to attend college. These grants clearly indicated the nation felt an investment in higher education was necessary to make our country what our citizens wanted it to be.

A NEW KID ON THE BLOCK: THE COMMUNITY COLLEGE

The relative newcomer to the higher education world is the community college. The first examples of community colleges, usually called junior colleges, began in the early 1900's in communities which had a special need for a well-educated work force and/or in communities with sufficient wealth to support such endeavors. They usually provided two additional years of free or inexpensive education beyond high school to the area citizens. Most of the early clientele of these colleges were recent high school graduates. Generally, two years of transfer or general education was the goal, but many of these colleges began to add two-year vocational or technical programs in such areas as business, secretarial training, nursing, allied health, and engineering technology. The need for such programs in society became more prevalent as economies become more knowledge based.

Immediately after World War II, the Truman Commission on Higher Education gave these two-year colleges added visibility and attention, noting their potential for our society. At that time there were 640 junior colleges in the United States enrolling 497,065 college credit students. However, the greatest growth in the community college movement came during the 1960's and 1970's to accommodate the baby boom generation. Now there are 1,224 accredited community colleges enrolling over 5,000,000 college credit students. Another
five million students are taking non-credit and continuing education courses from these institutions.4

As the large classes of high school graduates began to decline in the late 1970's, experts had predicted a decline in the need for community colleges. If one had looked only to the recent graduates of secondary schools as the source of community college students, in other words, taken current variables as predictors for the future, there is no doubt that most community colleges would have been downsized and many would have closed as the number of high school graduates between 1975 and 1993 declined sharply. In reality, however, most community colleges did experience a temporary dip in their enrollment curve in the early 1980's, but such a phenomenon was very short-lived.

HIGHER EDUCATION FOR A NEW ECONOMY

By the mid-1980's America was experiencing a new economy. The nature of the jobs and the skills needed to remain a productive employee on those jobs were changing rapidly. New technologies and new ideas, like participatory management, service orientation, quality control, and just-in-time production, were pointing out basic workplace deficiencies in the labor force and in the ability of the nation to compete in a global economy. The Bureau of Labor Statistics has projected the fastest growing occupations from 1988 to the year 2000 (see Figures 1-4). It is interesting to note that, the greatest job increases are in professions requiring substantial training after high school but less than a bachelor's degree. This is the domain of the community college.

The skills employers want, according to Workplace Basics, a publication of the U.S. Department of Labor, Employment and Training Administration, are all skills commonly taught in the community colleges of the nation. They include: (1) knowing how to learn, (2) reading, writing and computation, (3) listening and oral communication, (4) creative thinking and problem-solving, (5) personal management: self esteem, goal setting/motivation, and personal career development, (6) group effectiveness: interpersonal skills, negotiation, and teamwork; and (7) influence: organizational effectiveness and leadership.5

At the same time, the nation has experienced a massive need for additional and more sophisticated skills in larger percentages of


Figure 1

Fastest growing occupations, 1988-2000

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Percent change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paralegal personnel</td>
<td>75</td>
</tr>
<tr>
<td>Medical assistants</td>
<td>70</td>
</tr>
<tr>
<td>Home health aids</td>
<td>68</td>
</tr>
<tr>
<td>Radiologic technologists</td>
<td>66</td>
</tr>
<tr>
<td>Data processing equipment repairers</td>
<td>61</td>
</tr>
<tr>
<td>Medical records technicians</td>
<td>60</td>
</tr>
<tr>
<td>Medical secretaries</td>
<td>58</td>
</tr>
<tr>
<td>Physical therapists</td>
<td>57</td>
</tr>
</tbody>
</table>

Figure 2

Fast-growing occupations generally requiring substantial training after high school but less than a college degree, 1988-2000

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Percent change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paralegals</td>
<td>75</td>
</tr>
<tr>
<td>Medical assistants</td>
<td>70</td>
</tr>
<tr>
<td>Radiologic technologists</td>
<td>66</td>
</tr>
<tr>
<td>Data processing equipment repairers</td>
<td>61</td>
</tr>
<tr>
<td>Medical records technicians</td>
<td>60</td>
</tr>
<tr>
<td>Surgical technologists</td>
<td>56</td>
</tr>
<tr>
<td>Physical &amp; corrective therapy assistants</td>
<td>52</td>
</tr>
<tr>
<td>EEG technologists</td>
<td>50</td>
</tr>
<tr>
<td>Occupational therapy assistants &amp; aides</td>
<td>45</td>
</tr>
<tr>
<td>Respiratory therapists</td>
<td>41</td>
</tr>
</tbody>
</table>

SOURCE: Bureau of Labor Statistics
Fast-growing occupations generally requiring a bachelor's degree or more education, 1988-2000

Percent change

- Physical therapists: 57%
- Operations research analysts: 55%
- Securities and financial services sales representatives: 55%
- Actuaries: 54%
- Computer systems analysts: 53%
- Occupational therapists: 49%
- Computer programmers: 48%
- Employment interviewers: 40%
- Electrical and electronics engineers: 40%
- Recreational therapists: 37%

Figure 4

Fast-growing occupations generally requiring no more than a high school diploma, 1988-2000

Percent change

- Home health aides: 68%
- Travel agents: 54%
- Subway and streetcar operators: 52%
- Social welfare service aides: 52%
- Human services workers: 45%
- Correction officers and jailers: 41%
- Receptionists and information clerks: 40%
- Flight attendants: 39%
- Bakers, bread and pastry: 35%
- Guards: 32%

SOURCE: Bureau of Labor Statistics
the work force, it is experiencing a less rapid turnover of the work force. The large influx of workers into the labor pool caused by the baby-boom generation has now slowed considerably. Approximately 75% of the current labor force will still be working well past the year 2000 and, as job requirements change, they will need to return to college for additional education and skill training, not only in the seven areas mentioned above, but for specific job skills in the technical occupations. Approximately 20% of these individuals have never finished high school. Many are very deficient in basic skills. Many workers now realize they must obtain the college work they never anticipated needing. In fact, they may be back many times to refresh their skills. Learning will become a life-long endeavor.

As our economy has required more and more of the work force to return to college, the community colleges have responded admirably. Not only have they instituted new programs to fit the emerging jobs, they have updated courses and programs to adapt to the changing world. They have made themselves "user friendly" by adjusting hours, taking course work to the customer, providing alternate delivery systems such as interactive television, satellite teleconferences, and course work by modem. They have offered customized training to business and industry, often at the plant site. To educate the many students who come to the institutions with learning disabilities or deficiencies, the colleges have been versatile in organizing and offering developmental and remedial education. In addition, they have provided services to handicapped students and recent immigrants with severe language deficiencies. As we experience a labor shortage in the years ahead, the community colleges will be called upon to extend their services in even more creative ways to update and upgrade the labor force, while they provide initial training programs for larger and larger numbers of women, minorities, and immigrants, all segments of the economy which have not previously accessed higher education in great numbers.

As the American economy becomes more and more knowledge based, up to 80% of the population may need some higher education. At the current time, it appears that a large portion of this group may be educated at the local community college and that these institutions will continue to provide life-long learning to the people of the regions they serve. In addition, as society strives to preserve the American way of life and the democratic form of government, the nation sees a greater and greater need for general voter education, political knowledge and skills for the average voter to survive the influence of the 30-second media blitz, skills in family living, skills for working in a team, and skills to budget and spend money intelligently. Dr. Dale Parnell, President of the American Association of Community and Junior Colleges, lists six areas where
citizens will need learning opportunities (see Figures 5-10). The community college is again ideally suited to handle this aspect of life-long education for our nation.

NEEDS IN EVERY COMMUNITY WHICH COMMUNITY COLLEGES CANNOT FILL

Every modern economy has its professionals—those doctors, dentists, pharmacists, attorneys, teachers, and business leaders—who already possess degrees beyond the domain of the community college. Current trends in the professions indicate that these individuals will also need constant updating of their knowledge base. Educational refresher courses and/or additional degree opportunities for these individuals can be offered only by private colleges, public colleges and universities, and/or the major land-grant universities. It is becoming abundantly clear that one of the major challenges of our time will be in providing this very high level instructional option to large numbers of place-bound students in the communities in which they work. An additional complication arises because the vital points of today's economy are not necessarily in locations near established higher education institutions. Most of the existing universities are in heavily populated, former centers of transportation and manufacturing. The new industries of the nation may arise anywhere. Witness the vitality of Silicon Valley, a spot which was certainly not a population or manufacturing center until less than 20 years ago. More and more of our society is experiencing a need for additional higher education, beyond the community college level, in sites which have no advanced education opportunities at the present time. Higher education opportunities are generally accessible for the recent high school graduates who have not yet taken on full-time jobs or family responsibilities which anchor them to a specific location. However, the challenge in the years ahead will be to make higher education available to the potential students—young and old—who are from the lower half of their high school graduating class and have assumed job and family responsibilities very early in life.

A recent College Board study of higher education in one typical state found:

1. Low cost, two-year transferable liberal arts college education was available within 50 miles of 99% of the population.
2. About 25% of non-metro students had no ready access to bachelor's level education.

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Figure 3

**LEARNER ROLE**
1. Read
2. Write
3. Compute
4. Memorize
5. Analyze/interpret
6. Converse/listen
7. Identify/assimilate

Figure 6

**WAGE-EARNERS ROLE**
1. Analyze employment trends
2. Plan for a career/vocation
3. Understand the processes of production and consumption
4. Prepare job application forms
5. Develop effective interviewing techniques
6. Understand the meaning "inflation" and "wage"
7. Understand payroll deductions
8. Develop some saleable skills
Figure 7
Explain the judicial system

1 Explain local government operation
2 Locate community resources
3 Cope with bureaucracies
4
5
6 Understand basic principles of economic and governmental operations

Figure 8
Understand legal and social responsibilities of parenting

1 Plan for long-range economic security
2 Understand family planning
3 Learn to deal with family crises (e.g., divorce, illness, death, etc.)
4 Develop family activities
5
Figure 9
Evaluate quantity and quality of goods

1. Use consumer assistance agencies
2. Understand basic legal documents (e.g., contracts, warranties, bills of sale)
3. Understand buying with credit
4. Compute interest rates
5. Understand provisions of standard insurance policies

Figure 10
Develop avocational skills (nonsport hobbies)

1. Create something
2. Develop recreational skills (sports)
3. Enhance aesthetic appreciation
3. Very few non-metro students had any access to master's degree opportunities, especially in the more technical fields.

4. In this particular state no opportunities for doctoral education exist, except for those who commute to the land grant university in the metro area.\textsuperscript{7}

It, of course, makes no sense to suggest that four-year universities be as prevalent as community colleges. That is an infrastructure luxury that our society could never afford. It does, however, make sense to suggest that the very "user friendly," very adaptable, local community college (generally within 50 miles of everyone) serve as a base to essentially broker appropriate higher education offerings to its community. In fact, the model of higher education which is likely to be effective and efficient in the near future is one which uses the community college as the educational facility and support service provider, and allows the upper division and graduate instructional programs needed by the community to be provided by appropriate colleges in the larger service region.

Instruction is really the part of the college structure which is the prerogative of the respective institutions. Facilities, equipment, support staff, administrative services, bookstore, food service, counseling, child care, etc. can all be provided by the community college. Surveys of the needs and demands of a community can be developed and completed. Surveys can quickly reveal the needs of business and industry as well as desires of the general population for additional offerings. When such information is collated and interpreted, a community can easily identify the course work and programs to be obtained. Consequently, the appropriate providers can be identified and programs and course work requested. Financial arrangements for the community college to be reimbursed for its role in providing support services are obviously necessary. Often there is a need for more physical space, and arrangements need to be made for the construction of additional physical facilities to house the expanded course work and services.

The model briefly described above is already in operation on several community college campuses around the nation. It is an efficient and effective way of providing additional and appropriate higher education offerings.

\textsuperscript{7}The College Board, M SPAN II Study, HECB, St. Paul, MN 1990.