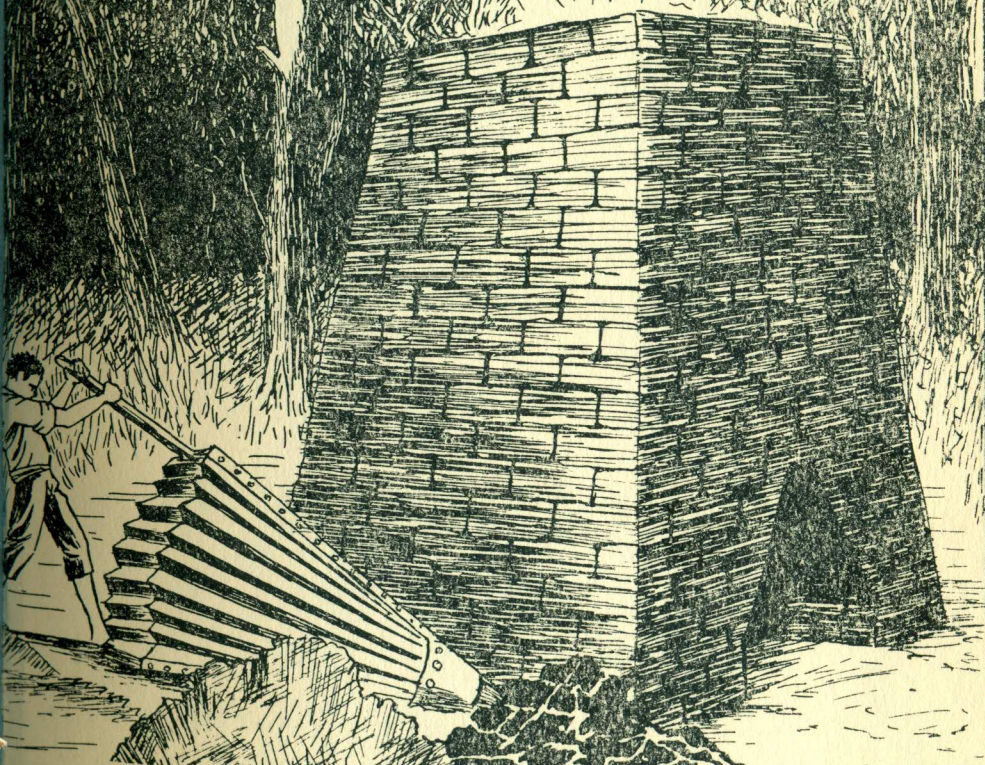
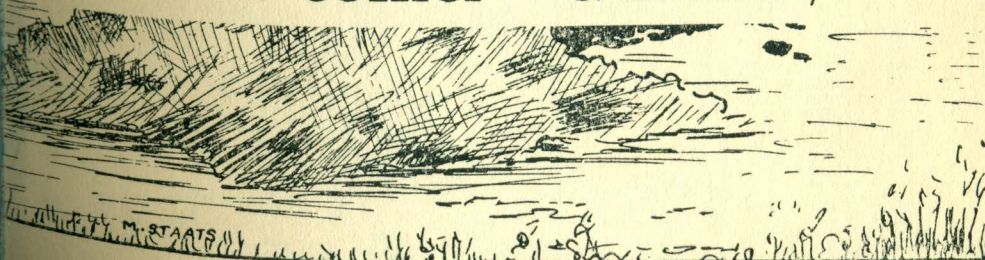


CALIFORNIA BULLETIN

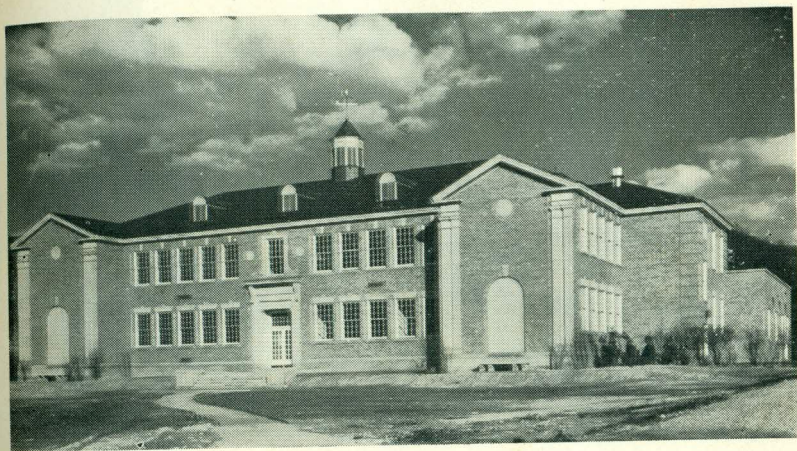
INDUSTRIAL ARTS NUMBER



ATE TEACHERS COLLEGE CALIFORNIA, PENNA.



CALIFORNIA BULLETIN INDUSTRIAL ARTS NUMBER



"No branch of Education teaches our boys such a variety of useful skills, and prepares them to enjoy their leisure time, and cultivates their personal hobbies, as does Industrial Arts." — Anonymous

STATE TEACHERS COLLEGE CALIFORNIA, PENNA.

Published monthly, except during May, June, July, and August, by the State Teachers College at California, and entered as second-class matter at the Post Office at California, Pennsylvania, under the Act of Congress of August 24, 1912.

VOLUME 49
50

OCTOBER 25, 1939

NUMBER 13

INDUSTRIAL ARTS TEACHING AS A PROFESSION

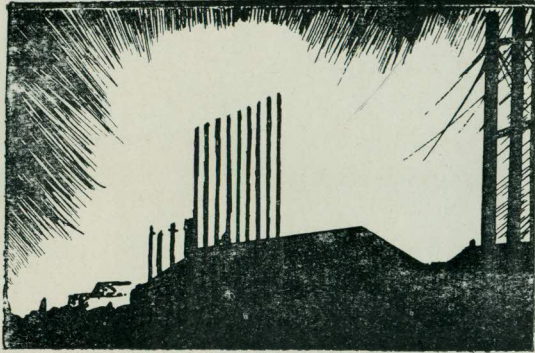
THE need for competent Industrial Arts teachers is greater today than at any time since the "professional ancestor"—manual training—was introduced into American education in the 1870's. Opportunities for employment and advancement in Industrial Arts teaching perhaps outrank the openings in any other major field of educational work. Many factors contribute directly or indirectly to this increasing demand for persons preparing to teach Industrial Arts.

The school curriculum—particularly that of the secondary school—has expanded in almost unbelievable proportions. There is the general tendency toward having school experiences meet the needs of the pupils and a breaking away from a "classical" and purely "academic" concept of education. Industrial Arts and other practical arts areas have achieved an enviable position in general education programs because they contribute in a significant manner to meeting the needs of nearly every pupil. The recognition of this fact has made for the development of many Industrial Arts programs; it also serves as a sound basis for further advancements.

Recent legislation in Pennsylvania, particularly the advancement of the compulsory attendance age, will make unique demands on Industrial Arts. When the problem of caring for pupils who must remain in school until they are seventeen years of age comes up for discussion, one of the conclusions reached is that there must be more practical arts in the curriculum. This may be attributed to the realization that many of these pupils need a practical yet general education. Industrial Arts helps to meet this need.

The consolidation of schools is another factor to be considered. Small schools which are handicapped by conditions that permit very limited and often times antiquated curriculums find it possible to enrich their programs upon consolidation. Industrial Arts usually shares in this enrichment.

Two Industrial Arts areas, namely, Industrial Arts for girls and Industrial Arts for elementary schools, have been sadly neglected because of a lack of persons prepared for this work. The possibilities in these two fields are especially promising and inviting.



These several conditions indicate that Industrial Arts teaching is one area in the profession that is not crowded. The demand for well-prepared Industrial Arts teachers has paralleled and will continue to parallel the growth of Industrial Arts. At the present time the need exceeds the supply.

To choose one's life work is very serious and often difficult. There is no simple "scientific" approach to the solution, for many personal factors are always present. To prepare a blanket statement in answer to the question: "Who would make a successful Industrial Arts teacher?" would be as great a malpractice as it would be for a physician to prescribe treatment for a patient he had not seen or examined. However, it is possible to indicate some of the attributes which have seemed to correlate favorably with success in Industrial Arts preparation and teaching.

A significant relationship has been observed between the student's secondary school standing and his success in the Industrial Arts curriculum. A good or outstanding high school record has been the best single criterion for predicting satisfactory work in this curriculum. Industrial Arts teaching has the same general intelligence and scholarship requirements as any other profession.

Industrial Arts has many things in common with teaching in general. It requires a person who has a genuine interest in boys and girls and an ability to guide and direct them,—a person with desirable character and personality traits, a pleasing personal appearance, and excellent health and physical vigor,—and a person with an intelligently co-operative attitude and a capacity for practicing a professional code of ethics.

In addition to these, several unique factors enter into Industrial Arts teaching. An Industrial Arts person should have a genuine interest in things industrial. Evidences of this interest are: a liking for and an understanding of common tools, machines, materials, electrical phenomena, and the like; an investigative attitude for learning what makes "things" work; the owning of a home work shop, successful experiences in a farm repair shop, model making or some hobby such as amateur radio; an interest in science and mechanics magazines; industrial or trade experience; and an awareness of industrial problems and conditions. Mechanical aptitude is only one factor, but one that is absolutely essential in Industrial Arts teaching.

Summarizing, it may be stated conversely that those who have not been interested in things industrial at home, at school, at camp, in arts and crafts or similar programs, or in industry itself should hesitate before entering this profession. It should be emphasized that preparing for Industrial Arts teaching is not a matter of "telling" and "being told" but a matter of actual "doing"; that is, one cannot learn by "proxy" but only through his own performance in the laboratory.

INDUSTRIAL ARTS OPPORTUNITIES AT CALIFORNIA

CALIFORNIA is located in the steel, coal, and coke center of the world. This industrial atmosphere provides a suitable setting for Industrial Arts education, and is an outstanding reason for California being chosen to prepare Industrial Arts teachers for the western half of Pennsylvania.

Within a fifteen mile radius there are many factories, and laboratories which produce a wide variety of industrial items; such as iron, steel, and aluminum products, electrical apparatus, glass, chemicals, publications, clothing, and prepared foods. Chemical laboratories,



research centers, museums, and department stores are also readily accessible. The district is famous for its natural gas, petroleum, and coal deposits. One specific advantage of this situation is the field-trip opportunities that are offered.

The State Teachers College at California is primarily concerned with preparing teachers. The College is staffed and equipped for this purpose. It is a fully accredited member of the American Association of Teachers Colleges. California offers a four-year program, and grants the degree of Bachelor of Science in Education.

The Industrial Arts program at California has many unique features. For example, experiences in the various planning and shop areas are continuous; that is, a student may design a machine or piece of apparatus in the drafting room, make the pattern in the wood shop, produce the castings in the foundry, and complete his work in the machine shop. There are excellent opportunities for the students to select problems and carry on research activities. The library facilities are quite complete; this is particularly true in the field of Industrial Arts. New materials are added constantly.

The Industrial Arts curriculum is comprehensive—of the 128 semester hours required for graduation, 46 must be in Industrial Arts directly. The remainder of the program is made up of courses in English, mathematics, science, social studies, art, and physical education. The point of view of the college is to prepare educators with a craftsman's level of ability in several basic industries and not just mechanics. A California graduate in Industrial Arts is prepared to participate in school enterprises, such as curriculum studies, orientation courses, extra-curricular activities, community services, and the like, equally as well as a person prepared to teach the general arts or science subjects.

Industrial Arts students are permitted to do one semester of full-time student teaching in carefully chosen public-school shops. This teaching is done under the supervision of the in-service teacher as well as the Director of Student Teaching of the College. The student teacher participates to the extent of assuming responsibility in planning, directing, and evaluating the pupils' work.

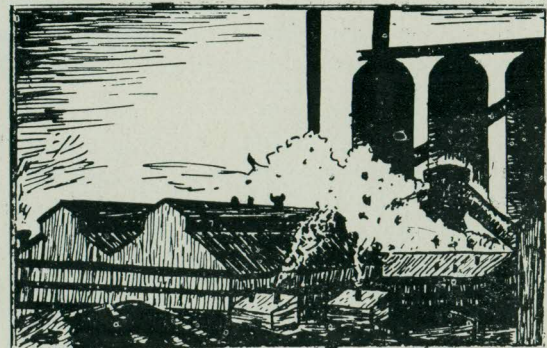
California points with pride to the fact that it has placed practically all of its Industrial Arts graduates.

TEACHER EDUCATION FACILITIES AT THE COLLEGE

A \$200,000 Industrial Arts building was built by the Pennsylvania General State Authority in co-operation with the Federal Government to house the Industrial Arts Department of the College. The new building was made necessary by the rapidly increasing enrollment in this department which has grown from 20 students in 1930, the first year of its organization, to 325 full-time students.

The architecture is colonial in style in keeping with the other buildings on the campus. The main part of the building is two and a half stories high, and measures 176 feet in length by 67 feet in width. In addition, there are two one-story wings measuring 51 by 67 feet, providing a total of more than 38,000 square feet of floor space.

The building houses twelve shops: Wood, paint, machine, sheet-metal, forge, welding (electric and acetylene), auto-mechanics, electric, ceramics, graphic-arts, and a secondary-school demonstration general shop. Two large drafting rooms, a blueprinting room, a reference library, a planning and design room, as well as classrooms, offices, and storage rooms are included in this spacious building.



The building has several features which were specially planned for Industrial Arts teacher education. Adequate space has been provided for office and conference rooms. The library, research, and planning room is conveniently located on the first floor where it is accessible to those regularly using the building as well as other students whose problems relate to the Industrial Arts field. Another unusual feature is the large size lockers, 18 by 18 by 72 inches. This size locker provides adequate storage space for partially-completed work. There are 250 of these built-in lockers along the corridors of the three floors, and 44 additional 18 by 18 by 18 inch lockers opening into the machine shop. In order to facilitate class scheduling, there are two large drawing rooms with auxiliary storage rooms and one blueprinting room.

While the shoprooms were planned to house the particular units as shown on the accompanying floor plans, special service lines—water, gas, electric, and compressed air—have been included in all shops and storage rooms to facilitate future changes. Electric wall outlets are located at four-foot intervals around the shops and demonstration rooms.

The graphic-arts laboratory includes new and complete equipment that makes for a greatly enriched offering in this field. Many phases of the graphic arts other than letterpress work will be available. Included also are: papermaking, linoleum and wood cutting, silk-screen printing, dry and soft-ground etching, bookbinding, and book design.

An adjoining design and editorial room, with reference material for research, allows the students to prepare necessary editorial and art work. A large stockroom provides ample space for a varied supply of paper and other materials.

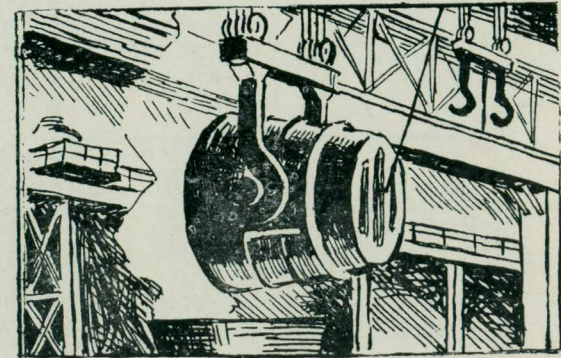
New automatic presses facilitate the handling of publications of the Industrial Arts Department. A room equipped with complete photo-engraving equipment, makes it possible for the student to prepare actual cuts from photographs and line drawings.

The secondary-school demonstration center greatly facilitates student teaching and observation work. Here it is possible for teachers in preparation to have first-hand contacts with Industrial

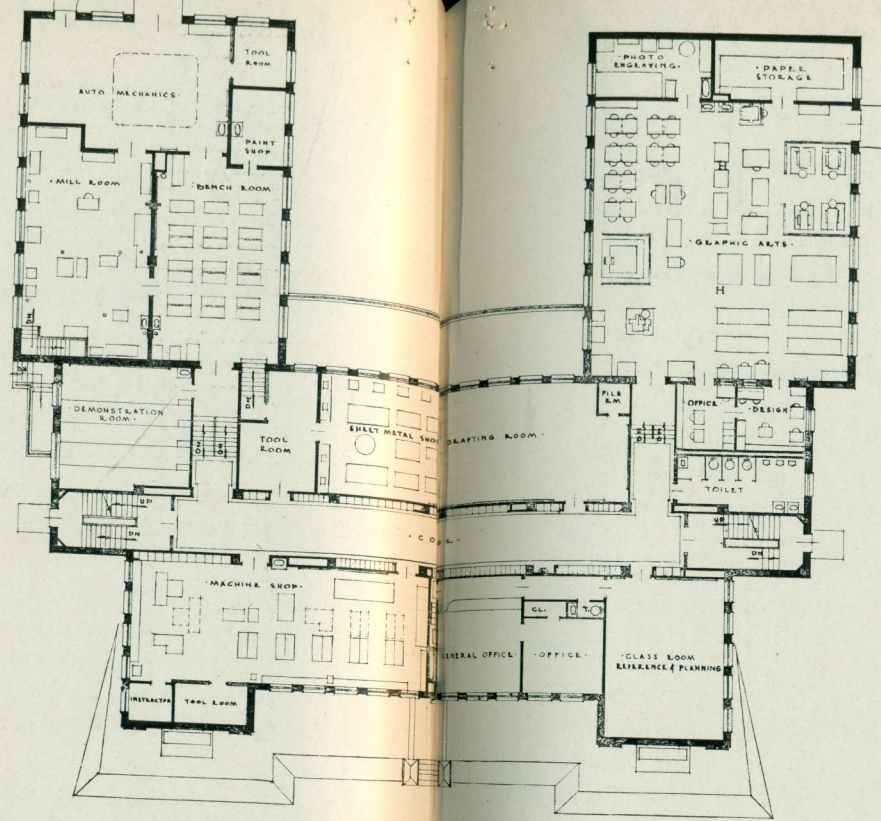
Arts teaching very early in their college work. This shop also provides the opportunity for students to participate in refining ideas and plans worked out in college classes. It is observed that graduates tend to teach as they were taught and as they observe others teaching. For this reason a good demonstration center is an excellent means for stimulating better teaching.

On the same floor with the demonstration room are a drawing room, an office for conferences, and a ceramics laboratory. These rooms are to supplement the one set aside for demonstration work. For this reason, unnecessary duplication of equipment has been avoided.

The building accommodates from 350 to 400 full-time Industrial Arts students.

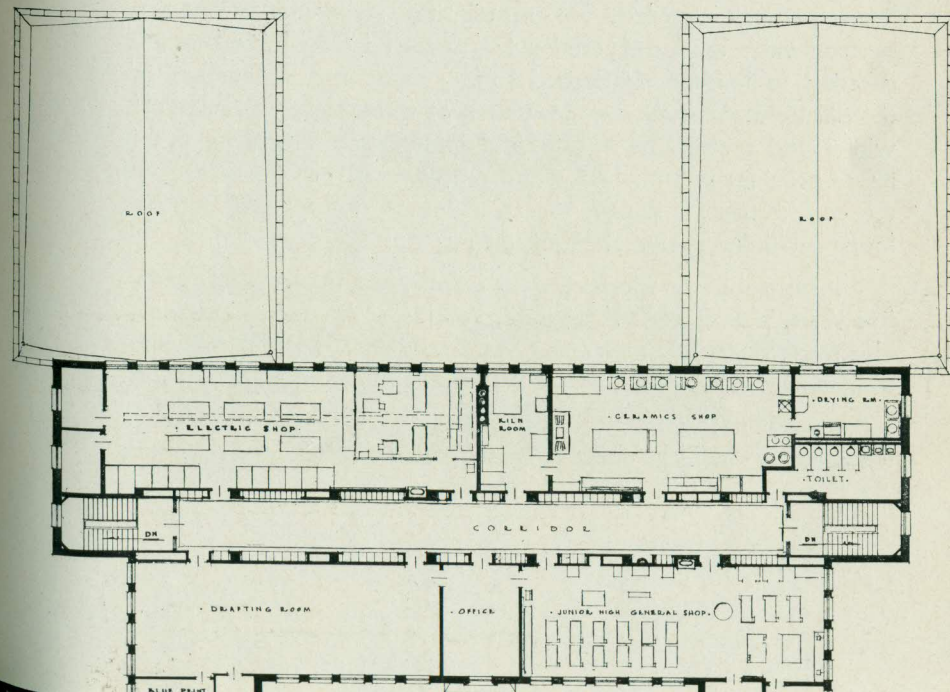
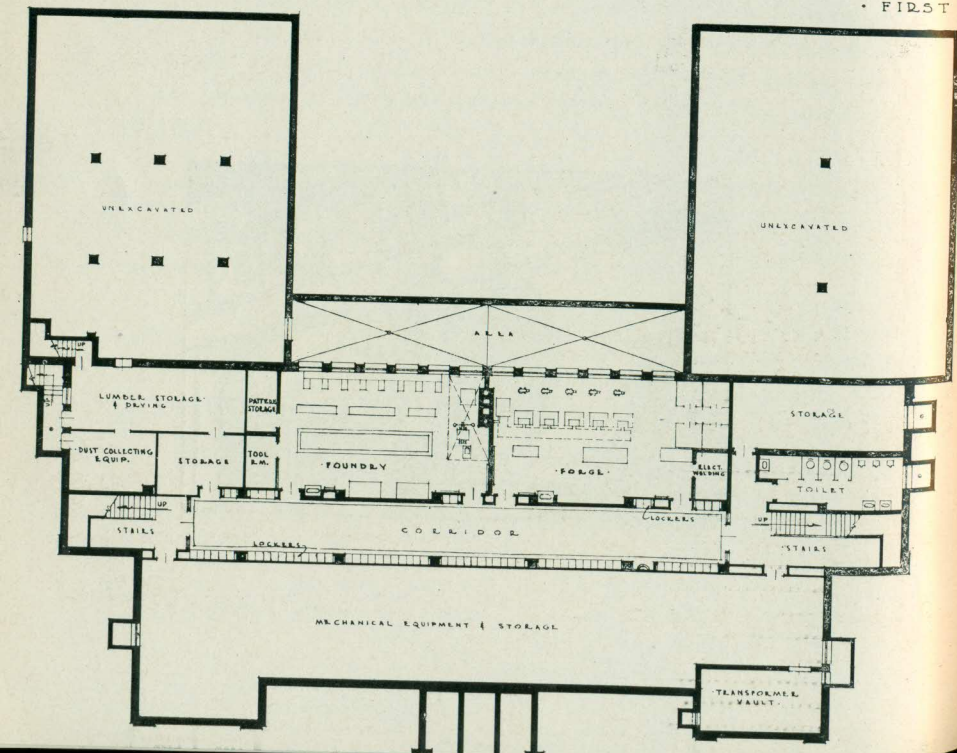


"An industrial arts shop shall be thought of not only as a place for making projects, but equally as a place for planning, investigating, testing, experimenting, consulting, evaluating. In short, the shop shall be thought of as a place for thinking as well as feeling and doing."



• FIRST FLOOR PLAN •

"Industrial arts shops are intended to represent and interpret current industrial life. They cannot do so when they give the impression of something other than shops. They should be as near like the best practice of that which they represent as it is possible to provide in school buildings."



LIVING IN AN INDUSTRIAL SOCIETY

MAN is greatly influenced by the society in which he lives. There is no proof to indicate that one race or nationality is superior to others, but it is obvious that people live and act differently. This difference in behavior is due largely to environment. Man seems to live successfully to the extent that he understands the developments his society offers and uses these opportunities to make for the better living of all.

The America of today is highly industrialized; industry affects everyone economically, socially, morally, and politically. From the economic viewpoint a person is either employed by industry or his means for earning a living is sensitive to the tempo of industry. One's social status depends largely upon his employment and this, as stated, reverts to industry. The nation's morals are continuously modified by our social life which is facilitated by such industrial products as the radio, automobile, airplane, and motion pictures. Political problems, wage and hour legislation, unemployment, social security—in fact, practically all legislative programs are prompted by industrial conditions. Difficulties arising from urbanization, highly specialized employment, occupational shifts, and an increased amount of forced leisure time are typical of a machine age.

One is affected so greatly by industry that the more common influences are not regarded. For example, just a generation or two ago, much of one's food and clothing was prepared in the home from raw materials to finished products. Today, foods and clothes are industrial items. A house may now be kept comfortable day and night, winter and summer, by an air-conditioning unit. Electricity in this house provides in turn: heat, light, refrigeration, entertainment, and the correct time; it washes dishes, launders clothes, and prepares food—all these among other things.

Innumerable developments have appeared in the last twenty-five years, such as: metal furniture, fabricated houses, streamlining, electric refrigeration, die-casting, trans-oceanic radio phoning, photo lithography, laminated glass, commercial air lines, and aniline dyes.

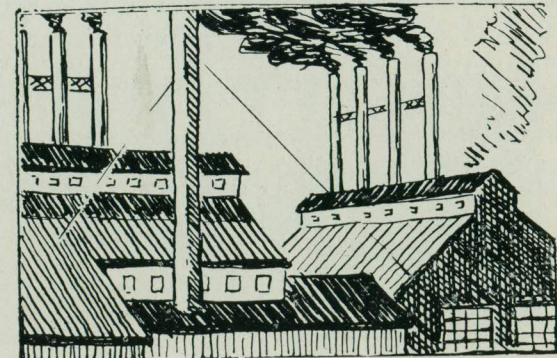
It is of little wonder that the growing boy or girl is confused by this complex—perhaps chaotic—social order. The school must assume

a great share of responsibility in developing an intelligent understanding of this technological society. This understanding involves knowledges, appreciations, abilities, skills, and attitudes. Industrial Arts as a school area provides an excellent approach to the study of industrialism.

UNDERSTANDING INDUSTRY THROUGH INDUSTRIAL ARTS

INDUSTRIAL ARTS is a study of materials, processes, products, and problems of industry. Through Industrial Arts programs an attempt is made to give boys and girls a "working" understanding of the industrial society in which they live. This it does by offering experiences which involve: using tools and materials, experimenting and testing, visiting industries, museums, laboratories, and department stores, viewing pictures and films, and reading. In brief, Industrial Arts is much more than a "class room subject." It provides for a variety of vital activities in "living" situations.

In addition to providing information about industry, Industrial Arts experiences make for more successful living. For example, the boy or girl has an opportunity to study occupations to the extent of actually



performing many of the basic processes that are involved in various industries. Then, too, he may learn to better select, use, and maintain the many industrial products that he must buy. This person may also find something particularly interesting in Industrial Arts from an avocational viewpoint, such as: art-metal, art pottery, photography, leather craft, the study of glass, silver, or methods of graphic reproduction, and a host of others.

A definite distinction may be made between Industrial Arts and Vocational Education. Industrial Arts is a phase of general education extending from the pre-school period through elementary, secondary, college, and adult education programs. In the earlier school levels particularly, no distinction is made on the basis of sex, status, or possible future occupation. Vocational Education has a more specific aim of preparing one for a particular occupational area. Since this vocational preparation requires an occupational choice, Vocational Education is usually restricted to the secondary school period and later years.

Industrial Arts has a definite contribution to make to vocational programs, but it is not dominated by this purpose. Pennsylvania, as a case in point, makes Industrial Arts a pre-requisite for Vocational Education. The two are not in conflict; both are essential to the American educational program.

In summary, the general purpose of Industrial Arts is to provide boys and girls with an approach for understanding the influences that industry has upon everyday living. Materials, tools, and manipulation in addition to mental and other forms of physical activity usually characterize Industrial Arts programs. A primary difference between Industrial Arts and other social studies which deal with industry lies in the method of approach. Industrial Arts presents industry largely through direct experiences with materials, processes, and products. This is in contrast with a study about these and other aspects of industry.

THE INDUSTRIAL ARTS FACULTY

Robert M. Steele, Ph.D., LL.D., President

Clarion State Normal School, 1902; Bucknell University, Ph.B., 1908; Teachers College, Columbia University, M.A., 1925; Ph.D., 1926; Bucknell University, LL.D., 1936.

Theodore A. Siedle, Ph.D., Dean of Instruction; Education

Allegheny College, B.S., 1924; University of Pittsburgh, M.A., 1930; Ph.D., 1938

Thomas M. Gilland, Ph.D., Director of the Laboratory School and Student Teaching; Education.

Ursinus College, A.B., 1909; Teachers College, Columbia University, M.A., 1926; University of Chicago, Ph.D., 1935.

Shriver L. Coover, M.A., Director of Industrial Arts Education

Shippensburg State Normal School, 1918, Geneva College, B.S., 1926; University of Pittsburgh, M.A., 1930.

Arthur W. Bauer, M.A., Department of Drawing and Woodworking

Miami University, B.S., 1928; Columbia, University, M.A., 1932.

Leonard F. Bollinger, M.A., Department of Metal and Woodworking

Northern Illinois State Teachers College, 1924; University of North Dakota, B. S., 1926; Ohio State University, M.A., 1938.

Aaron J. Hoover, Ed.M., Department of Woodworking and Sheetmetal

Shippensburg State Normal School, 1923; California State Teachers College, B.S. 1934; University of Pittsburgh, Ed.M., 1939.

R. Lee Hornbake, M.A., Department of Metal and Drawing

California State Teachers College, B.S., 1934; Ohio State University, M.A., 1936.

Robert M. Keck, M.A., Department of Electricity

Toledo University, B.S., 1932; Ohio State University, M.A., 1938.

Rose A. Leacock, M.A., Industrial Arts Design

Edinboro State Normal School, 1922; George Peabody College, B.S., 1927 M.A., 1932.

Anthony T. Stavaski, Ed.M., Department of Printing

Fitchburg State Normal School, 1922; Fitchburg State Teachers College, B.S., 1934, University of Pittsburgh, Ed.M., 1939.



FOUR YEAR CURRICULUM FOR INDUSTRIAL ARTS

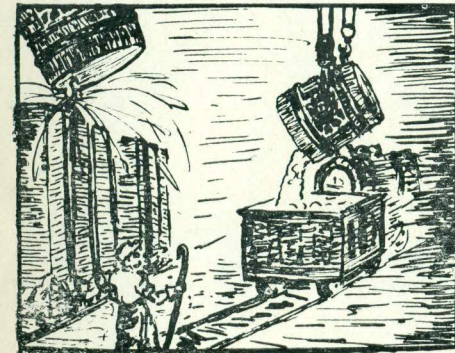
The first number after each course refers to clock hours, while the second indicates the semester hours of credit.

First Semester		Second Semester	
English 1, including Library Science	4 3	English 2	3 3
Place and Purpose of Education in the Social Order, including School Visitation	3 2	Fundamentals of Speech	3 3
Applied Mathematics	3 3	Health Education 2, including Physical Education and Personal Hygiene	4 2
Health Education 1, including Physical Education and Personal Hygiene	4 2	History of Civilization	4 4
Drawing and Design 1	4 2	Drawing and Design 2	4 2
Shop 1—Wood	8 4	Shop 2—Sheet Metal	8 4
Total	26 16	Total	26 18
Third Semester		Fourth Semester	
Literature 1	3 3	Principles of Economics	2 2
Applied Science	4 3	Educational Psychology	3 3
Drawing and Design 3	4 2	Drawing and Design 4	4 2
Shop 3—Print	8 4	Shop 4—Machine	8 4
Elective	3 3	Electives	6 6
Total	22 15	Total	23 17
Fifth Semester		Sixth Semester	
American Government	3 3	Principles and Practices of Industrial Arts Teaching	2 2
School Law	1 1	Drawing and Design 6	4 2
Educational Measurements	2 2	Drawing and Design 7	4 2
Drawing and Design 5	4 2	Shop 6—Wood	8 4
Shop 5—Electric	8 4	Electives	6 6
Elective	3 3	Total	24 16
Total	21 13	Total	24 16
Seventh Semester		Eighth Semester	
Visual Education	2 1	Student Teaching and Conferences	15 12
Guidance	2 2	Curriculum Materials: Selection and Adaptation	4 3
Philosophy of Education	2 2	Total	19 15
Shop—Elective	8 4		
Shop—Elective	8 4		
Elective	3 3		
Total	25 16	GRAND TOTAL	128

INDUSTRIAL ARTS CURRICULUM EXPENSES

	Total Expenses For the Year
Resident Students	
Student Activity Fee	\$ 20.00
Contingent Fee	108.00
Housing Fee (board, room and laundry)	252.00
Total	<u>\$380.00</u>
Commuting Students	
Student Activity Fee	\$ 20.00
Contingent Fee	108.00
Total	<u>\$128.00</u>

Note: The foregoing expenses do not include the cost of books which is estimated at \$12.00 to \$20.00 a semester.



CALIFORNIA IS ON THE MONONGAHELA

