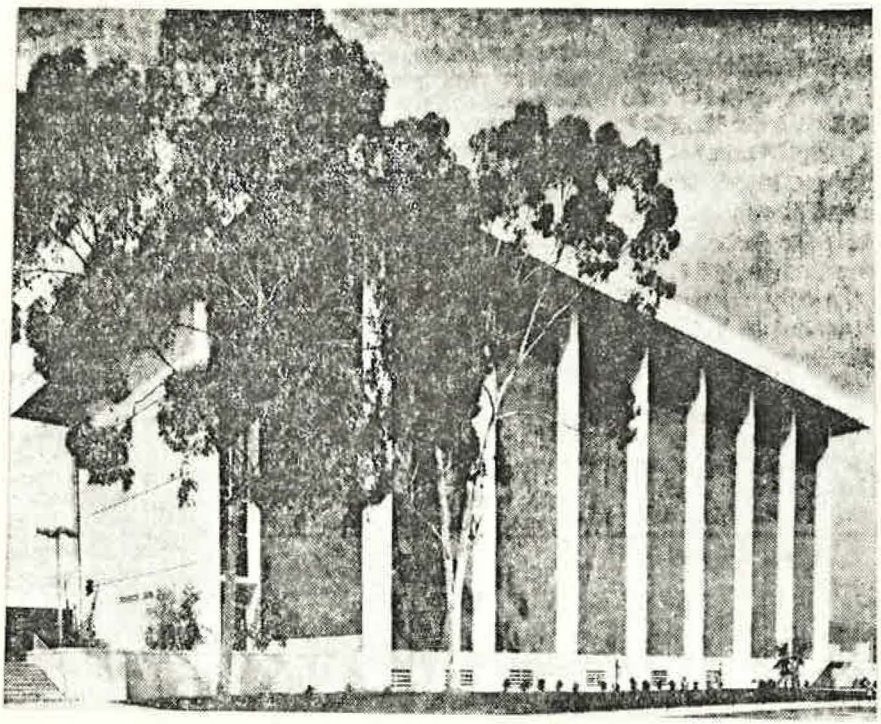
SABBATICAL LEAVE REPORT

EDGAR R. HAZARD

1971-72



SABBATICAL LEAVE REPORT
EDGAR R. HAZARD
1971-72

I. List of Activities

1. Wrote lesson problems and visualaides for a large part of the new course, "Aviation Maintenance Science".

   a. Letter of appreciation from instructors who used material.

   b. Copy of lessons available in Drafting Dept. files.

2. Visits to California Community Colleges

   a. List of Colleges visited.

   b. Large illustrated volume reporting each visit, also impressions and ideas learned from each. Available in my office, not for general circulation.

3. Visits to other community colleges and institutes outside of California.

   a. List of schools visited.

   b. Illustrated volume reporting each visit with some impressions and ideas learned. Available in my office, not for general circulation.

4. Reports of NASA visits.

   a. Apollo 16 lift off.

   b. Geo. C. Marshall Space Flight Center

   c. Houston - Flight Control Center

5. Architectural Observations

   a. "Evangeline Country" & Southern mansions (Louisianna)

   b. Ringling home and Museums (Sarasota, Fl.)

   c. Williamsburg, Virginia

   d. Mt. Vernon, Va.

   e. Modern and Ancient European Architecture

6. Summary of travels and points of interest.

   a. In U.S.A. (1) before Europe
   (3) after Europe

   b. In Europe (part 2)

7. Summary of information collected for course developement

8. Suggestions for a revision of our beginning Techinal Drawing course.

9. Bibliography of texts and work book evaluated.

II. How my sabbatical leave helped the college and myself.

III. Appendix - pictures, maps etc.

October 20, 1972

Mr. Eldon E. Pearce
President
Mt. San Antonio College
Walnut, California

Dear Mr. Pearce:

I am most pleased to report the accomplishments of Mr. Hazard while he was on sabbatical leave this past year.

I understand part of his assignment was to survey and develop updated drafting curriculum. He worked very closely with Mr. Reukema and myself in initiating a new FAA course, Aviation Maintenance Science 71. Mr. Hazard researched and developed appropriate exercises in the practical mathematics and drafting-sketching subjects. This material has met with successful usage by three class groups who have commented favorably on its practical application.

My personal thanks are extended to Ed for his assistance in helping to develop a very worthwhile course.

Sincerely yours,

George H. Munday
Instructor
Industrial Technology Department

GHM:mc

cc Mr. Edgar Hazard
Mr. Thomas Bull
Mr. John Reukema

LIST OF COLLEGES SURVEYED FOR THEIR DRAFTING PROGRAMS

A more or less random selection of local and other California community colleges which have reason to be compared to Mt. San Antoniot College.

1.	Americam River College	Los Rios (N. Sacremento)
2.	Bakerfield College	Bakerfield
3.	Cerritos College	Norwalk
4.	Chabot Community College	Hayward
5.	Chaffey Community College	Alta Loma
6.	Citrus Community College	Azusa
7.	Cunsumnes River Community College	Sacremento
8.	College of the Desert	Palm Desert
9.	El Camino College	Torrance
10.	Fresno City College	Fresno
11.	Fullerton Junior College	Fullerton
12.	Gavilan Community College	Gilroy
13.	Golden West Community College	Huntington Beach
14.	(L.A.) Harbor Community College	Wilmington
15.	Los Angeles City College	Los Angeles
16.	College of Marin	Kentfield (near San Rafiel)
17.	Mt. San Jacinto College	Gilman Hot Springs
18.	(L.A.) Pierce Community College	Woodland Hills
19.	Rio Hondo College	Whittier
20.	City College of San Francisco	San Francisco

LIST OF COLLEGES AND INSTITUTES OUTSIDE OF CALIFORNIA SURVEYED FOR THIER DRAFTING PROGRAMS.

1.	Catonsville Community College	Catonsville, Md.
2.	Cleveland Engineering Institute	Cleveland, Ohio
3.	Cochise College	Douglas, Arizona
4.	Henry Ford College	Dearborn, Michigan
5.	Edison Community College	Ft. Myers, Florida
6.	Institute of Drafting and Technology	Morrison, Illinous
7.	Keene State College, Industrial Ed. Dept.	Keene, New Hampshire
8.	R.S.McLaughlin Collegiate & Vocational Institute	Oshawa, Ont., Canada
9.	Monroe Community College	Rochester, New York
10.	Oakland Community College	Bloomfield Hills, Mich. (near Pontiac, Mich.)
11.	Phoenix Indian High School	Phoenix, Arizona
12.	The Polytechnic of North London	London, England
13.	Rochester Institute of Technology	Rochester, New York
14.	Wentworth Institute	Boston, Massachusetts

Impressions of John F. Kennedy Space Flight Center, Museum and the Apollo 16 lift off. Florida - April 16, 1972

With our special reservations, we were given a two hour bus tour of "the Cape" where we were able to see all of the various lift off platforms or stations, and samples of many of the various rockets and missiles. We had an extended stop in "The Assembly Building". It is one of the largest buildings in the world. This is where the the final assembly of the Apollo's is made. The rocket is assembled on the crawler in its vertical position in the building. The sizes of the building, the rocket itself,and the crawler are so big as to be difficult to appreciate from words alone. The crawler is about the size of a football field with huge crawler tracks on each corner. Each cleat block contains a ton of steel. A huge diesel engine drives each of the four tracks. It is also designed to keep the platform level within a fraction of an inch as the crawler climbs the ramp to the lift off platform by the embilical tower.

The lift off itself the next day was a never to be forgotten experience. The weather was perfect. I made a tape recording and movie of this great thundering experience from the closest point that anyone is allowed except in protective bunkers.

Statistics - like, it generates 160 million horse power, weight at lift off 6 million pounds (= to 25 fully loaded 707 Boeing Jets), burns fuel at 5000 gallons per second, etc. are hard to comprehend until you see its 363 ft. height.

The most impressive aspect of the whole program to me is the care and precision required on every little detail. This is something we need to stress in the classroom. Even a 10¢ part mst be carefully prepared and installed or it could mean the abort of the entire mission.

Impressions of Visit to Redstone Arsenal, George C. Marshall Space Flight Center, and Alabama Space and Rocket Center.

The Alabama Space and Rocket Center in Huntsville, Alabama is a public facility that is the very best space museum in the world. Every one ought to plan to see it. It is operated by the state of Alabama in conjunction with NASA technicians. There are actual samples of all types of rockets from Robert Goddard's first to the great Apollo V. There are operating experiments to demonstrate many principals used, & all sorts of auxilliary equipment, such as Lunar Rovers, etc. It is fantastic, and complete, an unexcelled educational opportunity.

By special invitation, Mrs. Hazard & I saw many of the projects at the Space Flight Center. Our guide & chauffer took us to the huge million gallon training tank, where the astronauts train for zero gravity activities in space. We saw vidio tapes of there activiies, used by astronauts to study their actions etc. We were in the "Sky Lab" mock up to learn how scientists perform experiments in outer space. Also saw the space shuttle vehicle and how it operates. Another very intersting experience was to go all through the three story living quarters of the long term flying laboratory mock up.

Also visited the flight control center at Houston, Texas prior to the Apollo lift off. However, beyond seeing the public displays of landing vehicles, the movies, and the huge centrafuge used to simulatedmultiple "G" forces as in lift off, it was not possible to see the immense computers, as they were rushing "last minute" preparation for the lift off.

Many valuable products and ideas have been learned by these developements that we can use in our every day lives.

Some Interesting Architectural Visits.

As we toured across the southern part of the United States we visited several old mansions and historic country homes. The home that is the setting for the story "Evangeline" by Longfellow, at St. Martinville has a small house now a museum and shop. This represented the typical 2 or 3 room house, where, living dining & beds are in the same room with spinning wheel, loom etc. No heating is provided, all cooking is outdoors or in a seperate shed. The farm worker who lived herealso kept his tools, shoe making etc. in the same building. The children slept upstairs via an out door ladder. The main house, built with heavy stone walls, wide verandas or porches the whole length both sides, up stairs and down, front and rear. French doors open on both sides to let the air blow thru. There are no interior corridors. Bed rooms and living room up stairs, dining and work rooms down stairs. Cooking was done in a seperate building. This is the home of the Acadeans. They were originally French (wealthy) that went to Nova Scottia, but were driven out by religious persecution. The ship that carried most of their possessions was lost en route. They had to start with very little to rebuild their lives. Tools were crude, so building was slow.

Most of the mansions face a bayou with their back to the road. Usually there is a central hall front to rear. There are are two or three rooms on each side of the hall on each floor, with a porch or balcony front and rear at both levels. One home the "Albania Mansion" had a winding or curving staircase.

In the spring the flowers along the roadway were a blanket of colors for miles, especially in Texas. Some blue, pink, rose, and white. Farther east the Dogwood was in bloom just "everywhere".

In Florida, the Ringling Home and Art Galleries at Sarasota are unmatched for grandeur in the United States. It excells the Hearst Castle in that it carries the same design theme throughout. It is like a great Arabian palace. No expense was spared to make it the most impressive possible. Colored hand blown glass windows, giant tapestries, a player pipe organ (with rolls) were in the reception hall. This room was three stories high. There were gold bathroom fixtures in a marble bath etc. The home has a marble paved terrace facing the bay and boat docks, huge gardens with much statuary. On the grounds in addition to a very large and beautiful art gallery, there is a Circus Museum. It was very interesting to see how a circus operated in the old days. Also visited Thomas Edison's winter home at Ft. Myers. It was interesting to see how many of the Acadean home features were used. Edison's home however had porches all the way around, and was all prefabricated in New Jersey and shipped in.

Williamsburg,Virginia is a very old town, which has been restored partly by John D. Rockerfeller funds, and admissions and sales. Many buildings are the original construction dating back to the colonial times of the 1700's. Others, some had burned, were rebuilt exactly like the original construction. This was possible because at that time complete records and plans for all buildings and equipment were kept on file at the county court house. Fortunately these are still available. The visit was

of interest both historically and architectually as many famous people frequented this town, as it was the seat of the legistlature of Virginia at the time. One learns much about Patrick Henry, Thomas Jefferson, Washington, Adams etc. while there.

Most of thebuildings are brick with shake roofs. The reason the shakes are still OK is that a little 1 inch corner was cut off on the lower corners of each shingle. They were hand split and did not warp. Much hand planed tongue and groove lumber and moldings were used. There were ingenious mechanisms by the fireplaces that would revolve the spit slowly, using gravity to propel it with a weight. A number of the ancient crafts were being demonstrated, such as silver smith, book binder, printers, bakers, blacksmith and metal castingin their own shops. Every thing was very well built, carefully maintained, and in its original setting.

Mt. Vernon, somehow, one of the most beautiful homes in the country always facinates me. It is not the largest, or the most expensive, or the best built, but George Washington with limited means certainly knew how to design a real masterpiece. It is interesting to note that is is a regular wood frame building. The appearance of great stone walls is done by beveling wooden panels and painting with heavy white paint and covering it thoroughly with dry sand while the paint is still wet. Hollow wooden colums were used. Carefully design plaster molds made the interior ceilings very elegant, along with rich paint colors and drapes. There is much fine old furniture, some of it actually belonged to G. Washington.

European Architecture is very different from ours, for the most part. Buildings are generally built to last longer than ours. In London many people live in the old row houses with the many chimney pots. Now they don't burn the soft coal anymore as many are heated by central steam plants.

Architectural students were more concerned withhow to remodel ancient buildings to give them modern utility and yet retain the old character. The exciting change from this was shown in the Design Center. This was a temporary exhibit in a store like building on Haymarket Street. On the first floor were exhibits of many new household or consumer goods. The second floor there was an exhibit of "One Room Living". Each room was a prize winning solution by interior design students to furnish one room as as a complete living unit, for one of the following problems. For the senior citizen, the teen ager, the "mod" or "way out" young professional person, young couple just getting started, and the college girl. There were many clever solutions, using new practical modern products. There was a constant stream of students going thru taking notes.

In Greece, there are many modern buildings. I might even call them "modernistic". Practically no lumber is used. Homes are like white boxes, 2 or 3 stories high with heavy metal roll down shutters, which keeps out the bright sun and provides excellent security. "All" homes in Europe have balconies.

Nearly all stores in Italy also use the heavy steel shutters. Many homes do also. However most architecture is an old traditional order.

Of course, we visited all the old historical and ancient buildings, but so much has already been said by others about these, there is little that I might add. Most of these were built on hilltops, and the view is always something special. The hill top settings makes them very impressive to see.

Summary of Travels and Points of Interest Visited,
In order to Obtain the Information and Appreciations
Required for This Report.

A. Travels In America. Part 1.

Mrs. Hazard and I started March 27, 1972 with our car and Airstream trailer (after completing the visits to the California Community Colleges). From Walnut to Wickenburg, next, to Scottsdale & Tucson (at the Mt. Park). Then a side trip to Nogales, Mexico before heading east. Visited a factory where beautiful silk screen printed fabrics were made.

Then over the divide and on to Carlsbad Caverns where we had a fantastic underground hike. Spent Easter Sunday in San Antonio, Texas. This is the day of the big art show, San Antonio has has a system of canals around thru the down-town area with walk ways beside them. This makes the city distinctive and beautiful with these park like strips. Litterly thousands of art works were on display here. Many new and novel ideas.

Thousands of Texas "Blue Bonnets" and other pink, rose and whitw flowerswere in bloom along the highway on the way to Houston.

In Louisianna, we visited Beaux Bridge,"The Crawfish Capital of the World". Had an interesting Crawfish lunch (creole style). Also visited St. Martinsville, Evangiline Park, where we learned about the Acadeans, their architecture, and way of life. This is the setting of the story "Evangeline" (by Longfellow)*

The Albania Mansion* is one of those great Southern homes which we were able to visit. It is impressive for its center hall, winding staircase, and large rooms on either side. These were fully furnished with original antique pieces. Visited the "French Quarter" New Orleans, but this was largely disappointing.

Then on to Florida, the Ringling Estate*and Museums at Sarasota, and Thomas Edison's home*and laboratory(winter quarters). Following this visitedthe famous Bok Tower. The "Singing Tower" is a very beautiful place. From there across the state via "Cypress Gardens" to Titusville. There at Cape Canaveral (Cape Kennedy) we were special guests of NASA for the lift off of Apollo 16 (April 16), a very special thrill.*

* See other reports for details of these places or events.

Next we left for Huntsville, Alabama. There are many beautiful miles along the Georgia country side in the Spring. Woods, Dogwood and other flowers in bloom and rushing streams are typical.

At the George C. Marshall Space Flight Center* we were met by the head of public relations , his NASA car and driver. Had a 2½ hour tour of the facilities, A very special privelege. Dr. Reese is now head of the Center in place of Dr. Werner Von Braun. Met Mr. Hammer at the Space simulation tank, and Mr. Freeman in the Laboratory. Mr. Graham chief of the "Shuttle Bus" project, showed us thru the mock up, and how it will carry men and materials back and forth from the Space Lab. The Alabama (State, public) Space Museum* is amust for everyone, be sure to see it!

The next leg of our journey took us up thru North Carolina to Williamsburg, Virginia.* Then on up to Mt. Vernon.* Next came Baltimore, New York City and on up to Rochester,N.Y. where I visited several schools. There was a side trip to Oshawa, Canada for a very interesting school visit there.

Thence, quickly to Concord, New Hampshire, where we left our trailer while we took our trip to Europe.

B. European Trip

Our European tour (May 6 - June 3) was afast moving group tour. It included London, where I visited at a Technical Institute and the Design Center*. Then flew to Athens* where we visited the Acropolis etc. also to Sounion (Temple of Posiadan). Then to ancient Corinth where St. Paul preached. By ship across the Ionean Sea to Brindisi & Bari. Next was Sorrento, Pompee, then Rome and all its many sights. Later we motored to Florence, then Venice and Vienna** After these visits came Salzburg, Innsbruck, Liechtenstein on our way to Lucerne. From Switzerland we took our motor coach north to Rothberg, an old Mediaval town. A very pictureque place. From here we reluctantly drove north on into Berlin. We were obliged to stay in East Berlin and this meant 3 trips thru "Ckeck Point Charlie" as well as other crossings in and out of E. Germany. North again, to take a steamer across the Baltic Sea to Copenhagen. (A real Danish Smoresbord). During our visit there took a quick trip by hydrofoil to Malmo, Sweden. The last parts of the trip were train trip to Amsterdam, then by coach again to Brussels and Paris.

C. Seeing America After Europe. Part 3.

Visited schools in Boston & Keene, New Hampshire. Also checked on some family history. Then was the time of the big flood, when we had to cross Pennsylvania. Managed to get thru with no serious problems except getting very wet.

Visited several schools in Cleveland, Dearborn and Pontiac, Michigan. Also visited "Greenfield Village"* while there.

The next event was a side trip to Louisville, Kentucky to the Wally Byam International Caravan Club Annual Rally. It was quite a feat to set up a city of 3640 Airstream trailers and 12,000 people for one week.

One last stop at Morrison, Ill. to the Drafting Institute then the long hot trip back home. Later in the summer we took our "vacation" to Washington & Oregon.

There were so many things to SEE both in this country and Europe, like, even the touch down at Shannon, Ireland on the way home. (The country really is very green.) We saw the many ancient buildings including the elaborate Guild Halls in Brussells. I suppose, as we did, one hasn't seen Europe unless you have seen the Eiffel Tower and the Louvre.

Many events of the year keep coming back to my mind and will probably never get written out.

A Summary of the Beginning Drawing Course (technical drawing) as Used in California and elsewhere.

Some suggestions for improvement as a result of visitations and study of twenty community colleges and fourteen other comparable colleges outside of California.

1. 10 of the 20 colleges in Cal. (not counting MSAC) have a 2 unit starting course. None of these attempt to cover more than ½ to 2/3 of the course content of MSAC 21A beginning tech. drawing course.

2. 9 of the 20 surveyed have 3 - 8 units unless the work is divided into many small courses. Most schools outside of California have have more than 2 units. Most schools use 6 or more hours per week for lecture-laboratory time.

3. Several colleges require 2 or 3 courses co-requisite from the start. *

4. About ½ of the Calif. colleges requires some basic dimensioning.* Most of the other schools include some dimensioning.

5. MSAC (Mt. San Antonio College) is the only college visited that teaches secondary auxiliary views in the first semester*

6. Over ½ teach some sketching and free hand drawing.*

7. Only 6 out of 20 teach pictorial drawing.*

8. Over ½ teach some geometric constructions.*

* Proportion is also true of schools visited outside of California.

The above observations all refer to the course for beginners with no pre-requisite required. Often this course is required, or in lieu of one or more years of recent high school drafting.

In discussing this problem with the instructors of the other colleges they might all agree that a course as outlined is necessary to carry on a successful program.

The course should meet the following objectives:

A. Lettering; The student will letter free hand several styles, such as upper & lower case vertical and inclined,"Single Stroke Gothic" characters at a rate of 5- 8 words per minute.

B. Tools and Equipment; The student will learn to use all his hand tools (pencils, eraser & shield, triangles, compass & dividers) correctly. The student will also know how to operate the drafting machine and the blue line printer correctly.

C. Geometric Constructions; The student will be able to perform the following constructions.

1. Bisect an arc or a straight line.

2. Bisect an angle.

3. Divide a given line into any number of given spaces.

4. Locate points by triangulation.

5. Find the center of a given arc.

6. Draw an ellipse, given major and minor axis.

7. Draw arcs tangent to other arcs and straight lines.

D. Orthographic Projection;

1. The student will be able to identify all the normal views and auxilliary views of a drawing.

2. The student will be able to draw a third view, given the other two views.

E. Pictorials; The student will be able to draw a simple free hand sketch, either isometric or oblique, of an object from orthographic views.

F. Sections;and Conventions;

1. The student will be able to draw objects in full or half section, revolved, removed, or broken sections.

2. The student will be able to recognise various conventional practices, such as some types of section lining, and practices used in revolved sections, alignment of parts, and use of cutting plane line.

G. Primary Auxilliary Views; The student will be able to project and draw all three types of primary auxilliary views.

H. Dimensioning; The student will be able to add simple basic dimensions in proper form and arrangement to both cylindrical and rectangular types of objects

BIBLIOGRAPHY - TECHNICAL DRAWING and Related Subjects Surveyed.

AUTHOR	TITLE	SOME SCHOOLS USING	EVALUATION *
General texts suitable for beginning and early Tech. Drawing levels			
Giesecke Mitchell Spencer,Hill	Technical Drawing (Macmillan)	MSAC,Pierce Chabot,LA City S. Fran. Gold.W. C.Desert,MT.Jac. Amer. R.,Citrus Bakerfd.Grossm. Ford,Inst.Dft.	very good, popular
College Outline Engineering Drawing Series		Cerritos	beginning OK
Jensen	Engineering Drawing & Design (McGraw-Hill)	Cerritos El Camino Grossmont Mc Laughlin Inst.	early part brief no missing views good for adv.st.
French & Vierck	Engineering Drawing (McGraw-Hill)	Chaffey Fullerton Edison	old & difficult
Giochina & Beukema	Drafting & Graphics (American Tech. Soc.)	Consumnes R. Gavilan Harbor	errors
Svenson & French	(Drawing)	El Camino	questional value
Spencer	Basic Technical Drawing	Golden West	basic beginning OK
Spencer & Dygdon	Basic Technical Drawing	Rio Hondo Palomars	" " &high sch.
Aerojet General Corp.	Dimensioning & Tolerancing DRM Sect.10 (fr. USASY14.5) (Global Eng. Documentation Ser.)	MSAC	required for dimensioning
Work Books			
Giesecke, Mitchell, Spencer,Hill	Technical Drawing Problems Series 1 (MacMillan)	MSAC,Citrus Bakersfield (also Cal-Poly,Pomona)	most difficult series,very good
Spencer	Tech. Draw. Prob. Series 2 (Macmillam)	Bakersfield Citrus	very practical approach
Spencer, Hill	Tech. Draw. Prob. Series 3 (Macmillan)	Bakersfield Citrus, MSAC	simpler approach for beginners
	(Note: all of above are coordinated to Giesecke text)		
Scheerer Giochina & Beukema	Programmed Graphics(sketch bk.) (drafting problems)	Consumnes R. Gavilan Golden West	"a poor selection" all on vellum has many errors
A.S.Levens A.E.Edstrom	Problems In Mech. Dwg. (corelated to French & Svenson)	San Francisco	pre-eng. level
Dobrovolny, Hipskind, Bokenkamp, O'Bryant	Problems in Eng. Dwg. Series E	Mt. San Jacinto	"to be re-evaluated
Johnson & Weaver	Engineering Graphics Problems a packet (McGraw-Hill)	- - -	too difficult for most community col. terminal programs
Walker Plevyah	Industrial Arts Drafting	Phoenix Indian School (high sch.)	a pictorial approach good for high sch.

* This is my personal impression, and does not necessarily represent the opinion of the college or other instructors.

AUTHOR	TITLE	SOME SCHOOLS USING	EVALUATION*
Texts suitable for "Blue Print Reading" courses.			
Ihne Strecter	Machine Trades- Blue Print Reading (Amer. Tech.)	Amer. Riv.	good for its purpose
Jensen & Hines	Interpreting Engineering Drawings	(new in MSAC Library)	very good work book/text
Sterner	Reading Industrial Drawings	(new in MSAC Library)	arranged so that W.B. anserw cannot be turned in. Ext. use of common fract
(none)?	Elementary Blue Print Reading For Beginners in Machine Shop Practice. (Delmar Pub.)	MSAC	poor & old
Technical Illustrating texts.			
Hoelscher Springer & Pohle	Industrial Production Illustration	Chaffey	good in its field
Guptil	Pen & Ink Drawing	Amer. Riv.	good, limited
Thomas	Technical Illustrating	El Camino Grossmont	Good
Gibby	Technical Illustrating	Grossmont	good
Papp	Scientific Illustration	Grossmont?	Good
C.Leslie Martin	Design Graphic	MSAC	relates well to tech. Illustation
Mechanical Design texts			
Jensen	Engineering Drawing & Design	Cerritos El Camino Grossmont MSAC	good,practical mechanical, easy to understand
Wm.F.Scheerer	Programed Graphics (McGraw-Hill)	Consumnes Riv.	on mechanisms poor, non-creative
James H.Earle	Engineering Design Graphics	Col. of Desert	mechanical pre-engineering, too difficult for C.C.
Harold B.Kipler	Basic Graphical Kinematics	Col. of Desert	good for"ele. mech. design"
Pare' Francis	Introduction to Engineering Design	Golden West	good for advanced students
Chas.Wilson	Mechanisms -Design Oriented	Golden West	machine design OK
Zimmerman	Elementary Kinematics of Mechanisms	Henry Ford	good
M.F.Spott	Design of Machine Elements (Prentis-Hall)	Roch. Inst. of Tech.	pre-engineering level
Joseph Shigley	Mechanical Engineering Design	R.I.T.	" " "

AUTHOR	TITLE	SOME SCHOOLS USING	EVALUATION*
Electronic Drafting			
Baers	Electronic Drawing	Chaffey Col. of Desert MSAC	good
Kirschner	Electronic Work Book	Chaffey Col. of Desert MSAC	very good (no text is reqd.)
Nicholas M. Rookdoff	Electronic Drafting and Design	Inst. of Drafting	
Architectural Drafting			
Woodwork Inst. of Calif.	Woodworking Institute Handbook	San Francisco	reference
Hayslett & Goodban	Architectural Drawing & Design	San Francisco MSAC Inst. of Drafting	good
- -	Architectural Graphic Standards		reference
Mullen	Architectural Drawing & Light Construction	Chaffey El Camino	good
Wyatt	General Architectual Drawing (Chas. Bennet)	(good beginning book that goes far enough for most purposes)	
Wm.Spence	Architectural Design & Constr.	Inst.ofDraft.	
Ernest R. Weidhaas	Architectural Design	Inst. of Drafting	
Robert J. Matteson	Architectural Drafting Work Book	Fullerton Jr. College	(written esp. for their own school)
Structural Steel Design			
Inst. of Steel Const.	Manual of Steel Construction	7th edition	a must, no other recognised
" "	Structural Steel Detailing		" " "
Smoley	Smoley's Combined Tables		refernce,required
Tool and Die Design			
J.R.Paquin	Tool Design Fundamentals (Cleveland Eng. Inst.)	Cleveland Eng. Institute	good
J.R.Paquin	Die Design Fundamentals Work Book	Cleveland Eng. Institute	good
C.H.Jensen	Eng. Drawing & Design	Mc Laughlin Col. & Voc. Inst. MSAC	good

AUTHOR	TITLE	SOME SCHOOLS USING	EVALUATION *
Herbert Yankee	Machine Drafting (McGraw-Hill)	Rio Hondo	good, inexpensive
Jackson & Moreland	Design Manual for Roller & Silent Chain Drives	MSAC	(reference) a must!
Walton	The How and Why of Mechanical Movements (Pop. Science)	MSAC	reference
A.S?Levens	Graphics, Analysis & Conceptual Design		engineering level (not well suited for C.C. terminal students)
Hiram E. Grant	Engineering Drawing with Creative Design (McGraw-Hill)		(would make a good supplimentary text formech. design course)
Robert E. Parr	Principles of Mechanical Design		(as above)
A.S.Levens	Graphics, With an Introduction to Conceptual Design		similar to above except more difficult
Hall, Holowenko, Laughlin	Machine Design(Schaum's Outline Series)		OK for instructors to use for preparation of lessons
Stephenson	Power Technology	(A basic general text on the subject for a specific course) with instructors guide	
Oliver, Stark, Mason, Bardell Guerard	Engineering Graphic & Design Problems		too difficult for most C.C. terminal programs

Descriptive Geometry

Wellman	Technical Descriptive Geometry	Chaffey Henry Ford MSAC	good
Wellman	Descriptive Geometry Problems (work book) Series 2	Chaffey	coordinated to text
Earle, Cleland	Design & Descriptive Geometry Problems		too difficult for most C.C. programs
W.E.Street	Technical Descriptive Geometry	MSAC	reference, good

General References

	New American Machine Handbook	Golden West	for keyway tables etc.
Foster	Geometric Dimensioning and Tolerancing (Honeywell,Inc)	MSAC	instructors ref.
Swani Pub. Co.	USA Goes Metric (Beloit Tool Co.)	MSAC	conversion tables
Donovan	Prepare Now for a Metric Future		a general discussion

Summary: - How My Sabbatical Leave Helped Both the College and Myself.

First, the actual lessons, problems and teacher aids prepared for the Aviation Maintenance Science classes. This was a real emergency situation that would not have been met with out realy difficultys. It would have meant real hardships not only for the instructors, but serious losses of instruction for the many students involved, as there were no text books available and no advance time to prepare uniform lessons for the students. They are now being used for the third time.

In visiting the twenty local California Community Colleges there were many good ideas for organizing and planning courses exchanged. Also many little sample problems, techniques etc. were discovered. It will take me some time yet to fit them into my courses as I work to improve my instruction.

The visits to the other colleges and institutions in other parts of the world also contributed to this broadening of experiences.

The Most special personal experiences for both my wife and myself were: One, the Apollo 16 lift off visit. Two, the Geo. C. Marshall, the Alabama Space Flight Centers. Three, the whole cultural, educational and broadening appreciations of our European trip.

The whole year has been the most interesting, unusual and unforgetable of my whole life. We shall never cease to appreciate the opportunity that Mt. San Antonio College made possible for us.

A very special place

Tucson a very special place.

But just what makes it special?

It's all according to taste.

Here are a few of our favorite Tucson things:

A taco's crunch.

The freshness of the air after a summer rain.

Driving up "A" Mountain for a nighttime view of the sprawl of lights that is Tucson.

Mt. Lemmon's piney forest aroma.

Watching ground squirrels on the prowl for food.

The smell of a mesquite fire.

An afternoon spent at the Arizona State Museum on the University of Arizona campus and at the Arizona Historical Society museum.

Watching the bears field peanuts at the Arizona-Sonora Desert Museum.

The evening "garumph" of frogs after an August rain.

Cloud shadows playing on the Santa Catalinas.

Stepping into a patch of shade on a summer day.

Palo verde trees in bloom.

Rumbling thunder during a nighttime storm.

The feel of history when you run your fingertips over a time and weather-worn wall of adobe at old Ft. Lowell.

The sound of water rushing through an arroyo after a heavy rain.

Snow on the desert.

The mournful wail of a mariachi trumpet.

Watching a movie crew filming at Old Tucson.

The ageless dignity of the Mission San Xavier del Bac.

. . . A cactus wren's scolding chatter . . .

The stark, spare beauty of the desertlands.

The clip-clop of horses' hooves on the pavement during the rodeo parade.

Wild flowers in the springtime.

The graceful swiftness of a coyote crossing a little traveled roadway.

The spice-smokey flavor of real Western barbecue.

Indian fry bread.

Watching a dust devil play across the desert floor.

The richness of a Navajo rug.

A skyful of stars on an Arizona summer night.

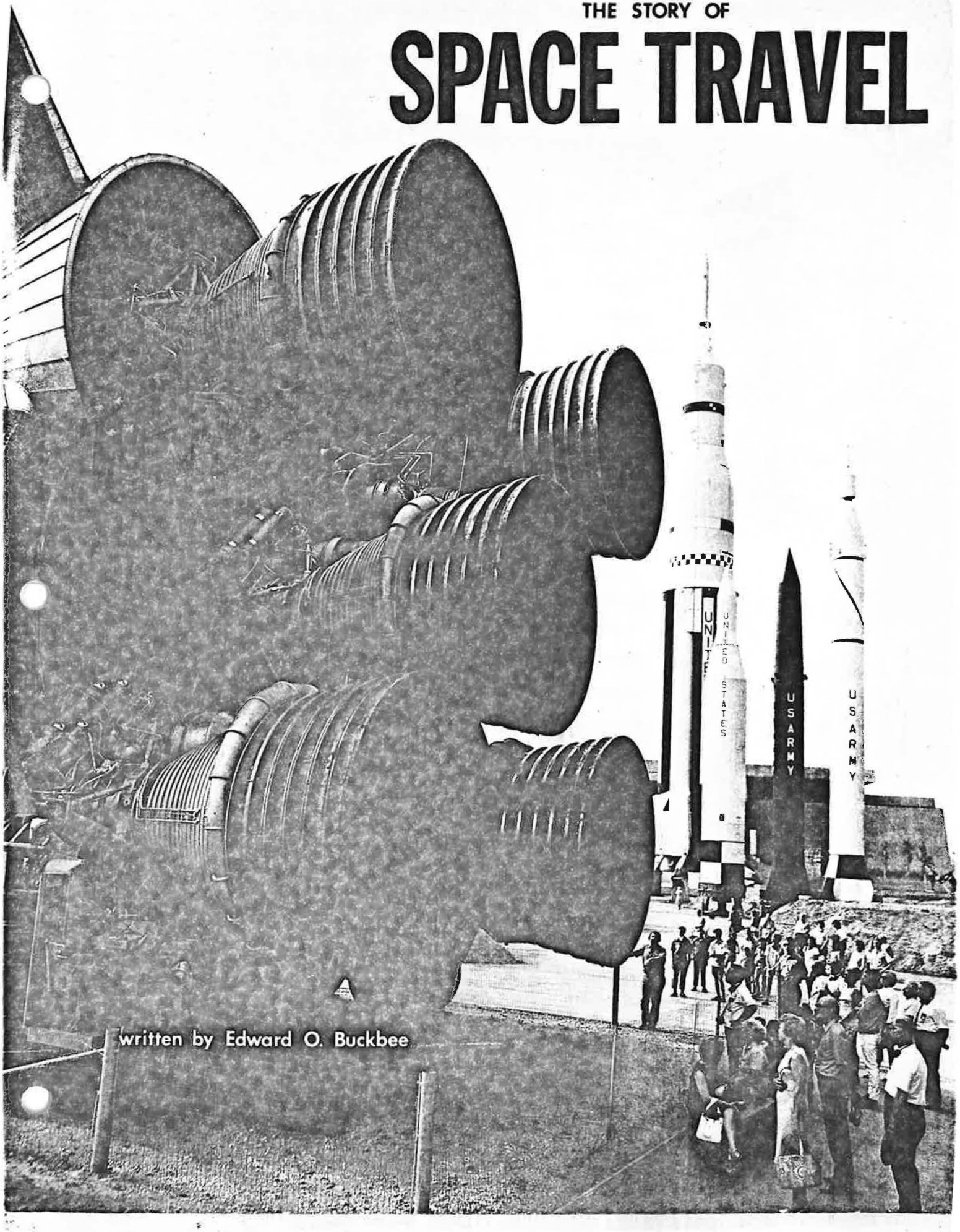
Cathedral bells at midday.

A sarta of red chilis hung against an adobe wall.

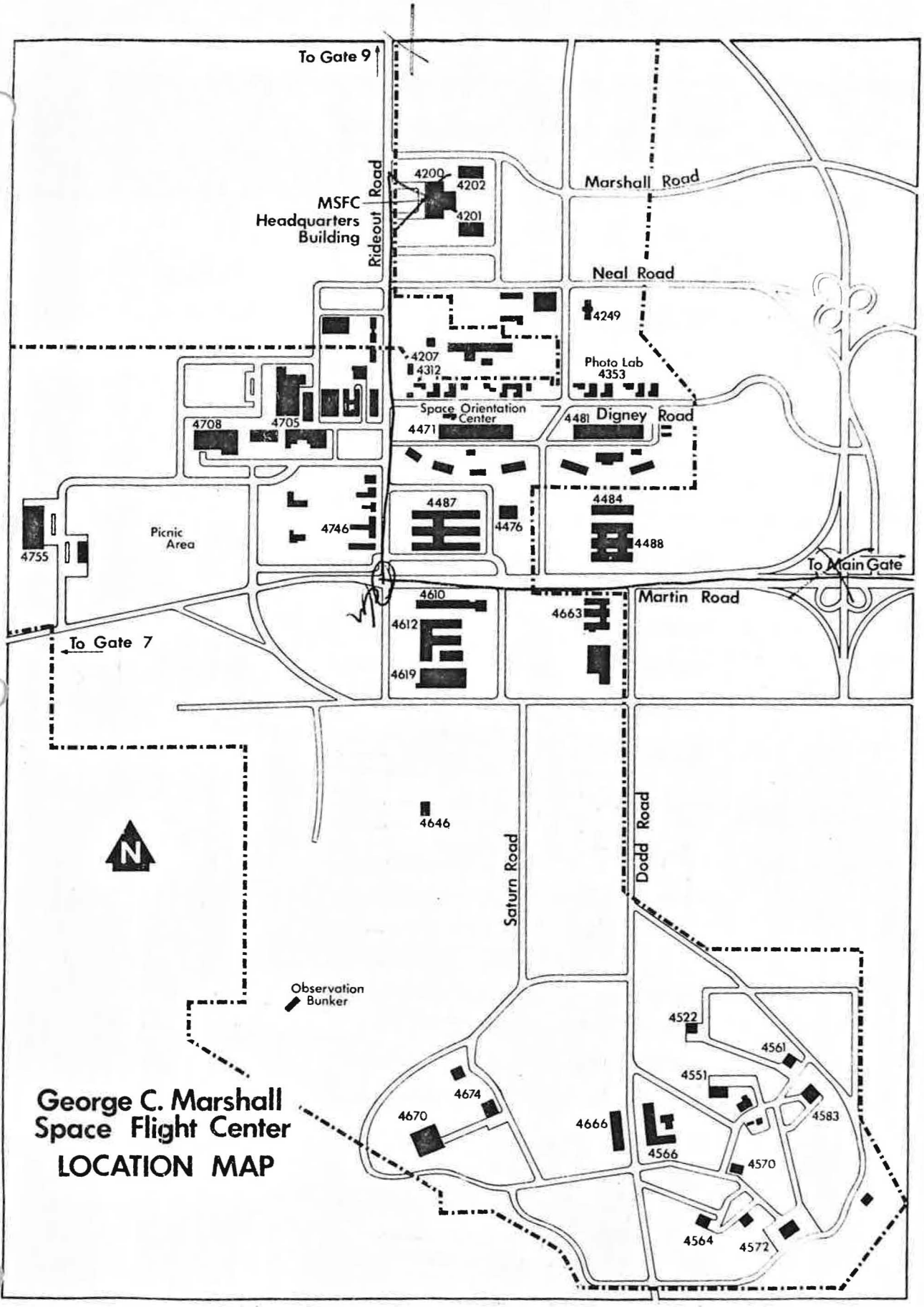
An early morning tramp along a sandy wash.

THE STORY OF

SPACE TRAVEL



written by Edward O. Buckbee


To Gate 9
Rideout Road
MSFC Headquarters Building
4200
4202
4201
Marshall Road
Neal Road
4249
4207
4312
Photo Lab 4353
Space Orientation Center
4471
4481
Digney Road
4708
4705
4755
Picnic Area
4746
4487
4476
4484
4488
To Main Gate
Martin Road
4610
4612
4619
4663
To Gate 7
4646
N
Saturn Road
Dodd Road
Observation Bunker
4522
4561
4551
4583
4674
4670
4666
4566
4570
4564
4572
George C. Marshall Space Flight Center
LOCATION MAP

MSFC RSA, Ala

The next event was a side trip to Louisville, Kentucky to the Wally Byam International Caravan Club Annual Rally. It was quite a feat to set up a city of 3640 Airstream trailers and 12,000 people for one week.

One last stop at Morrison, Ill. to the Drafting Institute then the long hot trip back home. Later in the summer we took our "vacation" to Washington & Oregon.

There were so many things to see both in this country and Europe, like, even the touch down at Shannon, Ireland on the way home. (The country really is very green.) We saw the many ancient buildings including the elaborate Guild Halls in Brussells. I suppose, as we did, one hasn't seen Europe unless you have seen the Eiffel Tower and the Louvre.

Many events of the year keep coming back to my mind and will probably never get written out.

A Summary of the Beginning Drawing Course (technical drawing) As Used in California and elsewhere.

Some suggestions for improvement as a result of visitations and study of twenty community colleges and fourteen other comparable colleges outside of California.

1. 10 of the 20 colleges in Cal. (not counting MSAC) have a 2 unit starting course. None of these attempt to cover more than ½ to 2/3 of the course content of MSAC 21A beginning tech. drawing course.

2. 9 of the 20 surveyed have 3 - 8 units unless the work is divided into many small courses. Most schools outside of California have have more than 2 units. Most schools use 6 or more hours per week for lecture-laboratory time.

3. Several colleges require 2 or 3 courses co-requisite from the start. *

4. About ½ of the Calif. colleges requires some basic dimensioning.* Most of the other schools include some dimensioning.

5. MSAC (Mt. San Antonio College) is the only college visited that teaches secondary auxiliary views in the first semester*

6. Over ½ teach some sketching and free hand drawing.*

7. Only 6 out of 20 teach pictorial drawing.*

8. Over ½ teach some geometric constructions.*

* Proportion is also true of schools visited outside of California.

The above observations all refer to the course for beginners with no pre-requisite required. Often this course is required, or in lieu of one or more years of recent high school drafting.

In discussing this problem with the instructors of the other colleges they might all agree that a course as outlined is necessary to carry on a successful program.

The course should meet the following objectives:

A. Lettering; The student will letter free hand several styles, such as upper & lower case vertical and inclined,"Single Stroke Gothic" characters at a rate of 5- 8 words per minute.

B. Tools and Equipment; The student will learn to use all his hand tools (pencils, eraser & shield, triangles, compass & dividers) correctly. The student will also know how to operate the drafting machine and the blue line printer correctly.

C. Geometric Constructions; The student will be able to perform the following constructions.

1. Bisect an arc or a straight line.

2. Bisect an angle.

3. Divide a given line into any number of given spaces.

4. Locate points by triangulation.

5. Find the center of a given arc.

6. Draw an ellipse, given major and minor axis.

7. Draw arcs tangent to other arcs and straight lines.

D. Orthographic Projection;

1. The student will be able to identify all the normal views and auxilliary views of a drawing.

2. The student will be able to draw a third view, given the other two views.

E. Pictorials; The student will be able to draw a simple free hand sketch, either isometric or oblique, of an object from orthographic views.

F. Sections;and Conventions;

1. The student will be able to draw objects in full or half section, revolved, removed, or broken sections.

2. The student will be able to recognise various conventional practices, such as some types of section lining, and practices used in revolved sections, alignment of parts, and use of cutting plane line.

G. Primary Auxilliary Views; The student will be able to project and draw all three types of primary auxilliary views.

H. Dimensioning; The student will be able to add simple basic dimensions in proper form and arrangement to both cylindrical and rectangular types of objects

BIBLIOGRAPHY - TECHNICAL DRAWING and Related Subjects Surveyed.

AUTHOR	TITLE	SOME SCHOOLS USING	EVALUATION *
General texts suitable for beginning and early Tech. Drawing levels			
Giesecke Mitchell Spencer,Hill	Technical Drawing (Macmillan)	MSAC,Pierce Chabot,LA City S. Fran. Gold.W. C.Desert,MT.Jac. Amer. R.,Citrus Bakerfd.Grossm. Ford,Inst.Dft.	very good, popular
College Outline Engineering Drawing Series		Cerritos	beginning OK
Jensen	Engineering Drawing & Design (McGraw-Hill)	Cerritos El Camino Grossmont Mc Laughlin Inst.	early part brief no missing views good for adv.st.
French & Vierck	Engineering Drawing (McGraw-Hill)	Chaffey Fullerton Edison	old & difficult
Giochina & Beukema	Drafting & Graphics (American Tech. Soc.)	Consumnes R. Gavilan Harbor	errors
Svenson & French	(Drawing)	El Camino	questional value
Spencer	Basic Technical Drawing	Golden West	basic beginning OK
Spencer & Dygdon	Basic Technical Drawing	Rio Hondo Palomars	" " &high sch.
Aerojet General Corp.	Dimensioning & Tolerancing DRM Sect.10 (fr. USASY14.5) (Global Eng. Documentation Ser.)	MSAC	required for dimensioning
Work Books			
Giesecke, Mitchell, Spencer,Hill	Technical Drawing Problems Series 1 (MacMillan)	MSAC,Citrus Bakersfield (also Cal-Poly,Pomona)	most difficult series,very good
Spencer	Tech. Draw. Prob. Series 2 (Macmillam)	Bakersfield Citrus	very practical approach
Spencer, Hill	Tech. Draw. Prob. Series 3 (Macmillan)	Bakersfield Citrus, MSAC	simpler approach for beginners
	(Note: all of above are coordinated to Giesecke text)		
Scheerer Giochina & Beukema	Programmed Graphics(sketch bk.) (drafting problems)	Consumnes R. Gavilan Golden West	"a poor selection" all on vellum has many errors
A.S.Levens A.E.Edstrom	Problems In Mech. Dwg. (corelated to French & Svenson)	San Francisco	pre-eng. level
Dobrovolny, Hipskind, Bokenkamp, O'Bryant	Problems in Eng. Dwg. Series E	Mt. San Jacinto	"to be re-evaluated
Johnson & Weaver	Engineering Graphics Problems a packet (McGraw-Hill)	- - -	too difficult for most community col. terminal programs
Walker Plevyah	Industrial Arts Drafting	Phoenix Indian School (high sch.)	a pictorial approach good for high sch.

* This is my personal impression, and does not necessarily represent the opinion of the college or other instructors.

AUTHOR	TITLE	SOME SCHOOLS USING	EVALUATION*
Texts suitable for "Blue Print Reading" courses.			
Ihne Strecter	Machine Trades- Blue Print Reading (Amer. Tech.)	Amer. Riv.	good for its purpose
Jensen & Hines	Interpreting Engineering Drawings	(new in MSAC Library)	very good work book/text
Sterner	Reading Industrial Drawings	(new in MSAC Library)	arranged so that W.B. anserw cannot be turned in. Ext. use of common fract
(none)?	Elementary Blue Print Reading For Beginners in Machine Shop Practice. (Delmar Pub.)	MSAC	poor & old
Technical Illustrating texts.			
Hoelscher Springer & Pohle	Industrial Production Illustration	Chaffey	good in its field
Guptil	Pen & Ink Drawing	Amer. Riv.	good, limited
Thomas	Technical Illustrating	El Camino Grossmont	Good
Gibby	Technical Illustrating	Grossmont	good
Papp	Scientific Illustration	Grossmont?	Good
C.Leslie Martin	Design Graphic	MSAC	relates well to tech. Illustation
Mechanical Design texts			
Jensen	Engineering Drawing & Design	Cerritos El Camino Grossmont MSAC	good,practical mechanical, easy to understand
Wm.F.Scheerer	Programed Graphics (McGraw-Hill)	Consumnes Riv.	on mechanisms poor, non-creative
James H.Earle	Engineering Design Graphics	Col. of Desert	mechanical pre-engineering, too difficult for C.C.
Harold B.Kipler	Basic Graphical Kinematics	Col. of Desert	good for"ele. mech. design"
Pare' Francis	Introduction to Engineering Design	Golden West	good for advanced students
Chas.Wilson	Mechanisms -Design Oriented	Golden West	machine design OK
Zimmerman	Elementary Kinematics of Mechanisms	Henry Ford	good
M.F.Spott	Design of Machine Elements (Prentis-Hall)	Roch. Inst. of Tech.	pre-engineering level
Joseph Shigley	Mechanical Engineering Design	R.I.T.	" " "

AUTHOR	TITLE	SOME SCHOOLS USING	EVALUATION*
Electronic Drafting			
Baers	Electronic Drawing	Chaffey Col. of Desert MSAC	good
Kirschner	Electronic Work Book	Chaffey Col. of Desert MSAC	very good (no text is reqd.)
Nicholas M. Rookdoff	Electronic Drafting and Design	Inst. of Drafting	
Architectural Drafting			
Woodwork Inst. of Calif.	Woodworking Institute Handbook	San Francisco	reference
Hayslett & Goodban	Architectural Drawing & Design	San Francisco MSAC Inst. of Drafting	good
- -	Architectural Graphic Standards		reference
Mullen	Architectural Drawing & Light Construction	Chaffey El Camino	good
Wyatt	General Architectual Drawing (Chas. Bennet)	(good beginning book that goes far enough for most purposes)	
Wm.Spence	Architectural Design & Constr.	Inst.ofDraft.	
Ernest R. Weidhaas	Architectural Design	Inst. of Drafting	
Robert J. Matteson	Architectural Drafting Work Book	Fullerton Jr. College	(written esp. for their own school)
Structural Steel Design			
Inst. of Steel Const.	Manual of Steel Construction	7th edition	a must, no other recognised
" "	Structural Steel Detailing		" " "
Smoley	Smoley's Combined Tables		refernce,required
Tool and Die Design			
J.R.Paquin	Tool Design Fundamentals (Cleveland Eng. Inst.)	Cleveland Eng. Institute	good
J.R.Paquin	Die Design Fundamentals Work Book	Cleveland Eng. Institute	good
C.H.Jensen	Eng. Drawing & Design	Mc Laughlin Col. & Voc. Inst. MSAC	good

AUTHOR	TITLE	SOME SCHOOLS USING	EVALUATION *
Herbert Yankee	Machine Drafting (McGraw-Hill)	Rio Hondo	good, inexpensive
Jackson & Moreland	Design Manual for Roller & Silent Chain Drives	MSAC	(reference) a must!
Walton	The How and Why of Mechanical Movements (Pop. Science)	MSAC	reference
A.S?Levens	Graphics, Analysis & Conceptual Design		engineering level (not well suited for C.C. terminal students)
Hiram E. Grant	Engineering Drawing with Creative Design (McGraw-Hill)		(would make a good supplimentary text formech. design course)
Robert E. Parr	Principles of Mechanical Design		(as above)
A.S.Levens	Graphics, With an Introduction to Conceptual Design		similar to above except more difficult
Hall, Holowenko, Laughlin	Machine Design(Schaum's Outline Series)		OK for instructors to use for preparation of lessons
Stephenson	Power Technology (A basic general text on the subject for a specific course) with instructors guide		
Oliver, Stark, Mason, Bardell Guerard	Engineering Graphic & Design Problems		too difficult for most C.C. terminal programs

Descriptive Geometry

Wellman	Technical Descriptive Geometry	Chaffey Henry Ford MSAC	good
Wellman	Descriptive Geometry Problems (work book) Series 2	Chaffey	coordinated to text
Earle, Cleland	Design & Descriptive Geometry Problems		too difficult for most C.C. programs
W.E.Street	Technical Descriptive Geometry	MSAC	reference, good

General References

	New American Machine Handbook	Golden West	for keyway tables etc.
Foster	Geometric Dimensioning and Tolerancing (Honeywell,Inc)	MSAC	instructors ref.
Swani Pub. Co.	USA Goes Metric (Beloit Tool Co.)	MSAC	conversion tables
Donovan	Prepare Now for a Metric Future		a general discussion

Summary: - How My Sabbatical Leave Helped Both the College and Myself.

First, the actual lessons, problems and teacher aids prepared for the Aviation Maintenance Science classes. This was a real emergency situation that would not have been met with out realy difficultys. It would have meant real hardships not only for the instructors, but serious losses of instruction for the many students involved, as there were no text books available and no advance time to prepare uniform lessons for the students. They are now being used for the third time.

In visiting the twenty local California Community Colleges there were many good ideas for organizing and planning courses exchanged. Also many little sample problems, techniques etc. were discovered. It will take me some time yet to fit them into my courses as I work to improve my instruction.

The visits to the other colleges and institutions in other parts of the world also contributed to this broadening of experiences.

The Most special personal experiences for both my wife and myself were: One, the Apollo 16 lift off visit. Two, the Geo. C. Marshall, the Alabama Space Flight Centers. Three, the whole cultural, educational and broadening appreciations of our European trip.

The whole year has been the most interesting, unusual and unforgetable of my whole life. We shall never cease to appreciate the opportunity that Mt. San Antonio College made possible for us.

A very special place

Tucson a very special place.

But just what makes it special?

It's all according to taste.

Here are a few of our favorite Tucson things:

A taco's crunch.

The freshness of the air after a summer rain.

Driving up "A" Mountain for a nighttime view of the sprawl of lights that is Tucson.

Mt. Lemmon's piney forest aroma.

Watching ground squirrels on the prowl for food.

The smell of a mesquite fire.

An afternoon spent at the Arizona State Museum on the University of Arizona campus and at the Arizona Historical Society museum.

Watching the bears field peanuts at the Arizona-Sonora Desert Museum.

The evening "garumph" of frogs after an August rain.

Cloud shadows playing on the Santa Catalinas.

Stepping into a patch of shade on a summer day.

Palo verde trees in bloom.

Rumbling thunder during a nighttime storm.

The feel of history when you run your fingertips over a time and weather-worn wall of adobe at old Ft. Lowell.

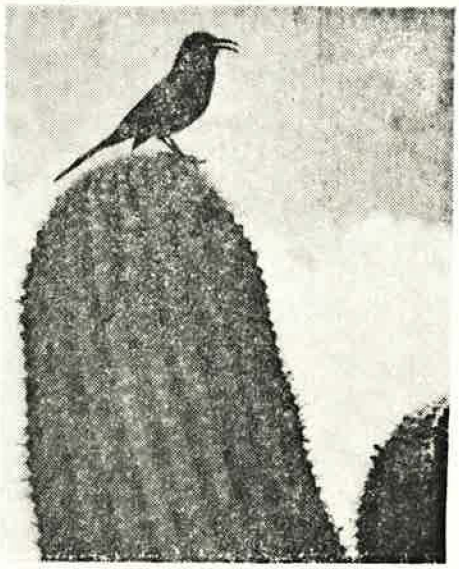
The sound of water rushing through an arroyo after a heavy rain.

Snow on the desert.

The mournful wail of a mariachi trumpet.

Watching a movie crew filming at Old Tucson.

The ageless dignity of the Mission San Xavier del Bac.



. . . A cactus wren's scolding chatter . . .

The stark, spare beauty of the desertlands.

The clip-clop of horses' hooves on the pavement during the rodeo parade.

Wild flowers in the springtime.

The graceful swiftness of a coyote crossing a little traveled roadway.

The spice-smokey flavor of real Western barbecue.

Indian fry bread.

Watching a dust devil play across the desert floor.

The richness of a Navajo rug.

A skyful of stars on an Arizona summer night.

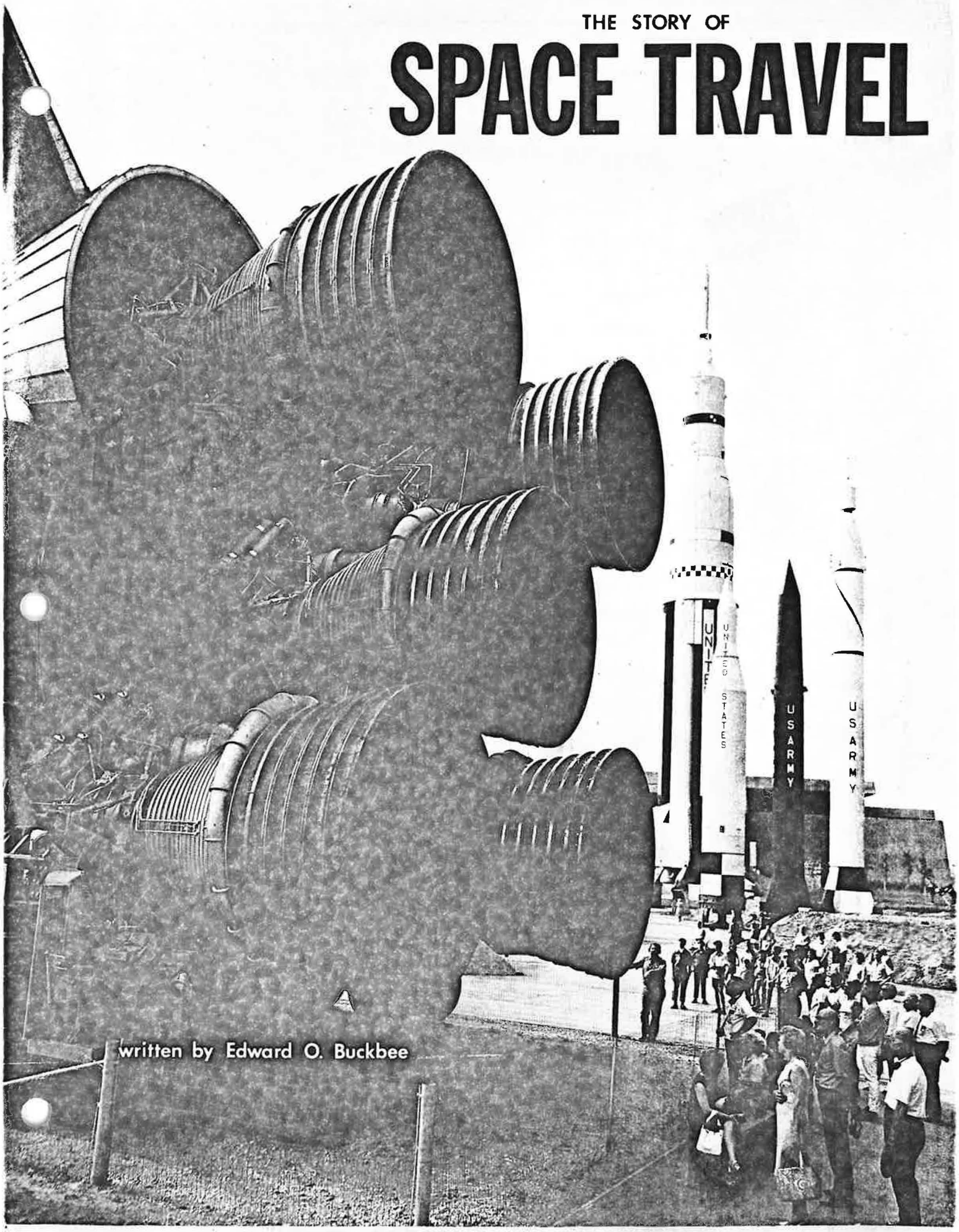
Cathedral bells at midday.

A sarta of red chilis hung against an adobe wall.

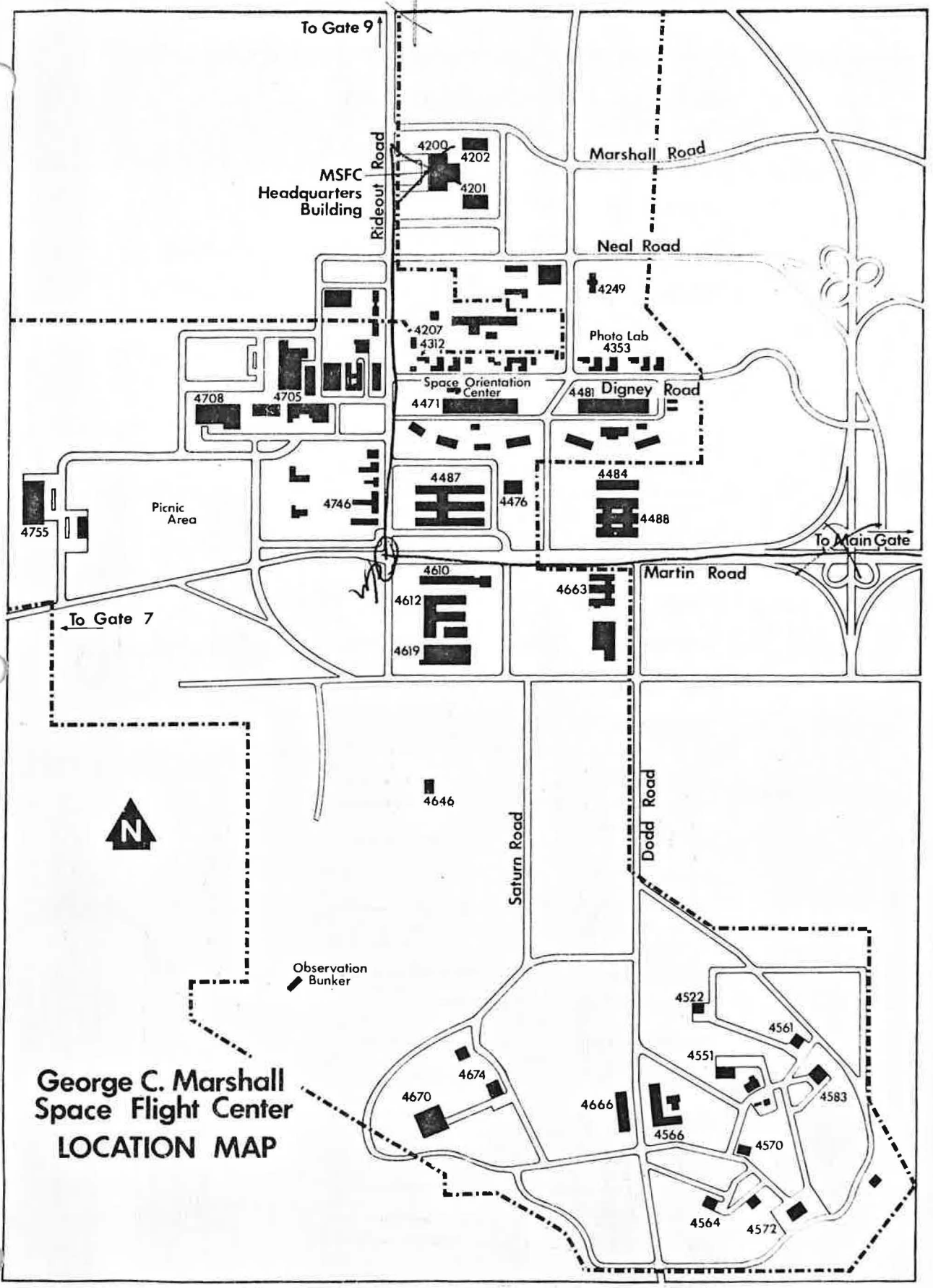
An early morning tramp along a sandy wash.

THE STORY OF

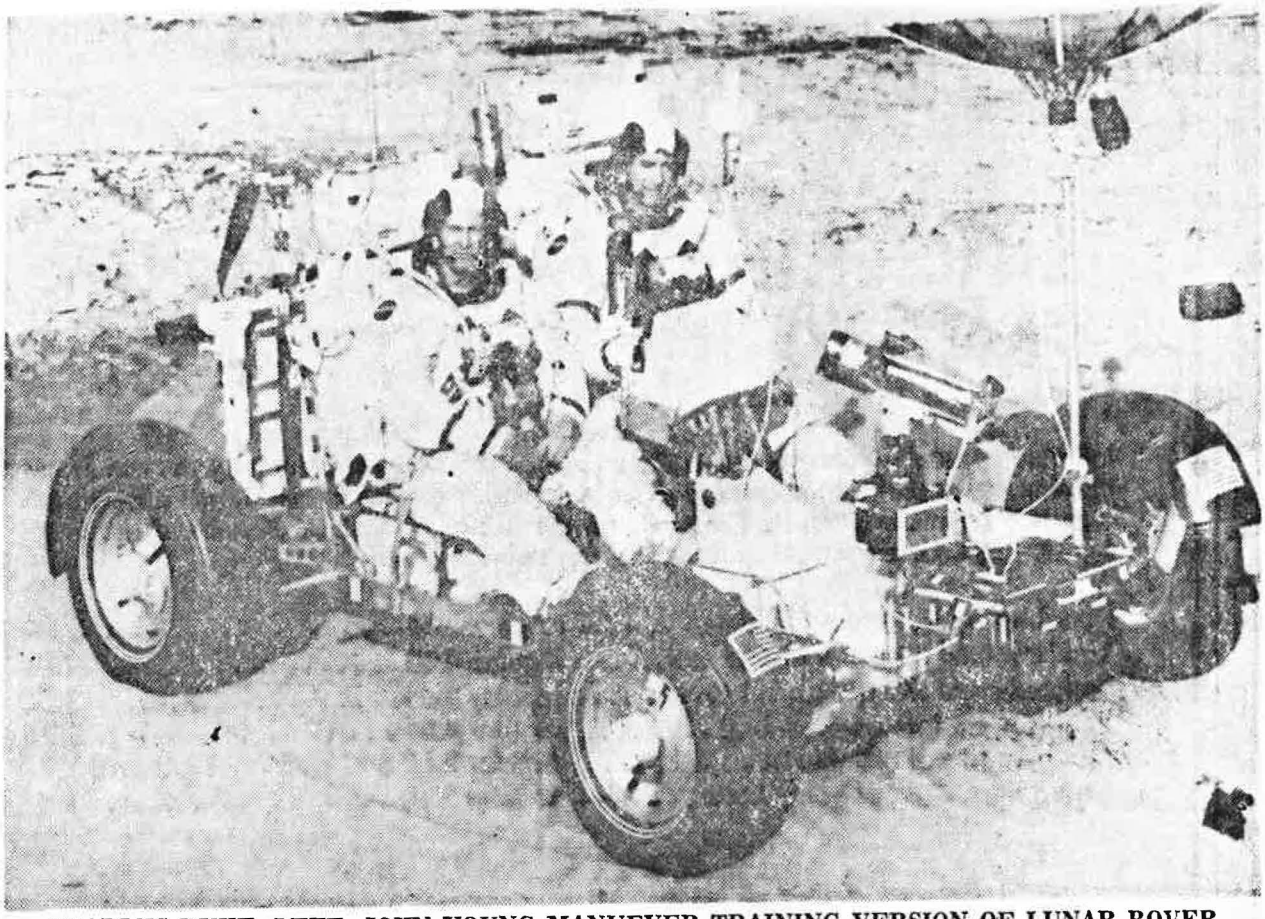
SPACE TRAVEL



written by Edward O. Buckbee


To Gate 9
Rideout Road
4200
4202
MSFC
Headquarters
Building
4201
Marshall Road
Neal Road
4249
Photo Lab
4353
4207
4312
Space Orientation
Center
4471
4481
Digney Road
4708
4705
4487
4746
4476
4484
4488
4755
Picnic
Area
To Main Gate
Martin Road
4610
4612
4619
4663
To Gate 7
N
4646
Saturn Road
Dodd Road
Observation
Bunker
4522
4561
4551
4583
4674
4670
4666
4566
4570
4564
4572
George C. Marshall
Space Flight Center
LOCATION MAP

MSFC RSA, Ala



CHARLES DUKE, LEFT, JOHN YOUNG MANUEVER TRAINING VERSION OF LUNAR ROVER ... over $30 million of $38 million budget for designing and development

Moon Buggy Cost Millions 'But So Do Earthbound Cars'

SAN ANTONIO, Tex. (AP) — It cost millions to build the lunar buggy scheduled to explore the moon on Apollo 16, but a man who helped to develop it says the money is well spent.

And besides, says Frank J. Musil of Huntsville, Ala., it costs plenty to build a regular earthbound car.

He said a major automobile manufacturer in Detroit recently reported that it cost $400 million to develop a new model. "And that's not counting the engine," he said.

Musil, the Boeing Co. program manager for the lunar rover, said the total contract for the vehicle amounted to about $38 million, including $30 million to $32 million for designing and developing it.

"In terms of actual hardware sitting there, it's not all that much," Musil said.

"It probably amounts to $100,000 or so, but it served its purpose," he said. "It covered more than 10 times the area covered by any previous walking missions."

The rover was first used on Apollo 15. Plans call for it to make both the Apollo 16 and 17 flights. Apollo 16 is scheduled for launch today.

At a recent technical convention here, astronaut Dave Scott, commander of Apollo Apollo 15, joined Musil in praising the rover. 15, joined Musil in praising the rover.

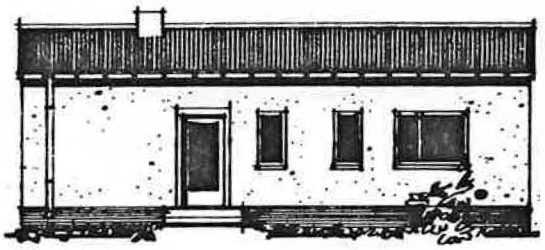
He said the only change he could recommend was redesigning the seatbelts, which has been done. "I can't think of a better way to do it," he said of the litttle buggy.

Scott said man may benefit from concepts developed for the lunar rover, such as the vehicle's hand control "stick" that incorporates all features of driving, including turning and stopping.

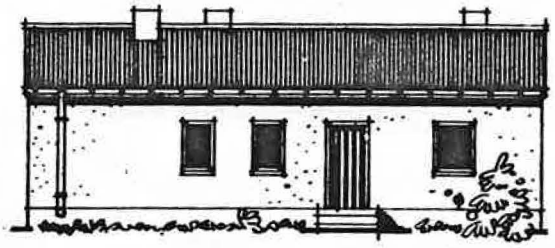
Musil said pogo sticks and back pack rockets were among other possible lunar transportation methods discussed.

"But it just turned out that the good old American automobile was the best way to do it," he said.

GU 2
Variante Mauerwerk
Wohnfläche: 63 m² (4 Zimmer)
Baupreis: 59 180 Mark



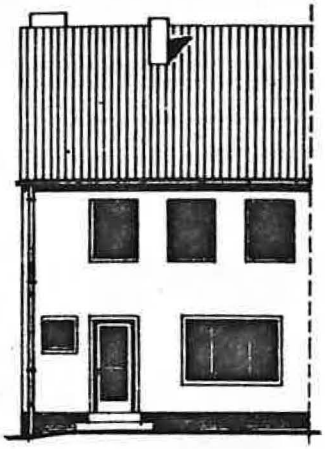
HB I
Holzbeton-Handmontage
Wohnfläche: 65,07 m² (4 Zimmer)
Baupreis: 53 150 Mark



Diese und andere Modelle sind enthalten in: Deutsche Bauinformation; Eigenheime, Reihen-, Doppel- und Einzelhäuser (Baukatalog) – Die neue Auflage erscheint Juni 1972 im Handel.

Bei den angegebenen Wohnflächen sind nicht die in allen Haustypen vorhandenen Küchen, Bäder, Toiletten und Nebenräume (Flur, Abstellräume usw.) eingerechnet.

R 1
Reihenwohnhaus
Wohnfläche: 58,88 m²
(4 Zimmer)
Baupreis: 65 800 Mark



Die in diesem Magazin mit dem Hinweis VERBINDLICH versehenen Texte wurden folgenden Materialien entnommen:

- Verordnung über die Förderung des Baues von Eigenheimen vom 24. November 1971 (GBl. II. Nr. 80)
- *Dr. Karl Schmiechen*, Staatssekretär im Ministerium für Bauwesen: Beiträge in „Presseinformation" vom 6. 1. 1972, im „ND" vom 3. 1. 1972, Interview mit NBI am 3. 4. 1972

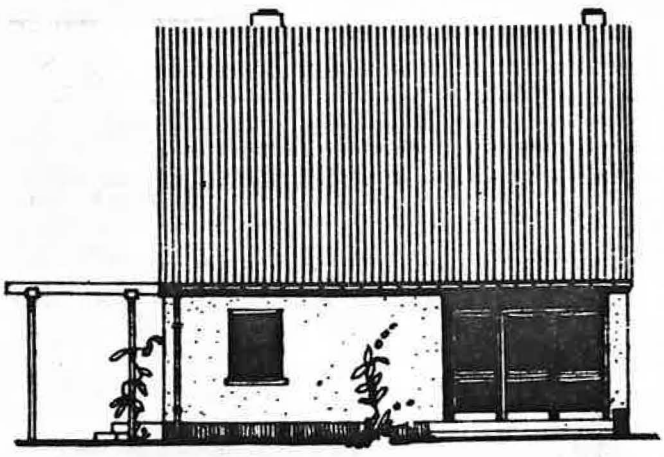
THE LATEST IN EAST GERMAN MODEL HOMES

(zimmer = rooms)

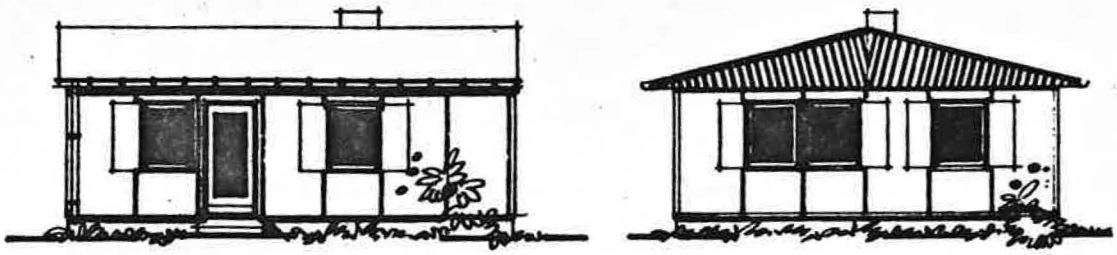
1 Mark = 32¢ approx.

= USA $19,000 ⟶

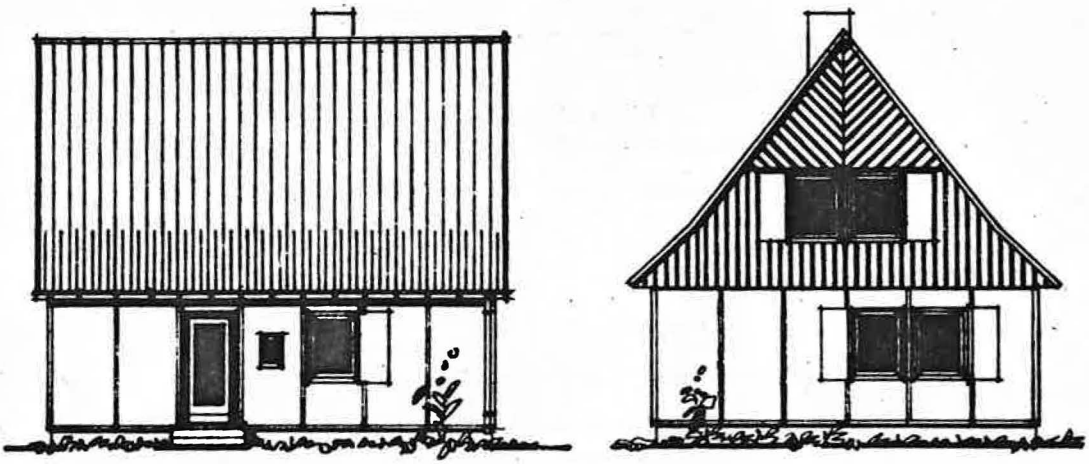
EW 65 B
Mauerwerk HBL
Wohnfläche: 78,52 m² (5 Zimmer)
Baupreis: 59 210 Mark



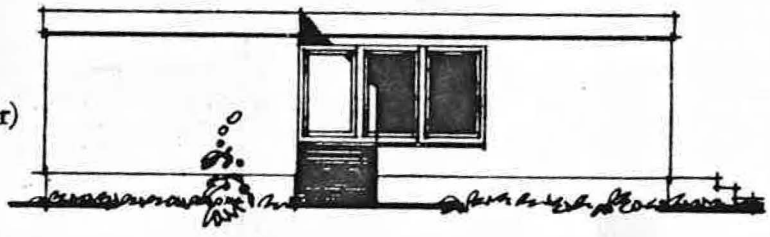
HW 60 Fertigteil-Handmontage
Wohnfläche: 36,90 m² (3 Zimmer)
Baupreis: 54 000 Mark



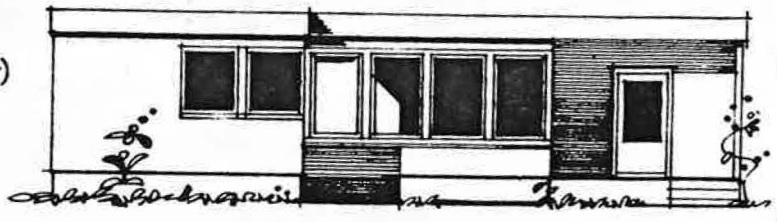
HW 90 Fertigteil-Handmontage
Wohnfläche: 61,60 m² (5 Zimmer)
Baupreis: 68 000 Mark

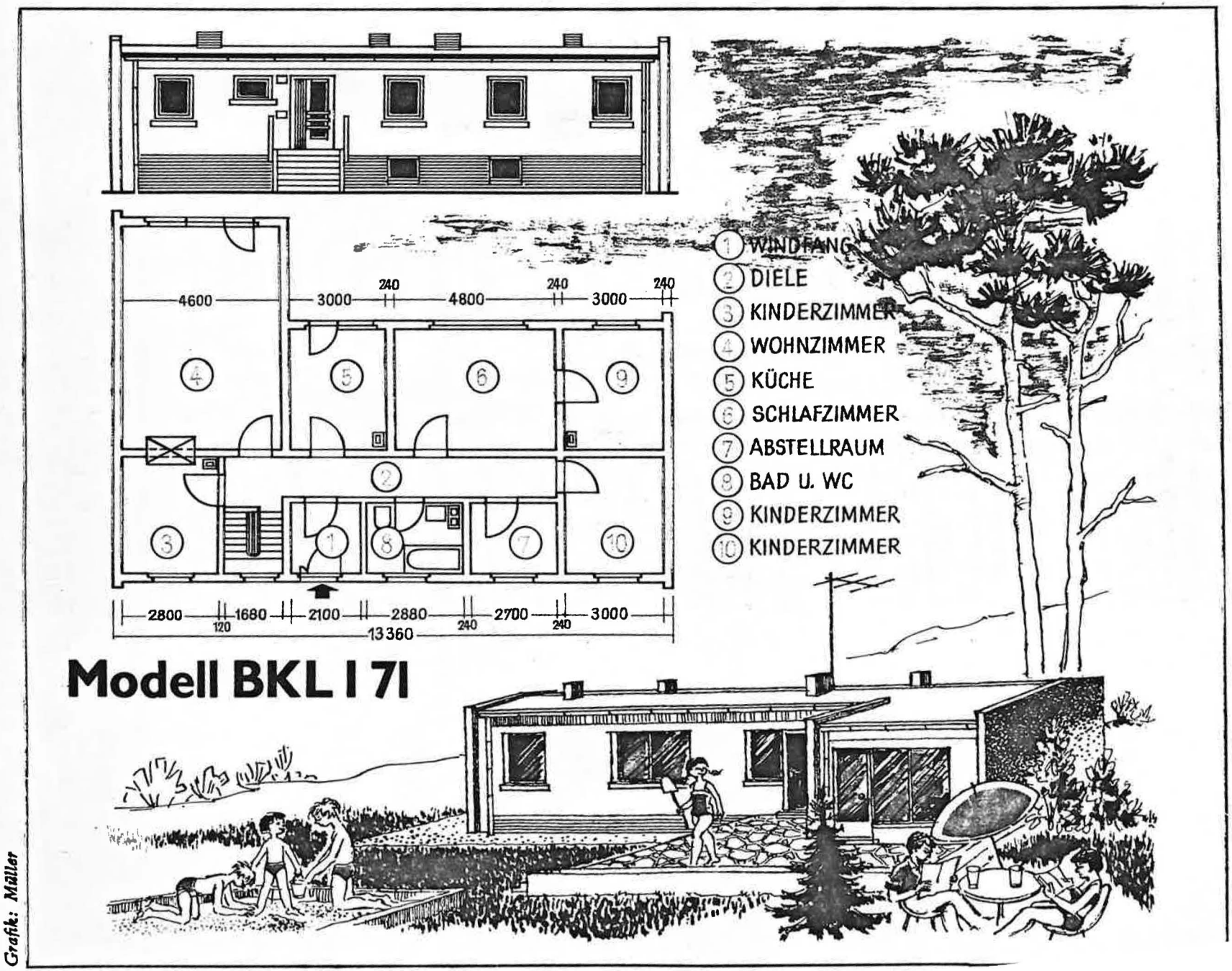


L 104
Fertigteil-Handmontage
Wohnfläche:
62 m² (5 Zimmer)
Baupreis:
64 100 Mark

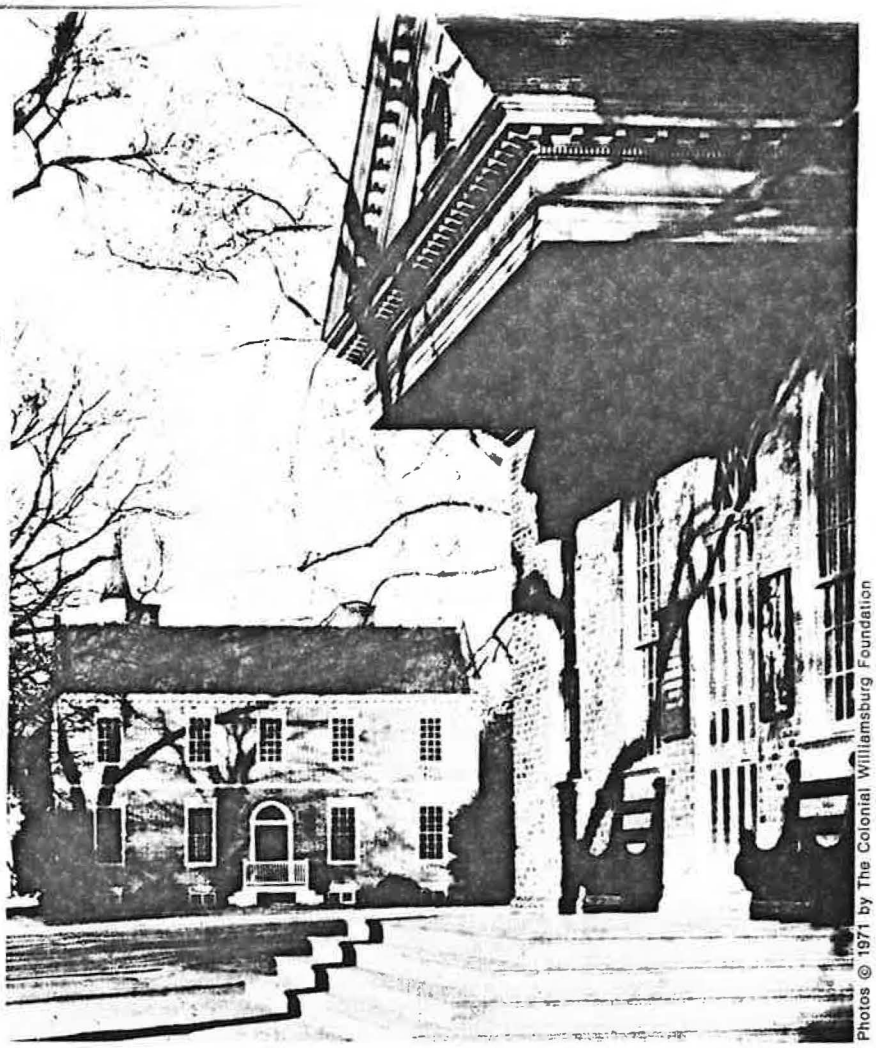


L 112
Fertigteil-Handmontage
Wohnfläche:
63 m² (5 Zimmer)
Baupreis:
66 600 Mark



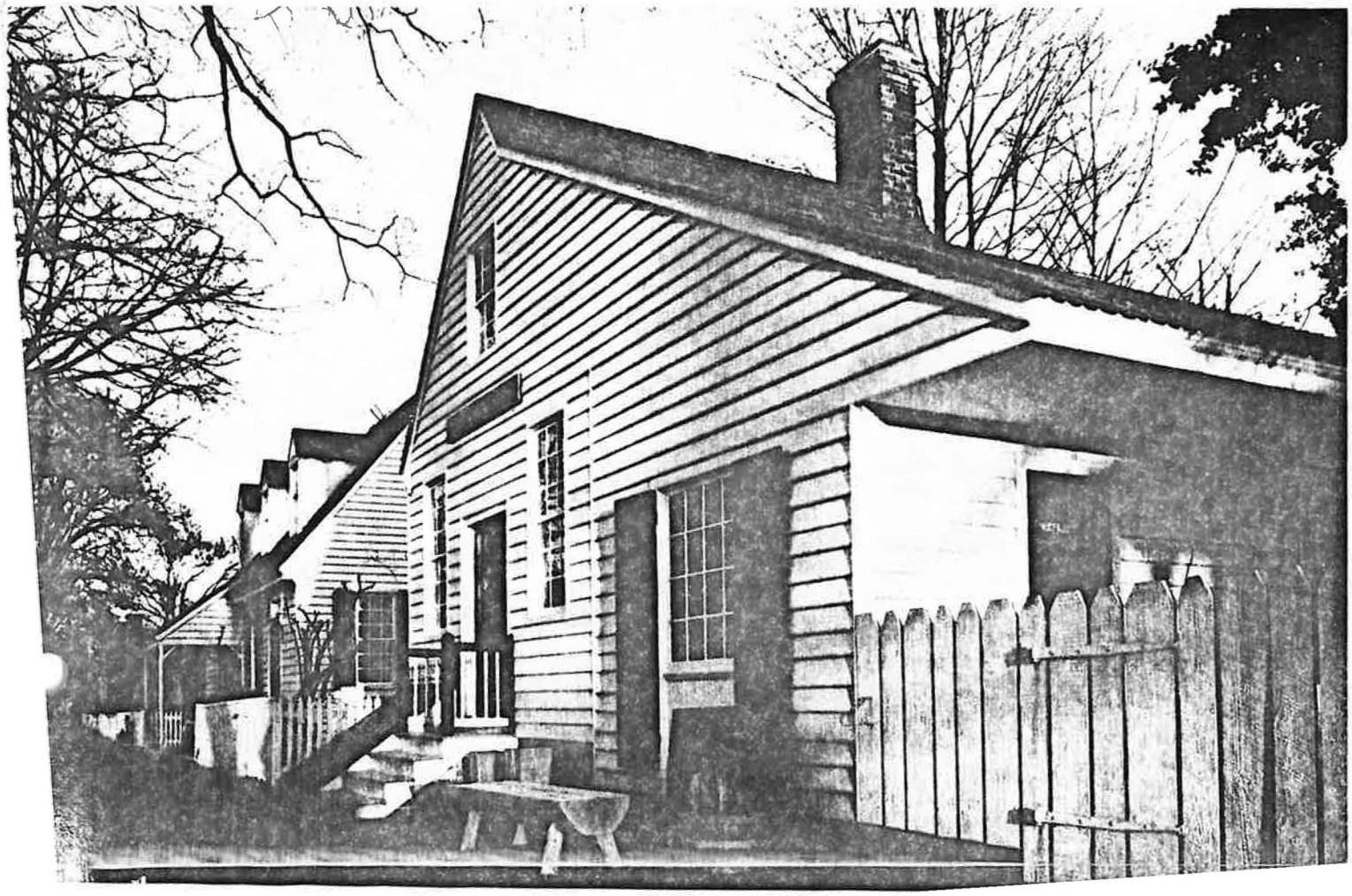


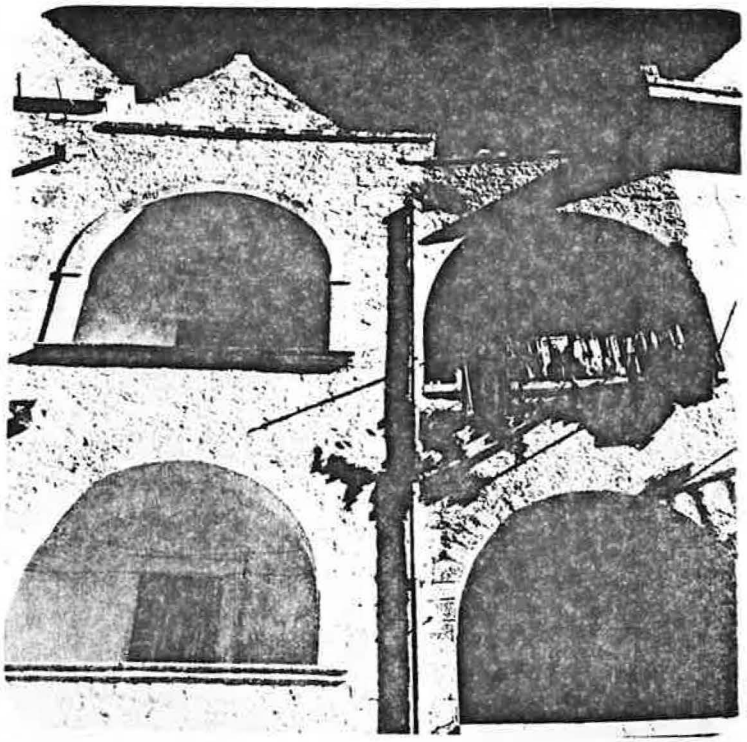
Grafik: Müller

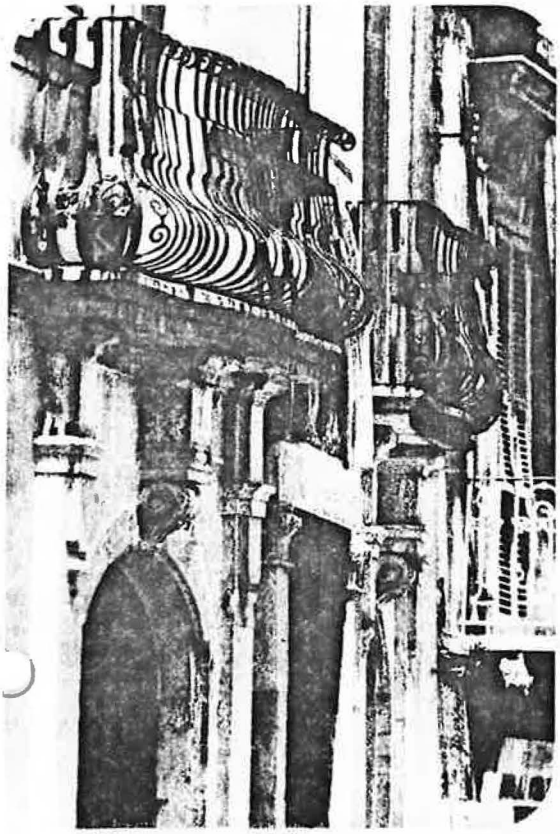


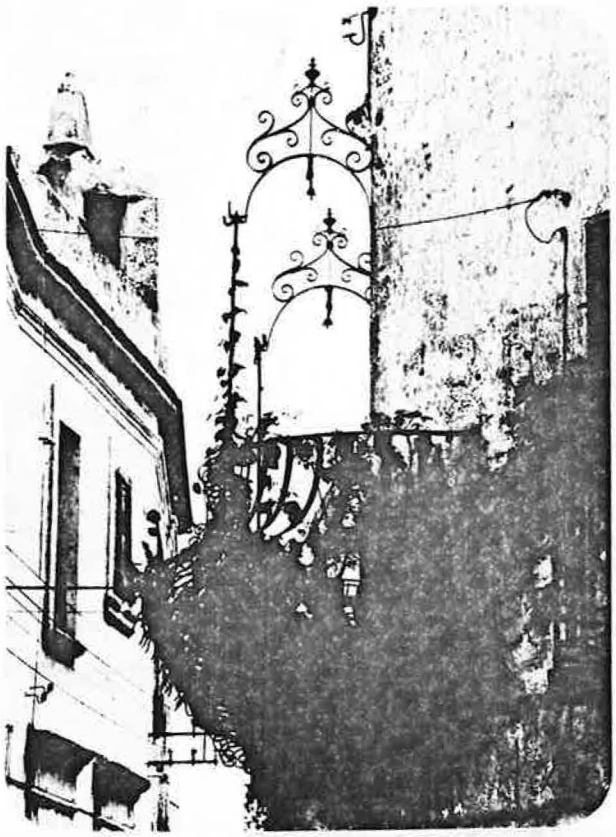
Williamsburg's Courthouse of 1770 frames 1809 Norton-Cole house and the 1769 steeple of Bruton Parish Church in the background.

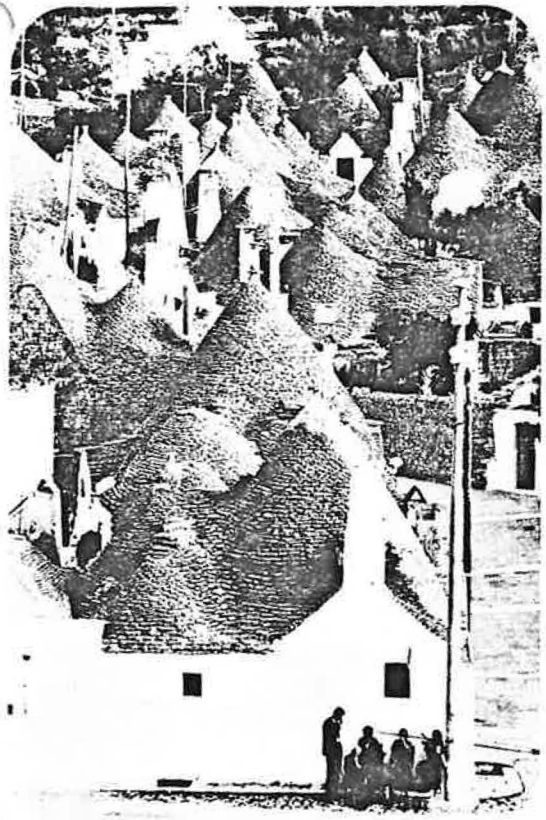
Taliaferro-Cole shop was operated by Charles Taliaferro in 1782. He sold a variety of goods, mostly imports from England, to customers from all over Virginia.

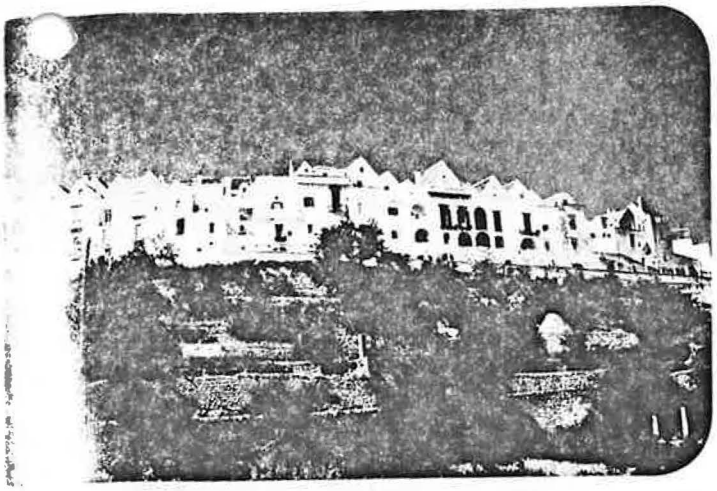


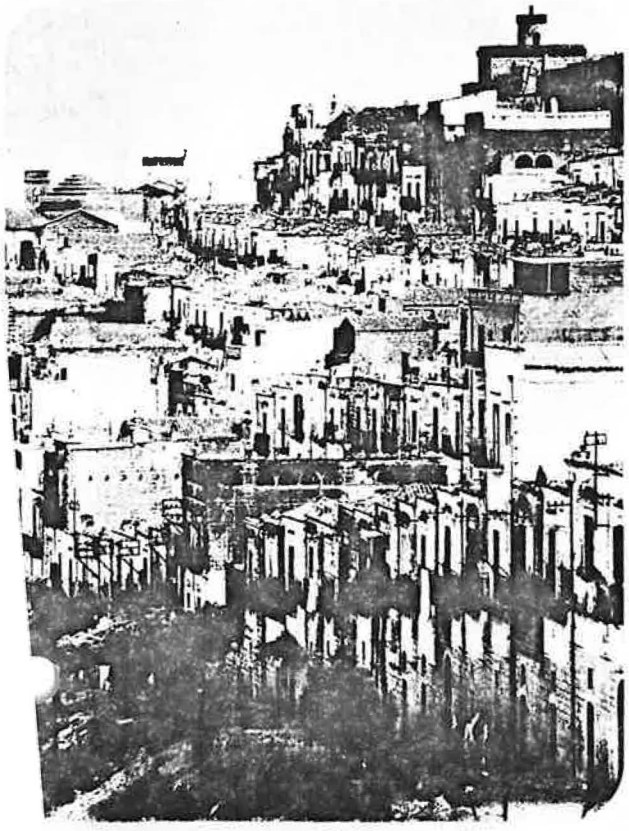


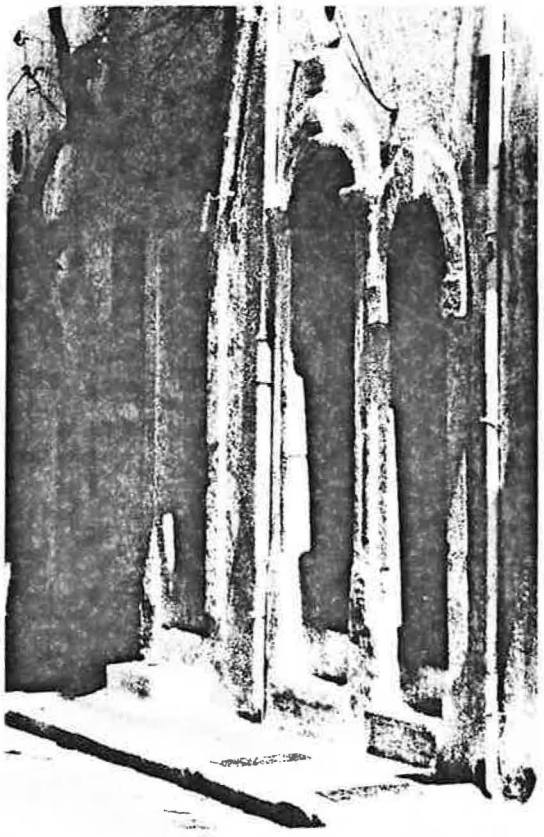












KEENE STATE COLLEGE BULLETIN
Alumni Magazine

ers league—don't set any records but do have lots of fun. My husband died in 1955 and my four children are all married. At present my brother is making his home with me.

"My oldest daughter, Janice, and husband, have four children and live in Placentia, Calif. I spend at least a month with them every summer. We've done a lot of traveling there in the past few years.

"My second daughter, Loraine, and her husband live in Manchester and have four children. My son, Ralph, and his wife also live in Manchester.

"My third daughter, Linda, and husband live in Nashua and have three sons.

"I do hope to attend reunion this year. It's certainly a busy world—something to do every minute."

Bless you **Eleanor Pike Connors!** you answered my letter!

She recently moved to 579 Beech St. in Manchester—and that's an easy street to find. I'll bet she'd be very happy to have visits from her former classmates. I, for one, will make it a stopping place one day soon.

Eleanor was married in 1933 and has four daughters—of course all are married now. And Eleanor has sixteen grandchildren! Surely, no one can beat that?

Last summer was a wonderful one for her. She and her sister visited some kinfolk who were stationed in Germany. They spent the month of July touring Germany and Switzerland and such a grand time they had!

Eleanor "went back" to teaching in 1945 and is presently at the Franklin School in Manchester, but is looking forward to retirement within a few years.

Eleanor says "We all have sorrows but also much, much happiness."

The Board of Selectmen of the town of Bennington proclaimed June 9, 1972 **"Ruth A. Cody Day"** in recognition of her 37 years of service to the town as a teacher and principal of Pierce School. Ruth retired the same day.

1933 Loretta Bliss Westerlund
39 High Street
Brattleboro, Vermont 05301

Mary Crahan and **Orpha Collins** joined me in representing the Class of '33, and **Helen Couture Anderson** '34 joined us! We commented on our "40 years out," *next* year with wonder and awe: wonder that we'd made it through to this point in life; and awe, that the years have literally evaporated and still plying the teaching profession. Won't you all start accumulating *your* "wonders, awes and nostalgia" for the 1973 reunion and participate in a grand "yak" session? It *could* be a traumatic experience for the many who've not often gotten to a reunion at the old Alma Mater!

Don Carle's presentation of his father's portrait, a wonderful likeness of Dean Carle, to Dr. Redfern, for the college, was very impressive.

Our in-memoriam scholarship for Frank "see" the hot springs, and other see-able things there (their planned tour this summer).

A letter from **Norm Hartfiel** displays the title of "Executive Secretary, New Hampshire School Administrator's Assoc." Despite the impressive dignity of the letterhead, Norm's letter carried innuendoes of the same fellar we knew! He'd seen **Beulah Perkins Thayer** at a winter wedding, somewhere, planned to call on **Minerva** and **Ralph Duso,** enroute to Dallas to attend a meeting of educational leaders, and revealed the fact that his wife is a former Brattleboro gal, due back for her 50th class reunion in 1973. Nice to hear, Norm!

So—for now—lay the groundwork, mentally, for our class reunion in 1973, at Keene. More about this later! And write me about your summer "doings."

1934 No Secretary

Phyllis Goulding Hazard from Walnut, California stopped by the Alumni Office on June 13th, 1972. She and her husband have been touring the U.S., with a side trip to Europe in May. Mr. Hazard's sabbatical is from Mt. San Antonia College, where he is instructor in Industrial Technology.

Goal of the trip is to study and observe teaching processes.

1937 Jesse F. Davis
249 Millville Avenue
Naugatuck, Conn. 06770

Ruth McVeigh Beringer, now in Hamden, Conn., is married to a faculty member in the Physics Dept. at Yale Univ. He is Director of the Heavy Ion Linear Accelerator, and this last fall was named "William Kenan Professor." They have three sons: Michael, a graduate of the Boston Univ. School of Communications and working at a radio station in Maryland; John, a graduate of Pratt Institute School of Architecture and named by AIA as last year's outstanding student; and Robert, an MP in the Army, stationed at Fort Devens. A housewife herself, Ruth devotes part of her time to amateur painting. She indicates considerable interest in our class reunion next May, and generously offered to help out with necessary paper work. Many thanks, Ruth!

Edith Noble, after teaching for 16 years in Milford and several other smaller towns in New Hampshire, is in her 18th year of teaching in Stratford, Conn., where she is Supervisor of Mathematics for three junior high schools.

Betty Harris Graves, who lives in West Hartford, Conn., was appointed last fall as English Supervisor in the department of secondary education at Westfield State College. She formerly taught at Canton High School. Betty has three daughters, one of whom is a research chemist, and another then went to Bloomfield, Conn., High School where he remained for 23 years. Although retired from teaching, he sells insurance. He has a son and a daughter.

Wendell Hawkins, who succeeded your class secretary as music supervisor in Glastonbury, Conn., has spent 27 successful years there in the public schools and as choir director at the Congregational Church. After graduation from Keene, Wendell first taught in Exeter, while earning his master's degree from Boston Univ., and then spent several years in Wethersfield prior to crossing the Connecticut River to take his present position. He and Marion have two daughters, graduates of Wellesley and Vassar respectively, and a son in his second year at Phillips Exeter.

Bob Edmunds, a highly successful industrialist, is founder and president of the Edmunds Manufacturing Company in Farmington, Conn. A maker of aircraft parts, he formerly taught machine shop courses for five years at high schools in Portland, Wethersfield, and West Hartford. He and his wife have four children and three grandchildren.

I regret to report that **Lucille Craggy Hannon,** of 30 Hartley St., Portland, Maine, lost her husband, Gene, early last year. Also, her daughter has undergone lengthy hospitalization, with a spine operation scheduled this winter. Happier news is that Lucille earned her degree last June. Son Craig, recently married, is with IBM in Cambridge, while her other son, Jeff, is with Xerox in Rochester, N.Y. "Keene days were such a long time ago," she writes. "I look forward to notes of your doings." Know she'd appreciate hearing from you!

It is sad news, also, to learn that **Evelyn Puffer Roberts,** of Hightstown, N.J. died shortly before Christmas, of leukemia. She had two sons, and she continued to teach home economics just as long as her illness would permit.

Let's all keep in mind that this is our thirty-fifth anniversary year! Those who attended our twenty-fifth in '62 will wonder where the last ten years went! You'll be hearing more from me and the Alumni Office concerning plans for the big event. It has been suggested that, since we were all mutual friends, the classes of '36, '37 and '38 combine for a really tremendous celebration next May. Do you have any ideas you'd like to see implemented? If so, please send them to me right away so that I may let Jim Leh and Fred Barry's office know what your wishes are. Hope you have happy Christmas holidays and are having a good year in your work.

1939 Josephine Perkins Woodward
118 Washington Street
Keene, N.H. 03431

When **Edith Carrier Foulds** put out an SOS for secretary replacement, I volunteered, hoping that by living in Keene, I might be of some help in getting news to