

South Mountain High School auditorium design employs four TDAs

More  
about

## *An idea from a glove*

Continued from Page C-5

Mountain auditorium will use four of the TDAs and a thin shell concrete roof, another area of design interest to Rossman.

Auditorium Research, Inc., the affiliate firm, shares Rossman's staff of 15. Both firms have offices at 4601 E. McDowell.

Rossman's design theory is to get the problem to be solved down to simplest components and then work toward a solution.

As example of the use of this theory is the ultra compact airport terminal developed by Rossman as an alternative to conventional design.

wingspans. Rossman decided it would be more efficient if the wings could be overlapped.

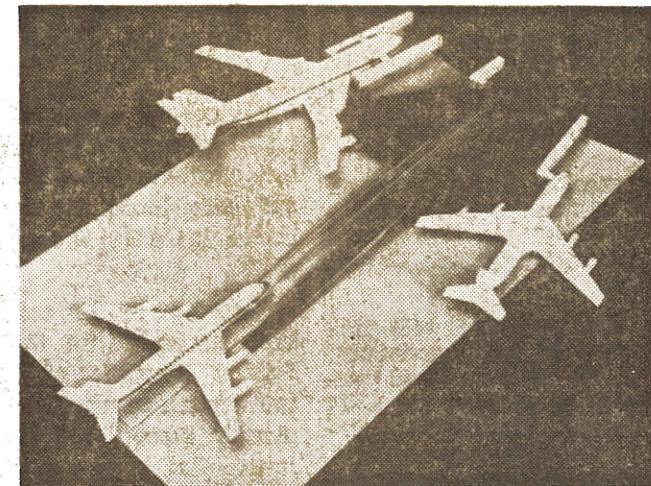
To accomplish this overlap, Rossman used an inclined plane, pulleys and winches.

In the UCAT system, the airplane is parked on a platform which is then winched up the inclined plane.

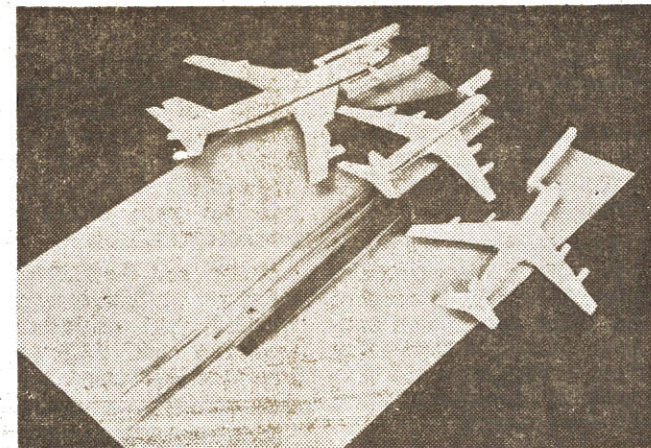
As a result, a UCAT airport with 44 passenger gates would handle up to 30 million passengers a year on about half the space of a conventional airport.

Another area of interest to Rossman is steel building construction.

"One of the compelling reasons for steel construction is cost," Rossman said



Plane in position on lifting platform



Planes in final position with wings overlapped

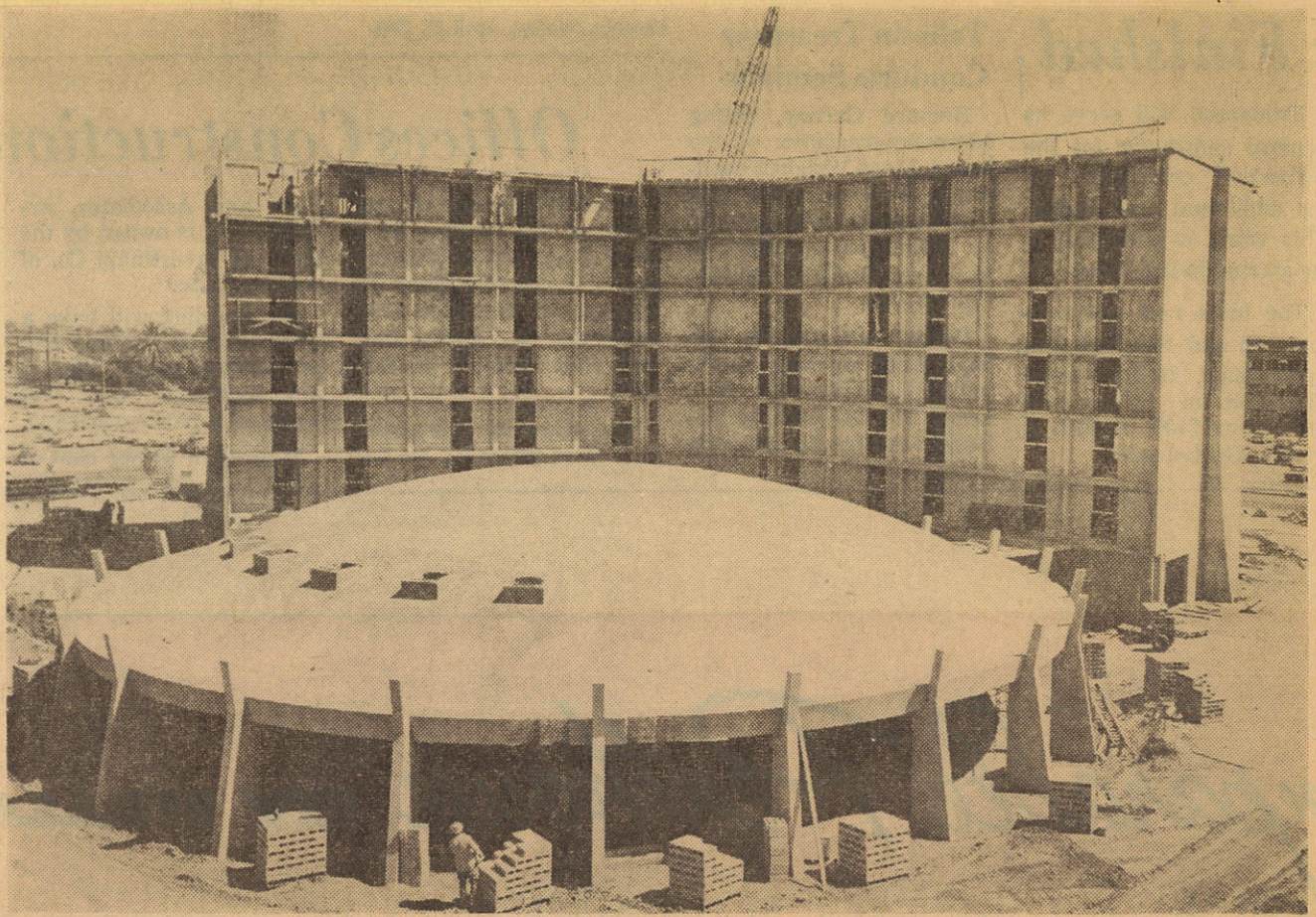
## State basic text is published

The first permanent Arizona Real Estate Primer and Reference Manual published by the Real Estate Department is now available.

J. Fred Talley, Real Estate Commissioner, said the primer is intended as a basic text in real estate and will be sold for \$5 in a loose-leaf form.

department, 2801 N. 15th Avenue.

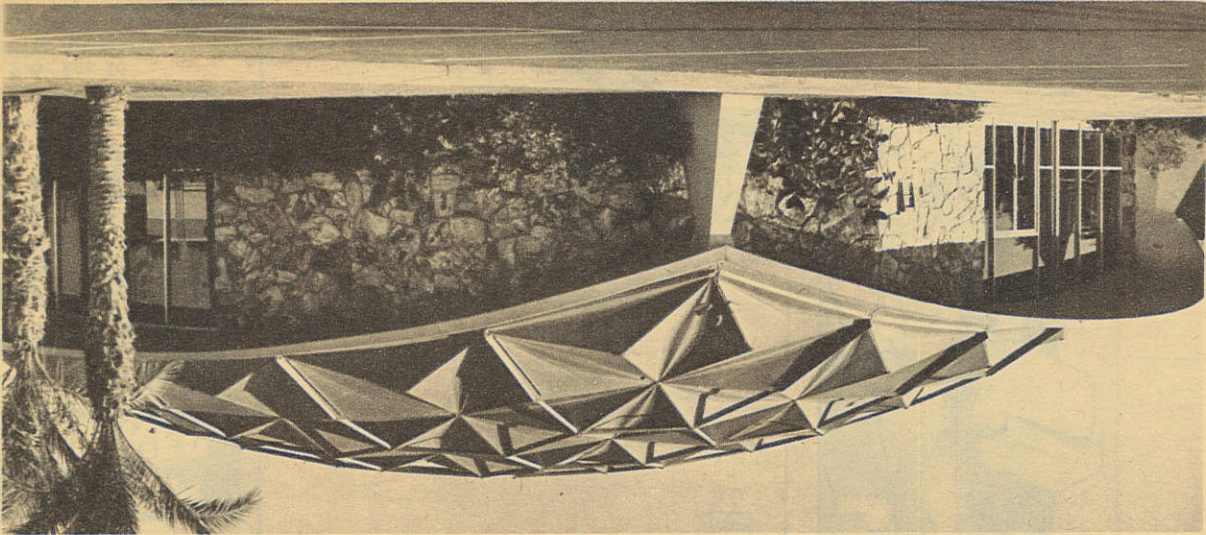




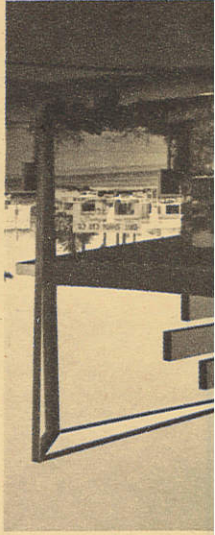
**DORM DINING HALL**—This unusual circular dining hall is to serve the seven-story women's dormitory building in the background at Arizona State University. Its six-inch concrete dome is 100 feet in diameter without any supporting pillars on the interior. On its outer rim a series of "post-stress" steel cables are imbedded in the

concrete, which will serve to prevent the roof from any tendency to sag. The \$1,365,000 dormitory was designed by Cartmell and Rossman, architects, and is being erected by Manhattan-Dickmann Construction Co. Palo Verde Hall will house 410 women students and is to be ready for occupancy in August.





Valley National Bank

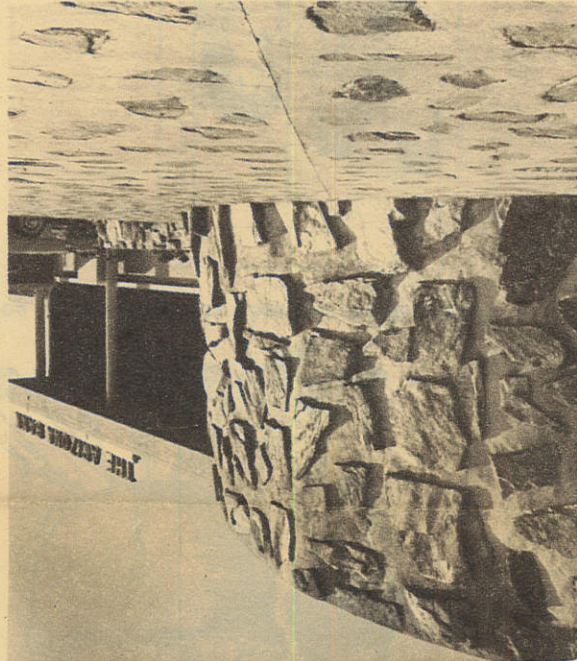


Arizona

Conservative, careful with your money—and their's—and operating from within a building that, well, looked like a bank. Take a squint today. Some of the most architecturally progressive buildings in the state are not drive-ins, art galleries or theaters. They are banks. Most customers find the change refreshing.

**WHAT HAPPENED** to the bankers?

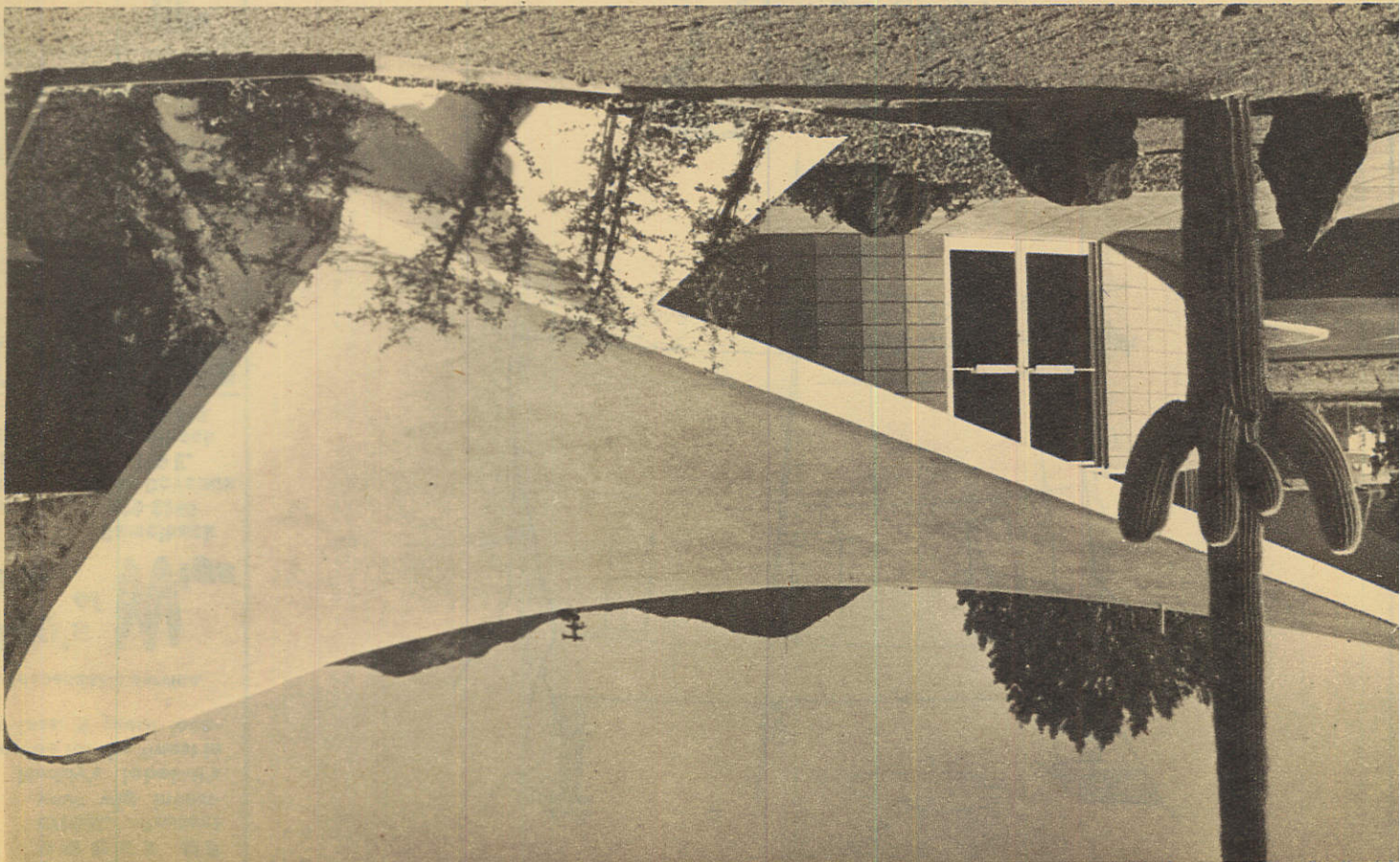
## Conservative? Banks



The Arizona Bank



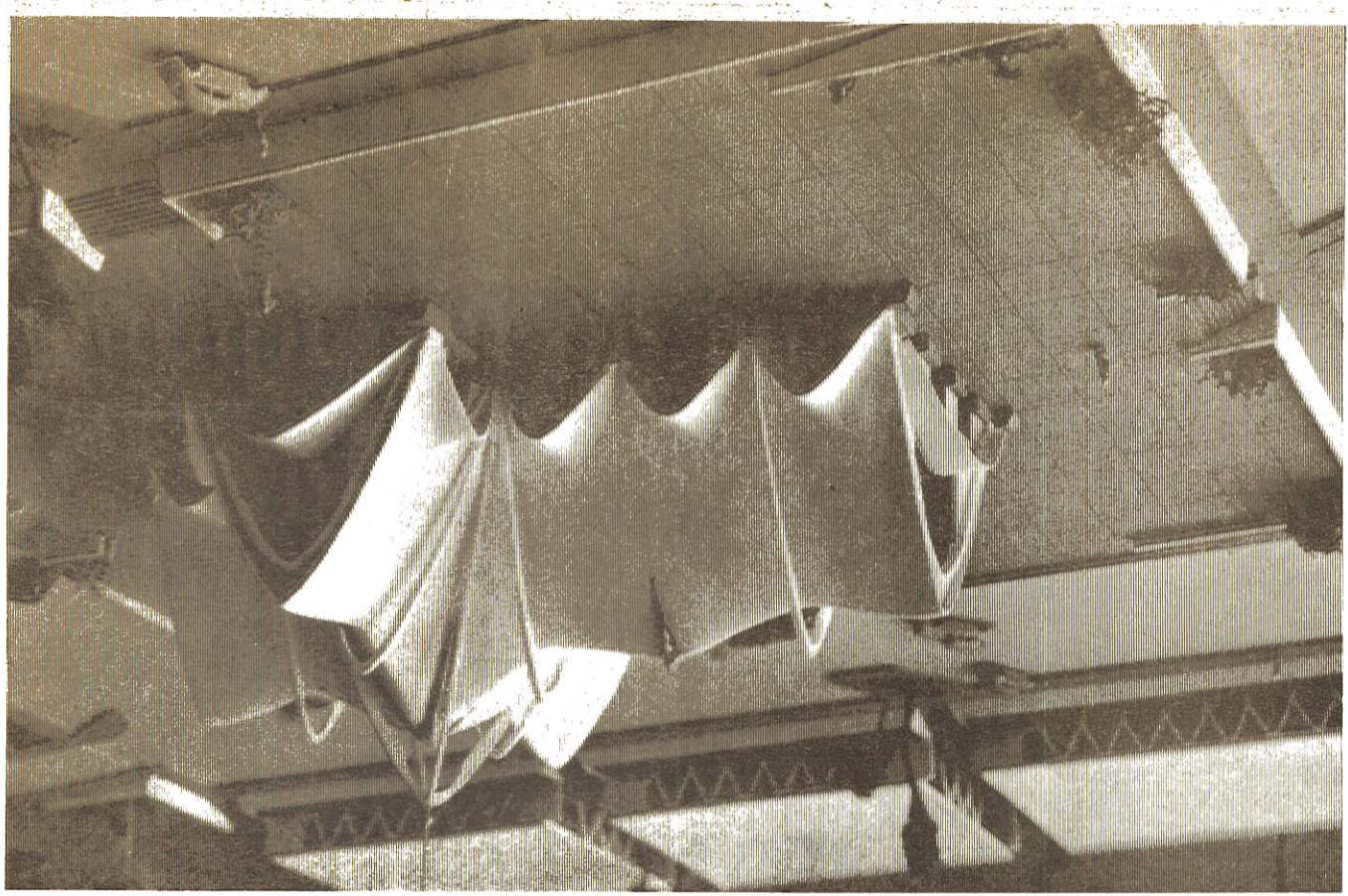
& Loan



Guaranty Bank



# McNally



**MODEL** shows striking architecture of St. Maria Goretti's sanctuary to be built on Granite Reef Rd. north of McDonald. Proposed educational buildings are in background.

## St. Maria Goretti to build

Final planning will start Sunday for the proposed St. Maria Goretti Catholic church complex, which will be constructed on a 10-acre site between Granite Reef Rd. and Rose Lane at an estimated cost of \$510,000. A scale model of the future parish complex, designed by Dr. Wendell E. Rossman, was unveiled this week. The complex will consist of an educational building to be completed in 1968, a sanctuary in 1971 and a parish house in 1973-74.

The church pastor, the Rev. Thomas J. Lambert, former Arizona Register editor and diocesan Chancellor, said the education building will serve as the parish sanctuary until the proposed sanctuary is completed.

Fr. Lambert has served as pastor of St. Maria Goretti

since its inception on July 23, 1967. Services are now being conducted at Sagunaro High School.

The first phase of the educational building will provide church seating for 300 and can be partitioned into four classrooms. It also can be used for social and business functions.

The 3,000-square-foot building, costing \$70,000, is to be completed next June.

The sanctuary, to be completed in 1971, will cost an estimated \$237,200 and construction of the second half of the educational building, 1972, will cost \$62,400.

The parish house, to be built in 1973-74, will cost \$62,400 and beautification of church and grounds in 1975 will cost \$65,000.

The scale model shows that traditional lines have been

abandoned in favor of an ultra-modern design that projects religious symbolism. Rossman said he had a religious motive in mind when he created the model.

There will be many examples of religious symbolism, according to Rossman, throughout the church structure. The most noticeable and unique will be folded praying hands depicted by external arches shaped in form of parabolas.

"This is the only church I know of in the entire west to employ the concept of using the parabola concept throughout the structure," Rossman said that another unique feature of the sanctuary would be a 33-meter height from its ground floor to a cross atop the building. This will symbolize the length of Christ's life.

Rossman also said that recent liturgical changes in the Catholic Church have been expressed in his work.

The church pews will be built around the altar, in circular fashion, for a closer proximity between the altar and the parishioners.

"The modern sanctuary will represent a new thinking within the Catholic church that goes into the buildings themselves," Rossman said.

Rossman said he discounted the possibility that an ultra-modern church would destroy anyone's religious motive. "This church should awaken in people a feeling of religiousness," he concluded. The parish includes about 700 families in North Scottsdale who previously attended Our Lady of Perpetual Help church here.



# An idea from a glove

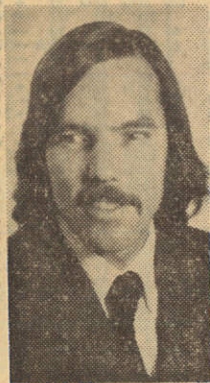
*Dr. Wendell Rossman designs revolutionary auditorium that saves space, time and money*

By KEN BACHER

If a right-hand glove is turned inside-out, the result is a left-hand glove.

With that approach, a new auditorium design was developed by Auditorium Research, Inc., an affiliate of the Phoenix

architectural firm of Rossman and Partners.



Auditoriums stand idle most of the time. Dr. Wendell Rossman set out to make them used most of the time.

He calls the result the Turnable, Divisible Auditorium, a multiple

**Bacher** purpose facility that can be used most of the time.

Right side out, the main part of the glove is an 800-seat auditorium for small groups, and the fingers are four smaller meeting rooms of 200-seats each.

Inside out, the fingers are turned and join the large auditorium, creating a 1,600-seat facility for larger groups.

Mechanically, Rossman accomplishes

this transformation by putting each little room on a turntable controlled with electric motors.

The turntable rooms are band-shell shaped. Turned toward the main auditorium, the band shells face the big auditorium stage. Turned out, the bandshells face smaller, individual stages with the shell forming a wall between the smaller room and the auditorium.

Dr. Rossman said the TDA system not only increases the use of the structure, it reduces the cost compared with conventional construction.

Using the cost of a 1,600 seat auditorium as the basic cost, Rossman said, it would cost an additional 50 per cent to add four conventional 200-seat meeting rooms. With the TDA system, he said, the four rooms would cost an additional 15 to 25 per cent.

In the TDA system 800 of the seats serve two purposes and increase the use of the building.

The first TDA was built in a school in Quebec. An application of the system closer to home is under construction at South Mountain High School. The South

Continued on Page C-9



# Church to be cross-shaped



From its foundations is an un-  
t will house St. Maria Goretti  
n, Granite Reef Road and Rose  
ottsdale.

comes from the drawing boards  
d Associates, architect. It rep-  
ieve, something structurally  
any religious building in the  
ling contract is held by Lufkin

is simple. The church is laid

out in form of a Greek cross, having four  
arms of equal length. Each arm is 54 feet  
wide. From the end of one arm to the oppo-  
site end is 103 feet.

The narthex will be in the west, lower arm  
of this cross. The nave occupies the center  
and, with the two transept arms, gives space  
that will permit seating of 730 worshippers.

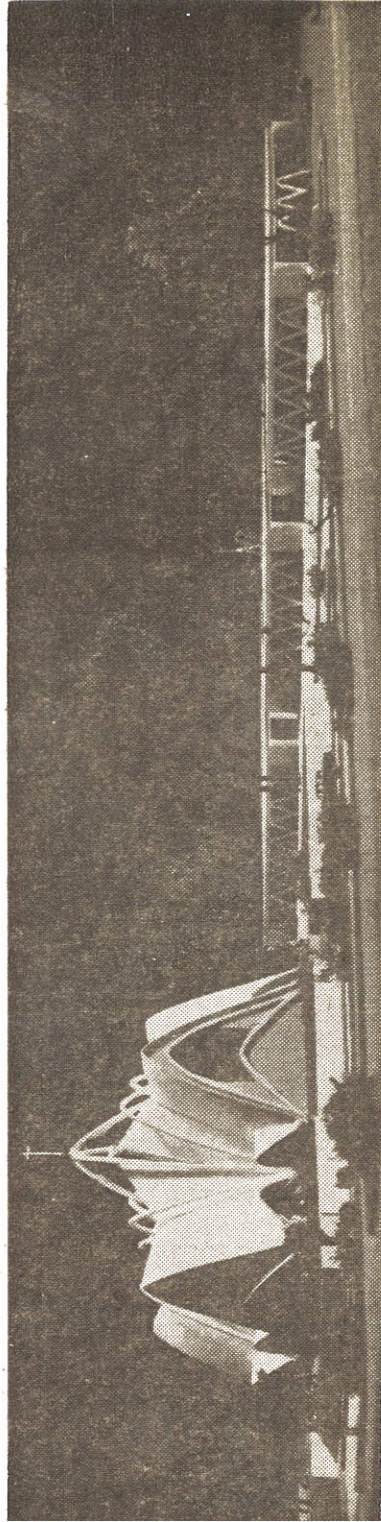
The upper arm, opposite the narthex, will  
be occupied by the sanctuary with its bap-  
tismal font, pulpit, altar, lectern and the

priest's sacristy. At one side of the narthex  
will be a small chapel; the other side is to  
be taken up with confessionals and service  
rooms.

Covering this relatively simple and ortho-  
dox floor plan will be four hyperbolic arches  
made of a thin skin of reinforced concrete.

That term "hyperbolic" is perfectly under-  
standable to the architect or engineer, but  
may require some further explanation to the  
layman. Our best illustration is that if you  
took a sheet of paper and bent it into a steep,  
curving slant upward, you would have a hy-  
perbolic arch.

(Continued on Page M-1)



Architect's model demonstrates how church's side walls become roof as they rise in hyperbolic arches



# Court stays

## mining pact

### with Papagos

By ROBERT L. THOMAS  
Southern Arizona Bureau

ON — Court approval of an agreement between the Papago Indians and American Smelting and Refining (ASARCO) was postponed yesterday Feb. 29 to allow a group of protesters to prepare their case.

District Court Judge James A. who had previously set Friday as the date for approval of the \$2.1 million agreement and renegotiation of reservation leases, said he would hear objections at a court hearing in three

ing down Attorney James M. O-Papago agreement on behalf of Indian residents of the San Xavier of the Papago reservation.

ver, Judge Walsh eliminated one, District Council, on the grounds did not own a land allotment would be affected by the ASARCO operation.

Objection Murphy cited was that our copies of the agreement were to be read by the Indians.

were in the Bureau of Indian Affairs office in Phoenix, U.S. District in Tucson, at tribal headquarters and at the U.S. Public Health

# City loses 3 court battles on obscenity laws

By DON BOLLES

The City of Phoenix lost three times yesterday in its court battle against alleged obscenity, the major loss a judge's finding that a new state law is unconstitutional.

Superior Court Judge Charles Roush threw out a 1971 state law that made it a crime to sell obscene items or materials harmful to minors within 4,000 feet of a school or park.

Roush held, in effect, that the law creates two different standards for what adults and children may read. Enforcing

the law would require adults to conform to the guidelines set for minors, he said.

Superior Court Judge Morris Rozar made two other decisions against the city.

He issued a temporary order barring the city from moving to revoke the license of the Empress Theater, 2339 E. McDowell, until another hearing next Tuesday.

City Treasurer Ralph Beall had been prepared to hold a second hearing yesterday on the Empress Theater license until the judge's order came down.

On June 2, Superior Court Judge Roger Strand ruled a film shown at the

Empress, "Virgin Runaway," was obscene.

Anthony Ranieri, the theater's lawyer, said the theater license is held by a man named Don Pacey. It was held by Danny Tafoya, the theater owner, at the time of the alleged offense, and since Pacey was not the license holder then he cannot be held responsible now, he argued.

He also contended that the city ordinance governing obscene films is vague, indefinite and unconstitutional.

In another case involving criminal prosecution against sellers of allegedly obscene literature, Rozar dismissed the

charges against eight bookstore owners and clerks.

He dismissed charges against Joe Bacon and Mariana Go of the Paris Theater on grounds that materials were taken from them in violation of their privilege against self-incrimination.

Rozar dismissed charges against six others on grounds that criminal charges cannot be filed against them for activities before a court has ruled that an item is obscene.

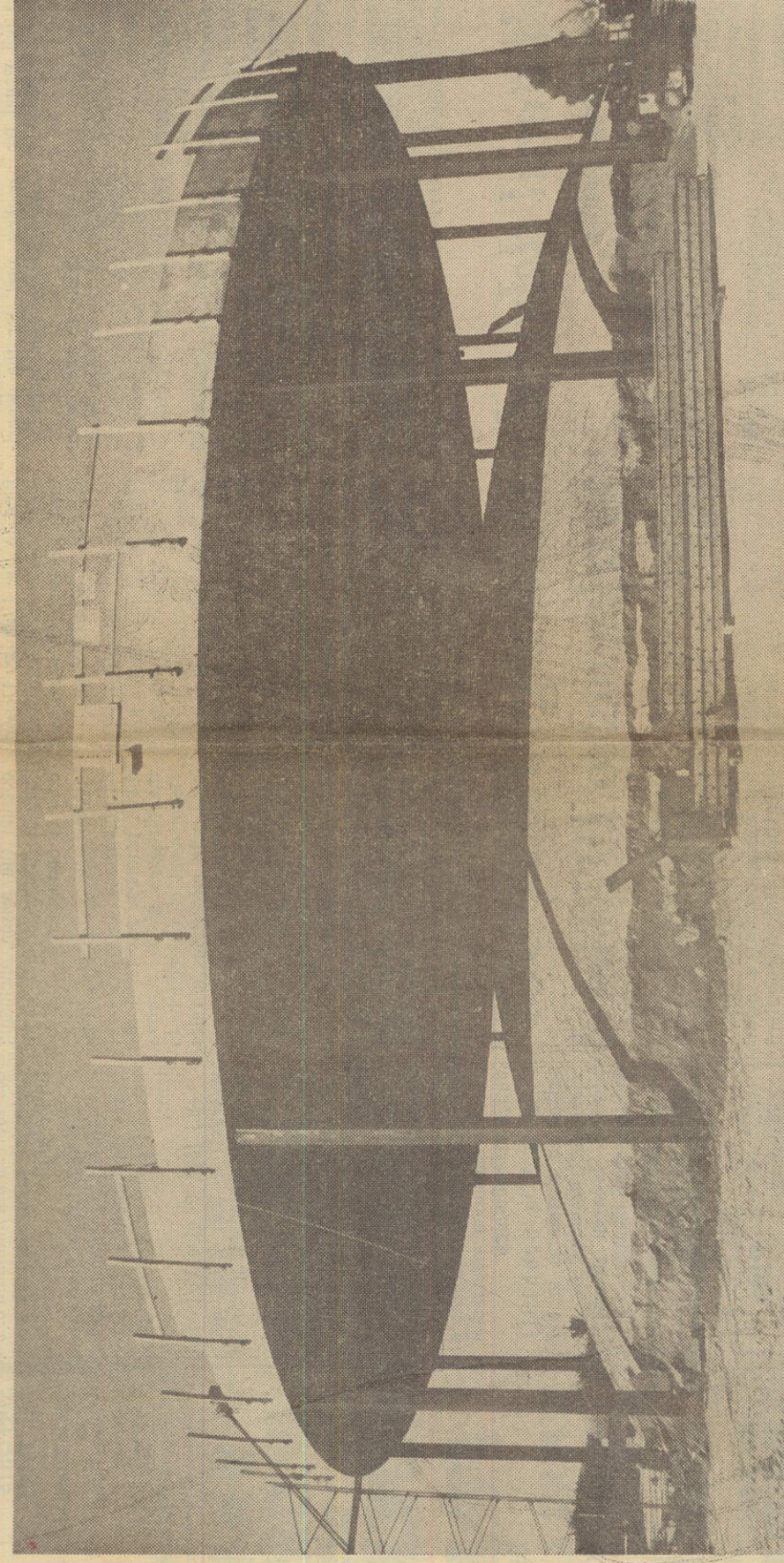
Charges were dismissed against Meyer Bard, C&J Smokeshop; Sam Janopolis, Downtown Bookstore; Robert Hullinger and Sam Ray Rife, Owl Bookstore;

Ronald Rock, Ron's Place; and Hugh Baird.

Robert J. Hertzberg, their lawyer, said he would continue to contest obscenity charges against some of the same defendants and others.

He said he expected the city to appeal the verdict.

Rozar did make one ruling for the city. He held that the Phoenix City Court may try any defendants on proper charges. Hertzberg had maintained that the city court is an arm of the city and therefore a city court trial would be unconstitutional.



## THE ARIZONA REPUBLIC

Wednesday, Feb. 9, 1972  
(Section B) Page 1 ☐○

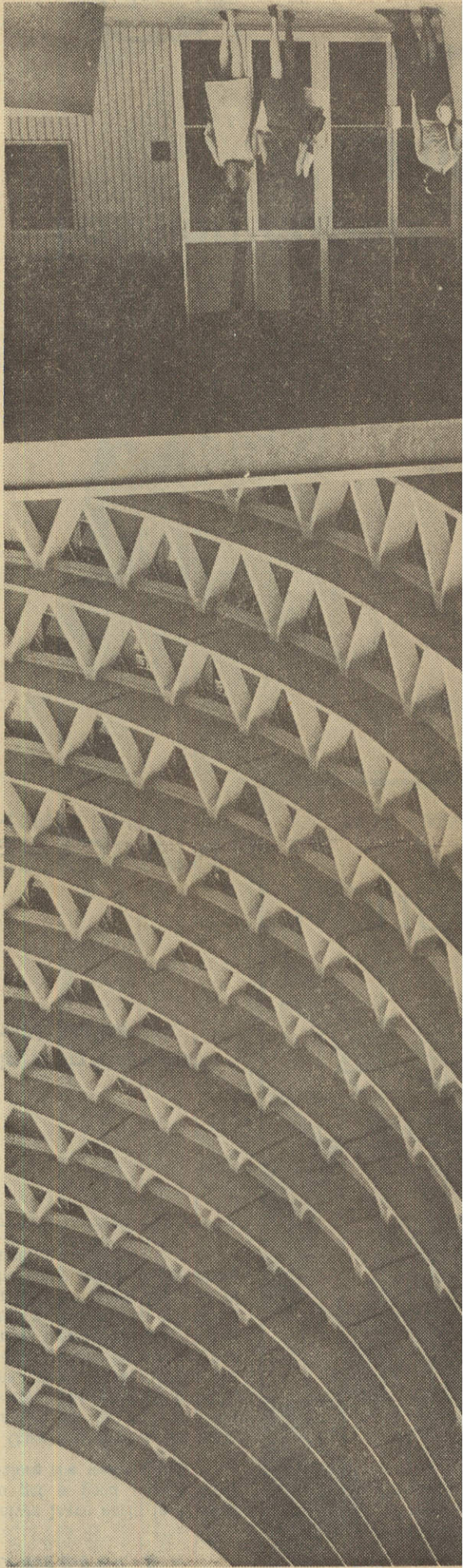
Paul Dean is ill. His column will resume when he recovers.

## ASU grant to aid local law agencies

TEMPE — A \$267,048 grant was presented yesterday to the College of Law at Arizona State University to develop procedural policies for local law en-

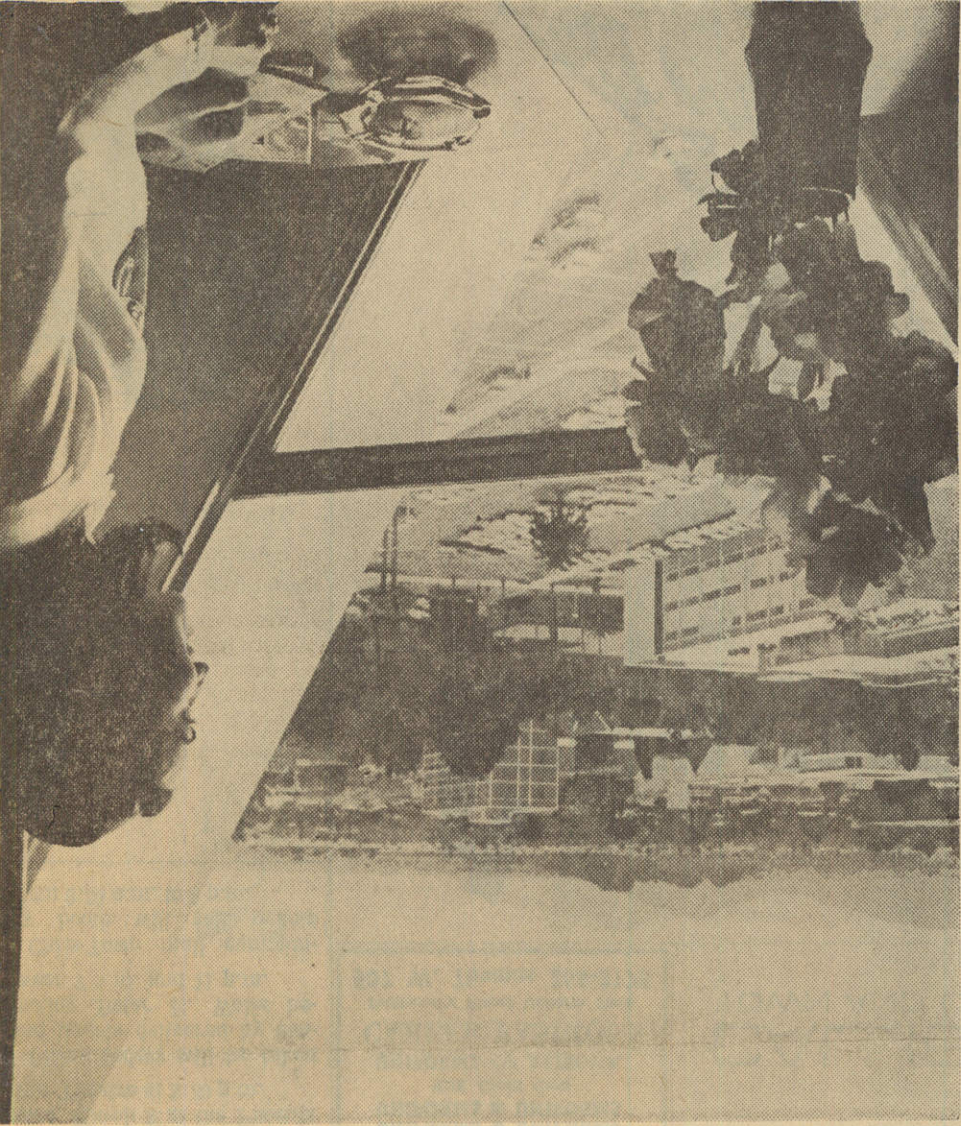


*al V-frame design attracts attention*

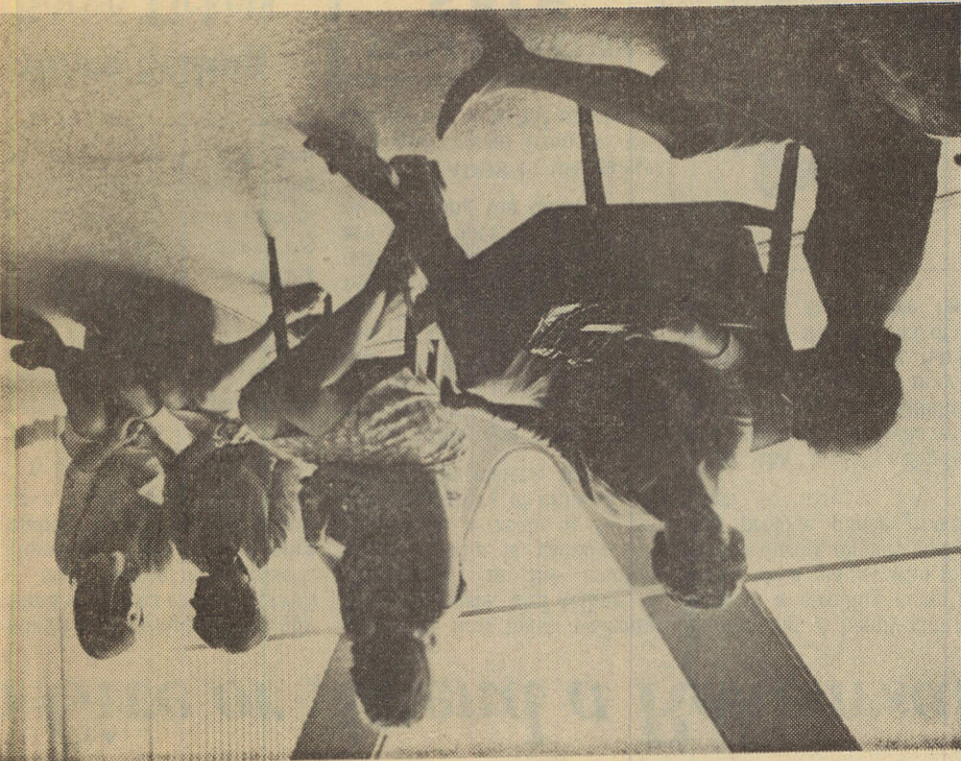


*Kathie, hall president, enjoys a sweeping campus view*

Republic Photos by Larry Repp



*A comfortable lounge is popular meeting place with coeds*





A black and white photograph of two young women in a room. One woman is seated on a white chair, wearing a dark dress with white trim and white shoes, holding a book. The other woman is standing next to her, wearing a light-colored dress and dark shoes, looking at the book. In the background, there is a bookshelf with books, a bottle, and a small figurine.

*Sue, left and Rhonda, 14th floor's SA's*



# Law Building Is Unusual

*Warren, Wirtz to Speak at Dedication*

EMPE — The college of law building at Arizona State University is preparing for its open house.

The 80,000-square-foot building, unique in design and purpose, will formally dedicated Feb. 26 with speeches by U.S. Supreme Court Chief Justice Earl Warren and Secretary of Labor W. Willard Wirtz.

WORKMEN are busily completing the construction of classrooms, faculty offices, a 400-seat moot courtroom and a spacious library that the building will be sure to impress its guests.

"We'll have this place ready in a matter of time," said Don McMan-

en, assistant project superintendent for the Del E. Webb Corp. "Of course, we'll still be working on the finishing touches long after the ceremonies."

THE \$1.6 MILLION building, constructed at a cost of \$20.40 per square foot, is designed to bring students and professors into close relationship.

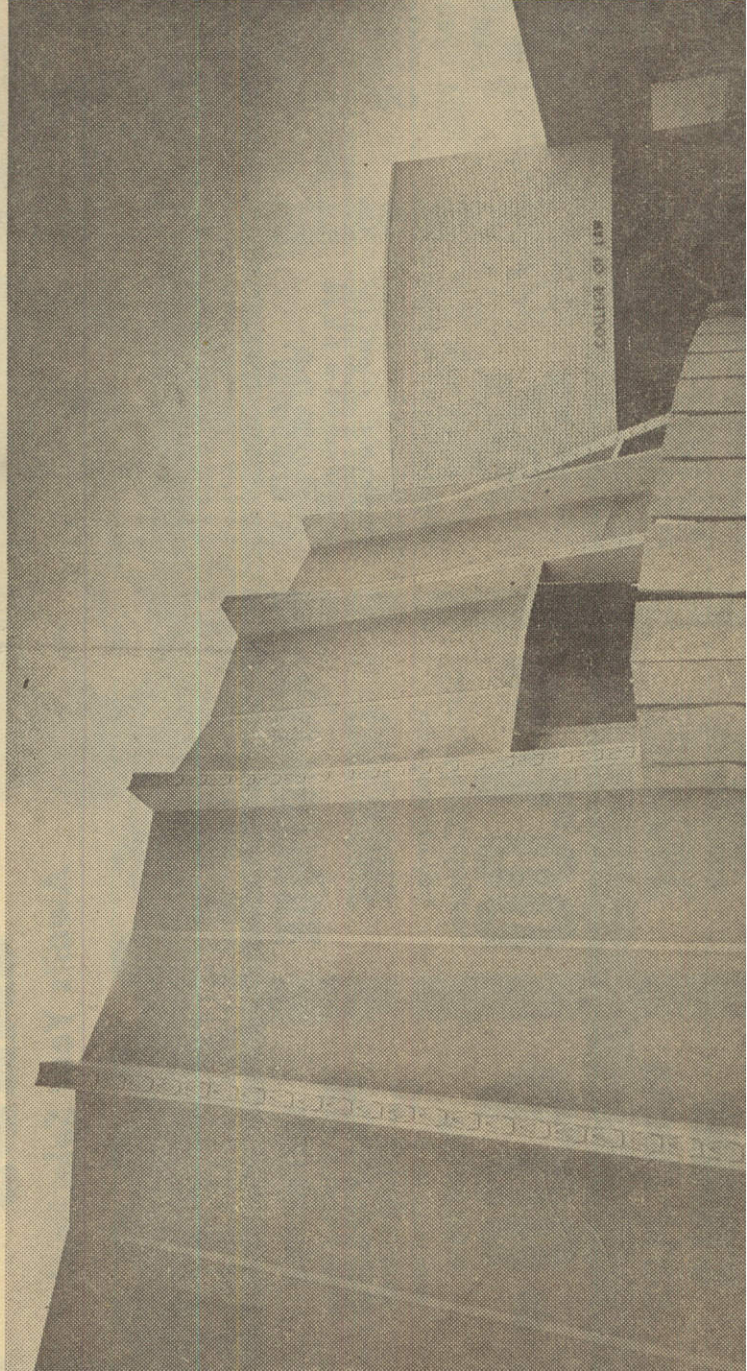
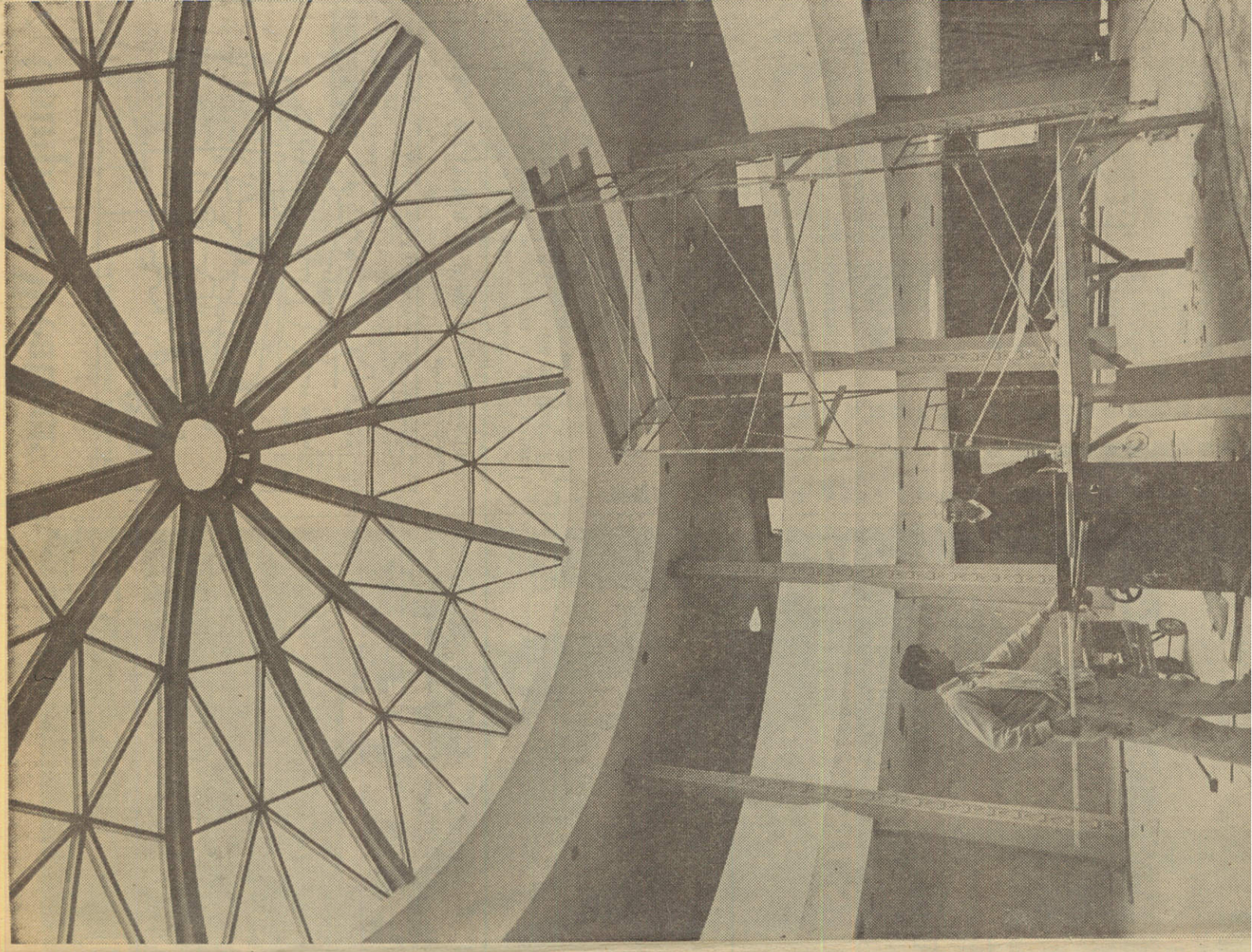
For example, a faculty member cannot get from the classroom into his office without walking through a huge central meeting area where students may be waiting with questions.

Professors will lecture in the

center of classrooms while pupils view the proceedings on elevated tiers from two sides.

THE HUGE moot court hall will provide an opportunity for the pupils to learn authentic courtroom procedure. The circular library already contains more volumes than nearly half the law school libraries in the country.

"The law building is a triumph of functional design and amazing economy," said Willard H. Pedrick, dean of the ASU law college. "Its cost is actually less than half of several new law buildings now being constructed."

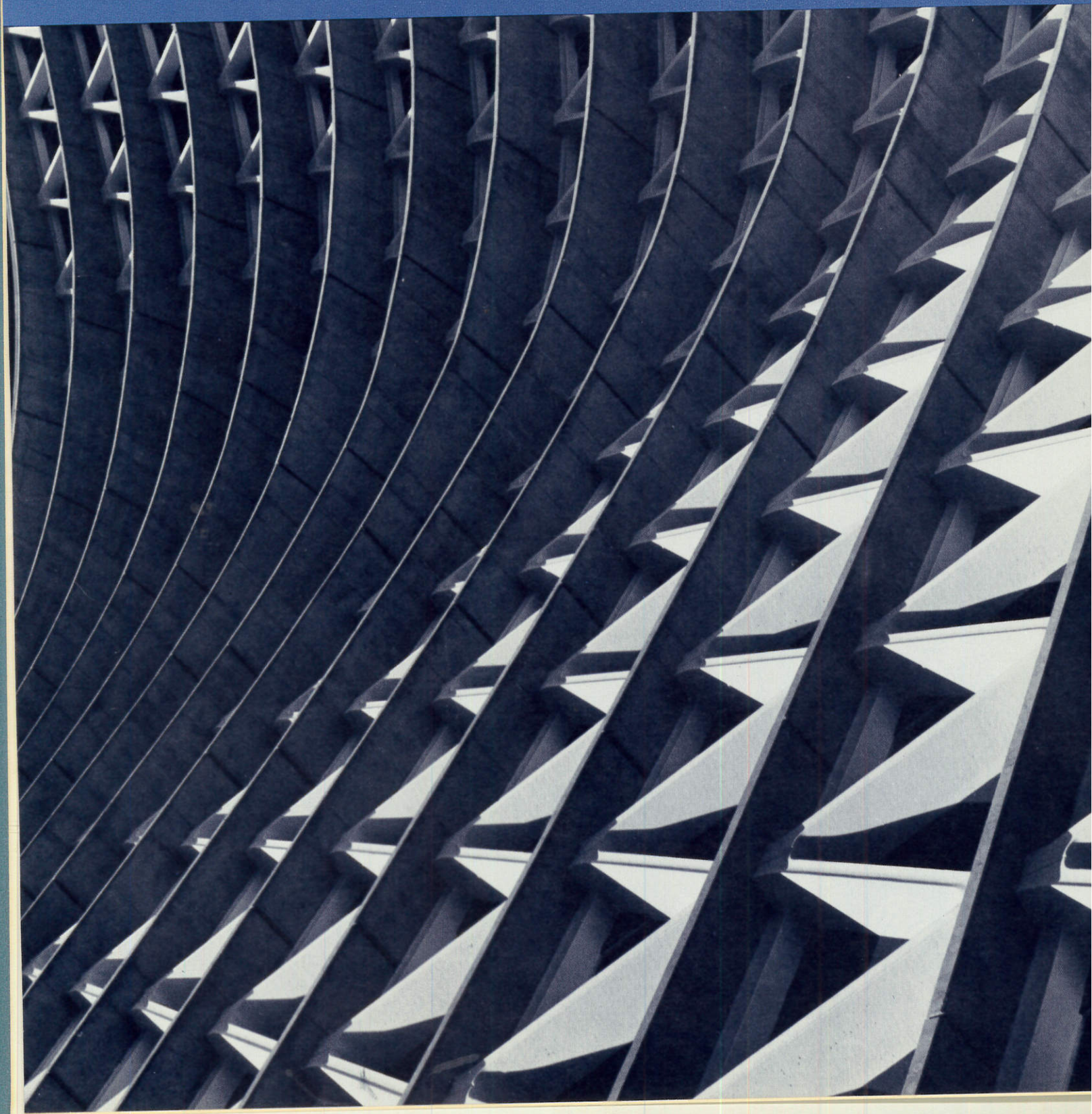






ROSSMAN +  
PARTNERS  
ARCHITECTS







*...and observed that there are minds in our time who have created beauty; if through no other cause but the use of logic, reason, and the principles of sensible existence of things, and the observance of precise, necessary and natural laws.*

HENRY VAN DE VELDE

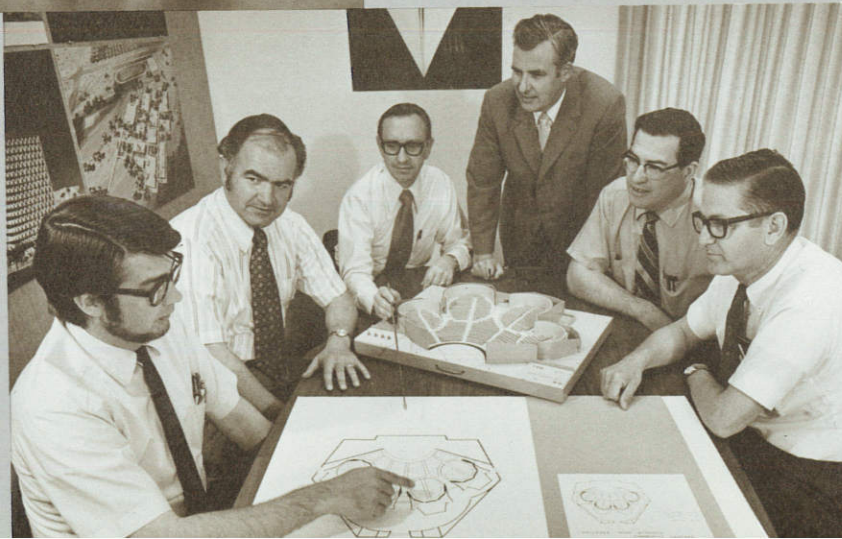


Dr. Wendell E. Rossman



l to r  
Dr. Wendell E. Rossman  
Donald R. Gadbery  
Herbert W. Schneider

l to r  
Richard W. Goewey  
Ralph T. Fitzmaurice, Jr.  
Herbert W. Schneider  
Dr. Wendell E. Rossman  
Donald R. Gadbery  
Charles L. Mason





## ROSSMAN + PARTNERS PHILOSOPHY

The key word is "QUALITY".

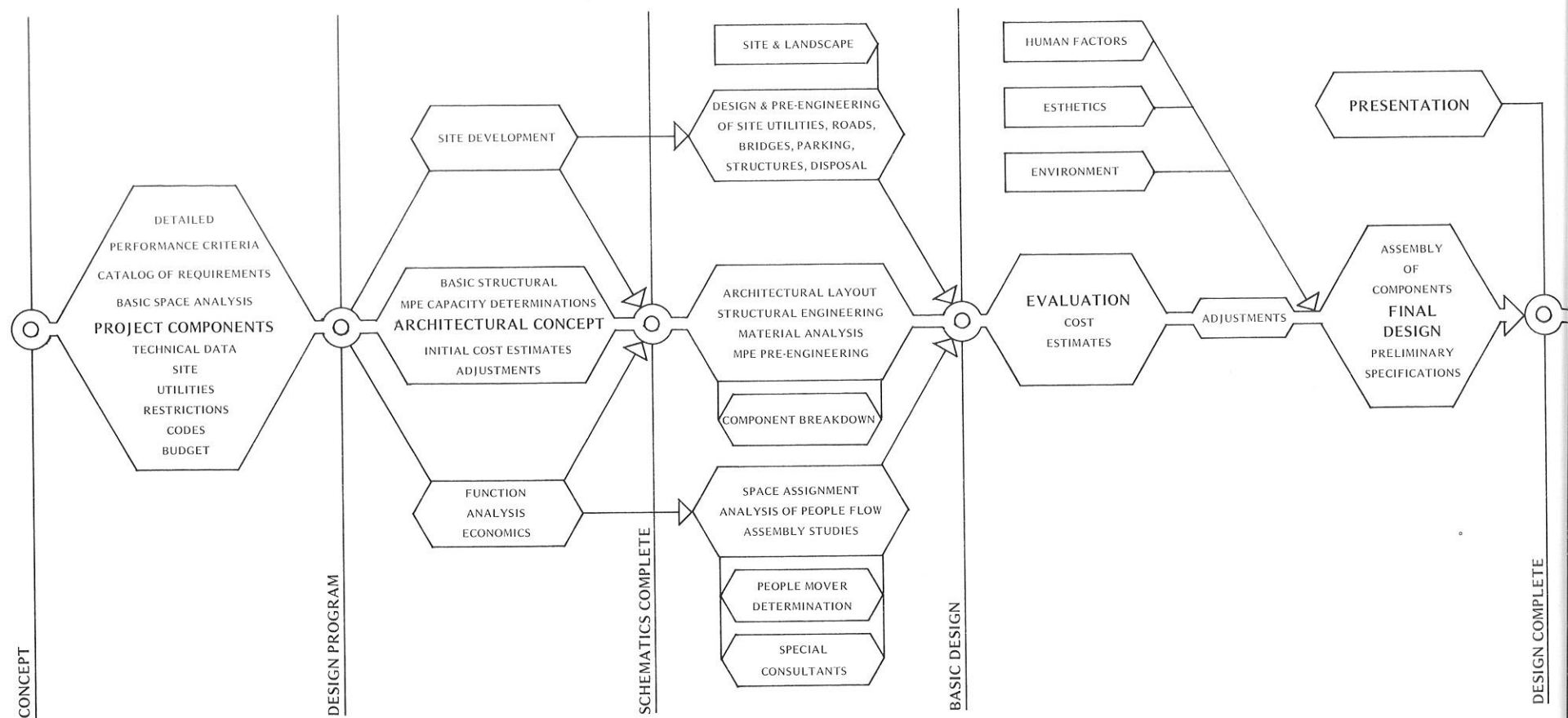
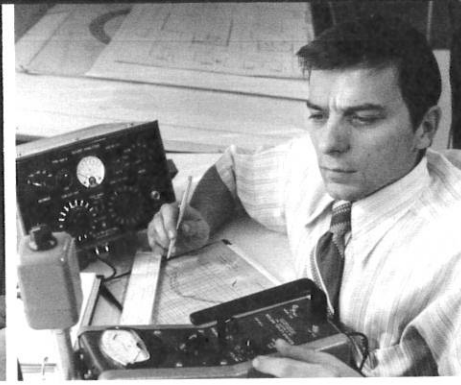
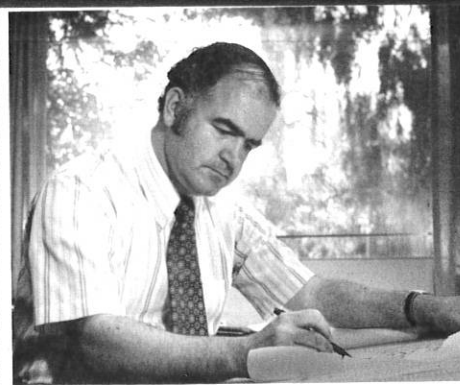
QUALITY of professional service. Our entire efforts are directed toward this one purpose: That our client's money is invested in his building to his greatest benefit.

Our objective is therefore the achievement of lasting value for our clients. And lasting value exists in a building which has the five attributes: Livability, structural and material soundness, and beauty — all at equitable cost.

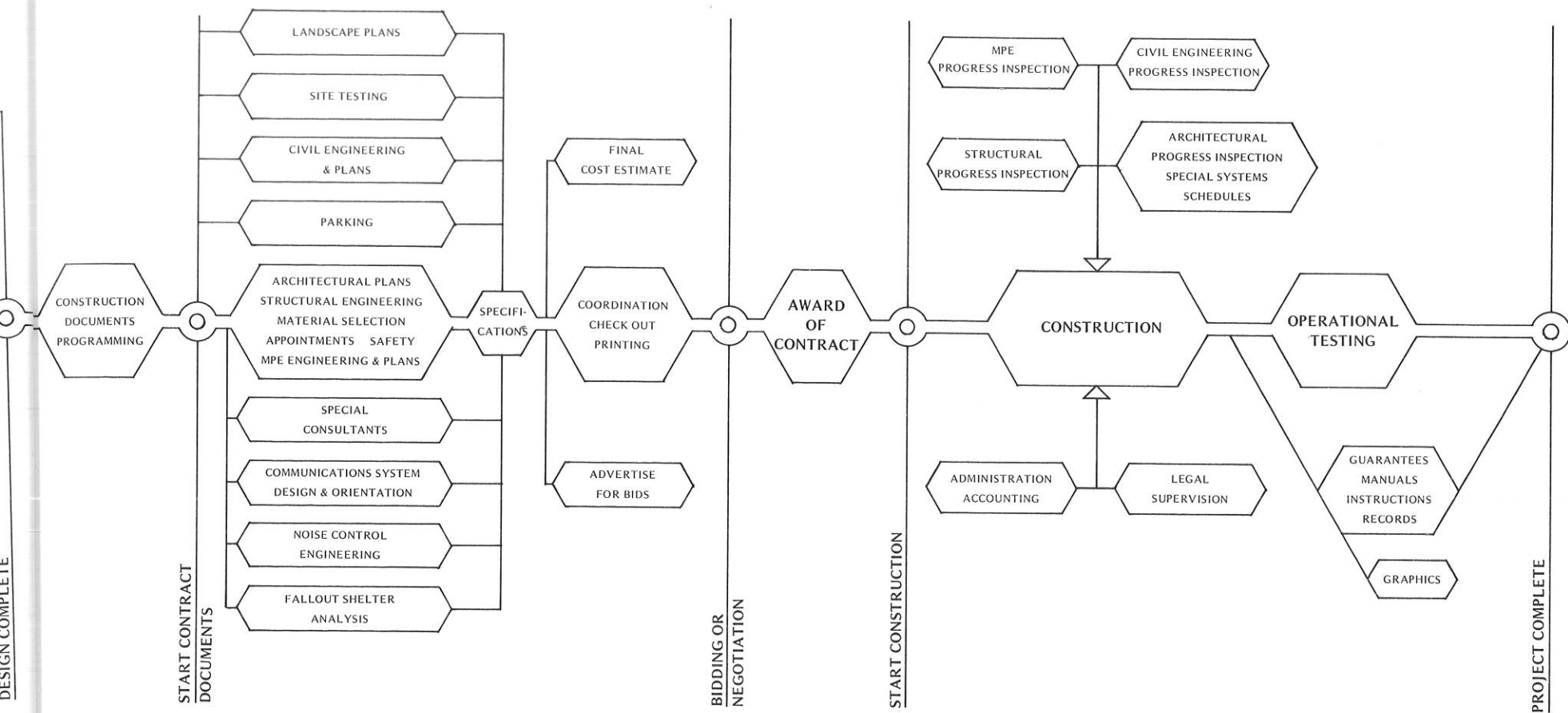
We believe in exhaustive research of programs and their contemporary analogues, in time-directed material and structural studies and meticulous field control.

Our buildings substantiate our central philosophy of architecture: "That not surface decoration, but the most elegant structural solution equals lasting beauty". . .this is the secret of the timeless structure.





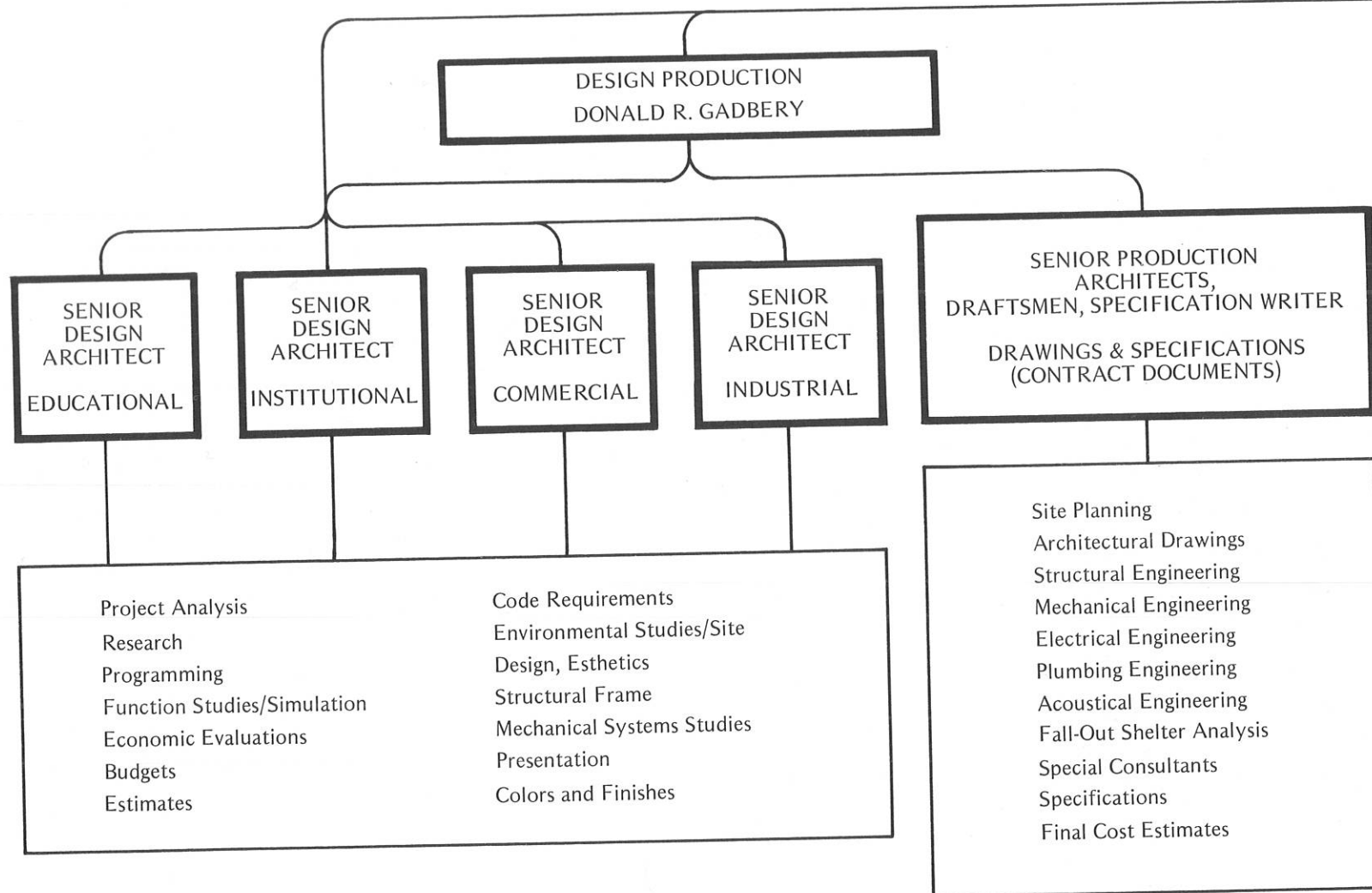




## ROSSMAN + PARTNERS PLANNING PATH

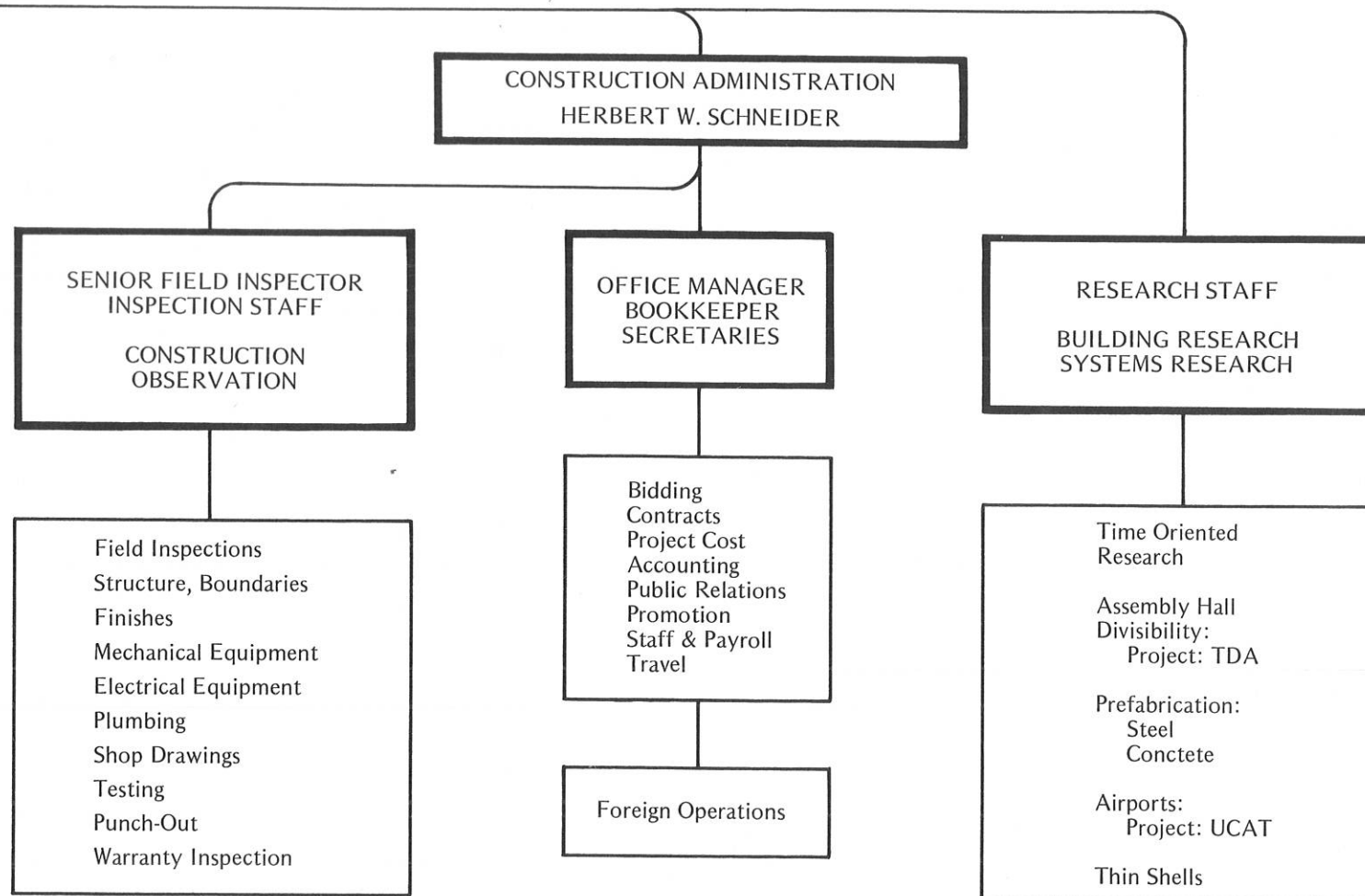


PRINCIPAL





DR. WENDELL E. ROSSMAN



ROSSMAN + PARTNERS ORGANIZATION CHART





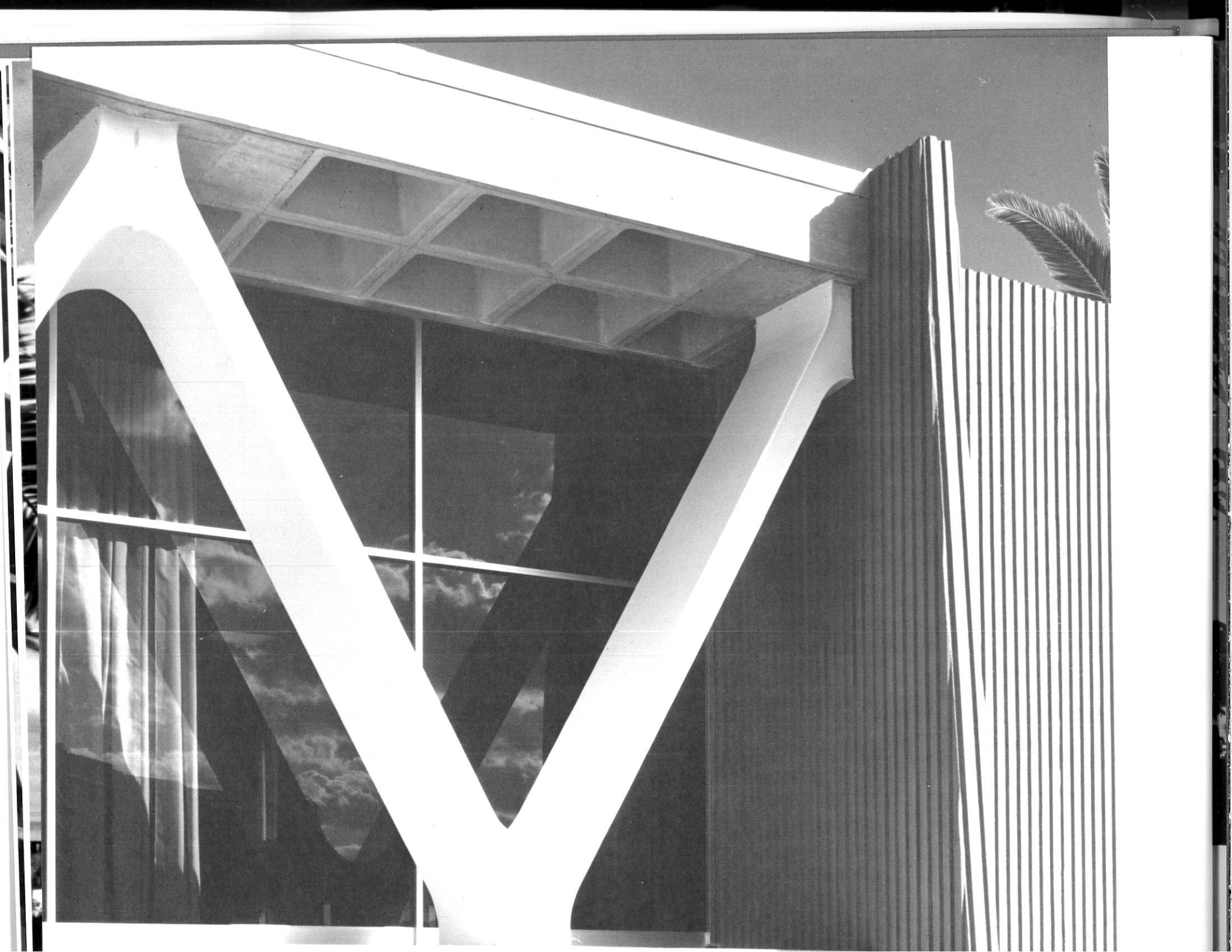




PROJECTS











MANZANITA HALL  
Residence and Dining Hall  
ARIZONA STATE UNIVERSITY  
Tempe Arizona

















STUDENT UNION AND DINING HALL  
SOUTH CAMPUS  
NORTHERN ARIZONA UNIVERSITY  
Flagstaff Arizona





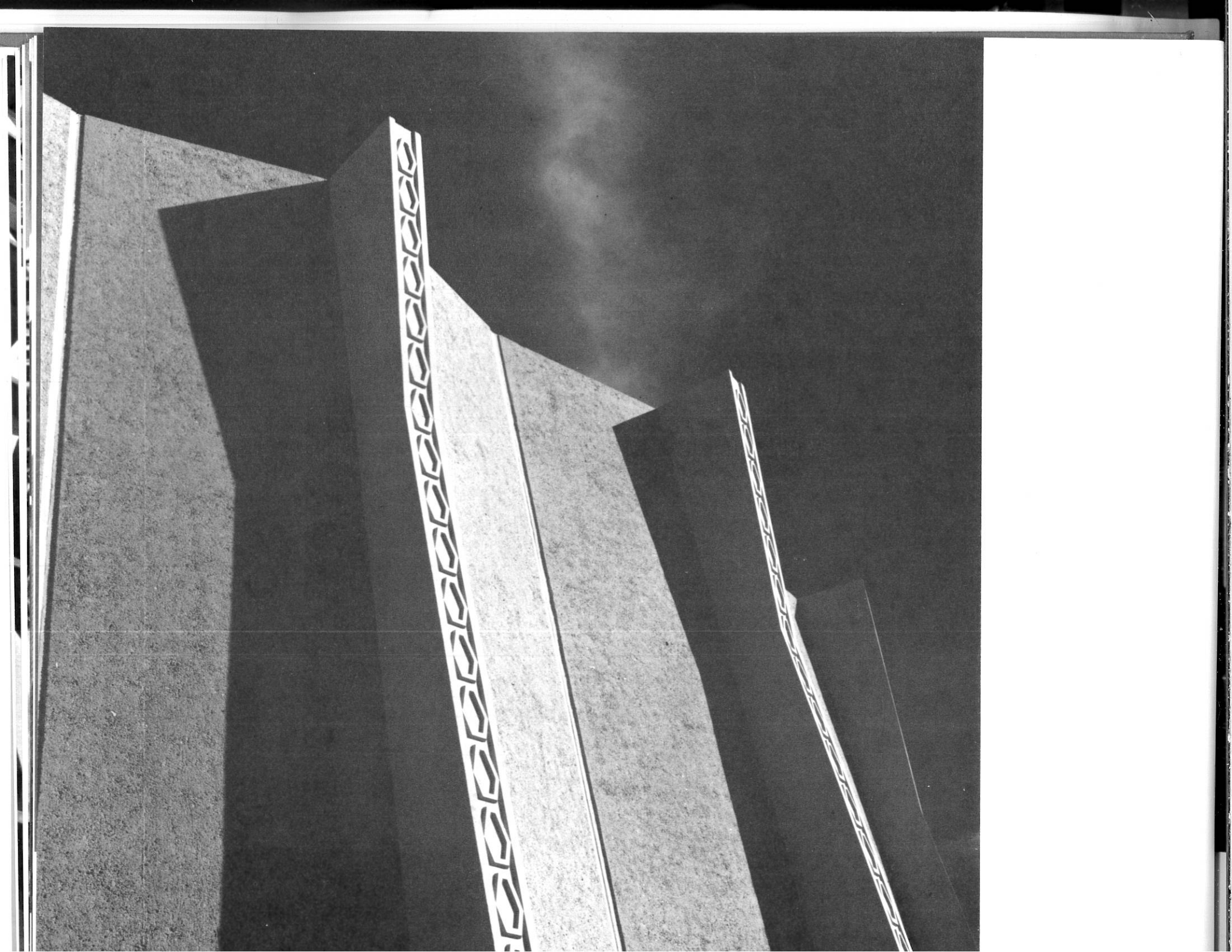
STUDENT UNION LOUNGE — NAU





STAUFFER HALL  
COMMUNICATION ARTS BUILDING  
ARIZONA STATE UNIVERSITY  
Tempe Arizona









ARMSTRONG HALL  
COLLEGE OF LAW  
ARIZONA STATE UNIVERSITY  
Tempe Arizona

















LIBRARY  
ARIZONA WESTERN COLLEGE  
Yuma Arizona





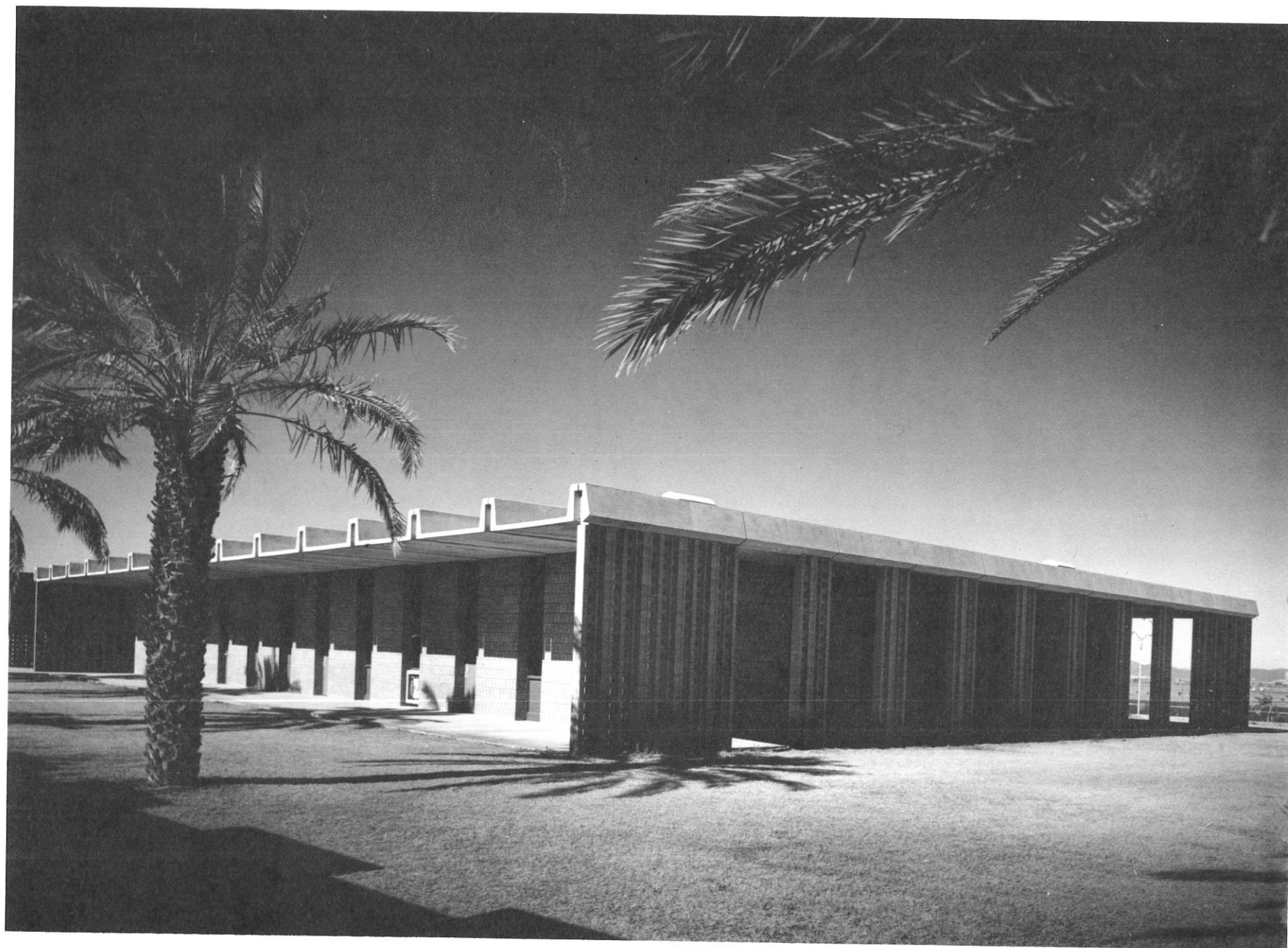
COLLEGE OF BUSINESS ADMINISTRATION  
SOUTH CAMPUS  
NORTHERN ARIZONA UNIVERSITY  
Flagstaff Arizona





COLLEGE OF BUSINESS EDUCATION  
ARIZONA WESTERN COLLEGE  
Yuma Arizona





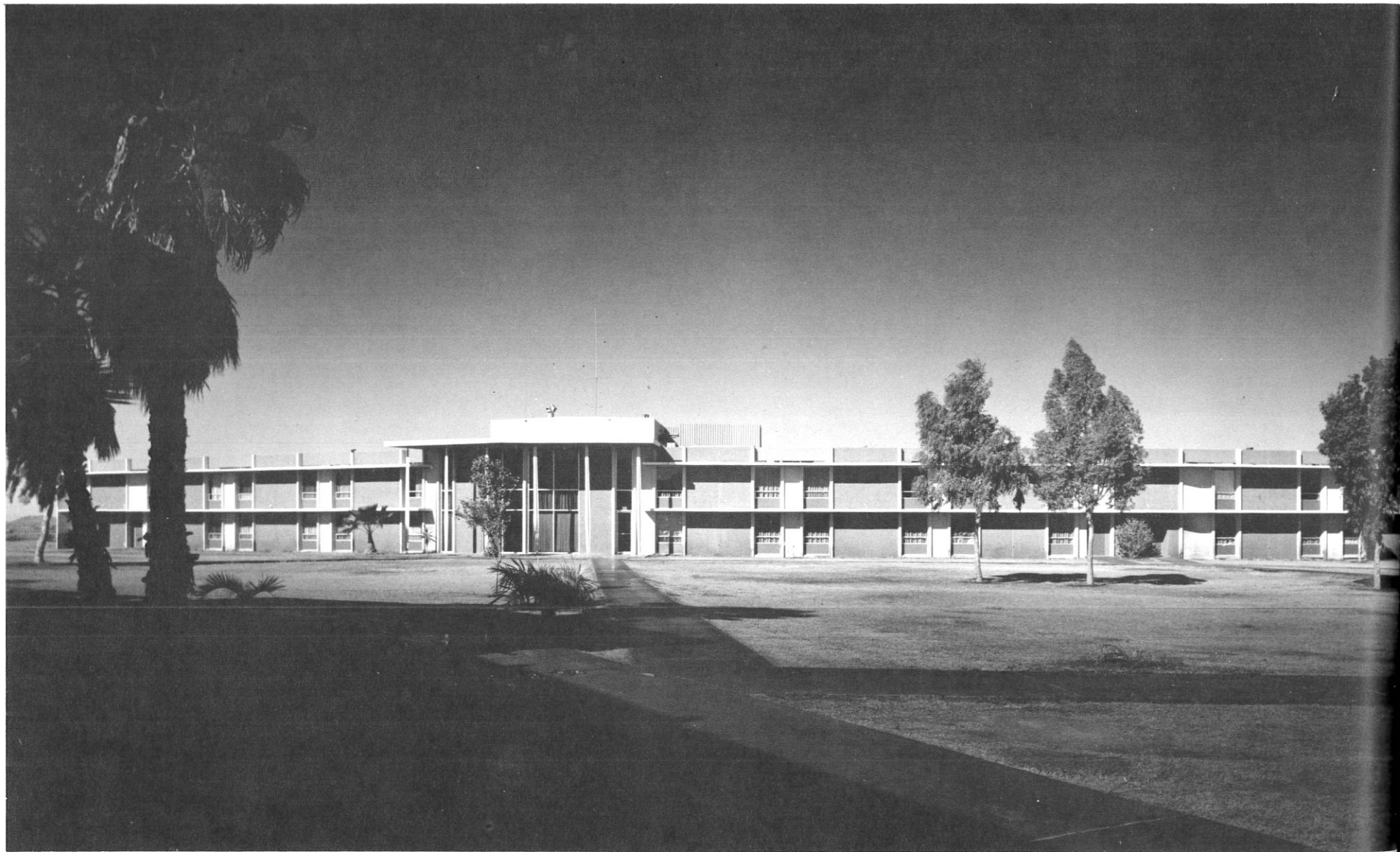
SCIENCE BUILDING ADDITION  
ARIZONA WESTERN COLLEGE  
Yuma Arizona





PALO VERDE WEST — PALO VERDE EAST  
Residence and Dining Halls  
ARIZONA STATE UNIVERSITY  
Tempe Arizona





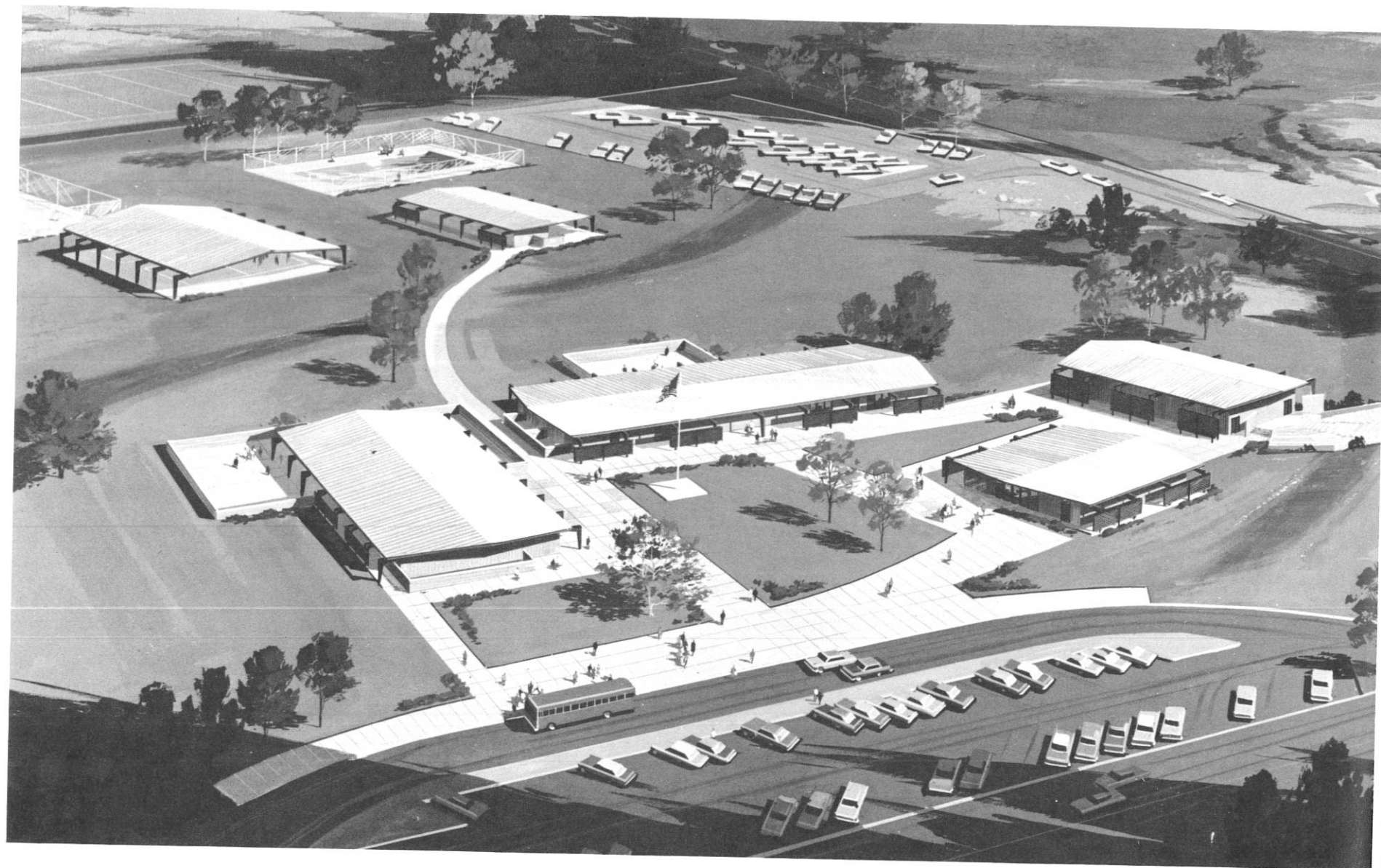
GARCES HOUSE — Dormitory  
ARIZONA WESTERN COLLEGE  
Yuma Arizona





KINO HOUSE — Dormitory  
ARIZONA WESTERN COLLEGE  
Yuma Arizona





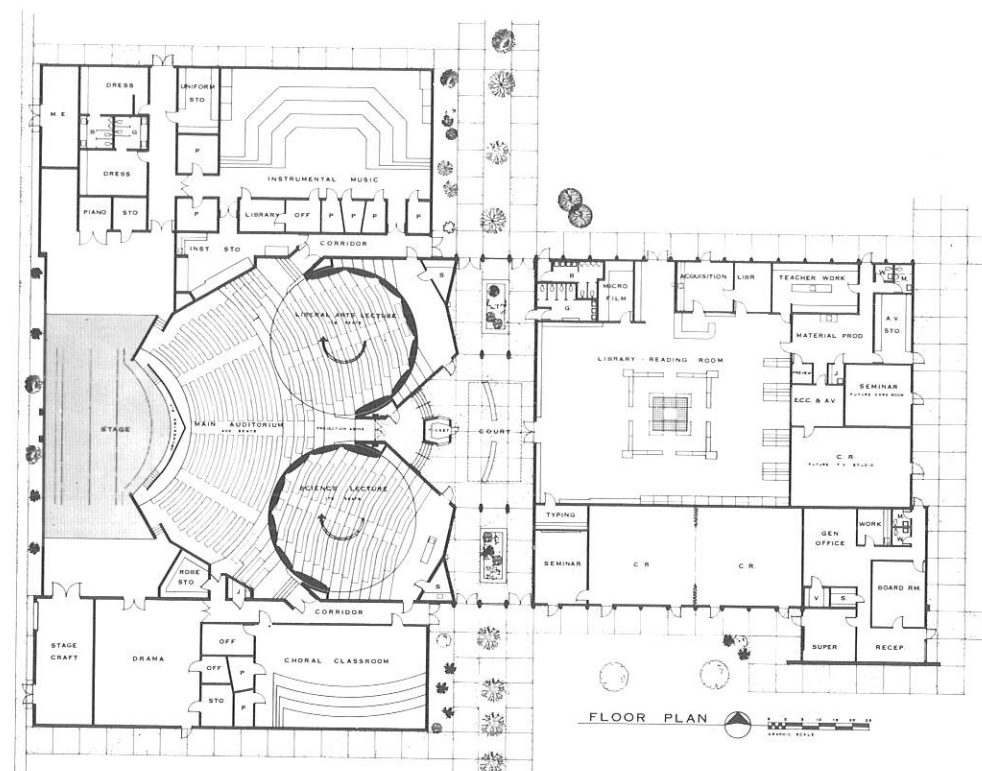
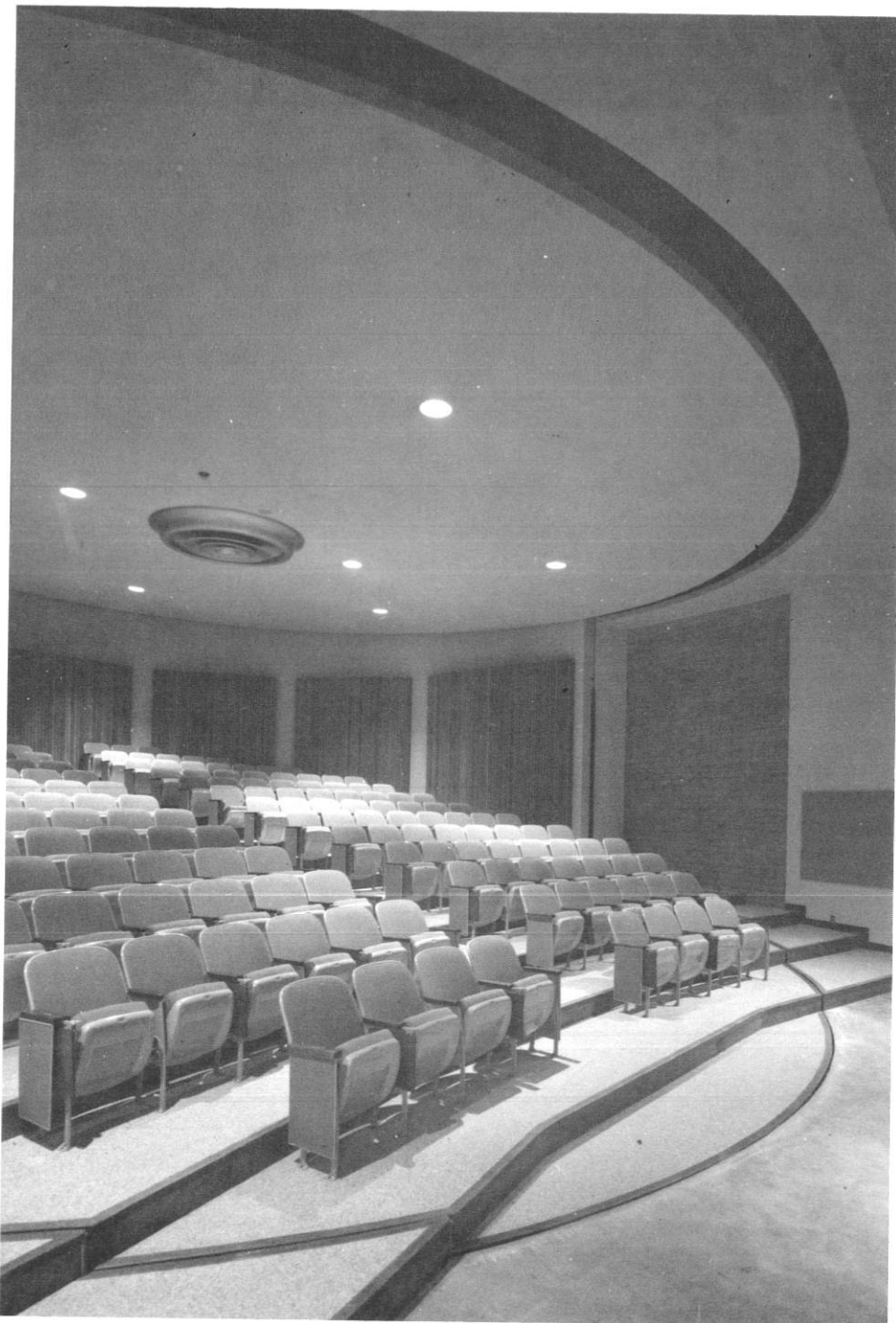
BORREGO SPRINGS HIGH SCHOOL  
Borrego Springs California





THUNDERBIRD HIGH SCHOOL  
Glendale Arizona





AGUA FRIA UNION HIGH SCHOOL  
Avondale Arizona

1971 Architectural Exhibition  
NATIONAL SCHOOL BOARDS ASSOCIATION







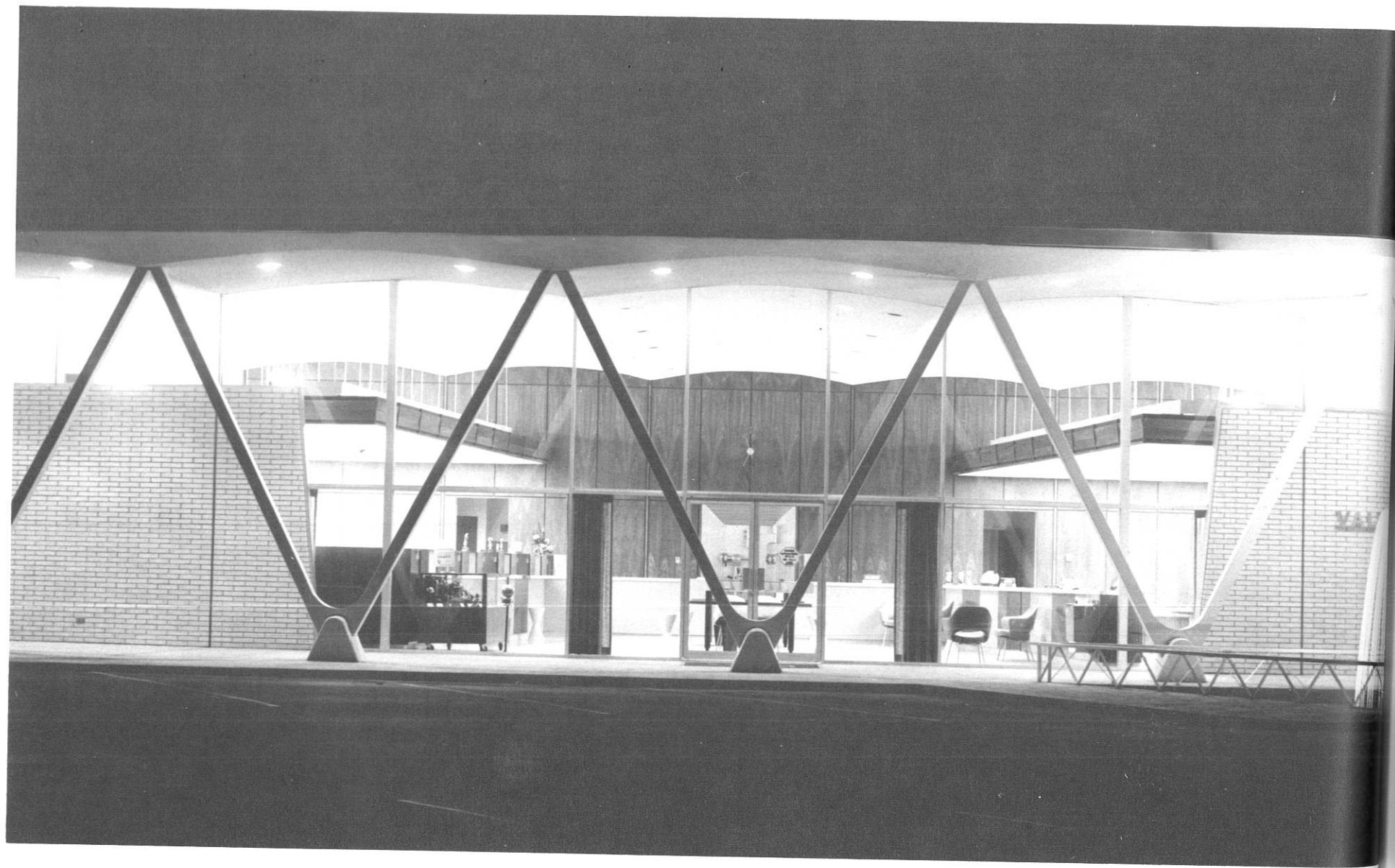




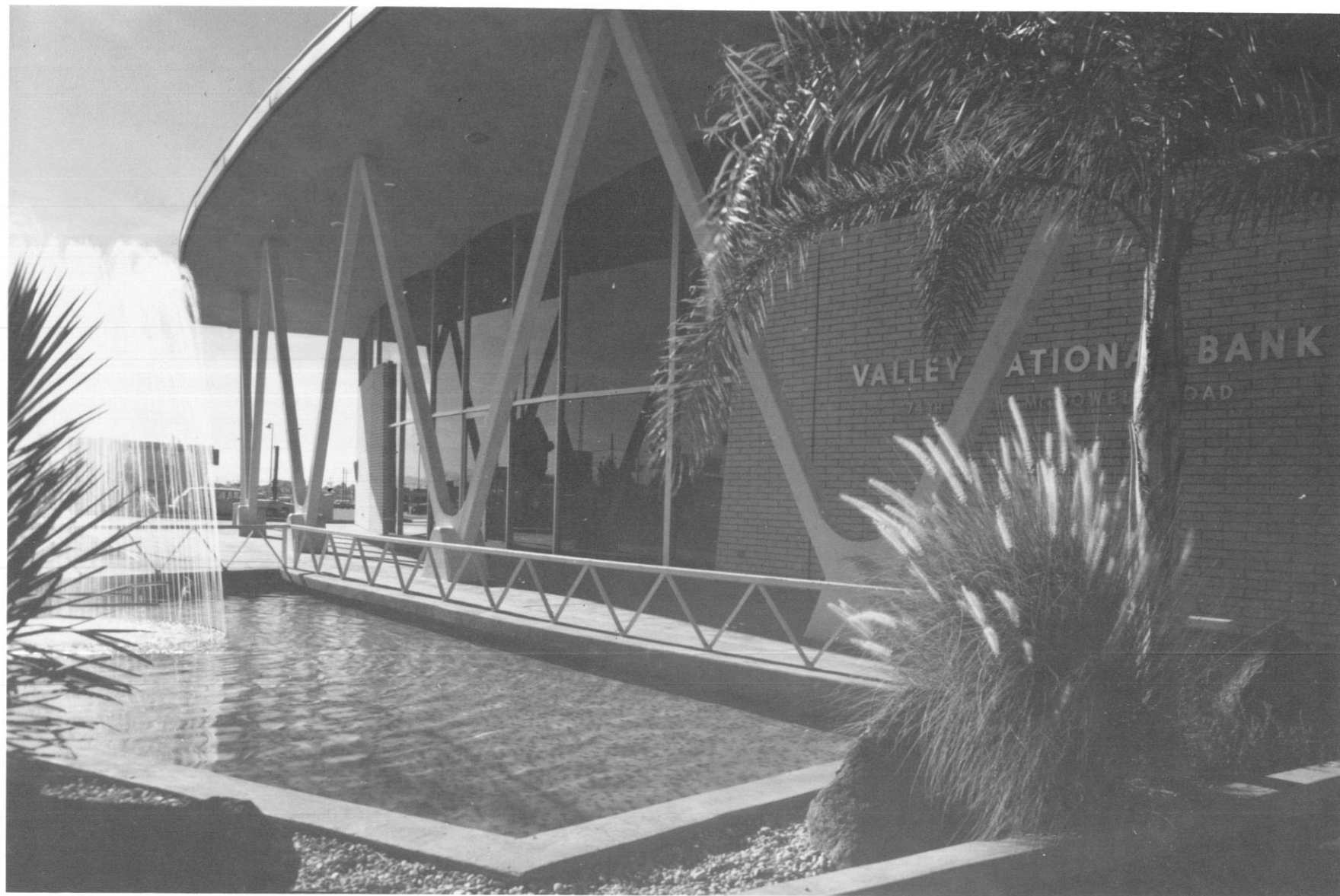


MUSIC BUILDING  
ANTELOPE UNION HIGH SCHOOL  
Wellton Arizona









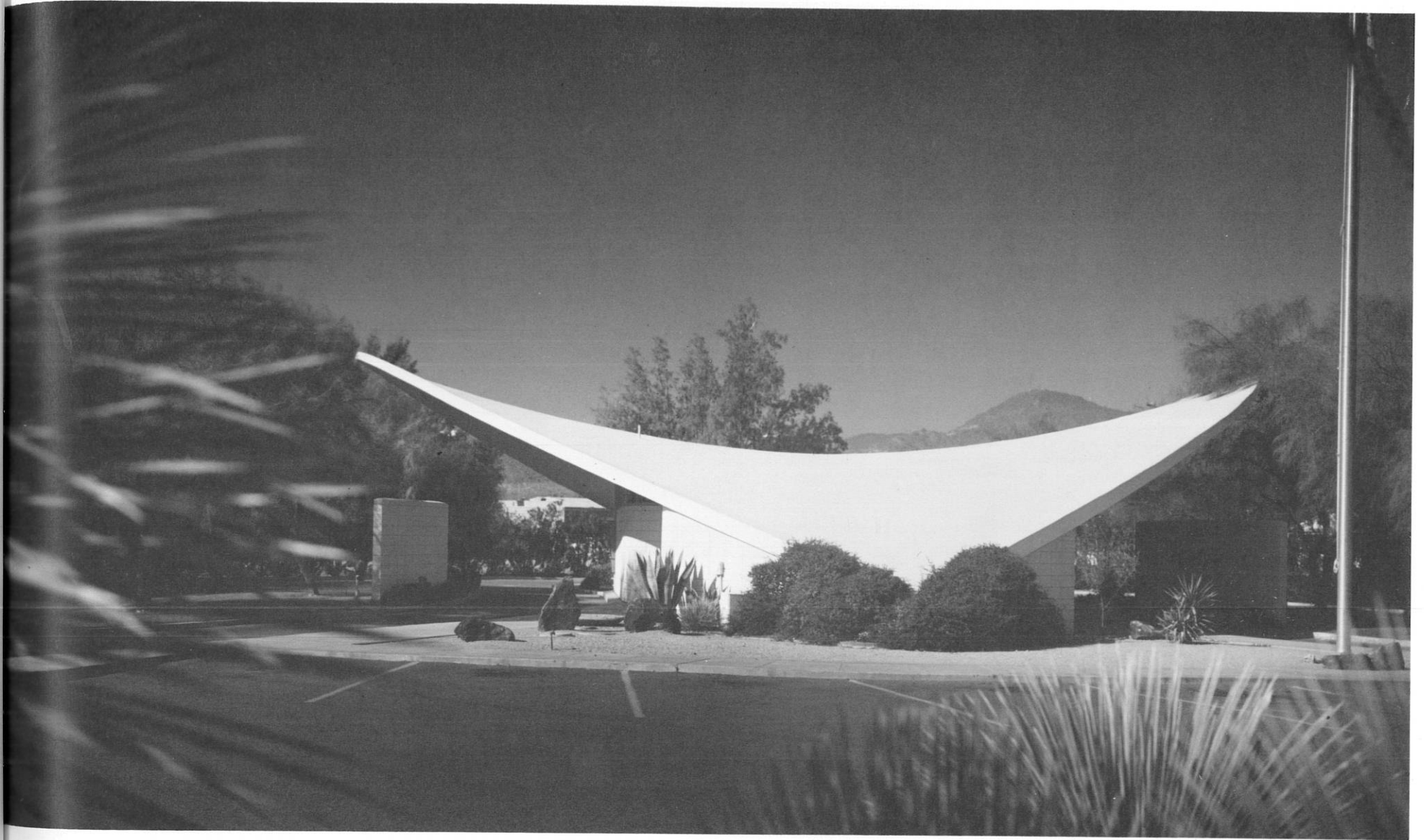
BRANCH OFFICE  
VALLEY NATIONAL BANK  
Scottsdale Arizona





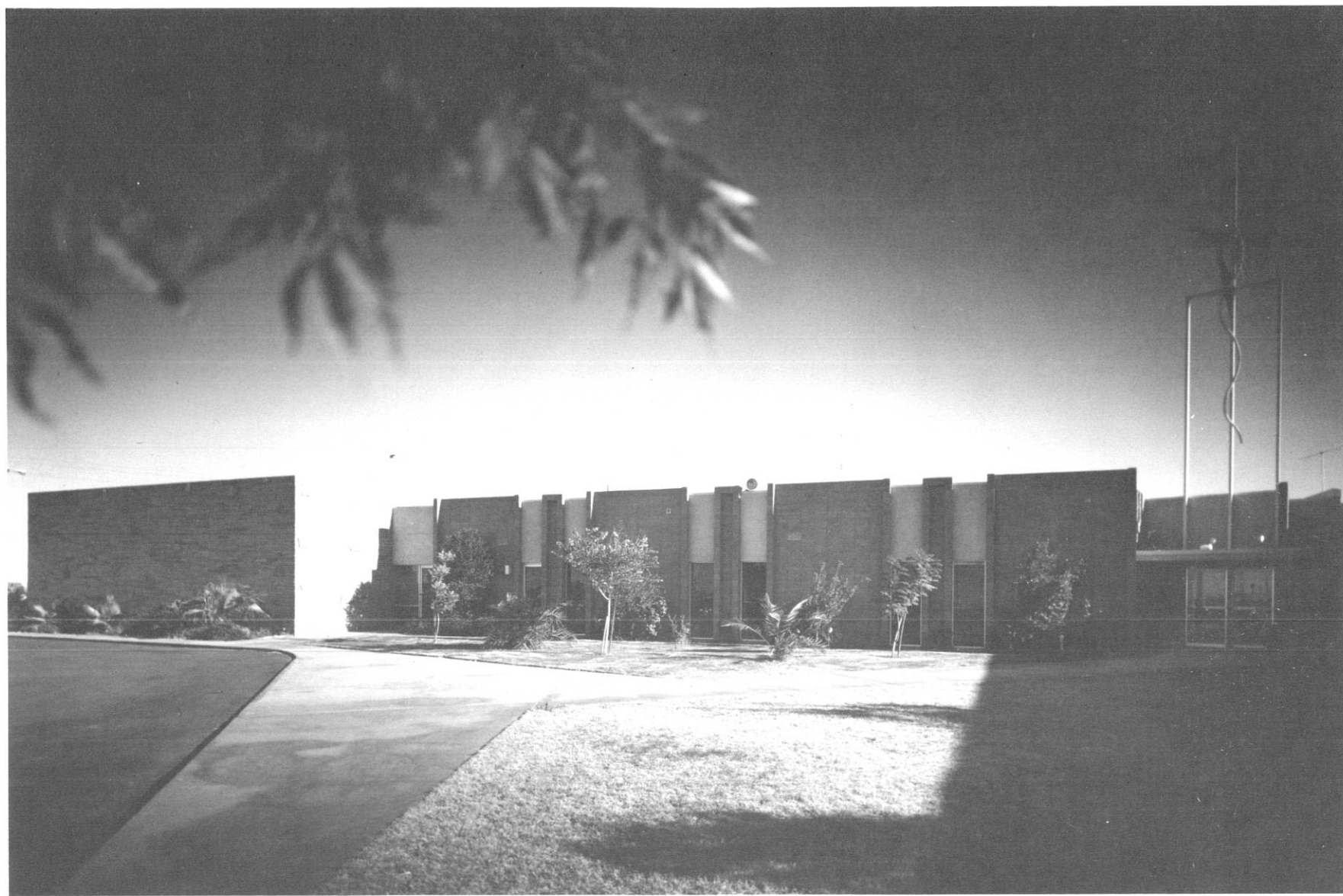
BRANCH OFFICE  
VALLEY NATIONAL BANK  
Phoenix Arizona





BRANCH OFFICE  
UNITED BANK  
Phoenix Arizona









PARKVIEW BAPTIST HOSPITAL  
Yuma Arizona



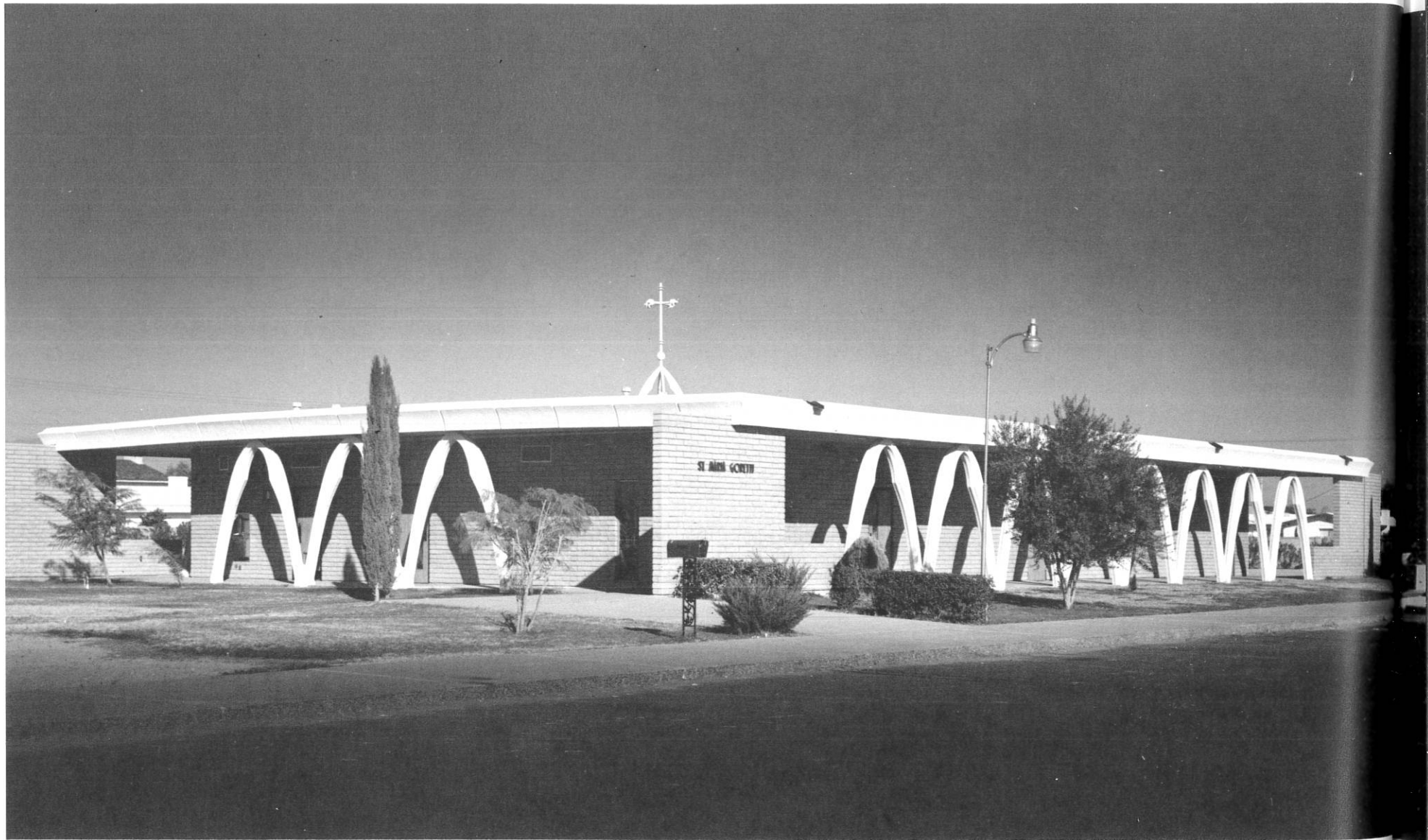






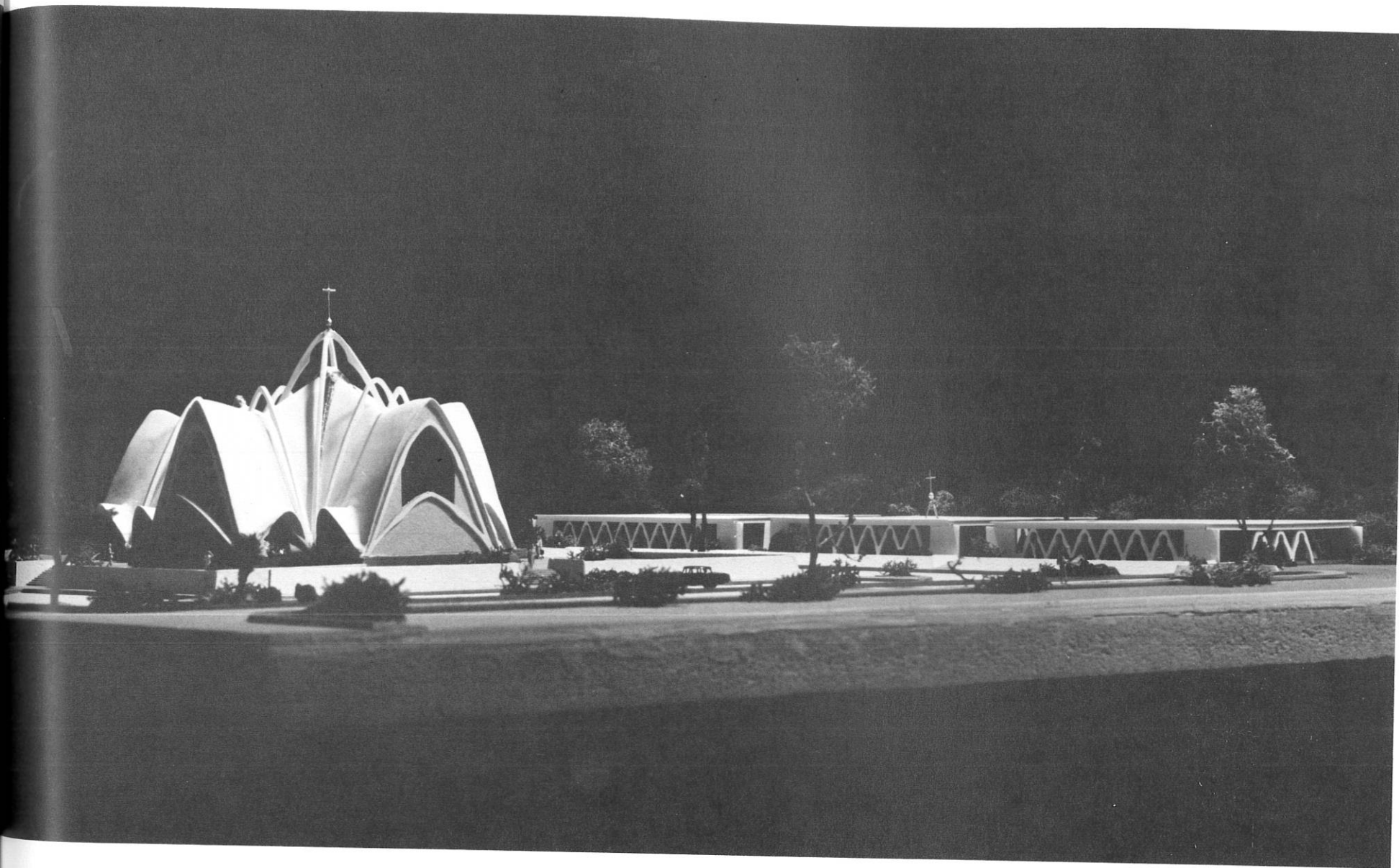
ST. ODILIA CATHOLIC CHURCH  
Tucson Arizona





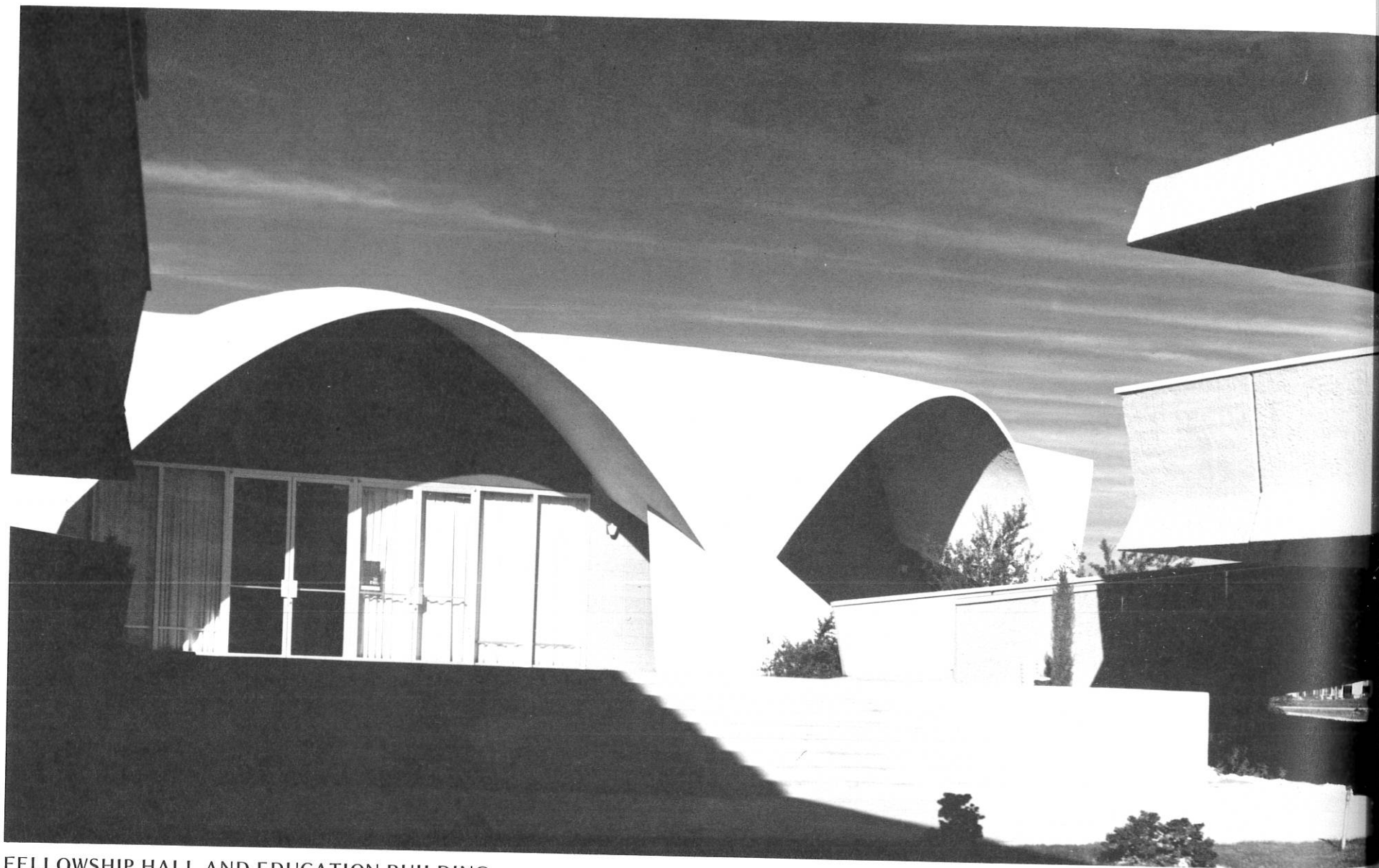
EDUCATION BUILDING





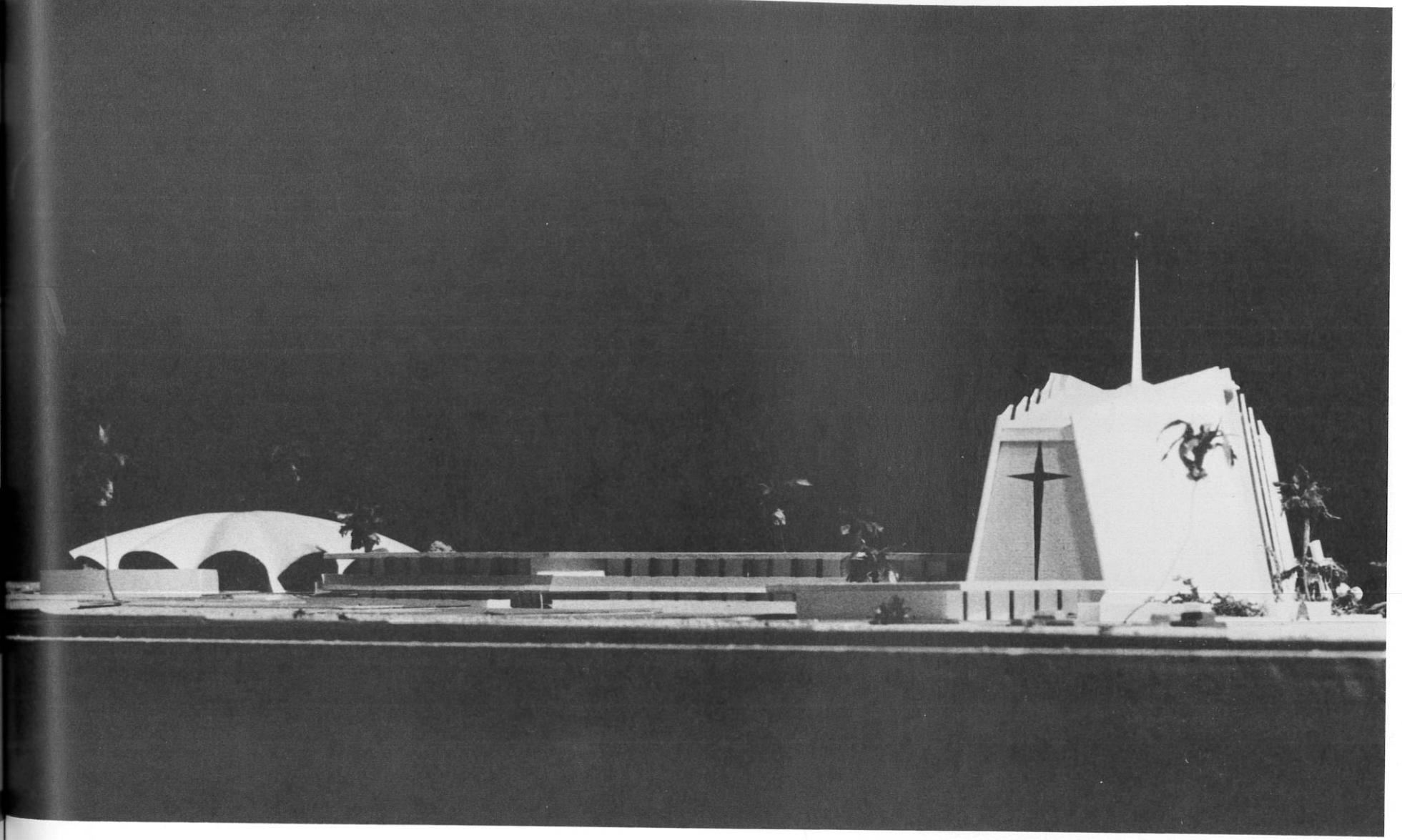
ST. MARIA GORETTI CATHOLIC  
CHURCH AND EDUCATION BUILDING  
Scottsdale Arizona





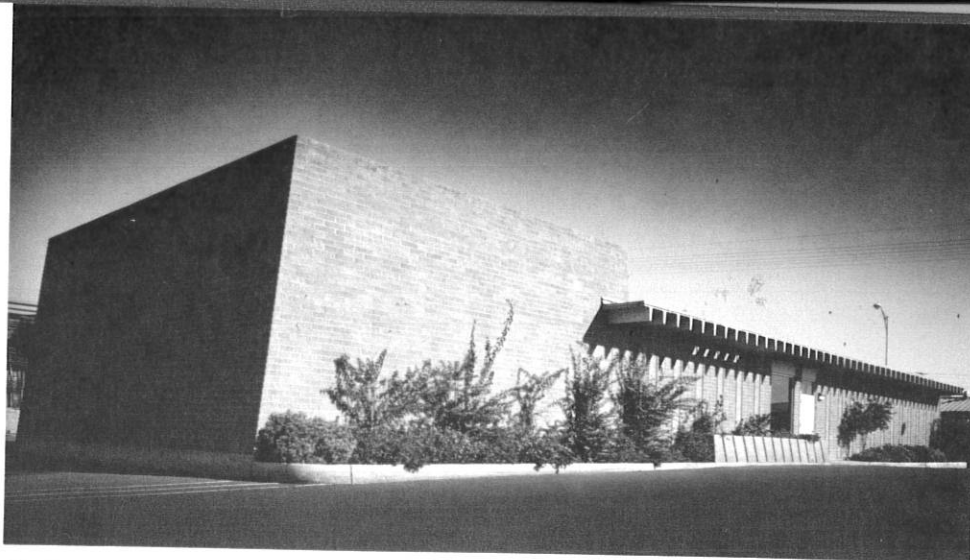
FELLOWSHIP HALL AND EDUCATION BUILDING





LOS ARCOS METHODIST CHURCH  
FELLOWSHIP HALL AND EDUCATION BUILDING  
Scottsdale Arizona





CROSSCUT LABORATORY  
SALT RIVER PROJECT  
Tempe Arizona



MACTON MANUFACTURING PLANT  
Awarded citation  
TOP TEN PLANT — U. S. 1971





THE MACTON CORPORATION  
Danbury Connecticut



## PROJECTS

<i>Project Name</i>	<i>Project Cost</i>	<i>Project Name</i>	<i>Project Cost</i>
Borrego Springs High School Borrego Springs Unified School District Borrego Springs, California	\$ 745,900.00	74th Street & McDowell Office Valley National Bank Scottsdale, Arizona	242,400.00
Additions & Remodeling (52 beds) Parkview Baptist Hospital Yuma, Arizona	707,150.00	Science Building Arizona Western College Yuma, Arizona	153,000.00
Co-educational Dormitory #3 Arizona Western College Yuma, Arizona	479,200.00	Sunnyslope Office & Camelback Office Guaranty Bank (United) Phoenix, Arizona	99,700.00
Co-educational Dormitory #2 Arizona Western College Yuma, Arizona	417,300.00	Lafe Nelson School Safford Public Schools Safford, Arizona	132,200.00
Co-educational Dormitory #1 Arizona Western College Yuma, Arizona	387,900.00	Cross Cut Laboratory & Office Building Salt River Project Tempe, Arizona	87,600.00
Downtown Regional Home Office Guaranty Bank (United) Phoenix, Arizona	386,750.00	Pedestrian Bridge Arizona State University Tempe, Arizona	40,600.00
Fellowship Hall & Classroom Buildings Valley Plaza Methodist Church (Los Arcos) Scottsdale, Arizona	358,000.00	A Convent Building St. Catherine Parish Phoenix, Arizona	65,000.00
Music Building & Science Building Antelope Union High School District Wellton, Arizona	245,800.00	Greenway High School Glendale Union High School District Glendale, Arizona	3,050,000.00
Science, Library & Adm. Building Safford High School District Safford, Arizona	230,150.00	Additions & Remodeling Creighton Public Schools Phoenix, Arizona	5,100,000.00



## PROJECTS

<i>Project Name</i>	<i>Project Cost</i>	<i>Project Name</i>	<i>Project Cost</i>
New Primary & Kindergarten Safford Public Schools Safford, Arizona	497,600.00	College of Business Administration Building Northern Arizona University Flagstaff, Arizona	2,256,600.00
Thunderbird High School Glendale Union High School District Glendale, Arizona	2,904,900.00	Addition to Telephone Building Mountain Bell Telephone Flagstaff, Arizona	96,700.00
Communication Arts Building Arizona State University Tempe, Arizona	2,400,000.00	Residence and dining hall for 400 — Palo Verde West Arizona State University Tempe, Arizona	1,505,000.00
Roman Catholic Church of St. Maria Goretti Scottsdale, Arizona	500,000.00	Residence and dining hall for 400 — Palo Verde East Arizona State University Tempe, Arizona	1,365,000.00
South Mountain High School Auditorium (TDA) Phoenix Union High School District Phoenix, Arizona	1,012,000.00	Library, Business Education Bldg., Technology Building Arizona Western College Yuma, Arizona	804,300.00
Industrial Arts Facilities Agua Fria Union High School District Avondale, Arizona	82,800.00	Lyceum Theater Arizona State University Tempe, Arizona	22,140.00
Additions & Remodeling Litchfield Public Schools Litchfield Park, Arizona	570,000.00	19th Avenue & Peoria Office Valley National Bank Phoenix, Arizona	108,400.00
Additions & Remodeling Mountain Bell Telephone Sunnyslope Office Phoenix, Arizona	161,000.00	Library, Auditorium (TDA) and Gymnasium Agua Fria Union High School District Avondale, Arizona	1,164,000.00

## PROJECTS

<i>Project Name</i>	<i>Project Cost</i>	<i>Project Name</i>	<i>Project Cost</i>
A Manufacturing Plant (Top Ten Plant — U.S. 1971) The Macton Corporation Danbury, Connecticut	450,000.00	New Elementary School Camp Verde Public Schools Camp Verde, Arizona	467,400.00
South Campus Dining Hall Facility Northern Arizona University Flagstaff, Arizona	645,800.00	South Campus Student Union Building Northern Arizona University Flagstaff, Arizona	1,035,800.00
Roman Catholic Church of St. Odilia Tucson, Arizona	315,000.00	Residence & dining hall for 1,000 — Manzanita Hall Arizona State University Tempe, Arizona	3,640,000.00
An Education Building St. Maria Goretti Parish Scottsdale, Arizona	116,100.00	College of Law Building Arizona State University Tempe, Arizona	1,644,000.00



One division of the activities of ROSSMAN AND PARTNERS concerns itself with building research. This research is time oriented and deals with fields of practical consequence. Buildings and function systems which have remained unsolved are prime targets.

Three projects are subjected to continued extensive study: Auditorium divisibility, airports and thin shells. In all three areas, new solutions were found. Other projects include building acoustics, prefabrication in steel and concrete, and educational facilities. ROSSMAN RESEARCH publicizes its findings extensively in the United States of America and internationally. By 1971, 18 patents have been granted on new developments of ROSSMAN RESEARCH.

RESEARCH  
PROJECTS



# TDA — TURNABLE DIVISIBLE AUDITORIUM

## ARCHITECTURE

Whereas conventional division methods simply cut an auditorium into pieces, thus rendering the divided spaces useful for less than 1/2 of all possible functions, the TDA principle creates complete, architecturally correct sub-auditoriums. Because the sloped floor turns with the seats and the turnable space attaches to its own stage, best possible sight-lines in both coordinates are maintained.

## ACOUSTICS

Main and sub-auditoriums all have their independent, precisely adjusted acoustics. To maintain balanced characteristics for any combination of these, acoustic behavior of the space of a sub-auditorium is similar to that of the convex surface of its back wall.

## SOUNDPROOF

The load bearing abilities of the turntable permit the application of the best type of dividing wall to stop sound transmission between separated spaces — 2 independent plaster and steel-mesh layers, weighing over 20 lbs. per square foot, achieving a reduction of 55 db plus.

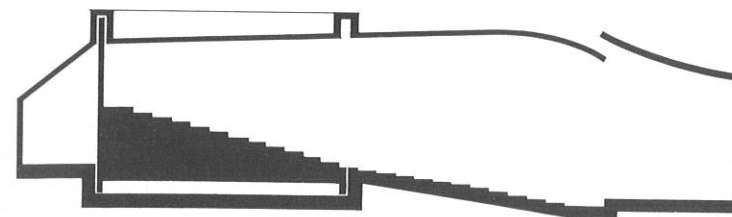
## MECHANICS

Like a railroad car, the TDA turntable is one single moving component. Driven near the rim by one small motor, it rides on a series of peripheral wheels on a circular track. The turntable is capable of literally hundreds of thousands of trouble-free revolutions with a minimum of maintenance.

## THE TDA INTO AN EXISTING BUILDING

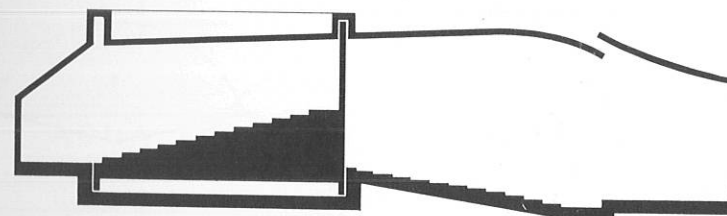
The turnable unit is independent of any structural frame of the surrounding building; therefore, incorporating the TDA principle into existing auditoriums is quite frequently feasible. Since neither lighting nor air conditioning are connected with the turning component, both remain part of the existing structure.



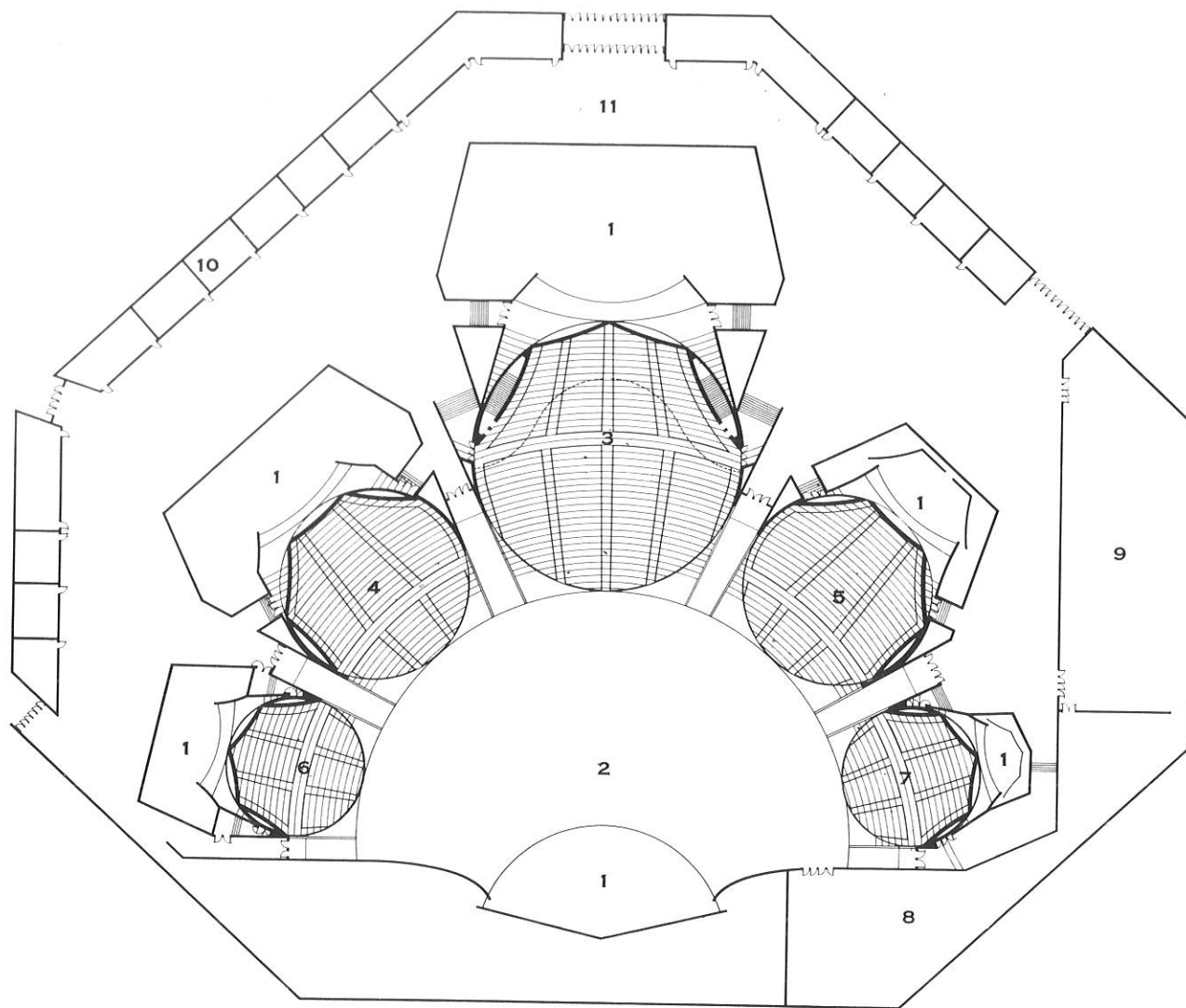


The divisible area is united with and a part of the main auditorium

### THE TDA PRINCIPLE



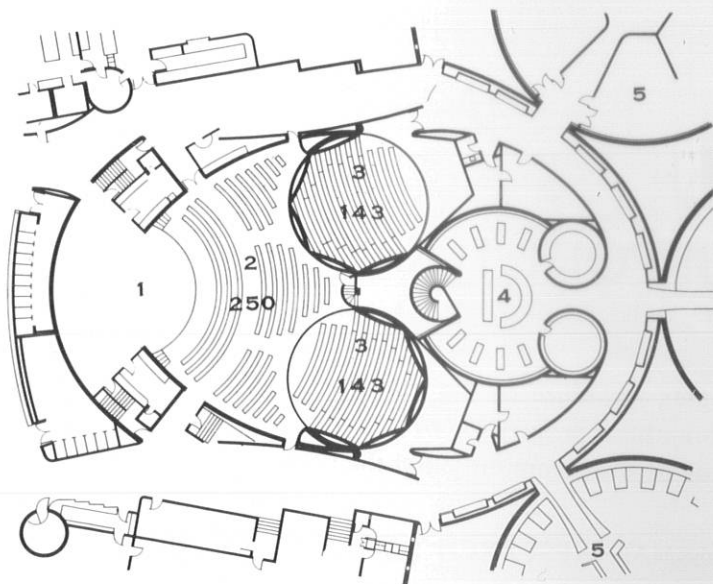
The divisible area is separated and has become a smaller auditorium by a 180° circular turn.



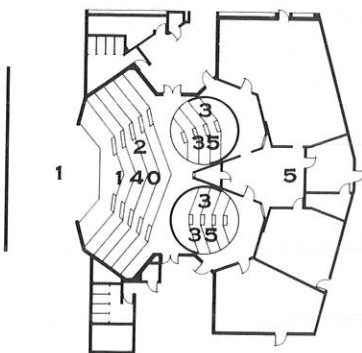
1 Stage	
2 Main Floor	3200
3 Auditorium	2200
4 Legitimate Theater	700
5 Recital Hall	700
6 Little Theater	350
7 Recital Hall	350
8 Kitchen	
9 Dining	
10 Convention Rooms	
11 Lobby	
Total Seats	7500

TDA CONVENTION CENTER



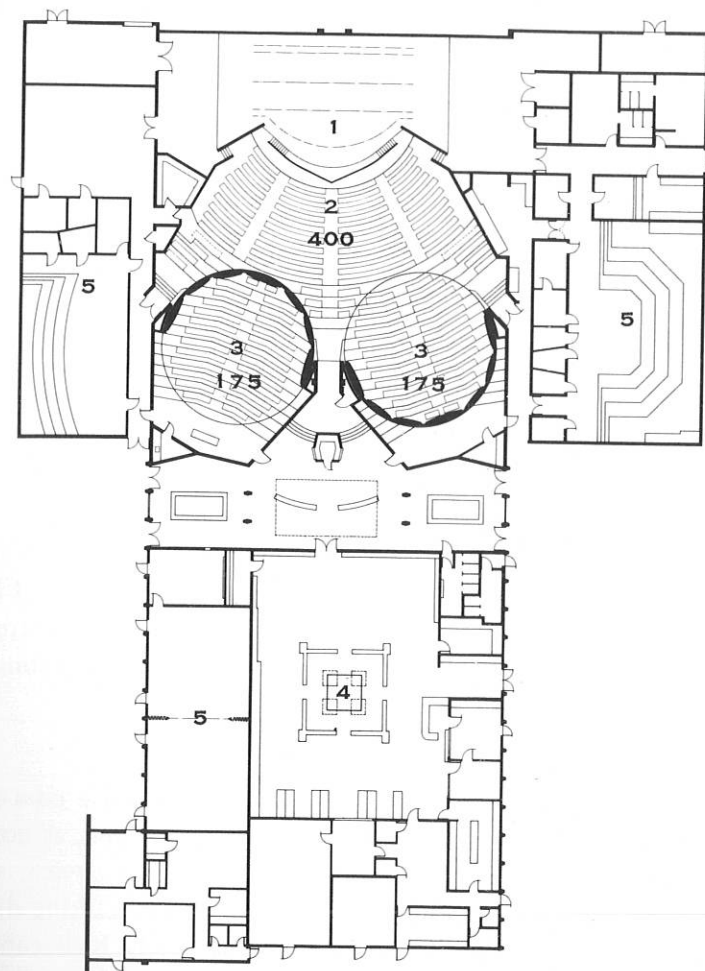


ÉCOLE POLYVALANTE  
ST. HILAIRE P. Q. CANADA  
MARCEL CYR – ARCHITECT  
ST. HYACINTH P. Q. CANADA



INTERMEDIATE SCHOOL  
LAKE VILLA, ILLINOIS  
ANDERSON, REHDER, YANDRE, INC. – ARCHITECTS  
WAUKEGAN ILLINOIS

- 1 Stage
- 2 Auditorium
- 3 T. T. Lecture Hall
- 4 Library
- 5 Classrooms



AGUA FRIA UNION HIGH SCHOOL  
AVONDALE, ARIZONA  
ROSSMAN AND PARTNERS – ARCHITECTS  
PHOENIX ARIZONA

COMPLETED TDA PROJECTS

## UCAT — ULTRA COMPACT AIRPORT TERMINAL

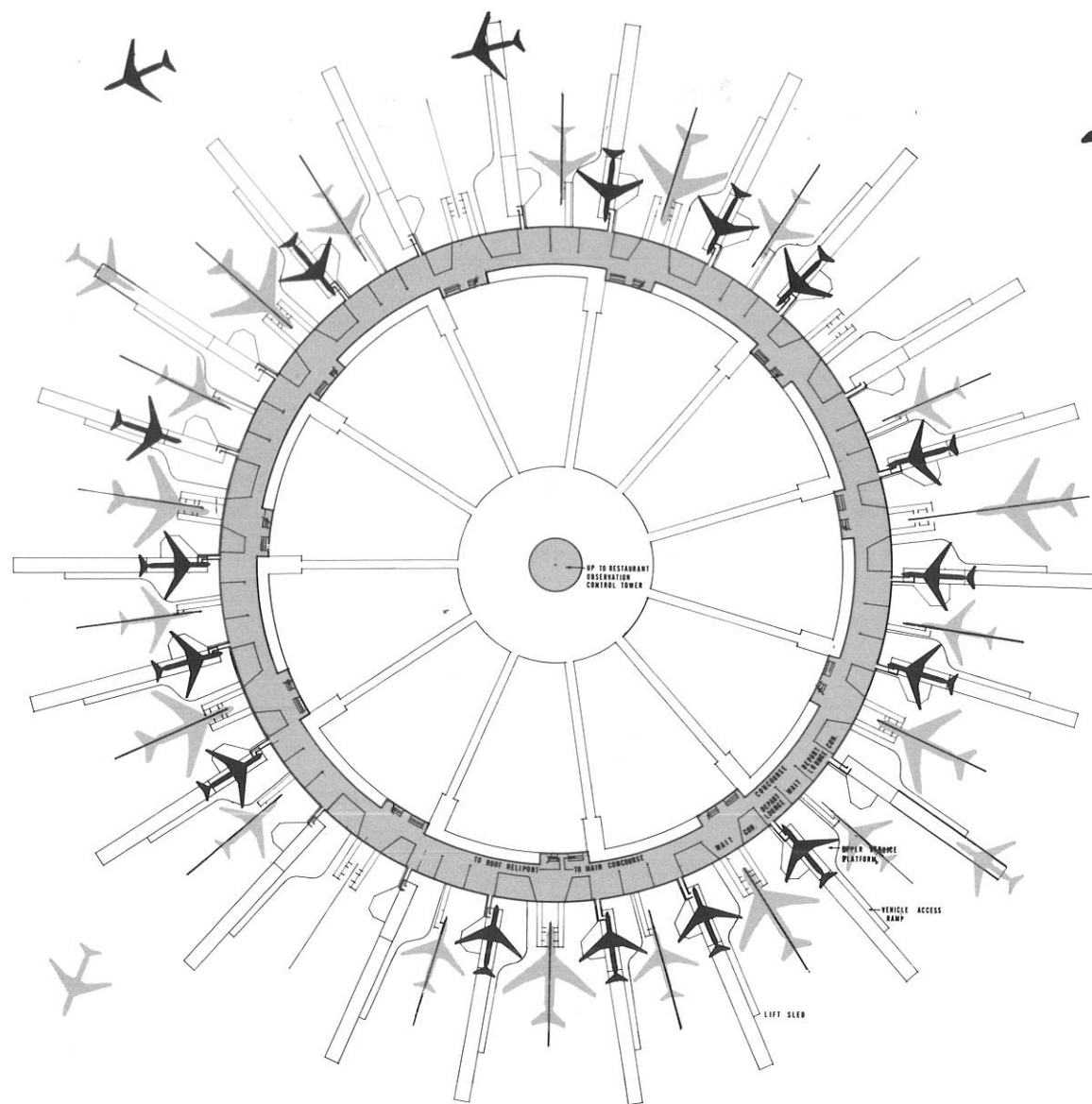
One of the most prominent building systems is the complex structure of the modern airport. Having grown from nothing to today's giants in an almost breathless progression of trial and error, airports have become the abjection of the traveler, the enemy of the community and the headache of the administrator.

To obtain the re-statement of its intrinsic nature, ROSSMAN RESEARCH approached the problem philosophically first. It became obvious that all attempts toward solutions so far were of like kind, substantially subordinating passengers to aircraft. This provided the key to definitions of wholly new axioms of acceptability and, as a result, geometries, function pattern and terminal building technology.

The result was UCAT.

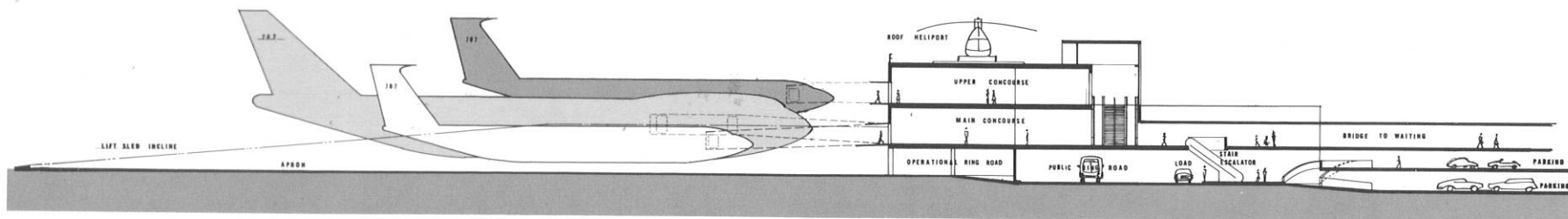
The UCAT is a closed circle concourse. Thus the greatest walking distance reduces to  $1/3$  of the airside-landside contact line, as compared to  $1/1$  for all present systems. ROSSMAN RESEARCH developed an additional device, called the Lift Sled, which elevates aircraft wing-over-wing to decrease the maximum walking distance yet further to  $1/5$ . Consequently, the size of a terminal building with extremely high capacity — up to 50,000,000 passengers per year — has maximum and average walking distances no greater than today's 4,000,000-a-year passenger terminals. Time savings for passengers and operations are dramatic. Buildings reduce in size and cost by 20%, and real estate needs are less than  $1/2$  of traditional systems. Great gains are also attained in increased ramp areas, general functions and operational cost savings.



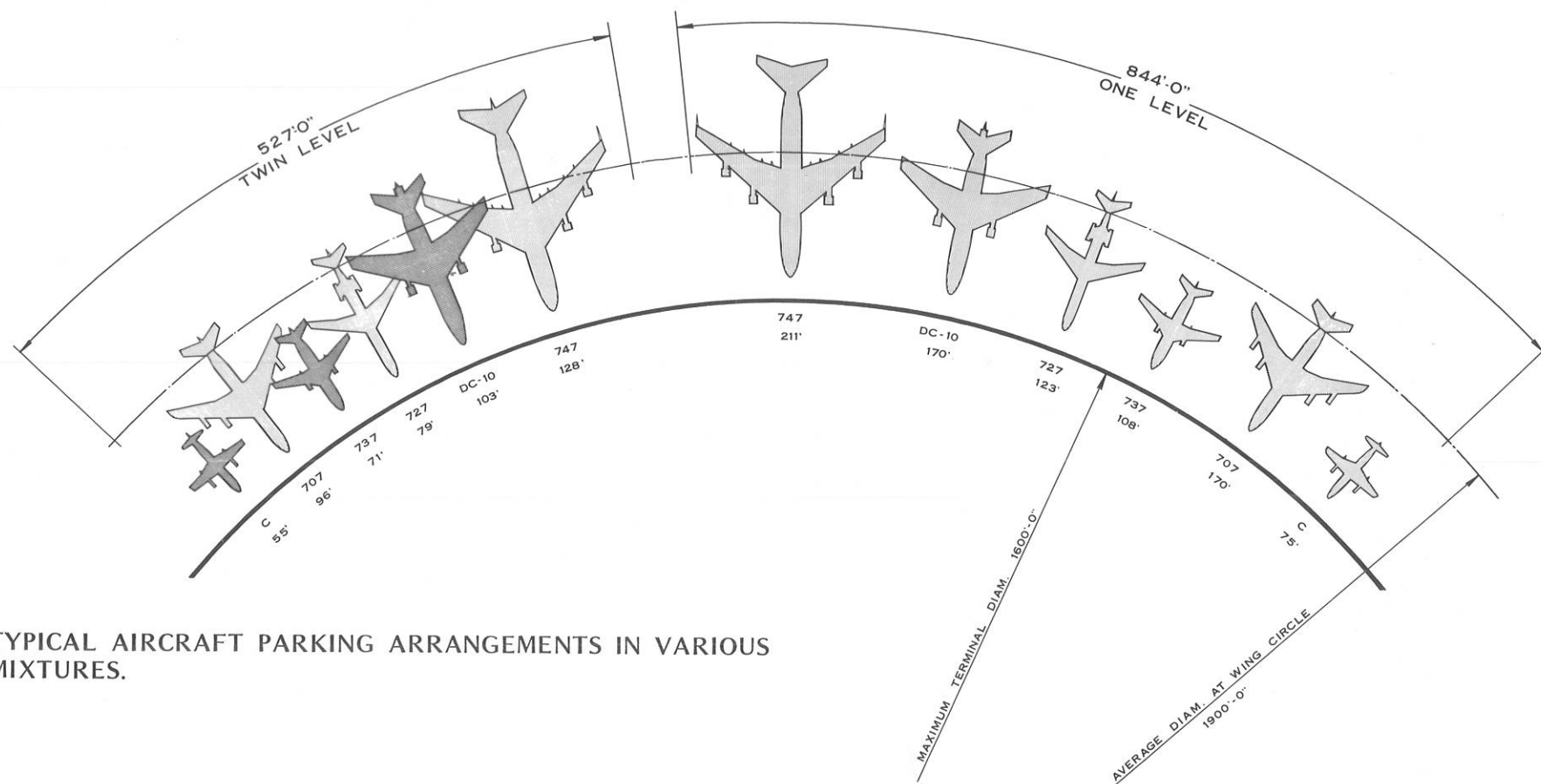


#### PLAN OF UCAT – 44 GATE POSITIONS.

Capacity up to 40,000,000 passengers per year. Superimposed, the lower and upper parking level of aircraft can be seen. Within the ring, parking structures and central facilities are located. Access and exit is through tunnels to ring roads, radial roads and central spiral.



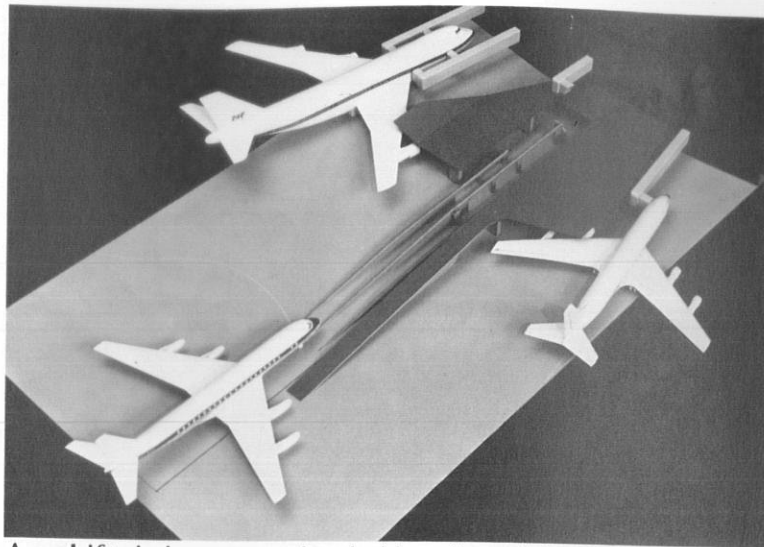
DIAGRAMMATIC CROSS SECTION THROUGH RING CONCOURSE



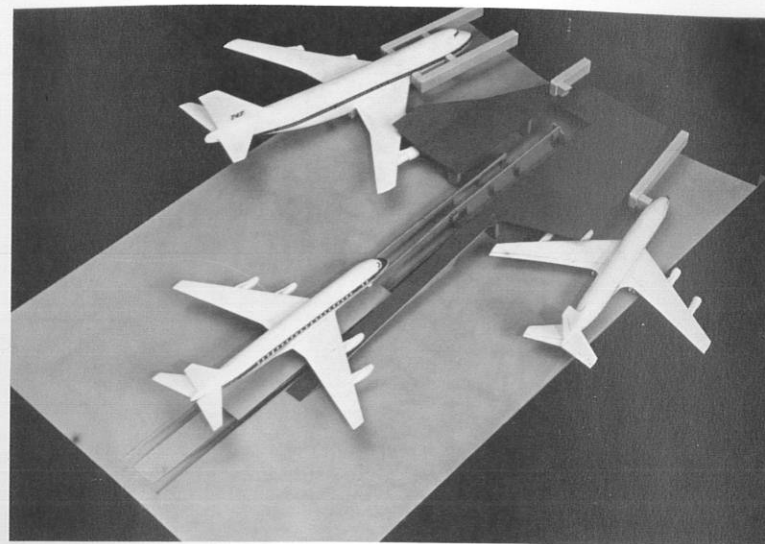
TYPICAL AIRCRAFT PARKING ARRANGEMENTS IN VARIOUS MIXTURES.



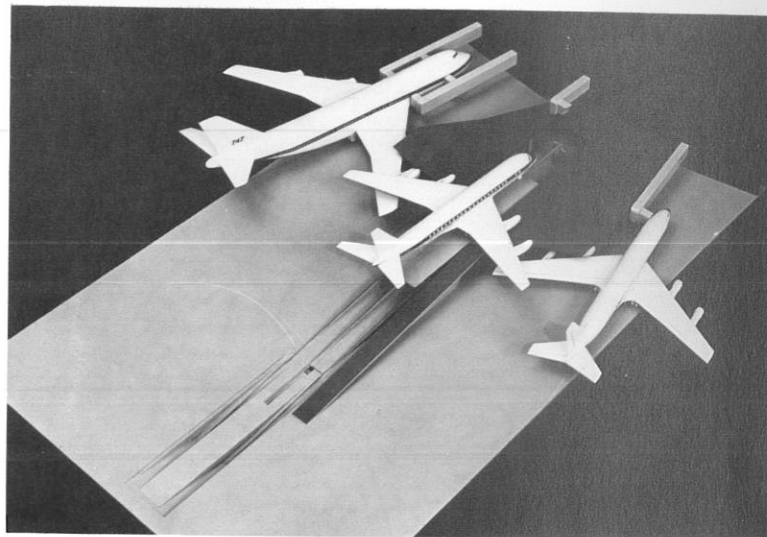
LIFT SLED, A DEVICE TO ELEVATE AIRCRAFT WING-OVER-WING TO AN UPPER LEVEL PARKING POSITION.



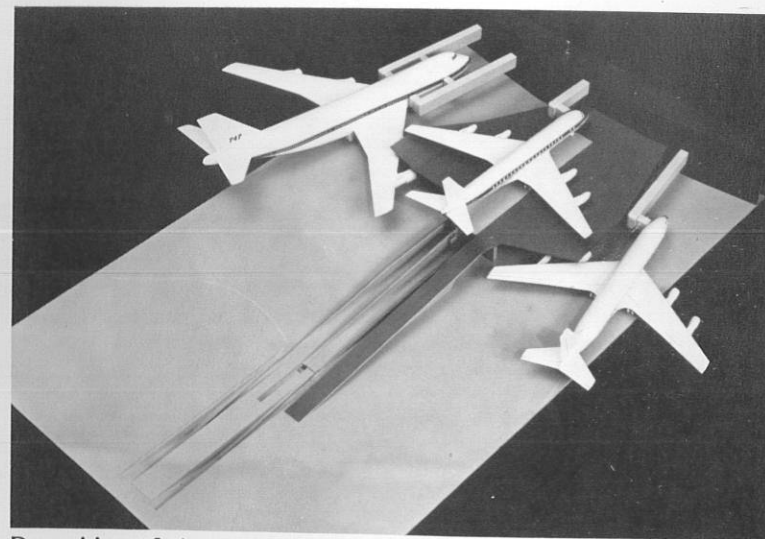
A. Lift sled on apron level. Aircraft positioned.



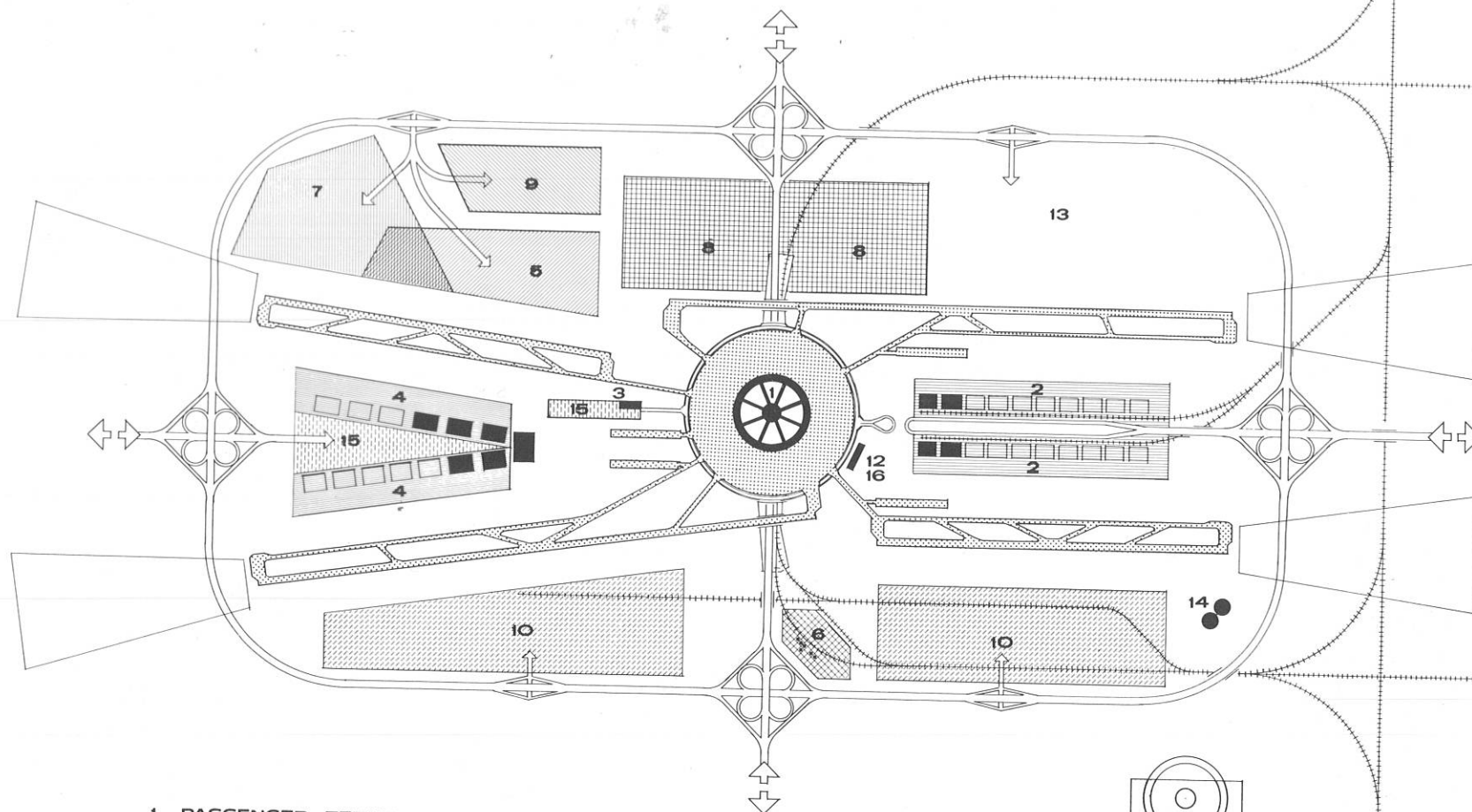
B. Steep ascend stage.



C. Wing overlap in second ascend stage.



D. Aircraft in upper terminal position.



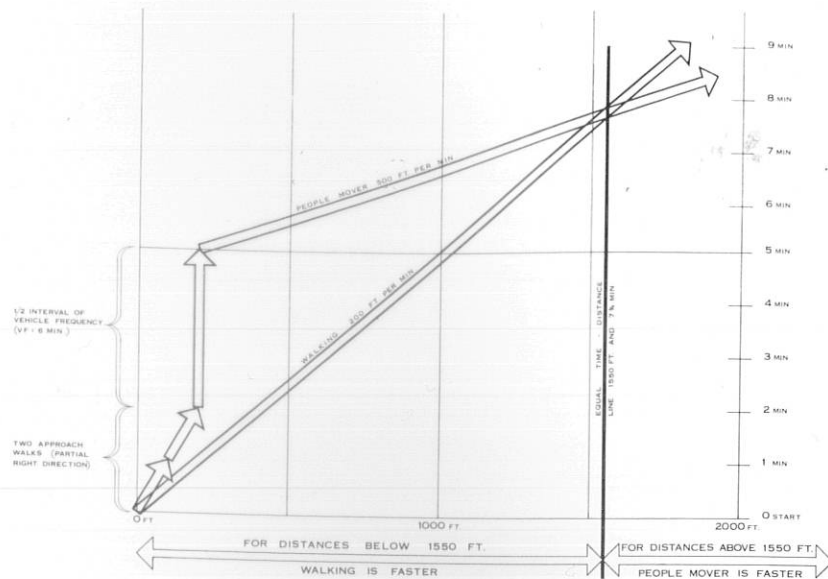
- 1 PASSENGER TERMINAL
- 2 CARGO - AIRMAIL
- 3 ADMINISTRATION - SERVICES - ATC - CUSTOMS
- 4 CARRIERS
- 5 GENERAL AVIATION & FIXED BASE OPERATIONS
- 6 AVIATION FUEL
- 7 ACCOMODATIONS
- 8 FUTURE TERMINAL / PARKING

- 9 TRAINING FACILITIES
- 10 RELATED INDUSTRIES
- 11 IN-FLIGHT FOOD
- 12 CENTRAL POWER - UTILITIES
- 13 FUTURE EXPANSION
- 14 SEWAGE & GARBAGE DISPOSAL
- 15 PARKING
- 16 FIREFIGHTING

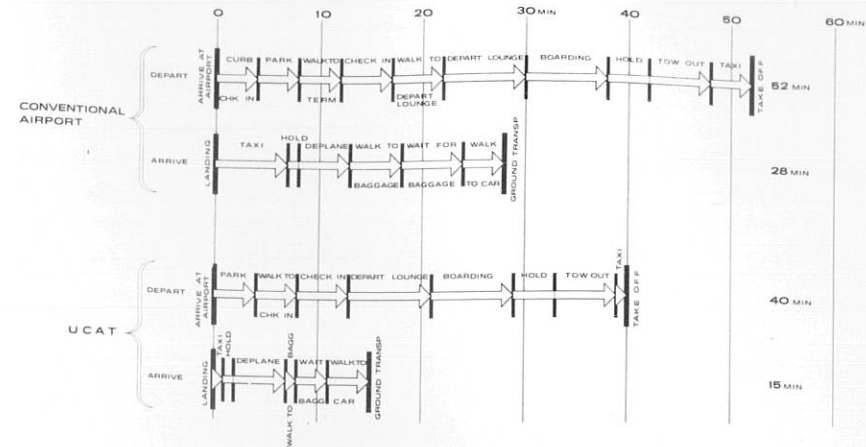
0 1KM 5000 FT  
SCALE

ULTRA COMPACT AIRPORT FUNCTION AND LAND USE PLAN

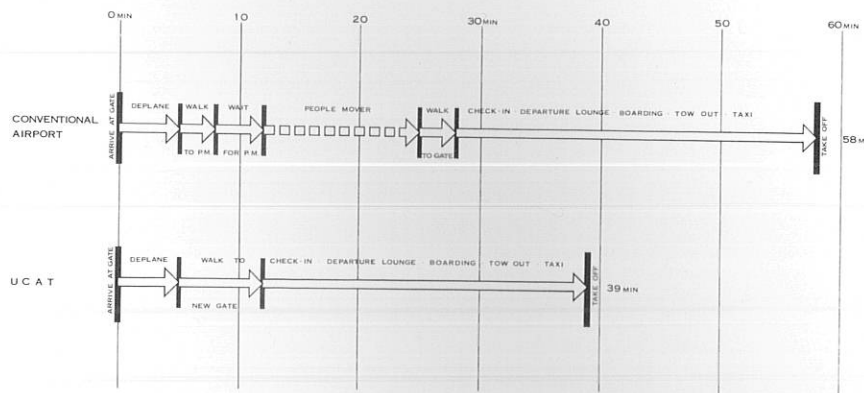




**TIME-DISTANCE VECTORS:  
WALKING VS. PEOPLE MOVER**



**DEPARTURE AND ARRIVAL TIME VECTORS**



**TRANSFER TIME VECTORS**

Time vector studies of all major functions of the UCAT and comparable traditional systems were carried out. In all instances, UCAT proved its superiority by substantial time and space savings. A separate study concerned the capabilities of people movers versus walking. It was found that up to 1550 feet, people movers are at a disadvantage. This formed the logical basis of developing maximum distance geometries on the basis of walking.





When you consider building, perhaps the most important decision you will make is the choice of your architect.

To the architect, you will entrust the interpretation of your program and your budget. Your structure's acceptance, usefulness, and beauty depend upon the right selection.

RSG Architects will view your project with the respect that it deserves. Our goal is to create, from your program, an environment of livability and efficiency within material soundness and equitable cost.

You can draw upon RSG Architects' resources for the talent and experience to design aesthetic excellence. The excellence you expect from your architectural firm.

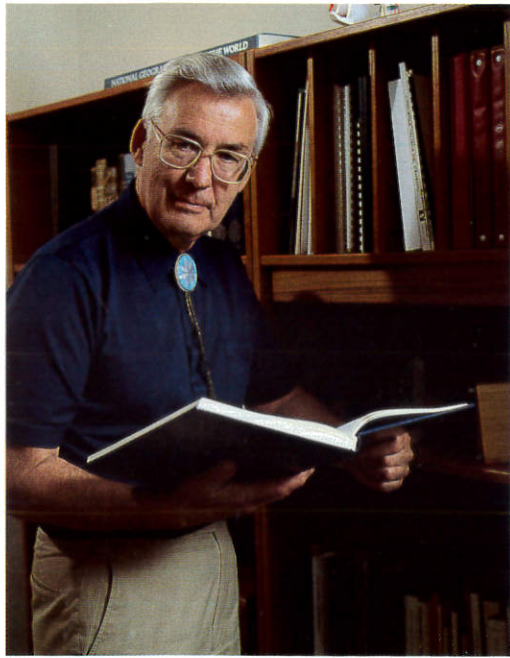
Just as architecture is a creative art and the most accomplished design is the work of a single designer — so is architecture a complex technology. The fulfillment of the concept must be an orchestrated achievement by many individuals — the diverse members of the RSG Architects team.

In the pages that follow, we introduce our work and ourselves to you. We trust our style and quality, the hallmark of RSG Architects' professional record, will awaken your interest. ■■■

■ RSG







**R** At the heart of every successful enterprise is a dynamic, visionary and creative individual.

Such a man is the founding partner of RSG Architects, Dr. Wendell Rossman. He holds advanced degrees

in engineering and architecture. All structures emanating from RSG are either wholly shaped or influenced by his innovation. As a designer, writer and lecturer, his work has won international acclaim. ■



Any successful architectural team must possess the diversity and depth to accomplish the many tasks related to each project.

Howell L. Shay, III's charge is determining a building's technological aspects and the subsequent interpretations into contract documents. He is an architect with formidable skills. Apart from being a designer par excellence, he has an extensive background in all phases of architecture. His experience as a Major in the National Guard of Arizona has given him a wealth of experience in military engineering. Howell and his team of architects, interior designers and specialists lay the foundations of the actual construction. ■ ■ ■ ■



**S** Architecture depends on several important relationships. One of paramount importance is the firm's relationship with the client.

Herbert Schneider is an architect with eminent knowledge and experience in the full measure of project administration. He is the most visible member of RSG's team.

His work centers on marketing, construction administration and contracts. Herb Schneider is a Fellow of the American Institute of Architects and serves on numerous professional/public boards and committees. ■ ■

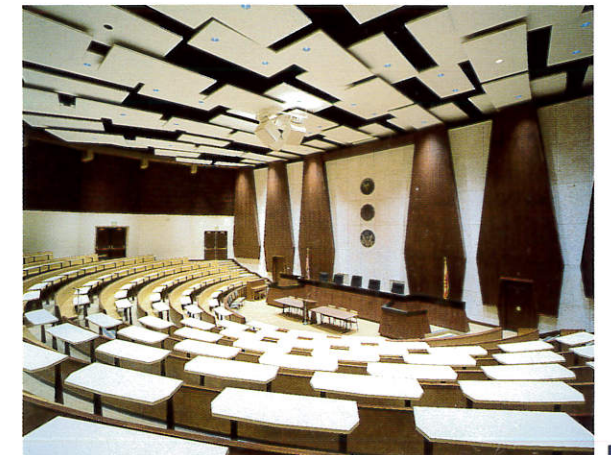


**G** While vision may achieve the breakthrough, proper implementation requires concise and thorough work.

Donald Gadbery's focus is on master planning. He is an architect who possesses superior knowledge and experience in plans and specifications. Don and his staff have the expertise to create programs when programming for certain tasks is not available. Close communication with the client is a crucial part of his responsibility. ■ ■ ■ ■



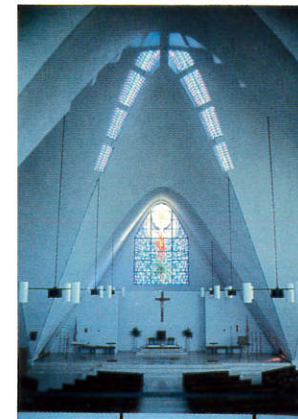
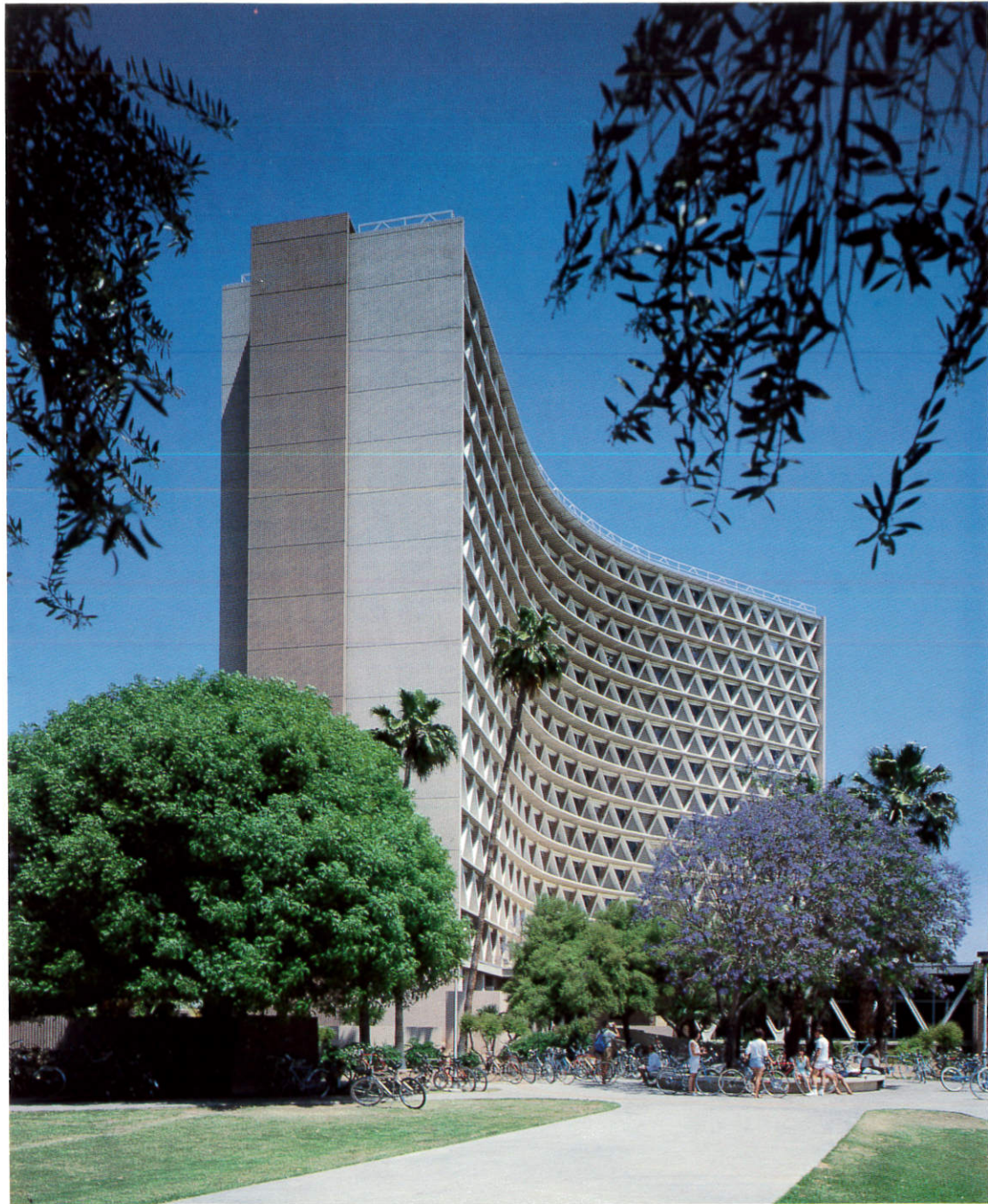
The efficiency of RSG Architect's professional domain is entrusted to Lori Dykstra. Her responsibilities include internal office management, finances, supervision of support staff, and project accounting. Lori creates the marketing tools and controls the flow of information between RSG Architects and clients. She is a charter member of the prestigious Professional Women in Architecture/Engineering.



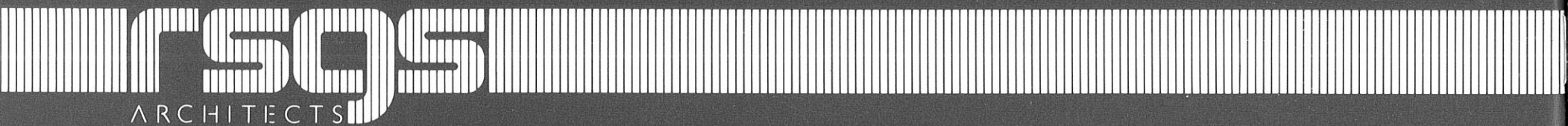












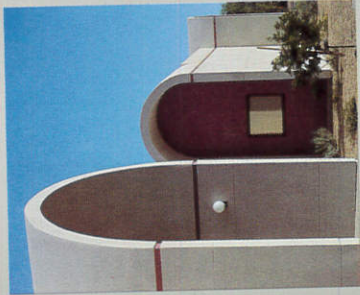
ARCHITECTS

ROSSMAN SCHNEIDER GADBERY SHAY

8681 East Via de Negocio  
Scottsdale, Arizona 85258-3330  
Tel: (602) 991-0800 Fax: (602) 991-2623



## RSGS ARCHITECTS



"Architecture is an enclosure created by man's sympathetic intervention into the process of nature."

H.L.S.



it is equally important to understand how they feel with their environment. At issue here is the emotional interaction between the building's occupants and their surroundings. Ideally, the structure will be uplifting, supporting, pleasing and inspiring.

Our design philosophy uniquely deals with both sides of these issues. To achieve this elusive inter-relationship, our team possesses the professional architectural skills necessary to create a new entity through the knowledge of countless technical, artistic, economical, sociological and historical considerations. Our philosophy is broadly inclusive. It always retains accord between sociological matrix, function and aesthetics.

Ever vigilant of trends yet always avoiding transitory styles, RSGS varies its architecture from the conservative to the imaginative while never neglecting that which gives the structure its intended transcending value. We employ all the available technologies of our age in completing each assignment. Yet in creating these concepts, we instinctively rely on our most basic tools: sensitivity, logic, observation and imagination.

Functionality, efficiency, convenience and practicality represent but one side of quality architecture and these are attainable through the methodologies of good practice. However, there is another side which transcends these attributes and is born by imagination and the ability to infuse personality into architecture. It is this personality which gives the structure its absolute and final value.

This other side of architecture consists of the emotional relationship of people to the constructed environment. While they may be satisfied with a building's functionality,

When you consider building, perhaps your most important decision is selecting an architect to interpret your program and budget as well as to create a structure which meets the requirements of acceptance, usefulness, functionality and beauty. While respecting the parameters established by your program, our goal is to provide you with an architectural environment that is livable, efficient, materially sound and economically priced. You can rely on our talent and experience to combine logic and function with aesthetic excellence — the excellence you expect from your architectural firm.



At the heart of every successful enterprise is a dynamic, visionary and creative individual.

Such a man is the founding partner of RSGS Architects, Dr. Wendell Rossman. He holds advanced degrees in engineering and architecture. All structures created by RSGS are either wholly shaped or influenced by his creativity. As a designer, author and lecturer, his work has received international attention.

Architecture depends on several important relationships. One of paramount importance is the firm's relationships with its clients.

Herb Schneider is a noted architect who also excels in all aspects of project administration. His current contributions center on marketing, construction administration and contracts. Herb is a Fellow of the American Institute of Architects and serves on numerous professional and public boards and committees.



While vision may achieve creative breakthroughs, proper implementation requires concise and thorough attention to detail.

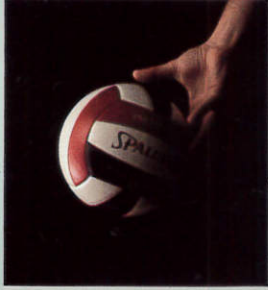
Beyond his architectural accumen, Don Gadbery focuses on master planning and programming because of his vast knowledge and extensive experience in educational facility design. Don and his staff have the expertise to create programs even when programming for certain tasks is unavailable. Maintaining close communication with clients is a crucial part of his responsibility.

Any successful architectural team must possess the diversity and depth to accomplish the many tasks related to each project.

Howell "Chip" Shay is especially adept at determining a building's technological aspects and interpreting them into contract documents. A designer par excellence, he also possesses a diverse architectural background. He continues to expand his experience in military engineering while serving as a Lieutenant Colonel in the National Guard of Arizona. Chip and his team of architects, interior designers and specialists lay the foundations for the actual construction.



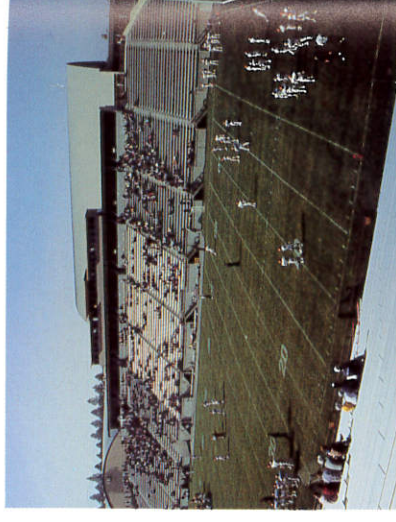
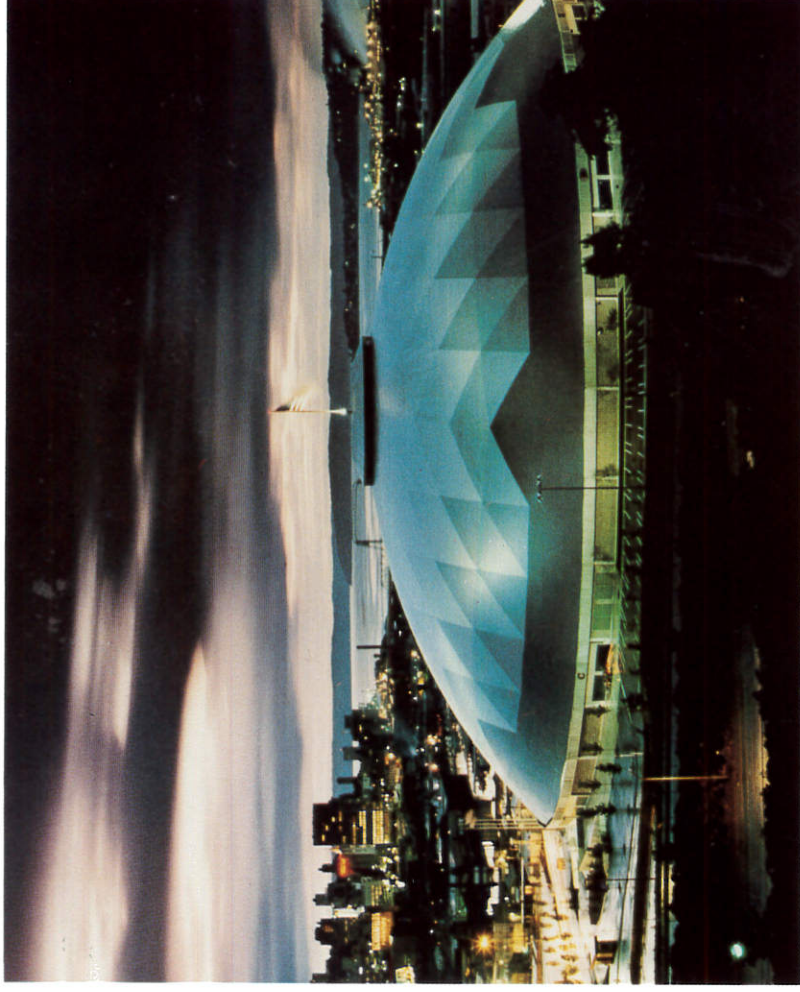
## SPORTS



It began with a challenge in the late 1960's: to design an efficient, environmentally compatible structure to house a football stadium. From this challenge grew the giant timber dome, the Ensphere.

Today the Ensphere concept, with its daylighting system, is the current state of the art. Enspheres now serve as sports stadia and convention centers in numerous cities across the United States and Europe.

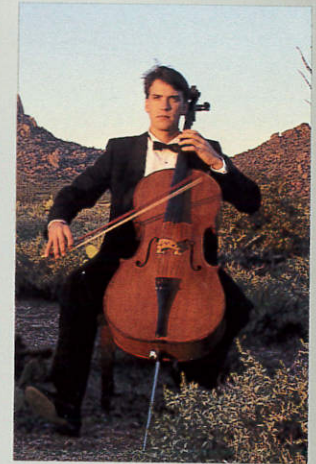
Our other work in sports structures includes aquatic centers, gymnasiums, sport and physical activity buildings.





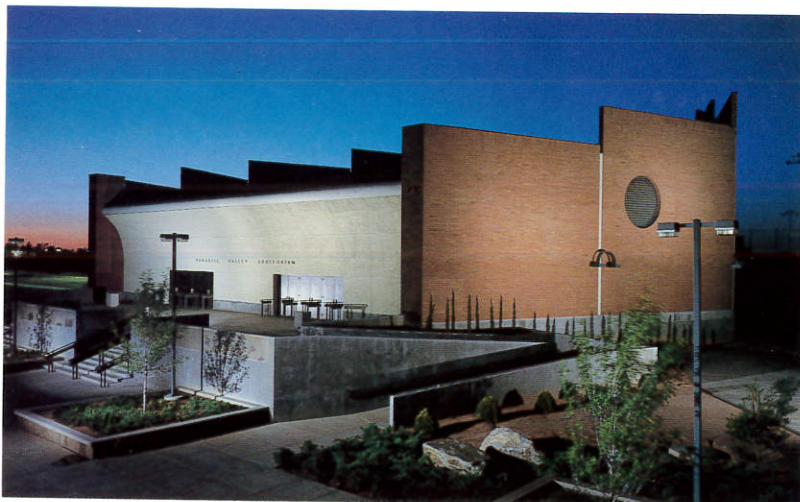


## ARTS



Efficient, functional, glamorous and sophisticated are the concepts that define the performing arts centers of RSGS. With superb acoustics and sightlines, convertible from theater to concert halls, our performing arts centers permit the broadest spectrum of events to grace their stages.

We are the originators of the now celebrated TDA, the ultimate technology of auditorium divisibility. Over 50 TDA's have been constructed in the U.S., Canada, Europe and Africa.



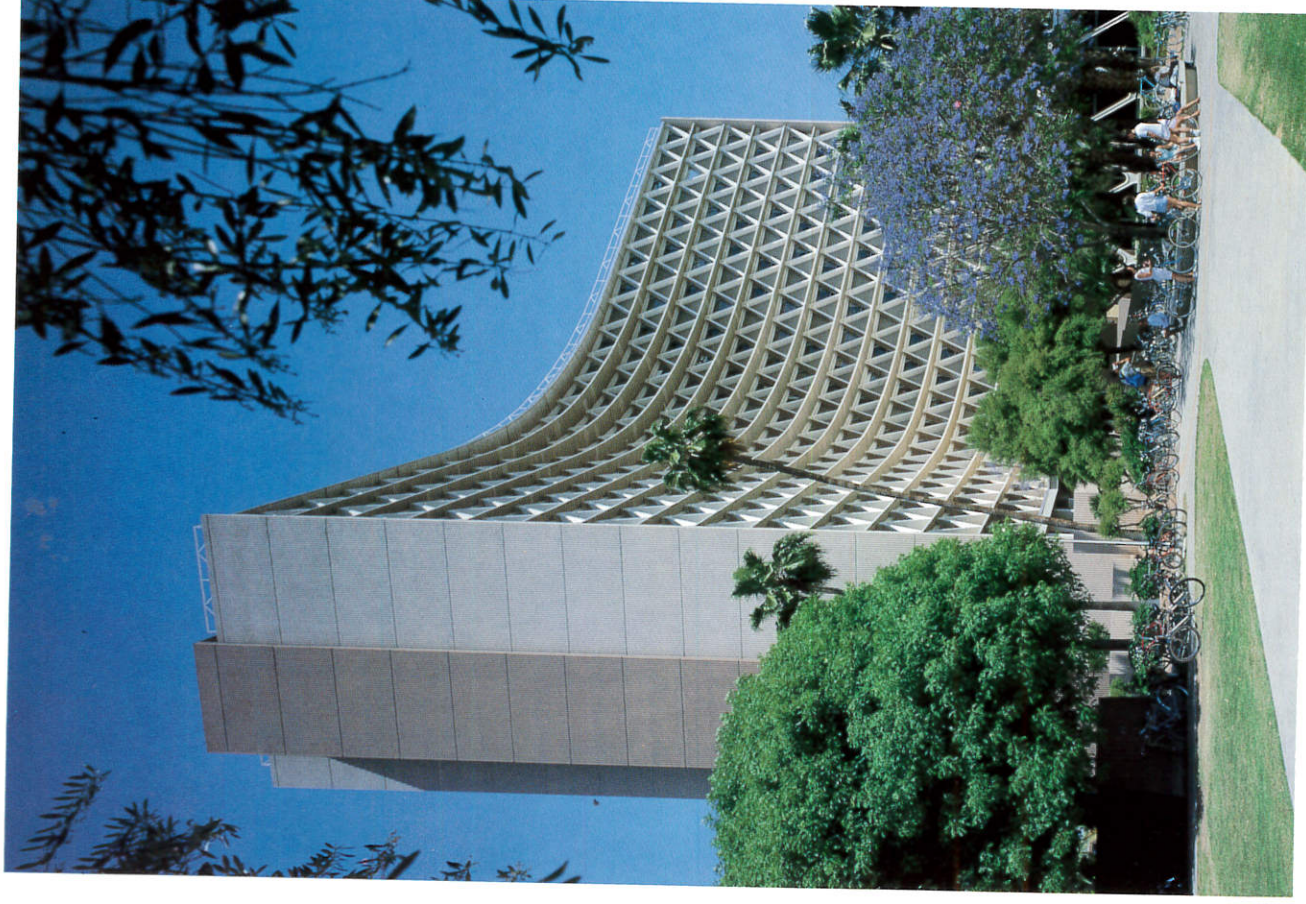


## EDUCATION

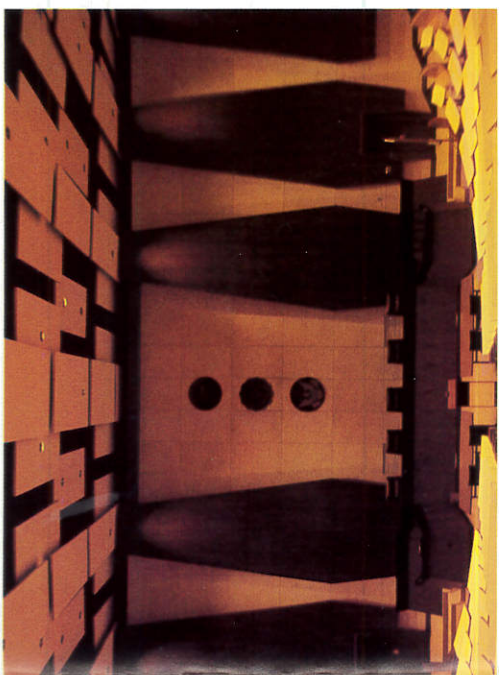
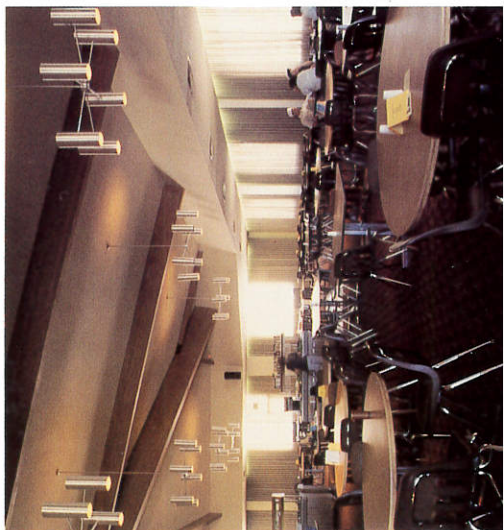


The design of educational structures comprises the majority of our work. Together with faculty, administrative and governing boards, we program and shape educational environments from pre-kindergarten through university facilities.

Never standing still, we constantly monitor the newest educational developments and integrate these with tradition to create state of the art, highly functional, economically operating and congenial learning and teaching environments.





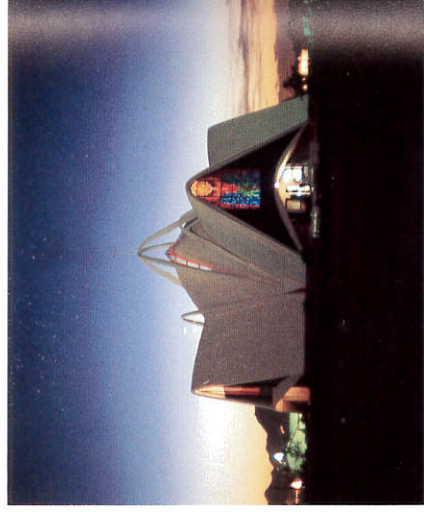
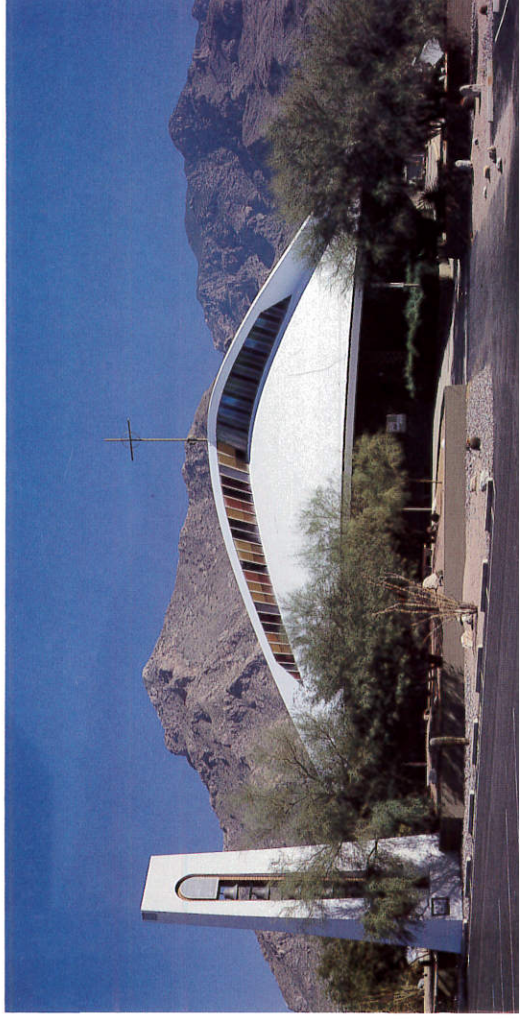
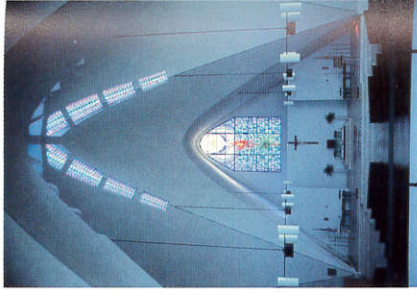




## WORSHIP



The ultimate challenge and test of any architect is to design the house of God. Historically, all architectural styles and structural concepts were born to serve worship. Our fundamental canons are the achievement of sanctity, separation of the divine from the secular and the creation of beauty.







## GENERAL



While we have attained specialist status as architects for educational, performing arts and sports buildings, we design a broad range of structures for many other uses with equal dedication.

These include facilities for commerce, industry, health services, transportation, housing, public safety, communication, research centers, Department of Defense, U. S. Postal Service and Bureau of Indian Affairs.

We also perform environmental and community master planning, forensic investigations of structures as well as historic preservation.

All projects are of equal importance to us and no project is beyond or beneath our capabilities.



## ORGANIZATION



Architecture is a creative art and the most accomplished designs represent the inspiration of a single individual. Architecture is also a complex technology and, as such, it must be an orchestrated achievement performed by many individuals.

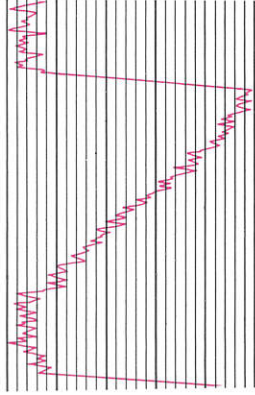
In our organization, we help formulate your program and we nurture the creation of the conceptual design. Here our buildings gain substance and comprehension as the thought processes of many professionals generate the final drawings and specifications.

It is this team which guards our clients' budgets and timelines, oversees quality of construction and, as the agent of the owner, delivers the completed structure.

## PROGRAMMING

No structure, regardless of size and kind, can be responsibly designed without a precise statement about purpose, quality and appearance. Moreover, most buildings are part of a larger whole, requiring integration and master planning.

Because we are a firm of long-standing, most of our clients delegate programming to us, taking advantage of our experience with function, use and long-range projections. Always under the immediate direction of at least one partner, we draft, propose and refine the building programs for our clients.



## ACOUSTICS

RSGS is almost singular in having an in-house division of architectural acoustics. As exemplified in our performing arts centers with their superb acoustics, this expanded capability immeasurably benefits our clients by assuring that the issue of controlling noise and sound transmission is addressed throughout the entire design process.



## ARCHITECTURAL RESEARCH

We have been the inventors and innovators of many new architectural and engineering concepts. The Turntable Divisible Auditorium, the Ultra Compact Airport Terminal and the Ensphere System are among our notable achievements. Architectural research, which creates and validates these concepts, accrues to the sole benefit of our clients but is wholly funded by RSGS.





## CONCEPT

The conceptual design is the essence of all architecture. It is the one act in which the designer's mind must be purely creative. Here we seek to affirm the architectural philosophy, style and design parameters. Here the personality of the structure is born.



## DESIGN DEVELOPMENT

In this phase, the concept is given its many characteristics and attributes. The building spaces, shapes and colors evolve and the structure receives its supporting frame. All major building materials are selected and lighting, acoustical, mechanical and electrical systems are determined. Costs and code analyses are conducted. Upon conclusion of this phase, our clients receive a precise theoretical replica of their project in the form of plans, illustrations, models and descriptions.



## CONSTRUCTION DOCUMENTS

The fully developed design is now transformed into constructable technology. All systems are subjected to mathematical analysis. The size of the design team peaks as thousands of components are detailed and hundreds of pages of specifications are written. Costs are re-evaluated and consultants and specialists are fully integrated into the team to make their contribution.



## CONSTRUCTION ADMINISTRATION

The primary purpose of construction administration is to obtain compliance with plans and specifications. A technical team of in-house and field personnel monitors the progress. Further, we administer pay requests, payments and changes in work.

Completion involves extensive check-out procedures, assembling of warranties and manuals, providing operational training and often assisting in creating public relations literature for our clients.

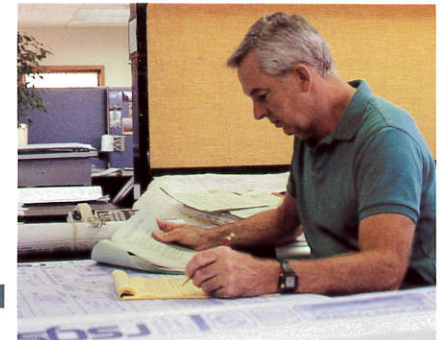
As a valuable extended service, we conduct one- and two-year inspections to help our clients enjoy the highest possible quality and usefulness of their project.

## BIDDING

To obtain the best possible bid, we employ many strategies. We invite contractors and acquaint them in detail with the projects. We conduct extensive pre-bid conferences and site visits. Finally, we administer the bid process.

## QUALITY CONTROL

Upon completing the construction documents, our staff scrutinizes them for compliance with the original design and technological correctness. After putting all elements in order, we release the documents for bidding.





WENDELL ROSSMAN and ASSOCIATES

ARCHITECTS

Organization and Staff

Principal, Associates, Architects, Engineers, Consultants

Current Projects and Project Summary

Research

Summaries: Completed Projects of Associates

4601 EAST McDOWELL ROAD

PHOENIX, ARIZONA U.S.A.



WENDELL ROSSMAN and ASSOCIATES

Organization and Staff:

Principal: Dr.-Ing. Wendell E. Rossman

Associates: Donald R. Gadbery, C.S.I., Architect

Herbert W. Schneider, A.I.A., Architect

Architects: Sukumar Pal

Charles L. Mason

Engineers: John K. Parsons, P.E., Structural

George T. Dearing, P.E., Air Cond. and Plumbing

William B. Keller, P.E., Electrical

Robert R. Drain, P.E., Air Conditioning

Drafting Staff: 6

Field Inspectors: 4

Administration: 5

Project Associates:

Johannessen & Girand Consulting Engineers, Inc.  
Phoenix, Arizona

Consultants:

T. Y. Lin - San Francisco, California

Dr. Vern O. Knudsen - Los Angeles, California



Principal: Dr.-Ing. Wendell E. Rossman Birth Date: 11-21-26

Education: Bachelor of Architecture  
University of Alberta, Canada - 1955  
Dr.-Ing., THM, Munich, Germany - 1966

Registrations: Alberta, 1956 - Arizona, 1959

Memberships: Phoenix Forward Task Force:  
Air Transportation Committee  
American Institute of Physics  
Archaeological Inst. of America  
International Assoc. of Shell Structures  
Prestressed Concrete Institute  
Scottsdale Public Schools: Advisory Committee

Associates:

Donald R. Gadbery Birth Date: 12-15-32

Education: Bachelor of Architecture - 1957  
Kansas State Univ., Manhattan, Kansas

Registration: Arizona, 1964

Membership: Construction Specifications Institute

Herbert W. Schneider Birth Date: 7-6-30

Education: Bachelor of Architecture - 1955  
University of Illinois

Registrations: Arizona, 1961  
Dept. of Defense Fallout  
Shelter Analyst, 1964  
Nuclear Defense Engrg. Prot. Constr., 1964

Memberships: American Institute of Architects  
Central Arizona Chap.: President Elect, 1970  
A.I.A. Activities:  
Director of the Comm. on the Prof. Society  
Chairman-Chapter Affairs Committee  
Director-Arizona Society of Architects



Architects:

Sukumar Pal

Birth

Date: 1-1-41

Education: I.Sc. - University of Calcutta, 1958  
B.Arch.(Hons.) - Indian Institute of  
Technology, 1963  
M.Arch. - University of Oklahoma, 1965

Birth

Charles L. Mason

Date: 11-20-27

Education: B.S.A.E. - 1950  
Chicago Technical College

Engineers:

John K. Parsons

Birth

Date: 12-9-29

Education: Bach. of Sc. in Engineering - 1952  
Loyola University - Los Angeles, Calif.

Master of Sc. in Engineering - 1959  
University of Southern California

Registrations: Arizona, Nevada, New Mexico, Texas, California  
and Georgia

Memberships: Prestressed Concrete Institute  
American Concrete Institute  
International Assoc. of Shell Structures  
Consulting Engineers Council  
American Society Professional Engineers  
American Society Civil Engineers  
Structural Engineers of Southern California  
Arizona Structural Engineers

Birth

George T. Dearing

Date: 9-25-25

Education: Bach. of Engineering (Mechanical) - 1949  
University of Southern California

Registration: Arizona

Memberships: National Society of Professional Engineers  
Arizona Society of Professional Engineers  
American Society of Heating, Refrigeration  
and Ventilating Engineers  
City of Phoenix Bldg. and Safety Advisory Board

William B. Keller

Birth

Date: 7-24-17

Education: Bach. of Sc. in Electrical Engineering, 1949  
Case Inst. of Technology, Cleveland, Ohio

Registrations: Arizona, Colorado, Nebraska, Nevada,  
New Mexico, Iowa, Ohio, Texas and Utah

Memberships: Illuminating Engineers Society  
Institute of Electrical Engineers

Birth

Robert R. Drain

Date: 3-18-31

Education: Bach. of Sc. in Industrial Engineering, 1963  
Arizona State University

Registrations: Arizona, Nevada and California  
(Mechanical)

Memberships: American Society of Professional Engineers  
American Society of Heating, Refrigeration  
and Air Conditioning Engineers  
Arizona Society of Consulting Engineers



WENDELL ROSSMAN and ASSOCIATES

CURRENT WORK

Northern Arizona University - Student Union Bldg.	\$ 1,300,000
- Dining Hall Facility	700,000
Agua Fria Union High School	1,500,000
Valley National Bank (2 projects)	200,000
Roman Catholic Church, Scottsdale	900,000
Roman Catholic Church, Tucson	700,000
Camp Verde High School	2,500,000
Ecole Polyvalant, Montreal (Assoc.)	2,400,000
Mountain Bell Telephone Building	250,000
Motel - Flagstaff	900,000
Northern Arizona University - Engineering Bldg.	2,400,000
Safford Schools	200,000
Macton Machinery Plant, Connecticut	450,000
4 Auditoriums - Phoenix Union High School	<u>2,600,000</u>
Current Work - 1-1-1970	\$ 17,000,000

## COMPLETED PROJECT SUMMARY

### Telephone and Micro Wave Buildings:

Toll Building, Calgary	\$ 5,500,000
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### Universities:

Shops Building, IT - Calgary	450,000
Law College - Tempe	1,700,000
Housing - Tempe	6,500,000

### Laboratories:

Red Cross Transf. - Alberta	550,000
Exper. Station NRC - Alberta	350,000

### Colleges:

Arizona Western - Yuma	2,000,000
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### Schools:

High, Elementary - Alberta	700,000
High, Elementary - Arizona	1,600,000

### Religious Buildings:

Churches - Calgary, Alberta	150,000
Churches - Phoenix, Arizona	580,000

### Concert Halls:

Alberta Jubilee Auditorium (Assoc. Senior Architect, Director/Acoustics)	11,000,000
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### Hospitals:

Department of Health - Alberta	800,000
Baptist Hospital - Yuma	750,000

### Power Plant:

Gas Turbine, U. of A. - Alberta	550,000
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Residences, Apartments:

Alberta	\$	400,000
Arizona		800,000

Manufacturing Plants,  
Warehousing:

Alberta	1,400,000
Arizona	150,000

Office Buildings:

Calgary, Alberta	250,000
State, Private - Arizona	850,000

Banks:

Valley National Bank and Guaranty Bank	- Arizona	750,000
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Hotels, Clubs:

Hotel	- Yukon	350,000
Motel	- New Mexico	350,000
Country Club	- Phoenix, Arizona	650,000

(Projects listed for Alberta are by W. Rossman, Senior .  
Architect, Alberta Government)

PAPERS and ARTICLES

Design of Acoustics, A.S.A.	Rossman & Fayers
Objective Measurements	Rossman & Fayers
Testing and Tuning Procedure	Rossman & Fayers
Acoustical Design of the ASA, (J.A.S.A., & Inst. for Radio Engineers)	Rossman, Fayers, Steinbrecher, Northwood and Stevens
Acoustics and Architecture in Auditorium Design, (Elsevier Publishing Co., Holland)	Rossman
A Walk Through Hierapolis (Builder/Architect)	Rossman
The Design of Auditoriums (Arizona Architect)	Rossman
Multi-Use Learning Center (Ford Foundation)	Rossman
The Effective Architect (Prentice-Hall, Inc.)	Rossman



## RESEARCH

Nearly one-third of the total energies of Rossman and Associates are devoted to research of specific problems in planning and building. The research is usually concentrated in areas where new, innovative approaches are needed and where practical solutions must be found.

Beginning in 1963, Research Project R 641 concerned itself with the divisibility of the assembly building. The project resulted in a new kind of structure: the TDA (Turntable Divisible Auditorium). By the close of 1969, three TDA's were under construction and over 15 are in the planning stages. Patents have been granted in 5 countries. The research continues with the adaptation to numerous types of assembly buildings from convention centers to churches.

The most extensive research project to this date, R 661, concerns passenger air terminals and airport planning. The project was prompted by the interest in the subject since for no other modern functional building complex appeared there to be more public rejection and irritation.

The project began with the application of basic, proven planning parameters. At the beginning of 1970, the enquiry had reached every facet of airport planning. Several significant innovations and alternatives have emerged so far. As a by-product, an aircraft lifting device (Lift Sled) was created.

COMPLETED PROJECT SUMMARY      -      Donald R. Gadbery

Telephone and Micro Wave Buildings:

Western States Telephone	- Arizona	\$ 400,000
Continental Telephone	- New Mexico	350,000

Laboratories:

Testing Laboratory	- Phoenix	260,000
General Electric Plant	- Phoenix	100,000

Schools:

Elementary	- Phoenix	1,050,000
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Religious Buildings:

Churches	- Arizona	320,000
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Hospitals, Medical Buildings:

Nursing Home	- Scottsdale	50,000
Dental Arts Building	- Phoenix	300,000
Medical Pavilion	- Phoenix	320,000

Residences, Apartments:

Apartments	- Phoenix	14,000,000
Subdivision Residences	- Kearney	2,400,000
Residences	- Arizona	200,000

Mercantile Buildings:

Arizona		2,030,000
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Office Buildings:

Phoenix, Arizona		1,500,000
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Banks:

Guaranty Bank Bldg.	- Phoenix	2,500,000
Arizona Bank Bldg.	- Phoenix	3,000,000
1st National Bank	- Tucson	230,000

Clubs:

Service Club - Luke Air Force Base		500,000
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COMPLETED PROJECT SUMMARY      -      Herbert W. Schneider

Telephone and Micro Wave Buildings:

Mountain States Telephone	- Arizona	\$	500,000
Western States Telephone	- Arizona		50,000

Universities:

Engineering Bldg. Remod.	- Tempe		400,000
Wind Tunnel Building and Installation	- Tempe		150,000
Restoration of "Old Main"	- Tempe		350,000

Schools:

Elementary	- Arizona		2,150,000
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Religious Buildings:

Churches	- Arizona		530,000
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Missile and Solar Facility:

General Electric	- Phoenix		120,000
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Apartments, Residences:

Apartments	- Phoenix		3,000,000
Residences	- Arizona		310,000

Manufacturing Plants, Warehousing:

EMP Electronics, Inc.	- Tempe		150,000
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Mercantile:

Arizona			350,000
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Recreation:

Phoenix, Arizona			500,000
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Offices:

Arizona			300,000
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COMPLETED PROJECT SUMMARY - Sukumar Pal

Universities:

Univ. of Bhubaneswar	- India	\$	300,000
Library (Public)	- Bhubaneswar		400,000
Indian Inst. of Tech.	- Kharagpui		700,000

Mercantile:

Montgomery Ward	- California	10,000,000
Chain Drugstores (Thrifty)	- California	2,000,000
Seeman's Warehouse	- Los Angeles	5,000,000

Industrial:

Boeing Aircraft - Seattle, Washington		
747 Mock-Up Building		5,000,000
747 Assembly Plant		15,000,000