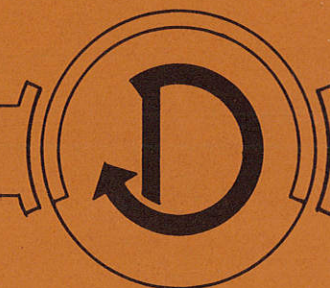


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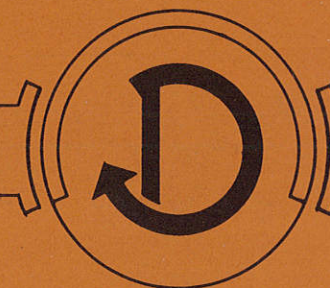
T



A.

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T



A.

TURNTABLE DIVISIBLE AUDITORIUMS

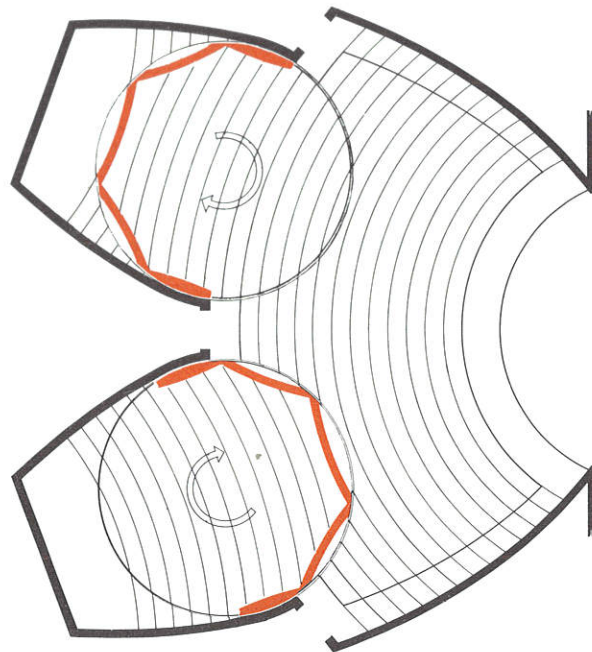
| | |
|---|---------|
| PRINCIPLE | 1 - 2 |
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AUDITORIUM RESEARCH INC.
DIVISIBLE AUDITORIUMS - CONSULTATION - DESIGN - RESEARCH
4601 E. McDOWELL ROAD, PHOENIX, ARIZONA 85008
PHONE 602 273-7188

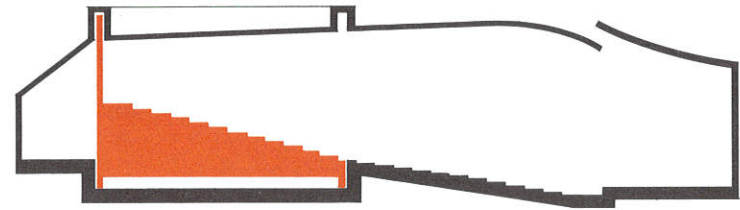
The TDA (Turntable Divisible Auditorium) is the near perfect solution to divide any auditorium into many sub-auditoriums. Division is accomplished by placing entire seating areas on turntables. Turning these 180°, the seats face into smaller halls. The back wall, having turned with the seats, becomes a soundproof divider. The separated sub-auditoriums are now fully self-contained visual and acoustical units. The principle applies to the whole range of assembly buildings from a small elementary school auditorium for a few hundred up to the convention center accommodating many thousands.

The economics are very favorable. The initial cost of a TDA is 80% of the equivalent conventional facility. The operational efficiency is many times greater than that of standard auditoriums. All separated spaces are used simultaneously and, because of their varying size, much nearer to maximum capacity.

The TDA employs one of technology's most reliable devices -- The Turntable. Neither size nor weight has practical limitation. As a rolling load, power requirements are negligible.

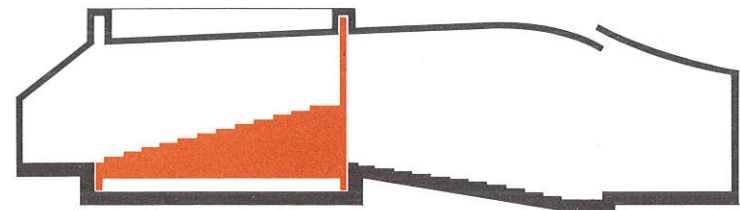


PATENTS IN FIVE COUNTRIES

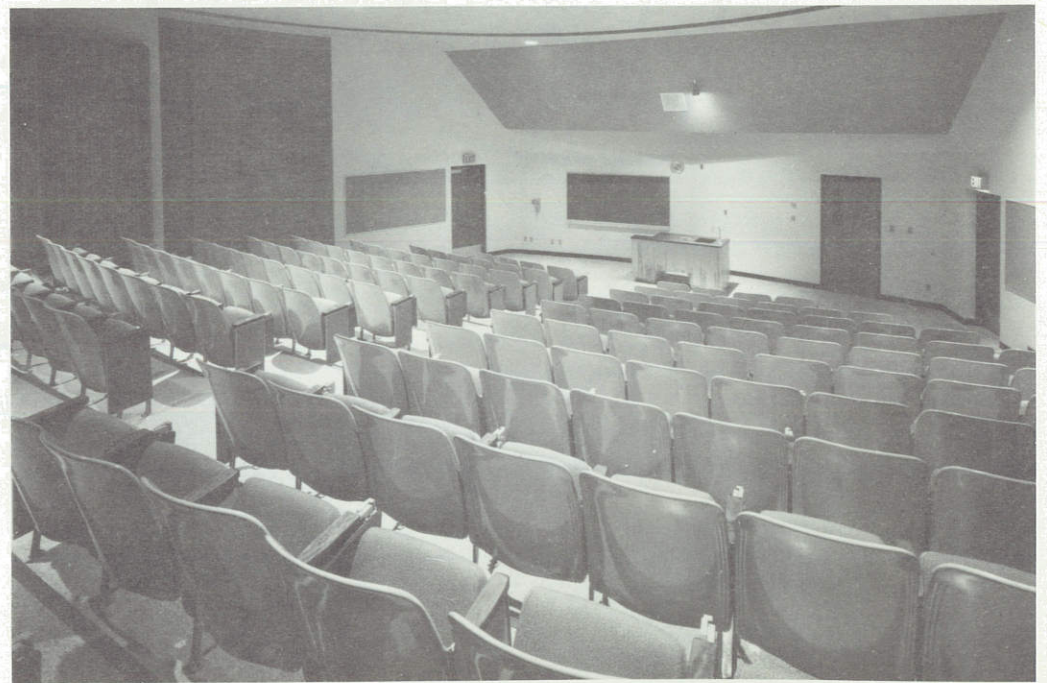
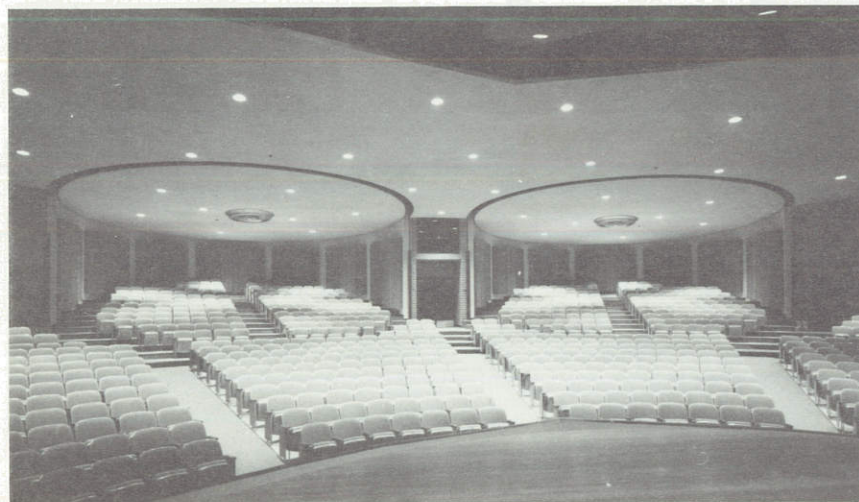
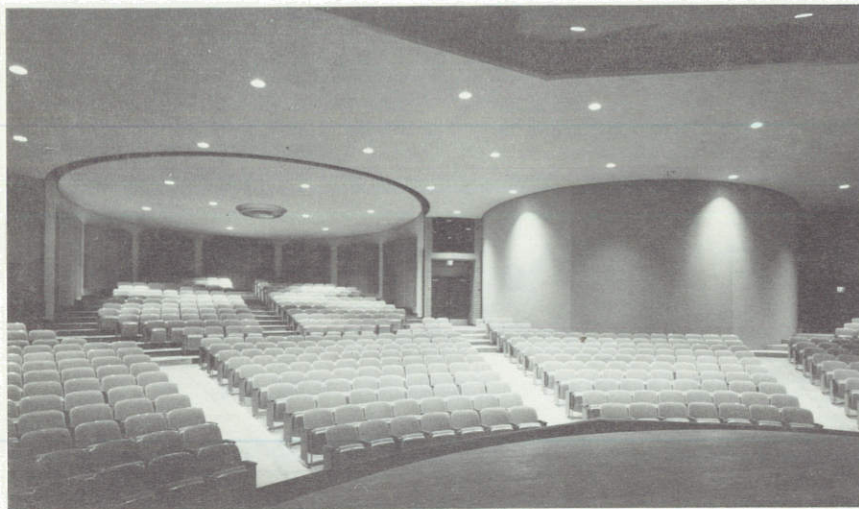
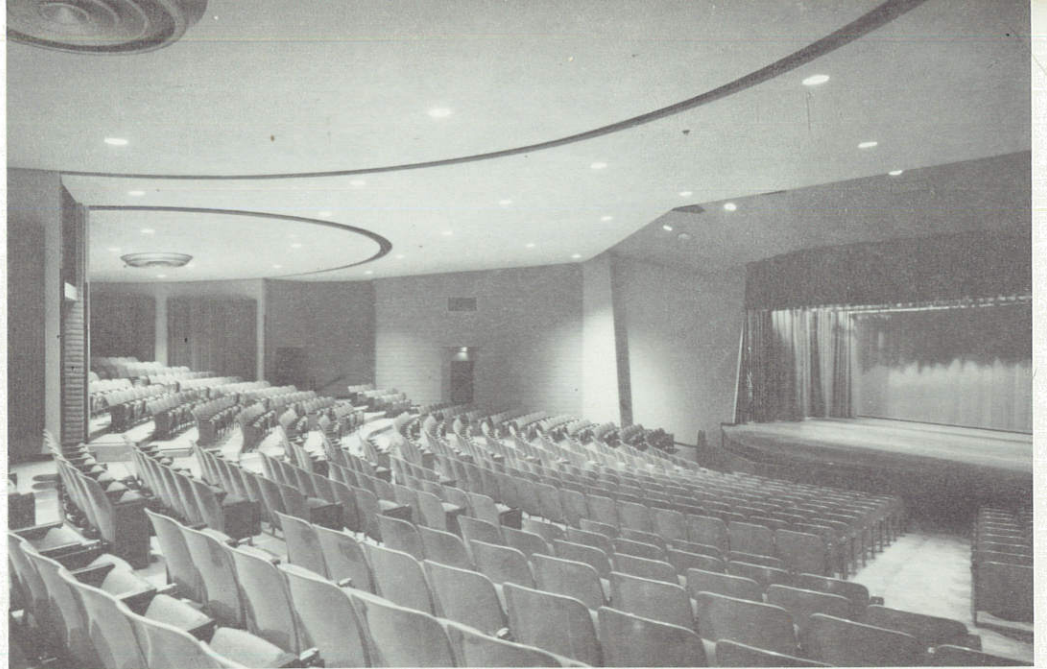


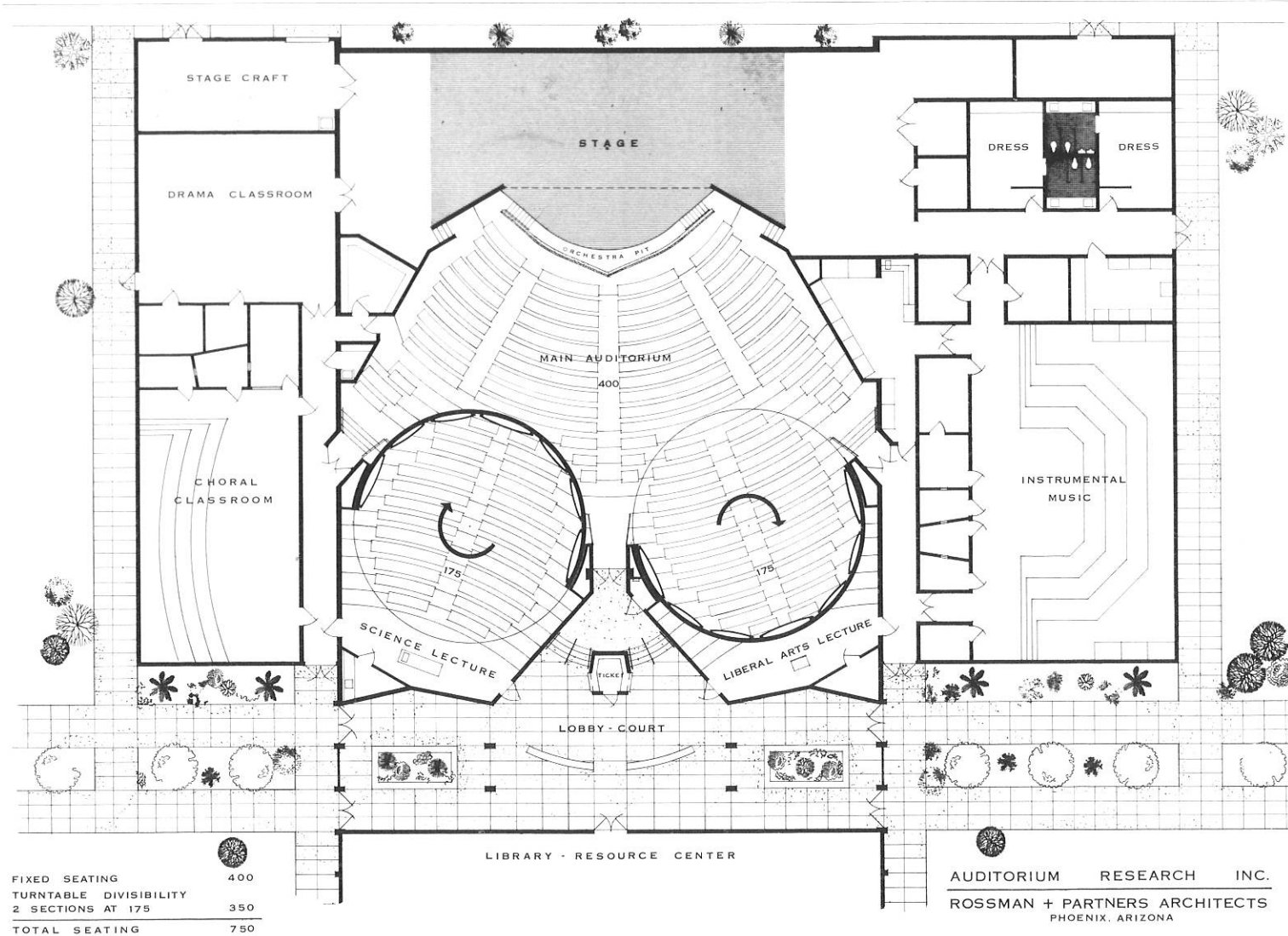
THE DIVISIBLE AREA IS UNITED WITH AND A PART OF THE MAIN AUDITORIUM.

THE TDA_© PRINCIPLE

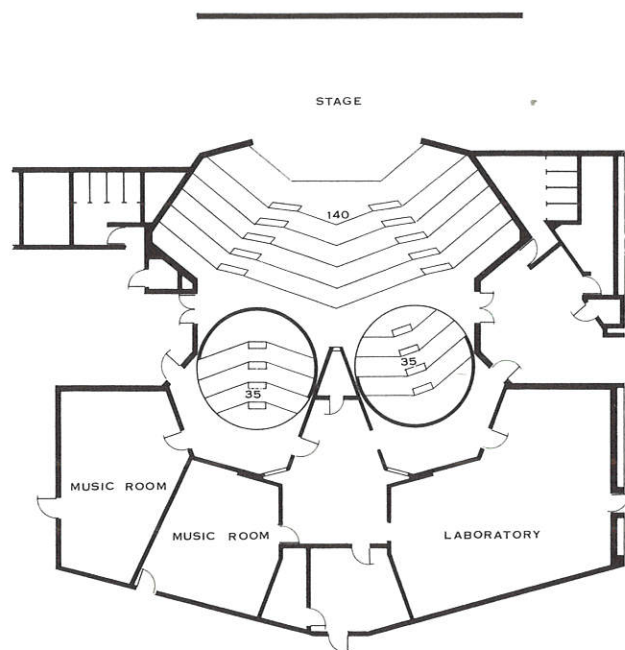
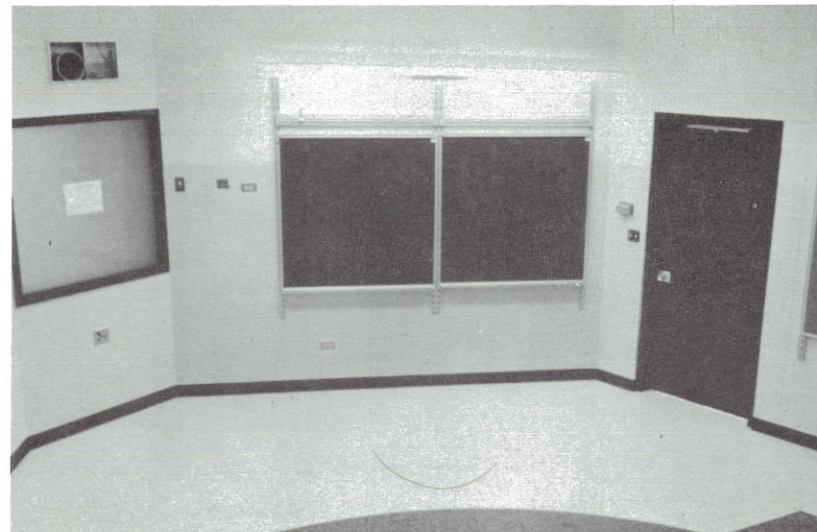
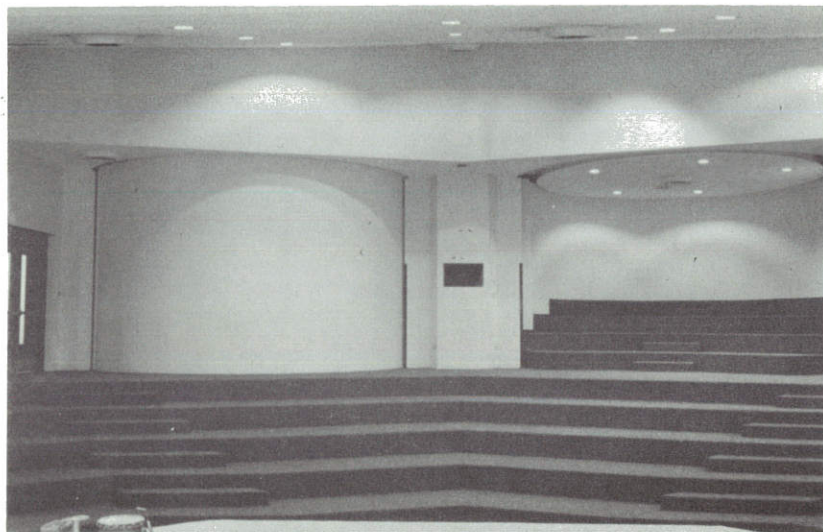


THE DIVISIBLE AREA IS SEPARATED AND HAS BECOME A SMALLER AUDITORIUM BY A 180° CIRCULAR TURN.





AGUA FRIA UNION HIGH SCHOOL TDA
AVONDALE, ARIZONA

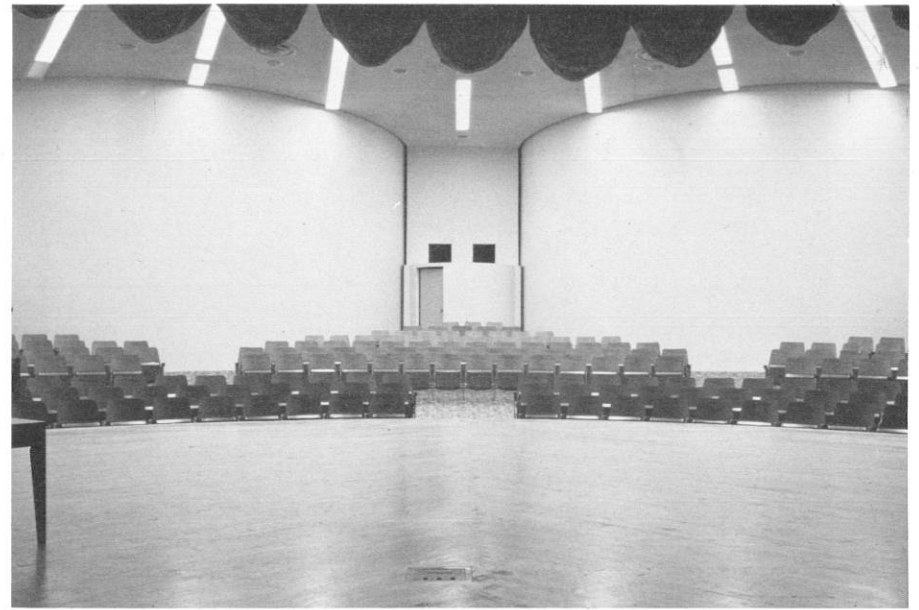
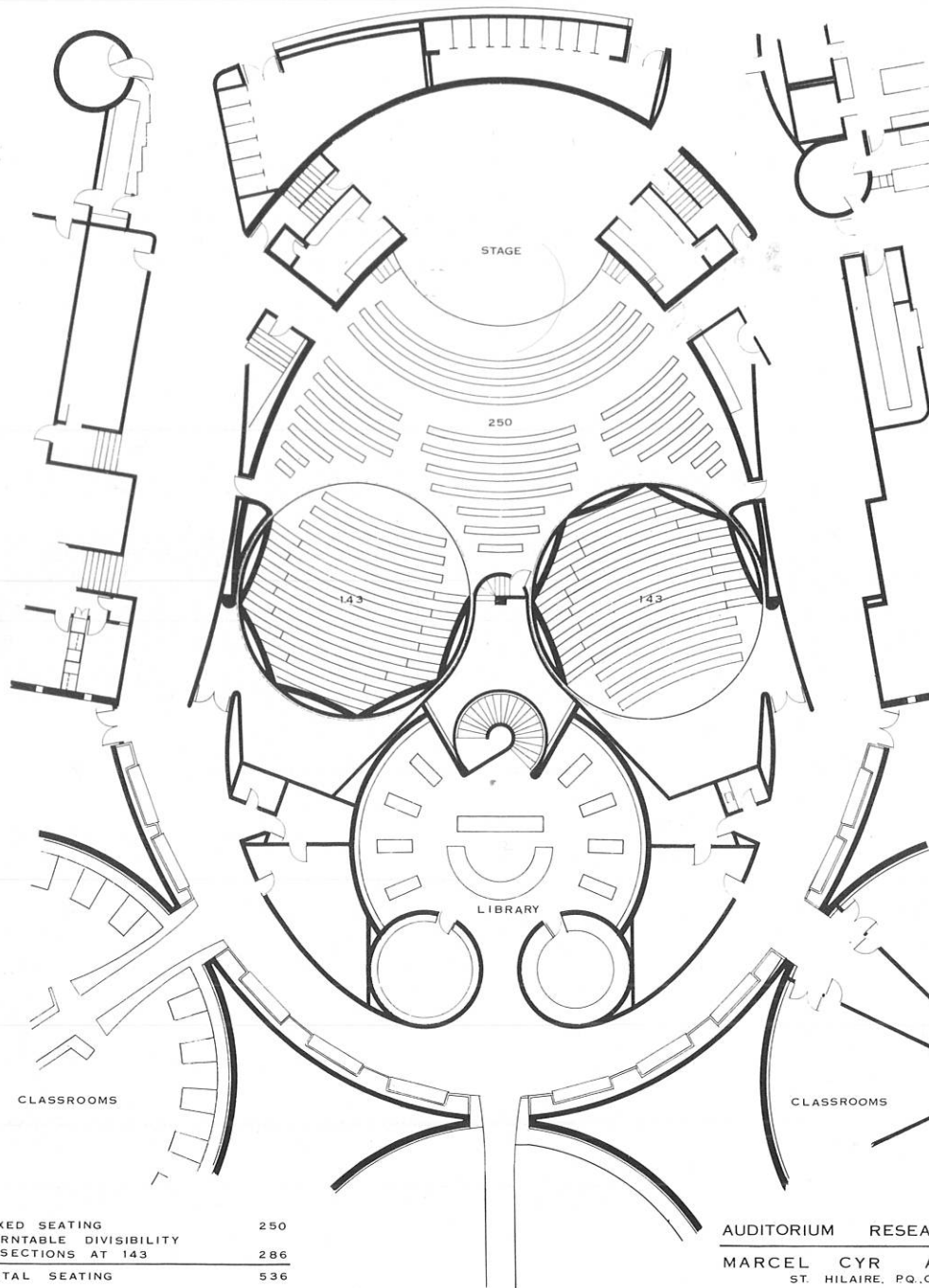


| | |
|------------------------|-----|
| FIXED SEATING | 140 |
| TURNTABLE DIVISIBILITY | |
| 2 SECTIONS AT 35 | 70 |
| TOTAL SEATING | 210 |

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 ANDERSON, REHDER, YANDRE, INC.
 ARCHITECTS
 WAUKEGAN, ILLINOIS

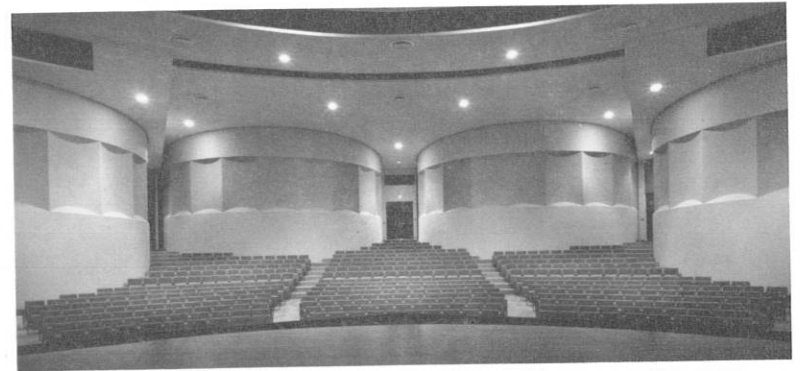
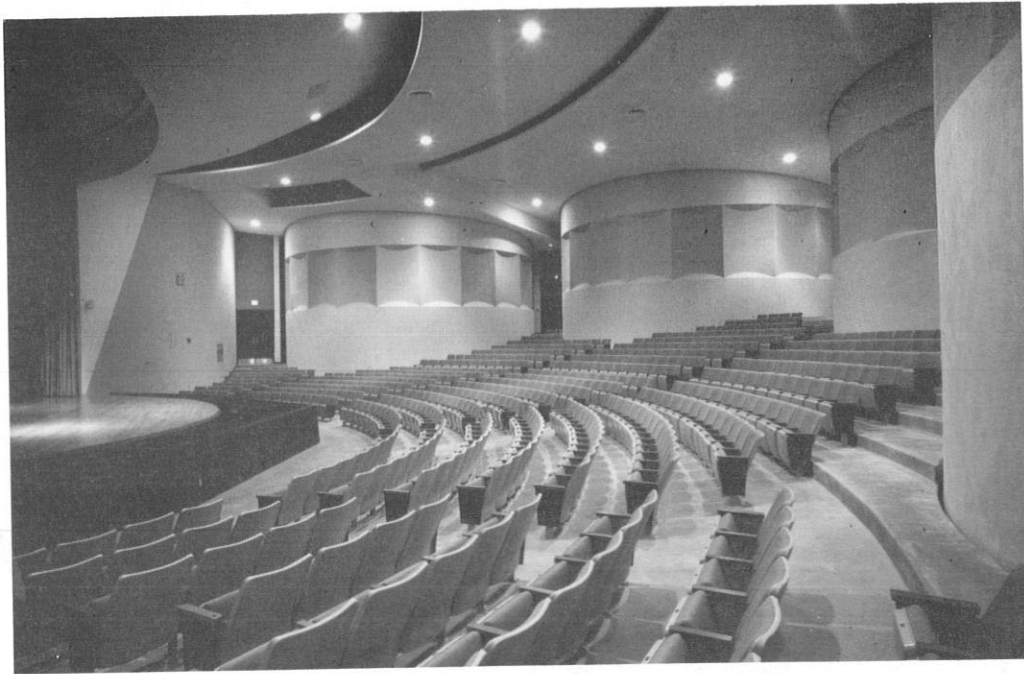
INTERMEDIATE SCHOOL TDA

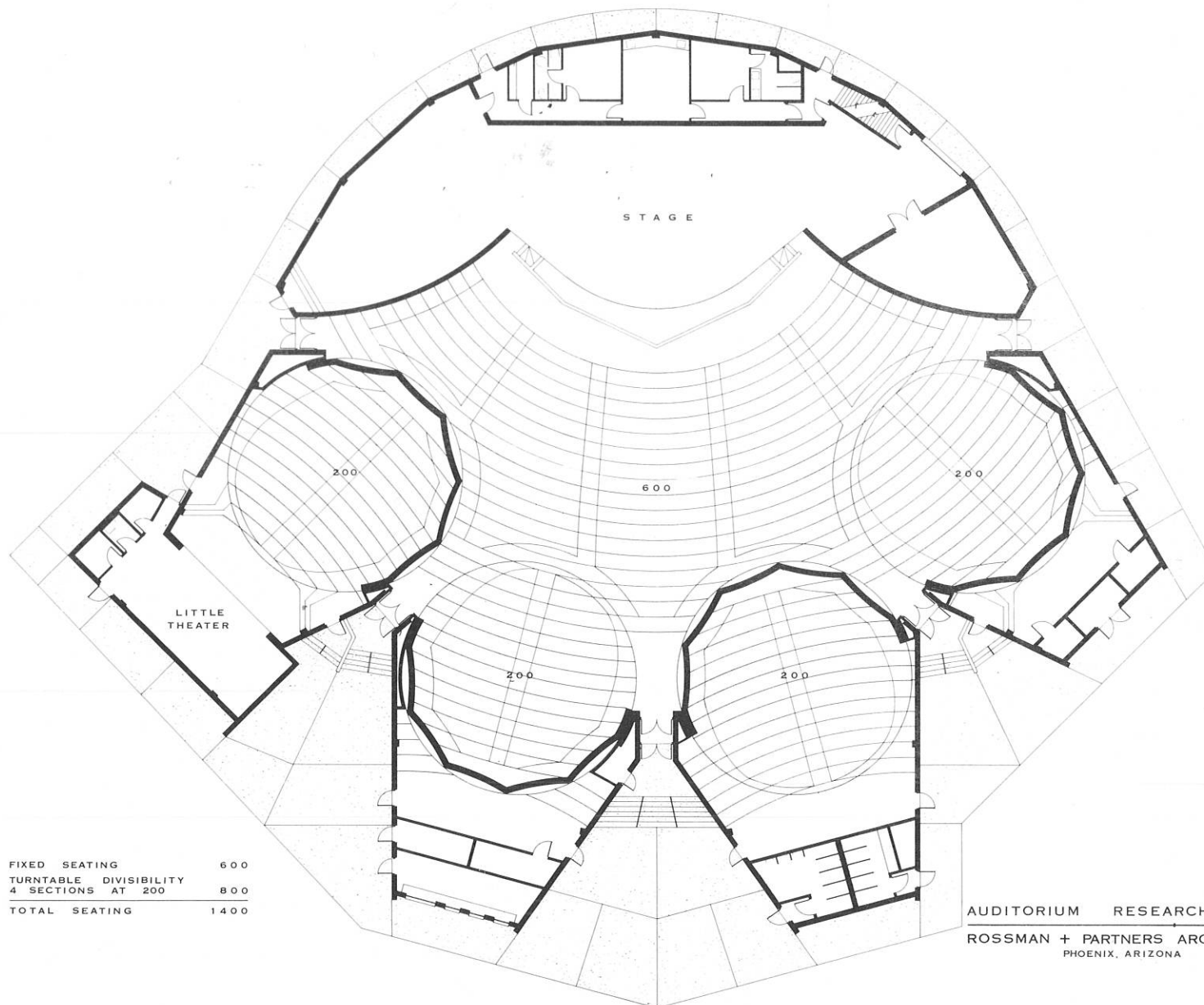
LAKE VILLA, ILLINOIS



AUDITORIUM RESEARCH INC.
MARCEL CYR ARCHITECT
ST. HILAIRE, P.Q., CANADA

ECOLE POLYVALANTE TDA
ST. HILAIRE, P.Q., CANADA





| | |
|------------------------|------|
| FIXED SEATING | 600 |
| TURNTABLE DIVISIBILITY | |
| 4 SECTIONS AT 200 | 800 |
| TOTAL SEATING | 1400 |

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 ROSSMAN + PARTNERS ARCHITECTS
 PHOENIX, ARIZONA

SOUTH MOUNTAIN HIGH SCHOOL TDA

PHOENIX, ARIZONA

ECONOMICS OF THE TDA

CONVENTIONAL EDUCATIONAL FACILITIES MUST BE OVERBUILT TO THE LEVEL OF PEAK LOADS. VARIATIONS IN SUBJECT ENROLLMENT MAKE EMPTY SEATS AND INEFFICIENCY INEVITABLE.

BECAUSE OF ITS DIVISIBILITY AND SIMULTANEOUS ADAPTABILITY TO THESE VARIATIONS, THE TDA CAN BE DIMENSIONED NEAR THE ACTUAL NEEDED PER SEAT CAPACITY.

THE BUILDING AREA REDUCTION FAR EXCEEDS THE COST OF TURNTABLES FOR AUDITORIUMS, AND NEARLY EQUALS IT FOR MULTIPLEX TDAs.

ECONOMICS OF THE TDA

The following comparison illustrates the superior efficiency of TDAs. In the example, both the conventional facility and the TDA have identical capacities, all seats being occupied equally long.

CONVENTIONAL FACILITY

1600 seat fixed auditorium, 160 seats occupied; efficiency = 10%
800 seats in 4 separate rooms, 640 seats occupied; efficiency = 80%
Combined efficiency of utilization = 33.33%

Construction and operational cost:

| | |
|-----------------------------------|------|
| Base cost of 1600 seat auditorium | 100% |
| Additional cost of 800 seat halls | 50% |
| Total Cost | 150% |

TDA

800 seat fixed auditorium, 160 seats occupied; efficiency = 20%
800 seats in 4 sub-auditoriums, 640 seats occupied; efficiency = 80%
Combined efficiency of utilization = 50%

Construction and operational cost:

| | |
|---------------------------------------|------|
| Base cost of 1600 seat auditorium | 100% |
| Divisibility feature (15% to 25%) av. | 20% |
| Total Cost | 120% |

In summary, the TDA costs 75% to 85% of a comparable conventional facility, yet efficiency of utilization has increased to 150%.

A CASE FOR ADVANCED TEACHING - As a new educational facility, the TDA represents heretofore unknown advantages and possibilities. One teacher can teach to classes of 200, 400, 600, 800, etc., rather than 30. This triggers a chain reaction of benefits:

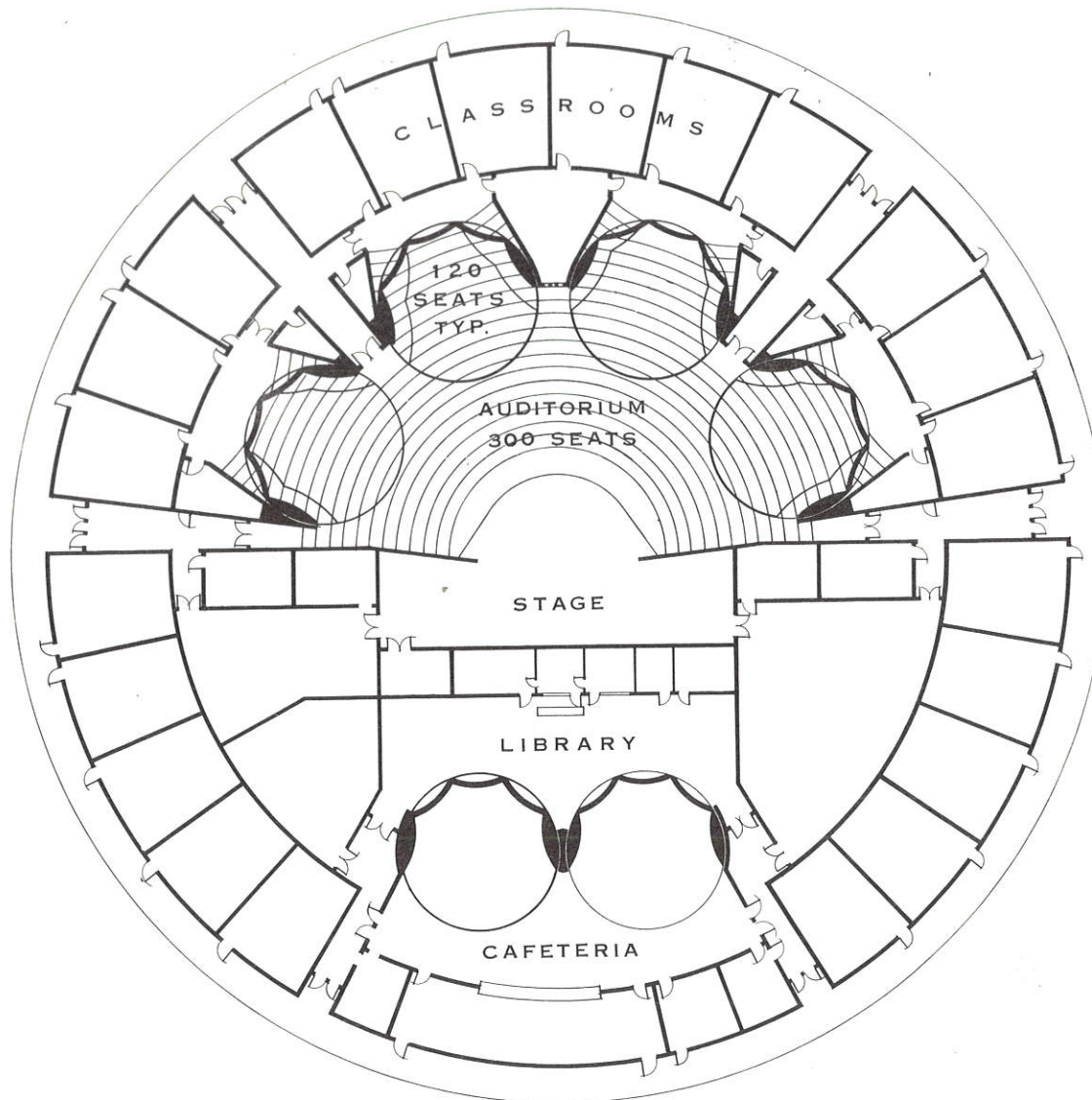
- A. One master teacher can be employed, thus presenting subject in superior manner,
- B. Time for preparation of lectures become sufficient,
- C. Existing classrooms are now freed (as well as teacher time) for small group instruction.

AND OF ECONOMICS - An instructional facility which can only be used 10% of the time is worth ten cents of each dollar spent for its construction and maintenance - thus fare today's school auditoriums - and if additional lecture halls of equal capacity are used 90% of the time, the combined efficiency is 50%, with the cost of two facilities. Compared to this, the TDA combines the two since the 90% takes place in the void of the 10% facility, giving nearly 100% efficiency with an initial cost of only one building.

AND AFTER SCHOOL A DELIGHT TO THE COMMUNITY - with its incredible flexibility of spaces and capacity, the TDA is pre-destined as a community center of note. While one group of 200 may hold a P.T.A. meeting, another group of 2 to 300 may listen to a talk and yet some other group may be engaged in the discussion of a civic project, while all this time a larger audience can enjoy a stage production. If a function sells 600 tickets, only 600 seats will be in one hall and all other seats are available for other functions. The most practical capacities range from 600 to 1800 seats.

TDA
EDUCATION

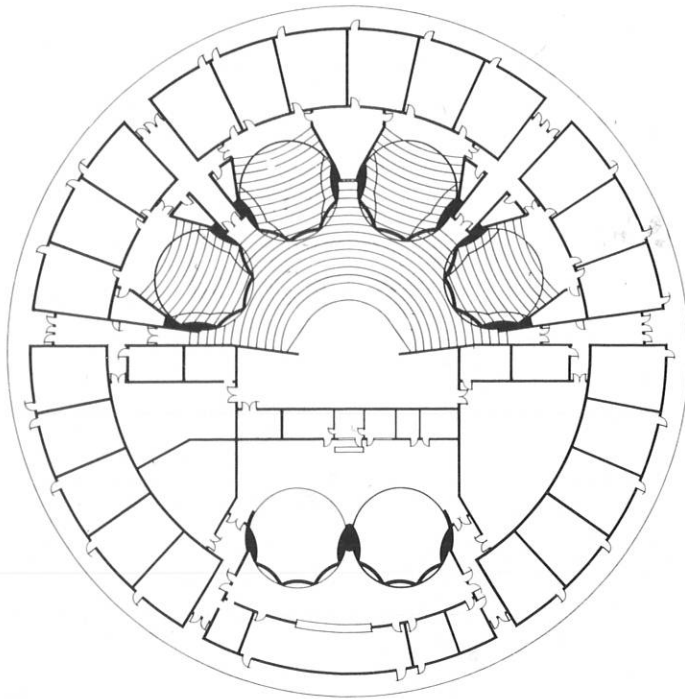
ELEMENTARY AND INTERMEDIATE SCHOOLS



Here, the primary purpose of the TDA is greater flexibility of teaching spaces.

A good part of the curriculum can be taught advantageously to several classes at once - with substantial gains of quality and teacher time. As a by-product, the much desired school auditorium is created.

Also, employing the TDA principle for the exchange of space, such as between Library and Cafeteria, greatly increases the efficiency of both areas.



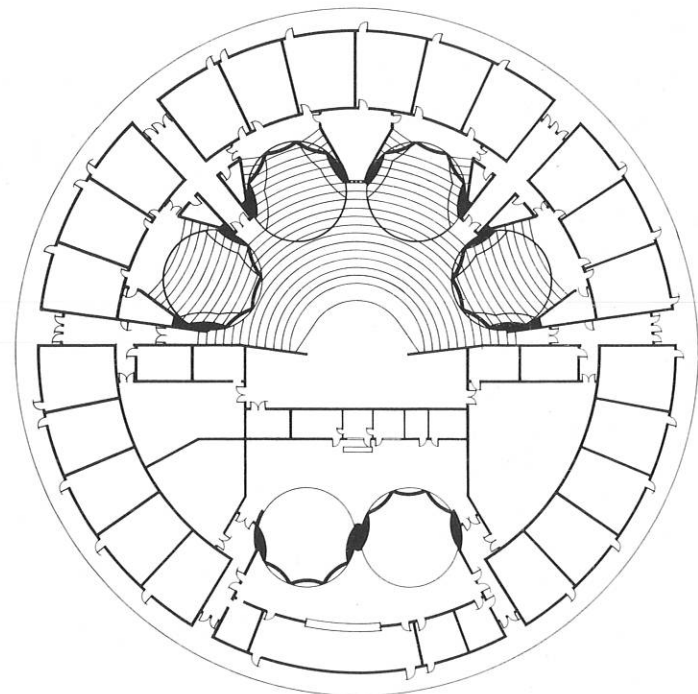
AN INTERMEDIATE CONFIGURATION

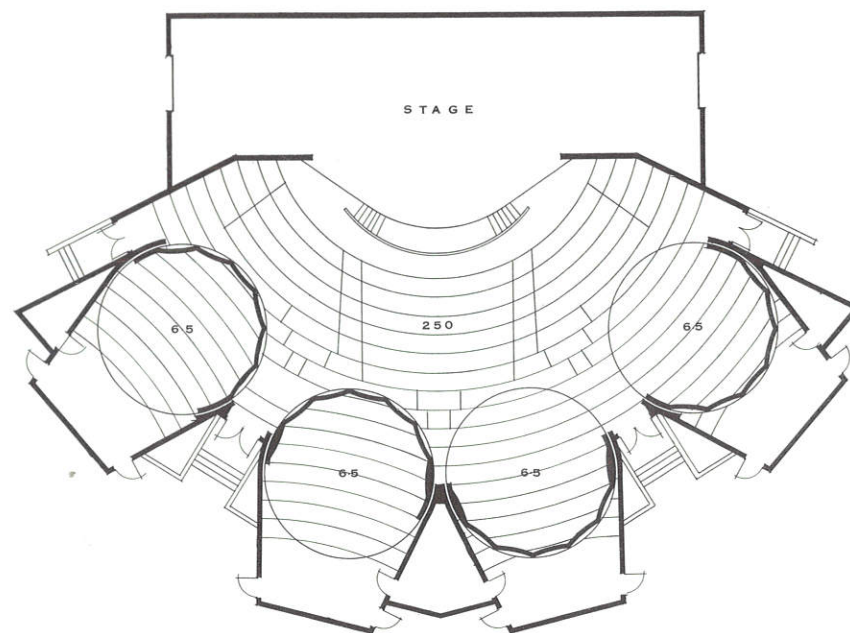
The auditorium is enlarged from its basic capacity of 300 to 540, yet two large group rooms for 120 students each remain in separate use. The cafeteria has added additional seating area.

IN FULL DIVISION

With all rooms independently useable, the school plant features a maximum number of teaching stations.

The library is in its largest area configuration, occupying all of the alternately useable space. During lunch periods, this area is added to the cafeteria, resulting in greater flexibility and economy.

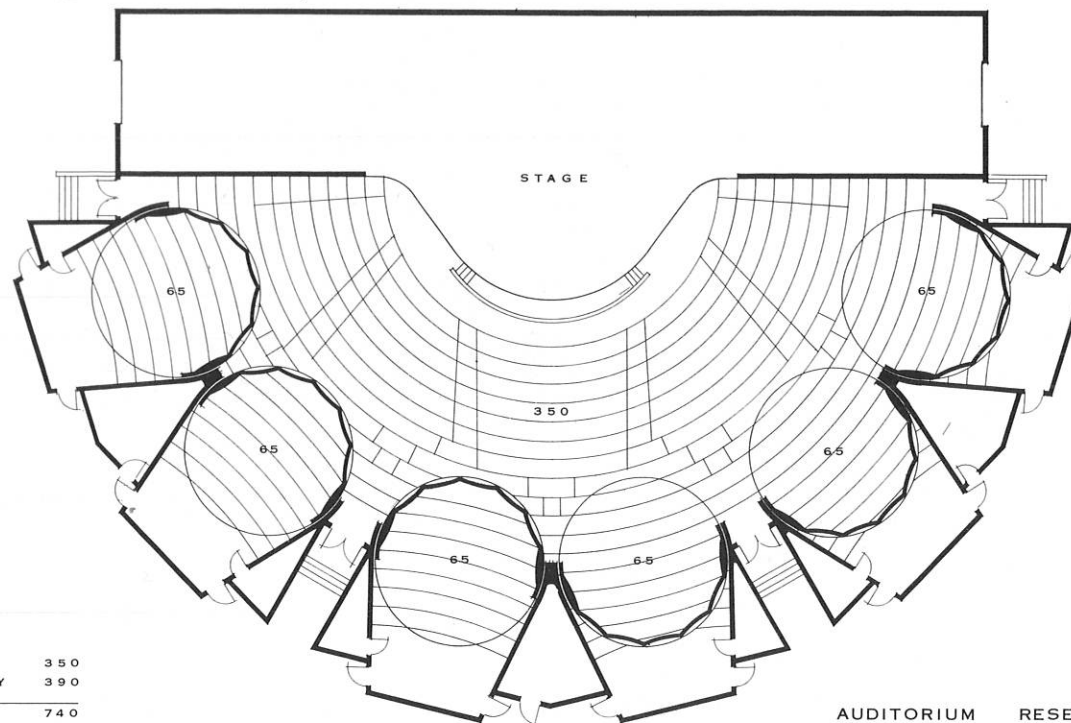




| | |
|------------------------|-----|
| FIXED SEATING | 250 |
| TURNTABLE DIVISIBILITY | |
| 4 TURNTABLES AT 65 | 260 |
| TOTAL SEATING | 510 |

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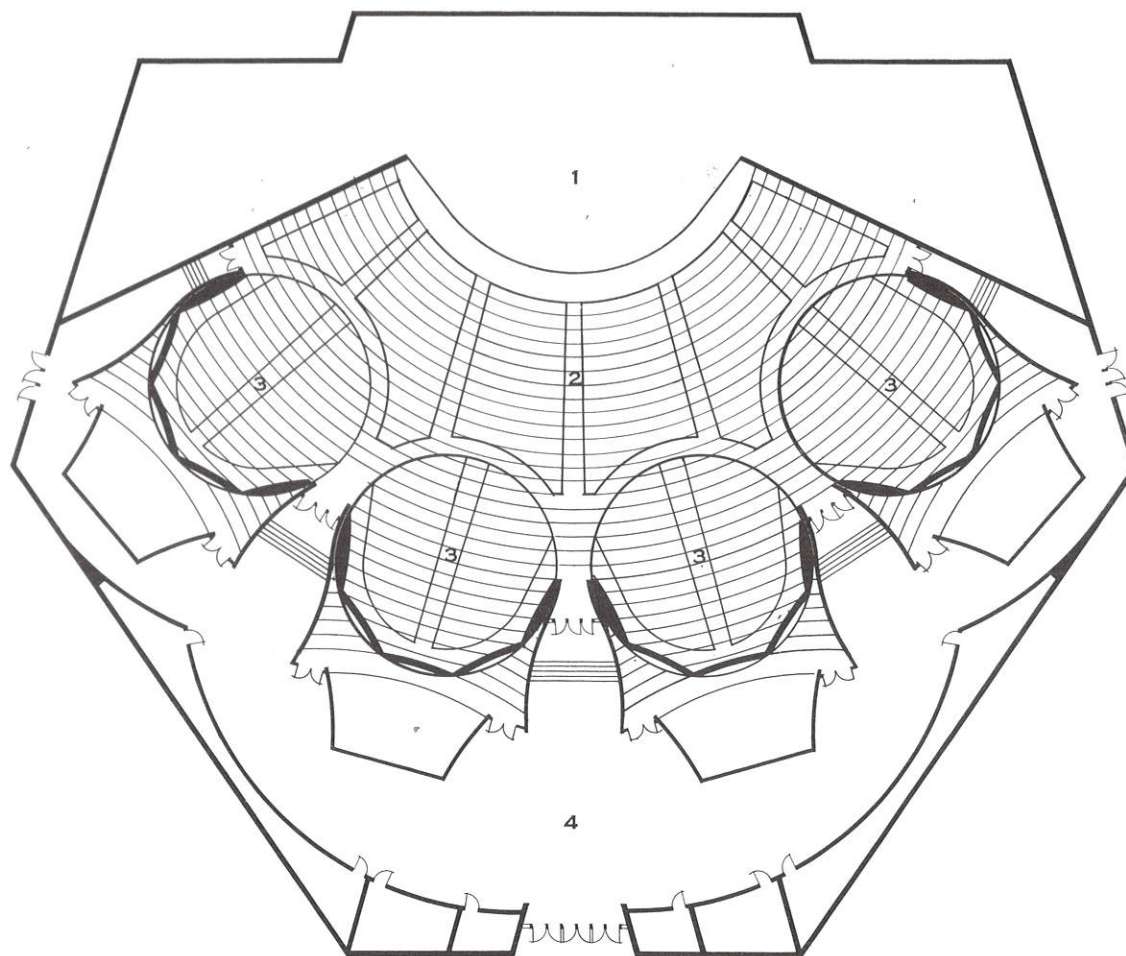
4 CLASSROOM TDA



| | |
|------------------------|-----|
| FIXED SEATING | 350 |
| TURNTABLE DIVISIBILITY | 390 |
| 6 TURNTABLES AT 65 | |
| TOTAL SEATING | 740 |

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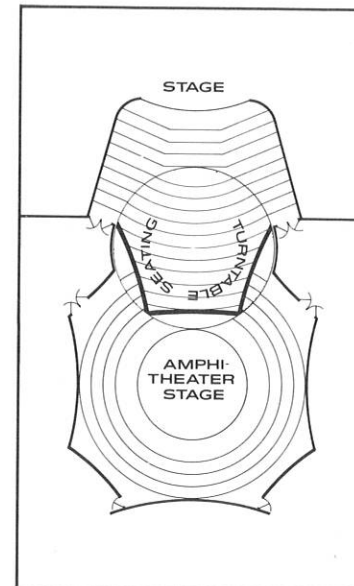
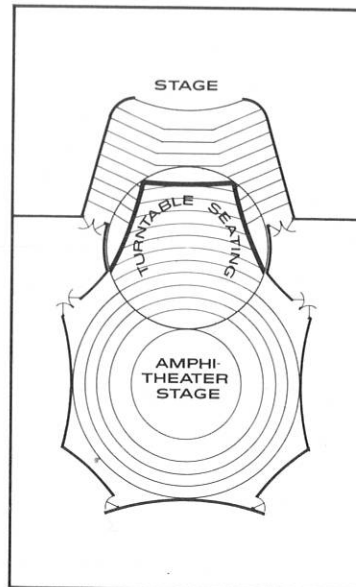
6 CLASSROOM TDA



| | | |
|-------------|-------------------------------|------------|
| 1 | STAGE | |
| 2 | MAIN AUDITORIUM | 400 - 800 |
| 3 | TWO TO SIX SUB AUDITORIUMS | 300 - 1000 |
| 4 | LOBBY | |
| TOTAL SEATS | | 700 - 1800 |

COLLEGES , HIGH SCHOOLS ,
COMMUNITY CENTERS

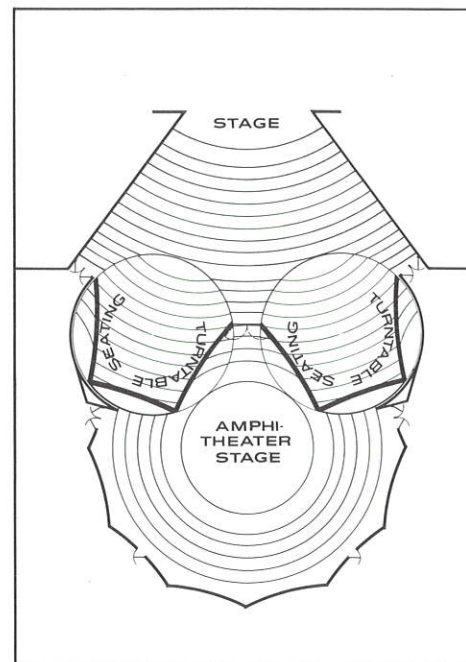
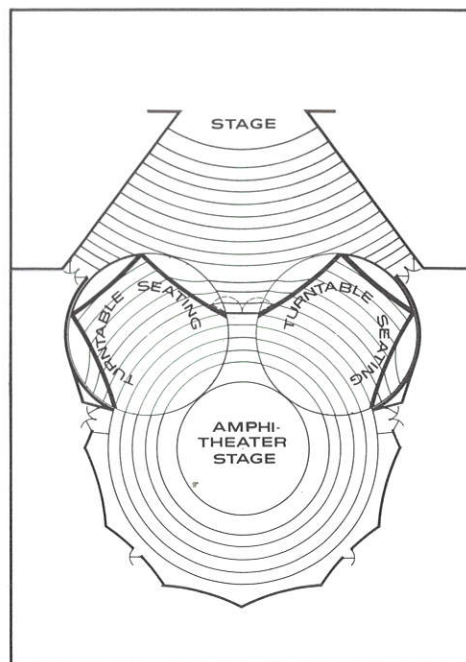
SINGLE SEATING FOR TWO AREA ALTERNATIVE
POSITIONS : THEATER AND AMPHITHEATER



EXPERIMENTAL THEATER FORMS[©]

EMPLOYING THE TDA[®] PRINCIPLE TO CHANGE TYPE OF HOUSE

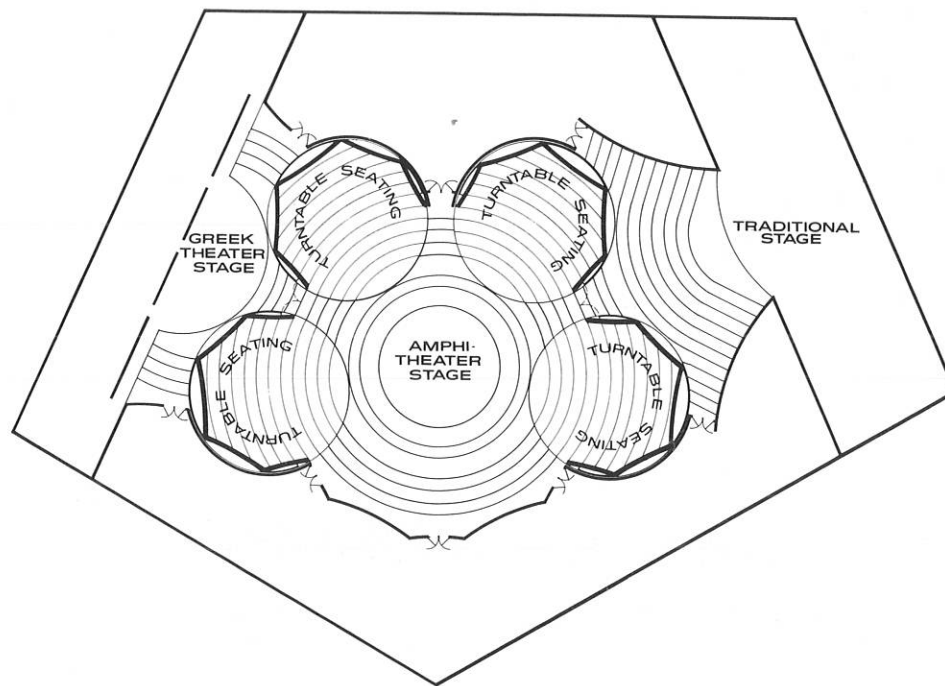
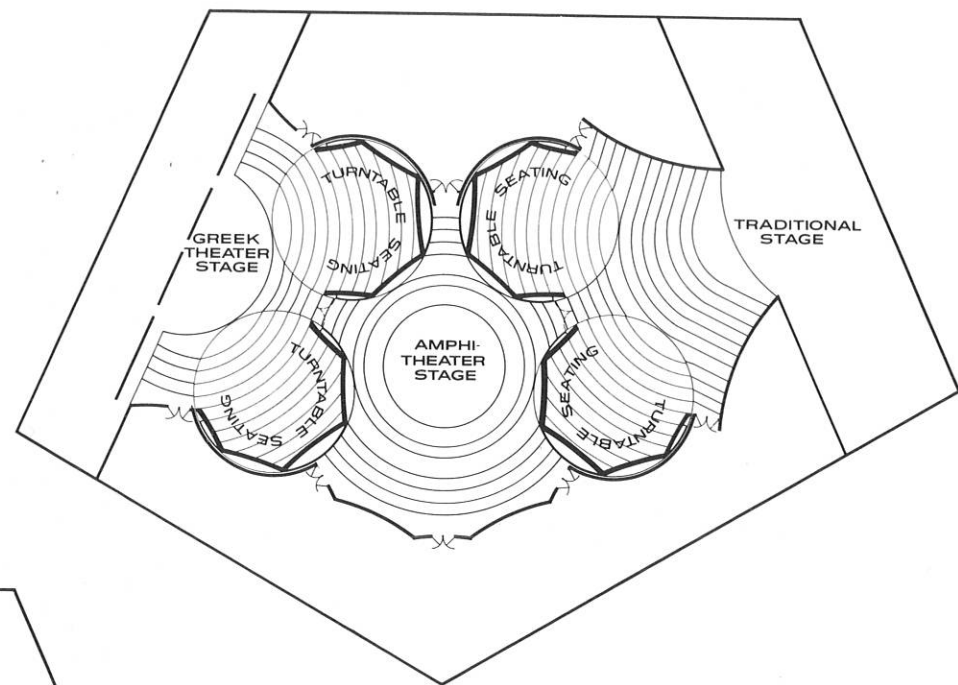
TWO - SEATING AREAS FOR TWO ALTERNATIVE
POSITIONS: THEATER AND AMPHITHEATER



EXPERIMENTAL THEATER FORMS[©]

EMPLOYING THE T D A[®] PRINCIPLE TO CHANGE TYPE OF HOUSE

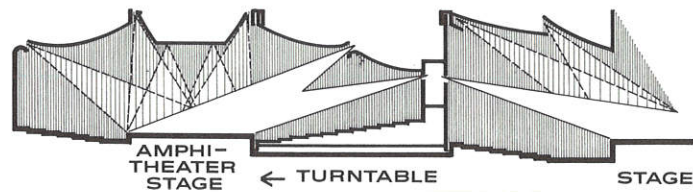
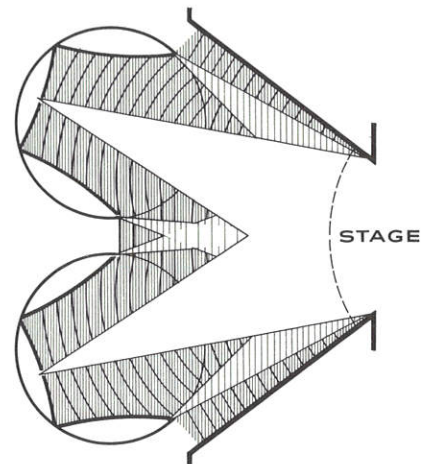
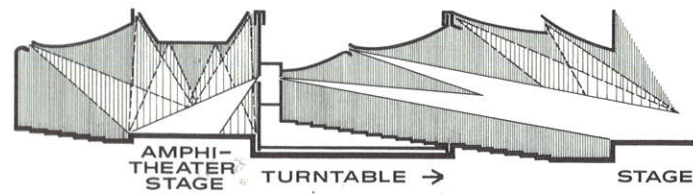
FOUR - SEATING AREA FOR THREE
ALTERNATIVES: AMPHITHEATER
GREEK THEATER & TRADITIONAL
STAGE



EXPERIMENTAL THEATER FORMS[©]

EMPLOYING THE TDA[®] PRINCIPLE
TO CHANGE TYPE OF HOUSE

AUDITORIUM RESEARCH INC.



EXPERIMENTAL THEATER FORMS[©]

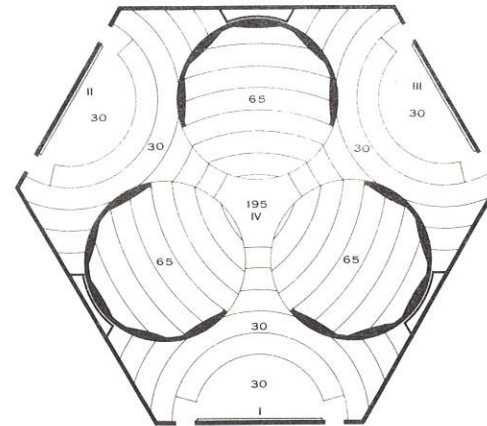
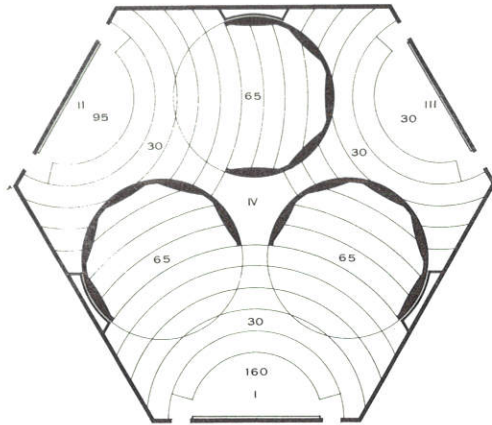
SHOWING UTILIZATION OF T D A[®] LIGHTING

AUDITORIUM RESEARCH INC.

TDA MULTIPLEX

The TDA Multiplex features exchange of seating areas between adjacent rooms. Developed primarily as lecture hall clusters for Colleges and Universities, the exchange of seats permits continuous and very rapid adaptation to a wide range of capacity needs.

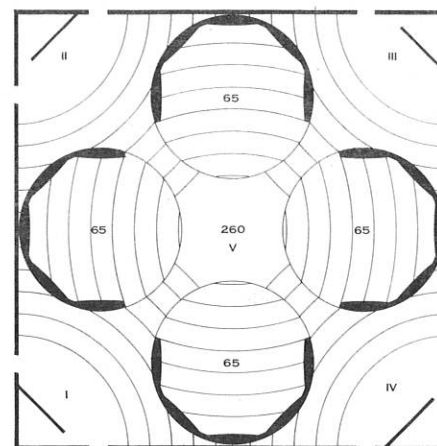
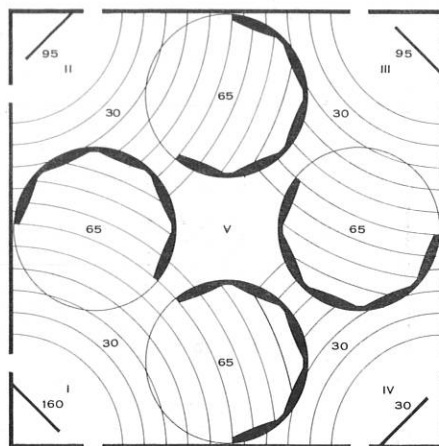
The results are high utilization of instructional personnel coupled with dramatic reductions in building and land requirements.



T D A CLASSROOM TRI - PLEX

| | I | II | III | IV |
|------------|-----|----|-----|-----|
| | 95 | 95 | 95 | - |
| CAPACITIES | 160 | 95 | 30 | - |
| | 30 | 30 | 30 | 195 |

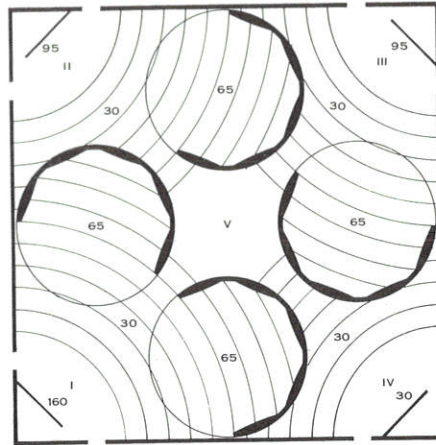
AUDITORIUM RESEARCH INC.



T D A CLASSROOM 4 - PLEX

| | I | II | III | IV | V |
|--------------|-----|----|-----|----|-----|
| CAPACITIES | 95 | 95 | 95 | 95 | |
| AND | 160 | 95 | 95 | 30 | |
| COMBINATIONS | 160 | 30 | 160 | 30 | |
| | 160 | 95 | 30 | 30 | 65 |
| | 160 | 30 | 30 | 30 | 130 |
| | 95 | 95 | 30 | 30 | 130 |
| | 95 | 30 | 30 | 30 | 195 |
| | 30 | 30 | 30 | 30 | 260 |

AUDITORIUM RESEARCH INC.

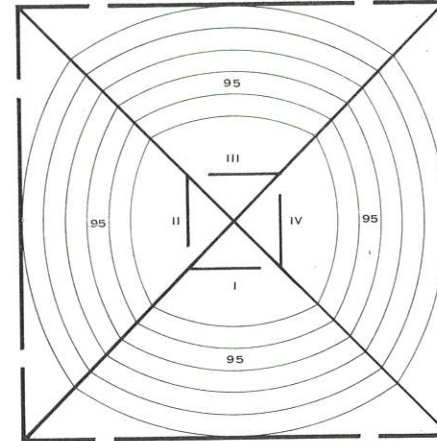


T D A

AVAILABLE CLASSROOM
CAPACITIES

| I | II | III | IV | V |
|-----|----|-----|----|-----|
| 95 | 95 | 95 | 95 | |
| 160 | 95 | 95 | 30 | |
| 160 | 30 | 160 | 30 | |
| 95 | 30 | 30 | 30 | 195 |
| 30 | 30 | 30 | 30 | 260 |

T D A 4 PLEX



FIXED

AVAILABLE CLASSROOM
CAPACITIES

| I | II | III | IV |
|----|----|-----|----|
| 95 | 95 | 95 | 95 |

EFFICIENCY EXAMPLE

AUDITORIUM RESEARCH INC.

4 PLEX COMPARISON

Subjects, enrollment and group sizes
(Example from S.M.High School 1965
Phoenix Union High School District)

| | Actual Enr. | Avail.Cl.Rm.Space | |
|-------------------------|----------------|-------------------|------------|
| | | TDA | Fixed Cap. |
| English 1 | 155 | 160 | 95, 95 |
| English 3 | 134 | 160 | 95, 95 |
| English 5 | 108 | 160 | 95, 95 |
| English 7 | 34 | 30 | 95 |
| Gen. Math | 87 | 95 | 95 |
| Algebra 1 | 87 | 95 | 95 |
| Geometry 1 | 46 | 95 | 95 |
| Algebra 3 | 20 | 30 | 95 |
| General Science | 50 | 95 | 95 |
| Earth Science | 25 | 30 | 95 |
| Biology 1 | 140 | 160 | 95, 95 |
| Chemistry | 37 | 95 | 95 |
| World History | 13 | 30 | 95 |
| World Geography | 27 | 30 | 95 |
| Am. History | 120 | 160 | 95, 95 |
| Gov. & Econ. | 80 | 95 | 95 |
| Total Enrollment | 1163 | | |
| Student Stations Needed | | 1520 | 1995 |

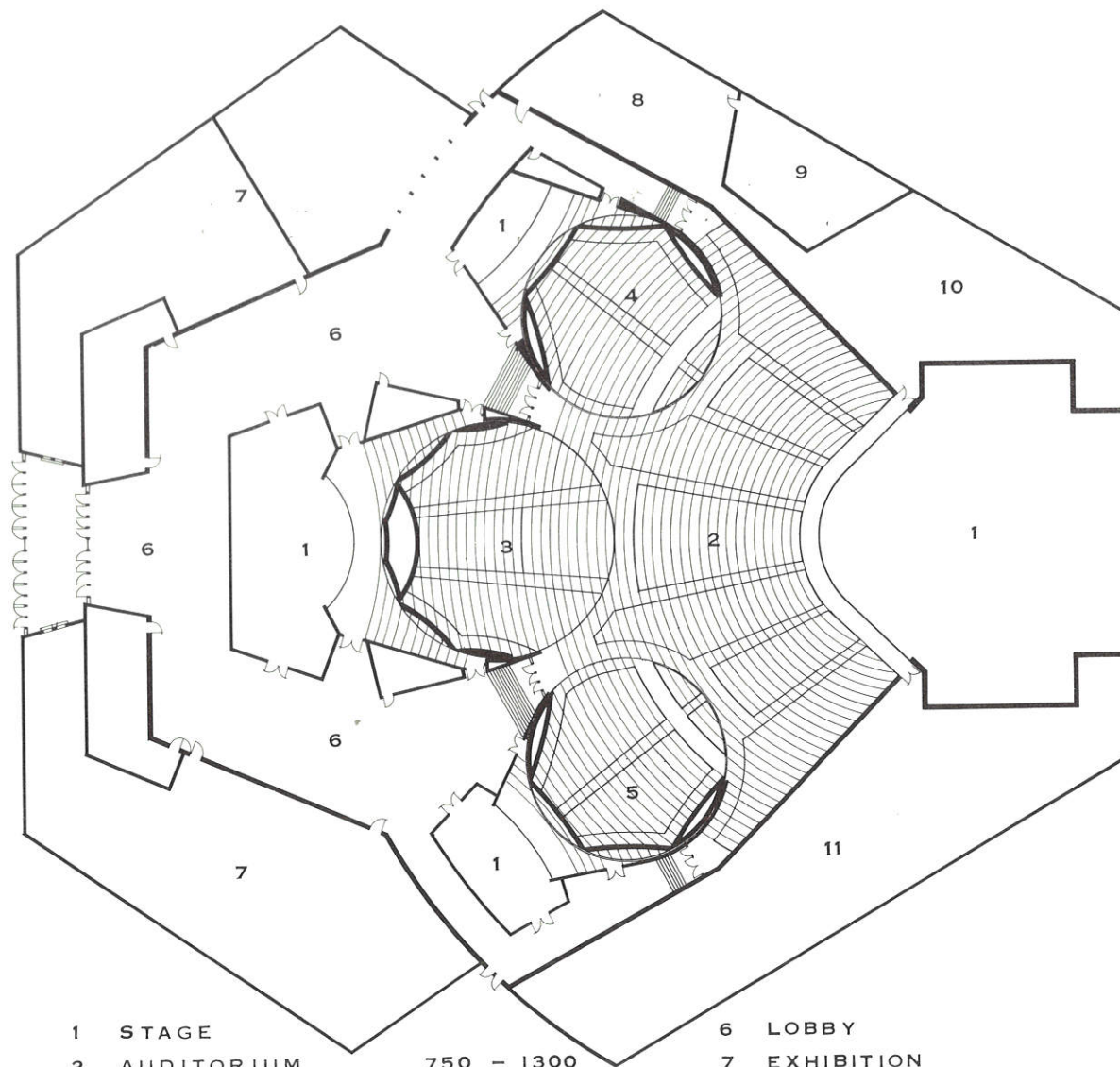
| | TDA CLASSROOMS | FIXED CAPACITY CLASSROOMS |
|--|-------------------|---------------------------------|
| Student Stations Needed | 1520 | 1995 |
| Classrooms Needed | 16 | 21 |
| Facility Efficiency | 77% | 58.5% |
| Facility Overbuilt | 130% | 170% |
| Cost of Facility Incl. Land (\$15/Std.) (\$450/Student; 15 x \$30) | \$706,800 | \$927,675 |
| Divisibility Feature | 240,000 | |
| Total Cost | \$946,800 | \$927,675 |
| Cost of Divisibility: | | |
| Total | \$ 19,125 | |
| Per Classroom | \$ 1,195 | |

No other type assembly rooms call for greater utilization than civic auditoriums and convention centers. Heretofore, inevitable low per seat use caused them to depend upon other facilities for their economic existence, to be operated with subsidies.

The TDA presents the only method in existence, which makes multiple use and capacity adaptation feasible. In fact, the TDA provides an incomparable economic breakthrough since it contains in a single auditorium the practical equivalent of several individual auditoriums, theaters, meeting and recital halls, banquet and exhibition rooms, either to be used individually or jointly.

Thus, many separate functions can take place concurrently. The much higher per seat use results in substantial increases in revenue. Also, initial building cost is a fraction of any equivalent traditional facility.

TDA
CIVIC AUDITORIUMS,
CONVENTION CENTERS



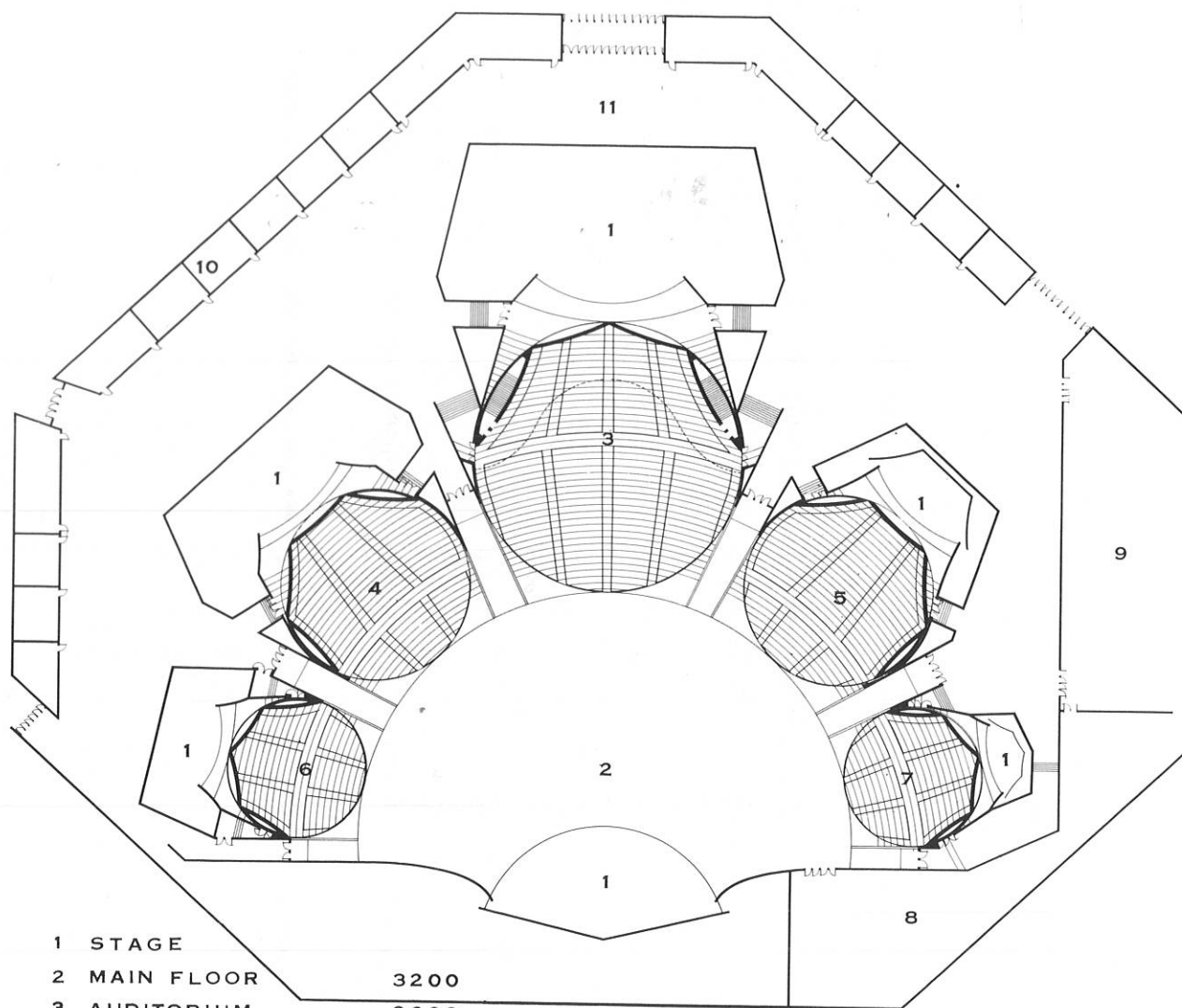
| | | |
|-------------|------------------|-------------|
| 1 | STAGE | |
| 2 | AUDITORIUM | 750 - 1300 |
| 3 | INTIMATE THEATER | 550 - 800 |
| 4 | RECITAL | 350 - 600 |
| 5 | LITTLE THEATER | 350 - 600 |
| TOTAL SEATS | | 2000 - 3300 |

| | |
|----|------------|
| 6 | LOBBY |
| 7 | EXHIBITION |
| 8 | MUSICIANS |
| 9 | REHEARSAL |
| 10 | ACTORS |
| 11 | BACKSTAGE |

THE CIVIC AUDITORIUM

The traditional Civic Auditorium, when planned as a TDA, introduces an entirely new realm for auditoriums. It renders possible independent performances in the same night—a civic meeting in a recital room, a stage play in the little theater, perhaps a drama in the intimate theater and a televised concert or pageant in the main house.

Simple scheduling accomplishes the best possible adaptation to any given day's program of entertainments, conventions and meetings. For the first time, the Civic Auditorium becomes self-supporting and a true asset to any community.



| | | |
|-------------|--------------------|------|
| 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 |
| TOTAL SEATS | | 7500 |

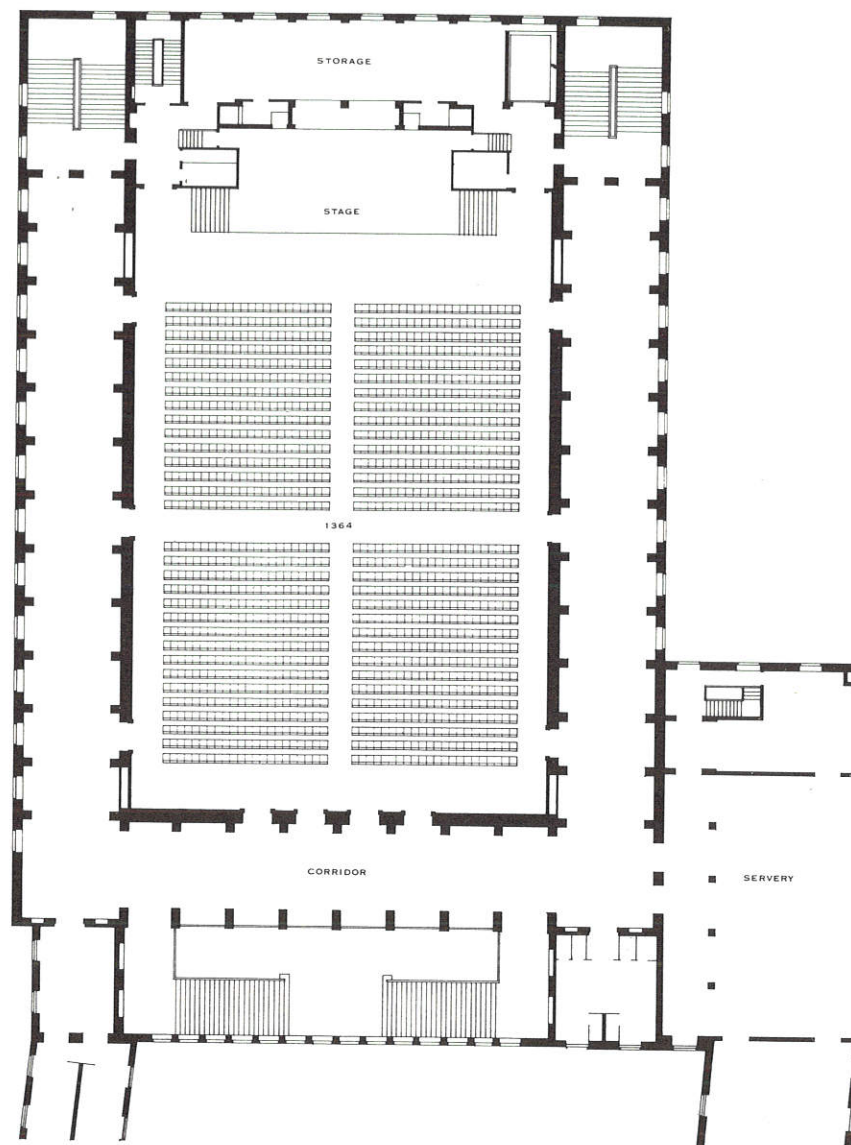
| | |
|----|------------------|
| 8 | KITCHEN |
| 9 | DINING |
| 10 | CONVENTION ROOMS |
| 11 | LOBBY |

THE CONVENTION CENTER

When the TDA principle is incorporated into convention centers, a new kind of facility is created. The TDA convention center assigns to each element a dual function: to be used either autonomously or jointly. Thus - concert, theater, meeting and recital halls are the constituent parts of a much larger convention hall, but can also function individually. The variety of the available sub-auditoriums lends additional adaptability to the convention hall.

As the ultimate convention facility, the construction and operational costs are a fraction of that of traditional plans. Revenues have increased substantially due to multiple concurrent or joint use.

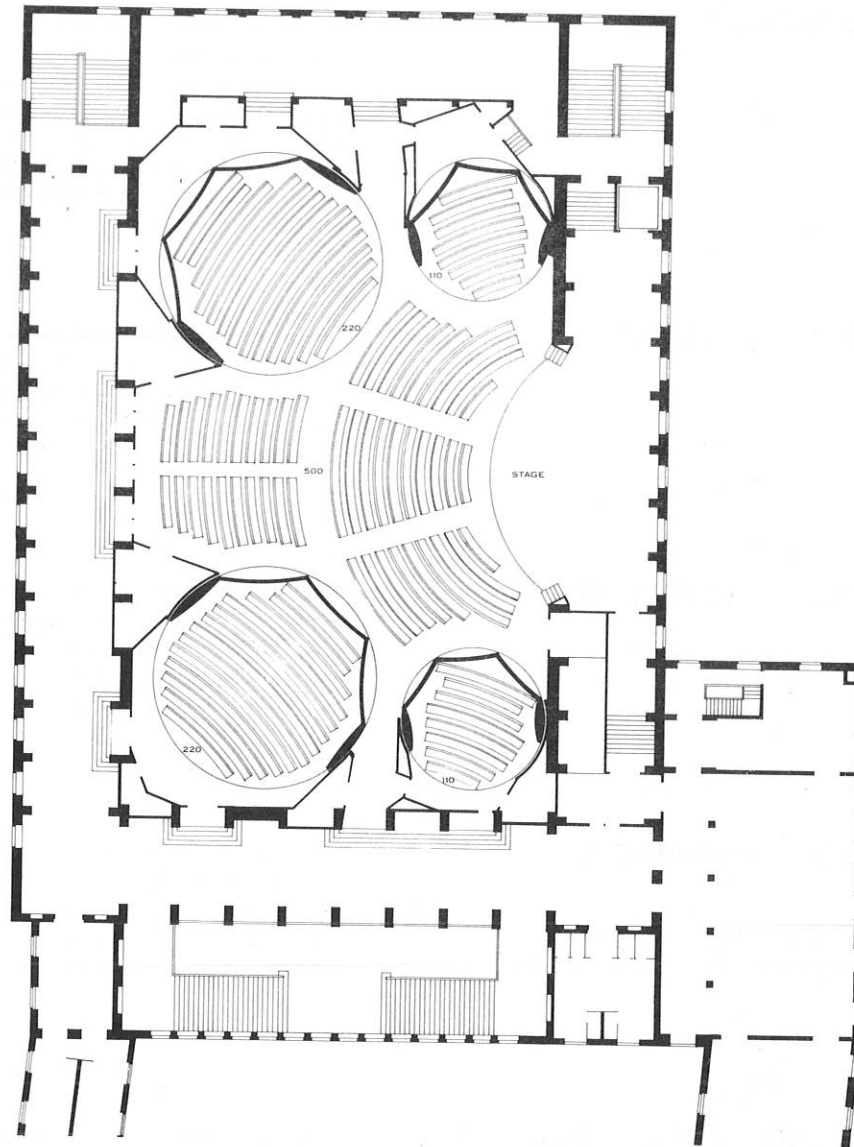
EXISTING



TDA REMODEL

Conversion of an existing hall into a TDA is, in most instances, possible. Once converted, the old hall has all of the advantages of a new TDA.

This example illustrates conversion of a 40 year old convention hall into a five-space TDA. Turntables have tilt floors to provide for flat and riser seating. The TDA space program permits high utilization, even housing two conventions simultaneously.



| | |
|-----------------------|------|
| FLOOR SEATING | 500 |
| TURNABLE DIVISIBILITY | |
| 2 SECTIONS AT 220 | 440 |
| 2 SECTIONS AT 110 | 220 |
| TOTAL SEATING | 1160 |

AUDITORIUM RESEARCH INC
ROSSMAN+PARTNERS ARCHITECTS
PHOENIX, ARIZONA

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 turntable space attaches to its own stage, best possible sight-lines in both coordinates are maintained. The multiplicity of recesses and sculptured back walls lend themselves to interesting architecture.

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./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 turntable 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 components, both remain part of the existing structure.

ABOUT AUDITORIUM RESEARCH INC.

Auditorium Research Inc.'s primary purpose is planning of TDA's. Staffed with specialists in auditorium architecture, acoustics and engineering, Auditorium Research Inc. offers consulting services in three broad fields.

- | | |
|-----------|---|
| Group I | Includes TDA programming, capacity and scheduling studies and diagrammatic plans. All initial steps to assess the usefulness of a TDA are part of this group. Consulting fees are based on seat number and range from \$3 to \$6 per seat. |
| Group II | Includes Group I plus alternatives, design plans and cross sections of internal space of TDA, acoustical engineering with surface material recommendations, turntable details and specifications, and two field visits. Fee range is from \$6 to \$10 per seat. (Group II is usually most practical where the owner has engaged his own architect.) |
| Group III | Includes Groups I and II plus complete architecture and engineering of the entire building, contract documents and construction supervision. Fees for the comprehensive professional service of this group range from 6% to 9% of the construction cost. |

A COMPARISON OF ECONOMY BETWEEN A TDA-MULTIUSE LEARNING CENTER AND ITS CONVENTIONAL EQUIVALENT

CONVENTIONAL FACILITY

consisting of:

- 4 lecture rooms, for 200 each
- Auditorium, seating 1,400

COST:

4 lecture rooms, 800 x \$300. = \$240,000.
 Auditorium, 1400 x \$350. = 490,000.

Total facility

\$730,000.

VALUE OF INVESTMENT

4 lecture rooms, 80% sched. \$240,000.
 Auditorium, 10% scheduled 49,000.

Useful value

\$289,000.

Value (efficiency) of capital investment

39.4%

TDA - MLC

consisting of:

- 4 lecture rooms for 200 each (addible)
- 1 lecture room for 600 (flexible)

COST:

4 lecture rooms, 800 x \$555. = \$444,000.
 1 lecture room, 600 x \$350. = 210,000.

Total facility

\$654,000.

VALUE OF INVESTMENT

4 lecture rooms, 80% sched. \$356,000.
 1 lecture room, 23% sched. 49,000.

Useful value

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Value (efficiency) of capital investment

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A **COMPARATIVE ANALYSIS**
of
AUDITORIUMS WITH MOVABLE
PARTITIONS
and
THE MULTIUSE LEARNING
CENTER = TDA - MLC

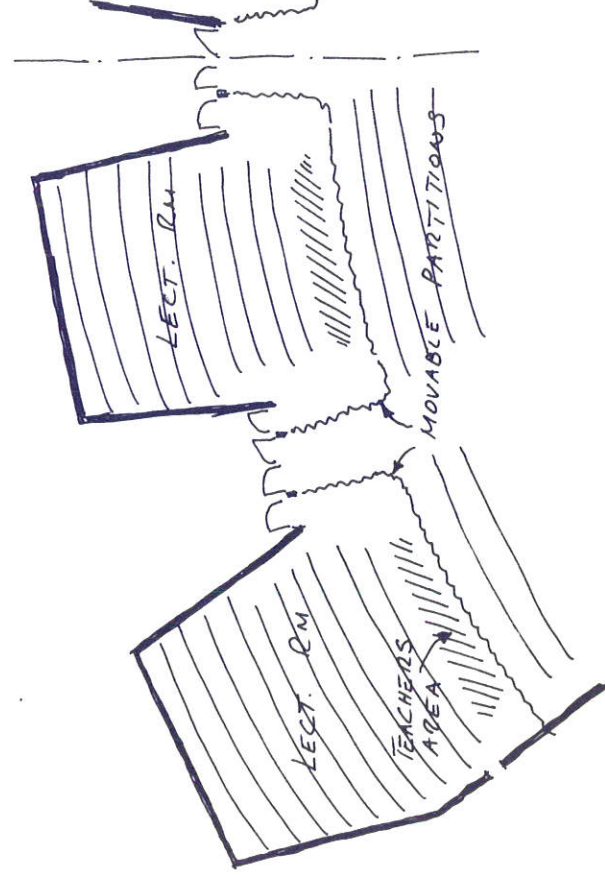
WENDELL ROSSMAN & ASSOCIATES
ARCHITECTS

PHOENIX, ARIZONA 85008

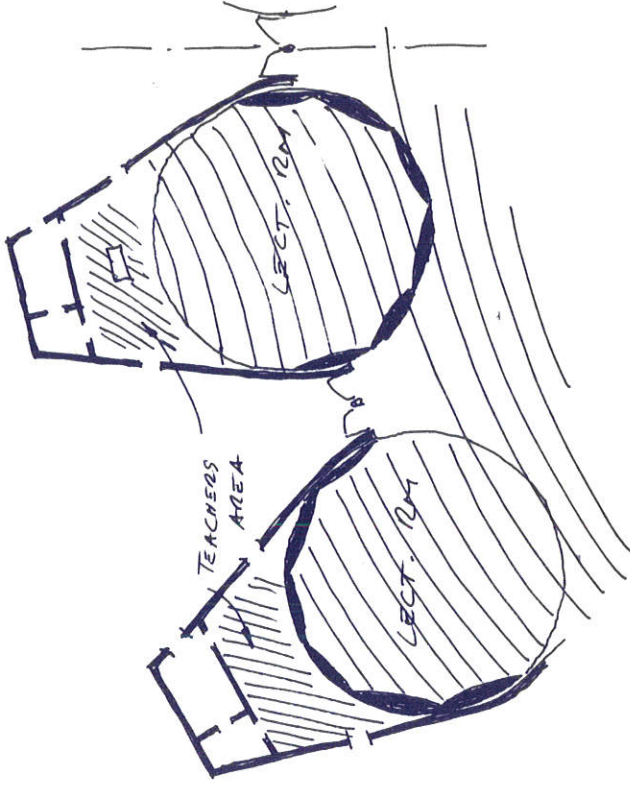
THE TEACHING SPACE

The most efficient teaching space is that of a miniature theater; a trapeze with the teacher's station on the narrow side. The teacher's area, or performing end, must have space for demonstration and teaching aides, permanent installations and set up for various instructions.

The room is created by cutting a piece off a larger space. Other than seating, all teaching requisites must be brought in and set up (or taken down and out) for each use. Teaching area is by necessity long and narrow, the entire room odd in shape and, because of reverse traffic for exits, in need of several additional aisles.



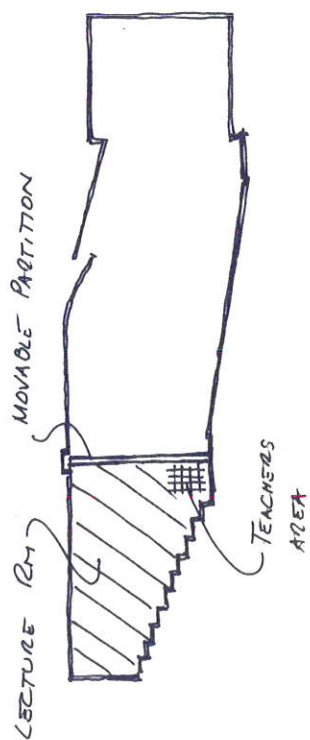
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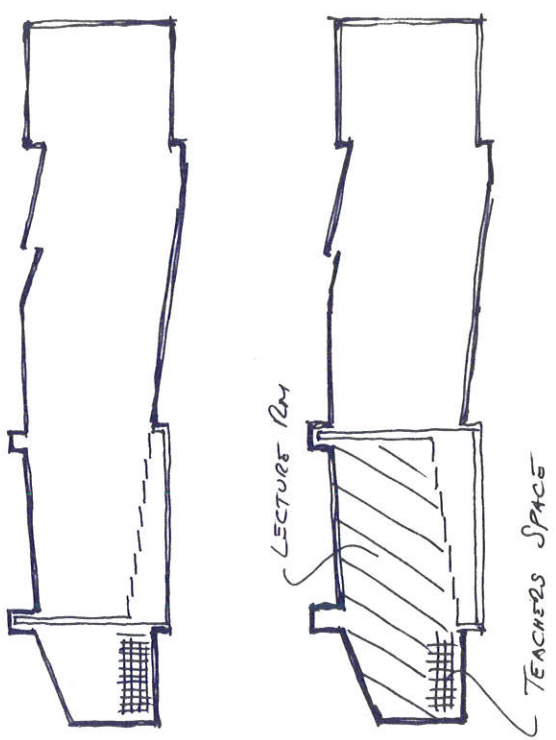
ROOM SHAPE AND SIGHT LINES

In the preferred learning facility it is significant that all sight lines are unobstructed, within comfortable vertical and horizontal arc of vision. The room must have the shape of good environment -- neither corridor nor tower. Last not least, it must give subconscious comfort conducive to learning.

At best, only a partial compromise can be reached. Since the teaching area is a ribbon, cut out of the seating slope of an auditorium, it must be narrow. As a consequence, seats in the back of this "teaching aisle" must be very steep (with a first step of several feet) and even then vertical visibility is not very good. If the seating area is deepened to permit as many as four divisible spaces, 20% of the area must be reserved for aisles, creating stadium seating. Therefore, no practical 5 hall arrangement has been constructed as yet. Balcony area divisibility is a technical absurdity.



Each separate lecture area follows closely the ideal shape. Since only the back half is a fixed wall, great openness is achieved in the assembled state. Therefore, division up to 7 and 9 halls is possible. In neither position is the seating interrupted. In the "home room" position, the lecture floor is level with the first row, yielding perfect sightlines. No limitation of practical capacity exists.



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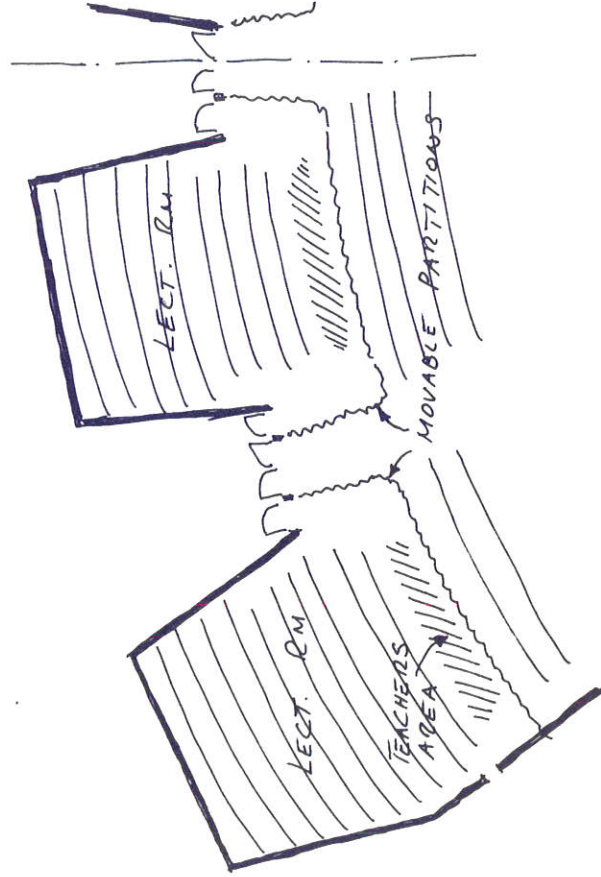
**WENDELL ROSSMAN & ASSOCIATES
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PHOENIX, ARIZONA 85008

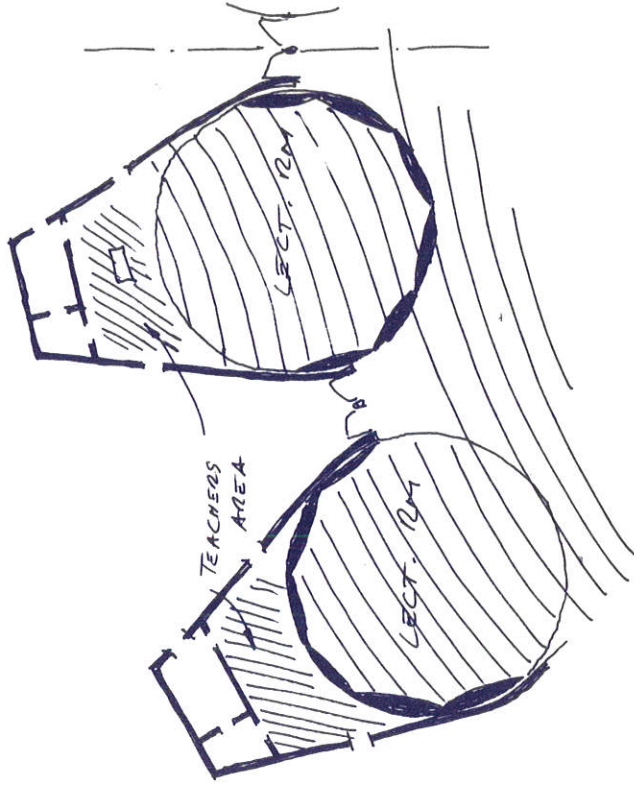
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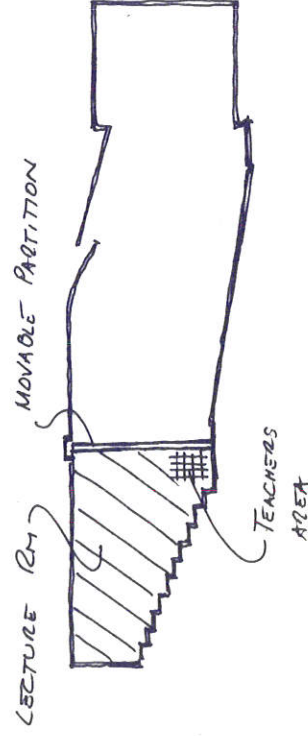
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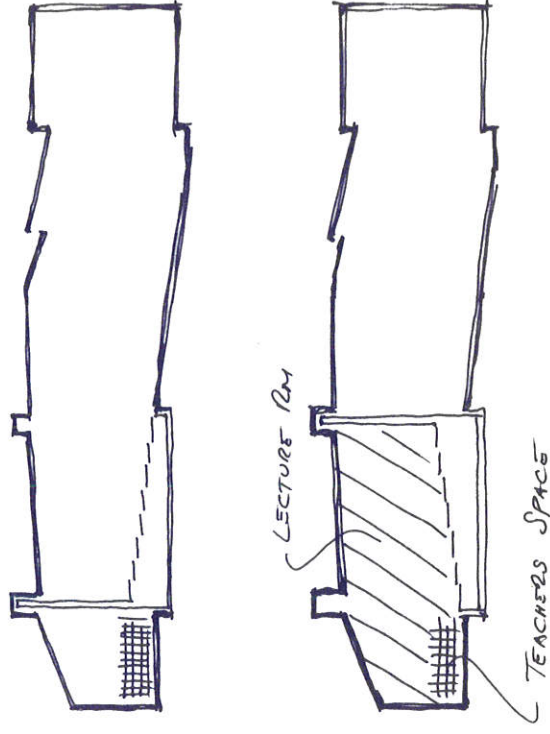
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SOUNDPROOFNESS

Walls between classrooms must have a transmission loss (TL) of over 50 db.

The system is limited to the most soundproof movable partitions available. The degree of soundproofness is directly proportional to the weight of a wall. The present movable partitions with a weight of about 3 lbs. per square foot have a TL of 30 db. If twin partitions are used, the TL increases to about 44 db, which is the rating of the best coiling wall system.

The most soundproof movable partitions in the industry is a triple coiling wall with a weight of 9 lbs. per sq. ft. It is estimated that this partition reaches a TL of 54 db.

Because of the turntable, which has no load limitations, the dividing wall is made of staggered steel studs and cement plaster with an interwoven sound-absorbing blanket -- the standard building construction of the best soundproof wall. The wall has a weight of 20 lbs. per square foot and a sound transmission loss of 55 db.

ECONOMICS OF THE DIVISIBLE ROOMS

Any educational space should be of such nature as to permit full use at all times and for as many subjects as possible.

Due to lack of permanent teachers' space and back-up rooms, subjects requiring chalkboard only can practically be taught. Therefore, use of lecture rooms is limited to about 70%. Value of educational facility is therefore (80% scheduled):

Cost of 4 divisible rooms,
(800x \$350.) + \$174,000. = \$454,000.

80% of 70% use value \$254,000.

Efficiency of investment value 56%

Soundproofness and "home room" effect both permit all types of instructions to take place simultaneously. Relative usability of lecture rooms is therefore 100%. Value of educational facility is (scheduled 80%):

Cost of 4 divisible rooms,
(800 x \$350.) + \$164,400 = \$444,400.

80% of 100% use value \$355,000.

Efficiency of investment value 80%

MECHANICAL RELIABILITY

Folding and coiling partitions of any nature are a complex mechanism. During opening and closing hundreds of components are set into a multitude of intricate motions. Parts are subjected to friction, torsion and bending. Because of this, everything depends on most accurate fitting. The slightest movements in the building may cause these mechanisms to bind or lose their acoustic seal. Reliability is low and the number of trouble-free openings and closings is limited to several thousand. No precedent of reliability for a 3 curve partition, enclosing 140 seats exists.

Like a railroad car, the TDA turntable element is one unit. Driven near the rim by one small motor, it rides on a series of peripheral wheels. The whole unit is free of any contact by several inches to allow natural settlement and motion in the building.

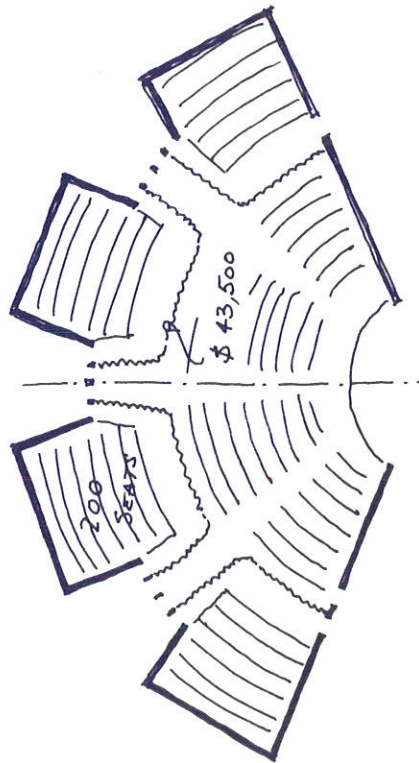
The turntable is capable of literally hundreds of thousands of trouble-free revolutions.

COST COMPARISON

A true comparison is not possible since the two systems do not achieve the same kind of divisibility.

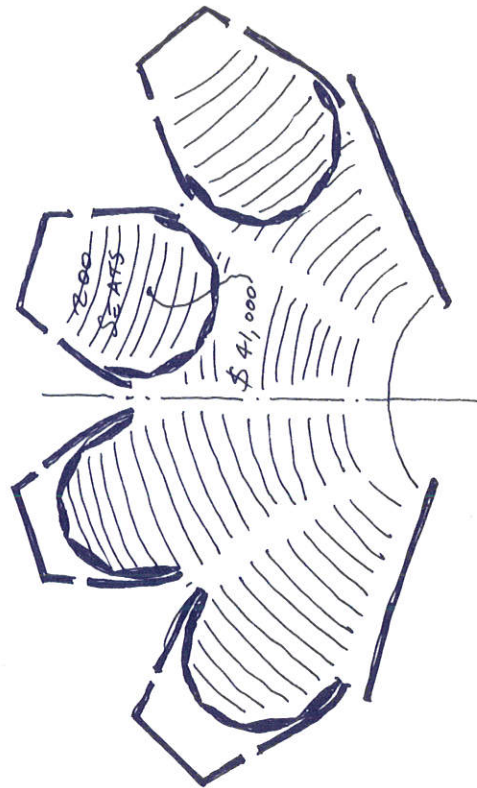
Cost of divisibility is a combination of movable partitions, trenches, additional structure. To divide an auditorium into 4 lecture rooms seating 200 students each and one large hall with 600 seats, a total of 7,250 sq. ft. of movable partitions are needed. The divisible auditorium would therefore cost:

1400 seats @ \$350. = 490,000.
Movable partitions,
7,250 sq. ft. @ \$24.00 = 174,000.
Total \$664,000.



Cost of assembly and disassembly of component rooms lies in turntables and pits. Additional cost is equal to floor area of convertible space. One room for 200 seats (lecture hall seating) has a turntable of 1700 sq. ft. The TDA would therefore cost:

1400 seats @ \$350. = 490,000.
4 turntables,
6,800 sq. ft. @ \$21.00 = 142,800.
Back walls, 7,200 @ \$3.00 = 21,600.
Total \$654,400.

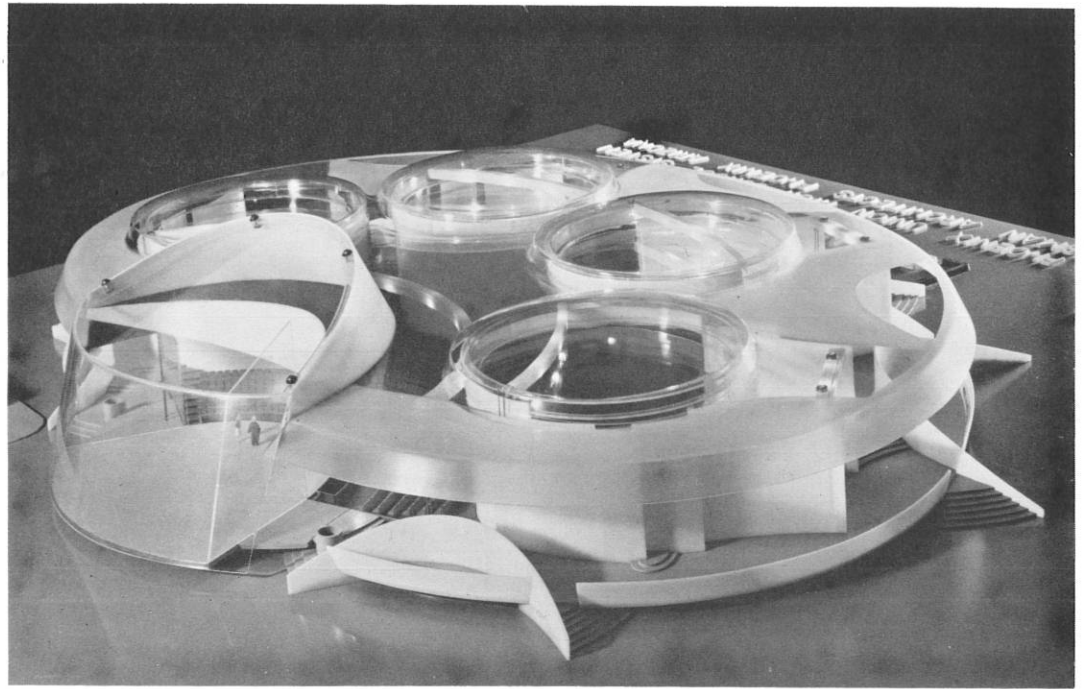


M L C
RESEARCH PROJECT

WENDELL ROSSMAN & ASSOCIATES
ARCHITECTS

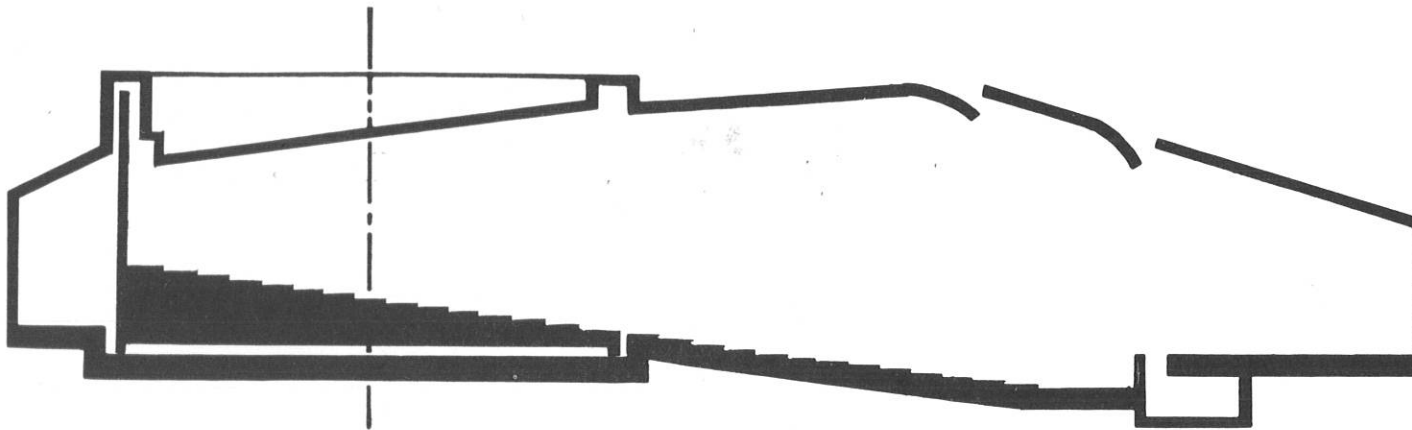
4601 E MCDOWELL RD
PHOENIX, ARIZONA
85008 U S A

A SOLUTION OF THE DIVISIBILITY OF AUDITORIUMS

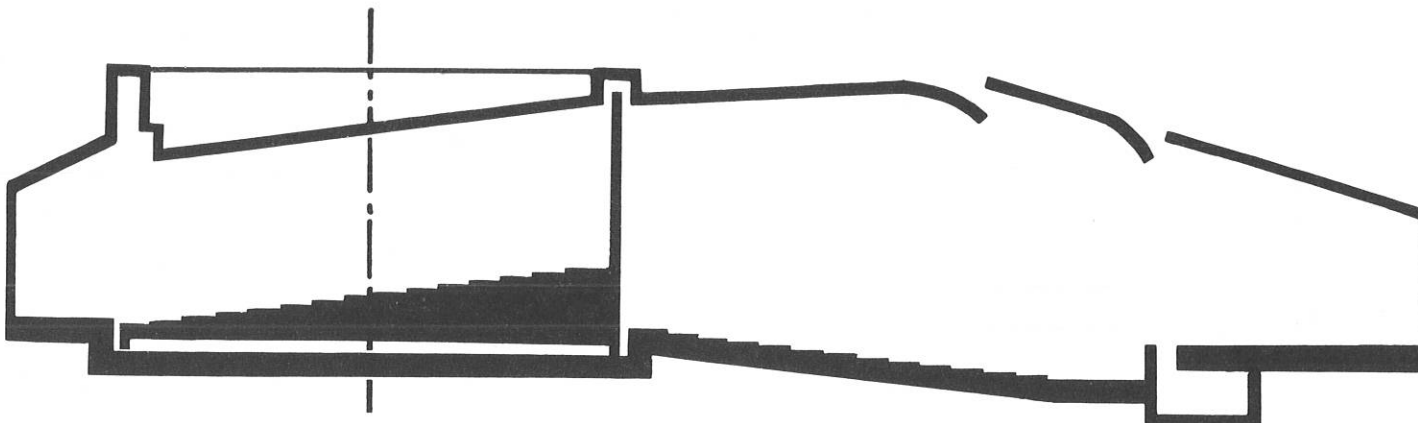


The MLC is an entirely new type of auditorium with divisibility into many sub-auditoriums. Conversion is accomplished by placing entire seating areas on turntables. Turning these 180° , the seats face into smaller halls. The back wall having turned with the seats becomes a soundproof division.

While developed for the Phoenix Union High School System, the application of the MLC principle is vastly beyond the sphere of school auditoriums, since there is virtually no size limitation. The principle is equally valid for concert halls, theaters, and any convertible assembly room. Patents for the principle have been applied for in 5 countries.

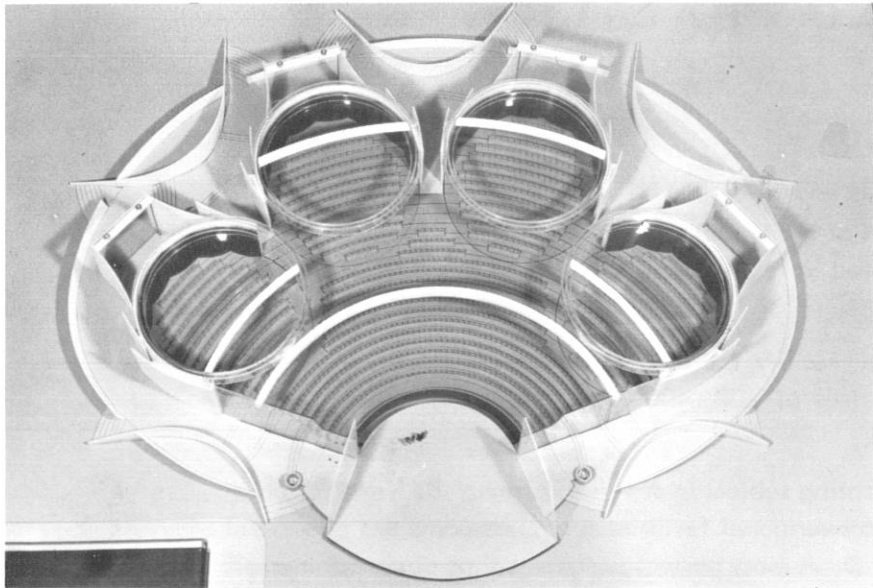


THE DIVISIBLE AREA IS UNITED WITH AND PART OF THE MAIN AUDITORIUM.

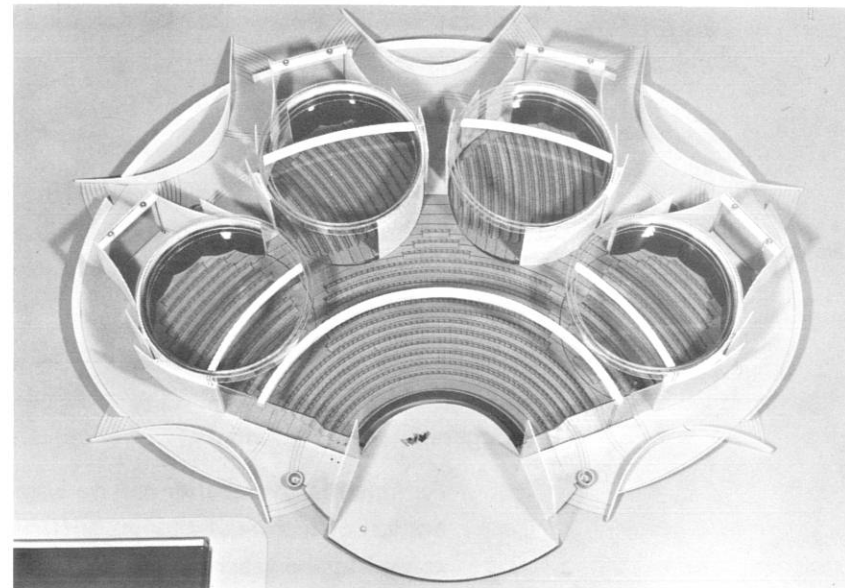


THE DIVISIBLE AREA IS SEPARATED AND HAS BECOME A SMALLER AUDITORIUM BY A 180° TURN OF THE TURNTABLE.

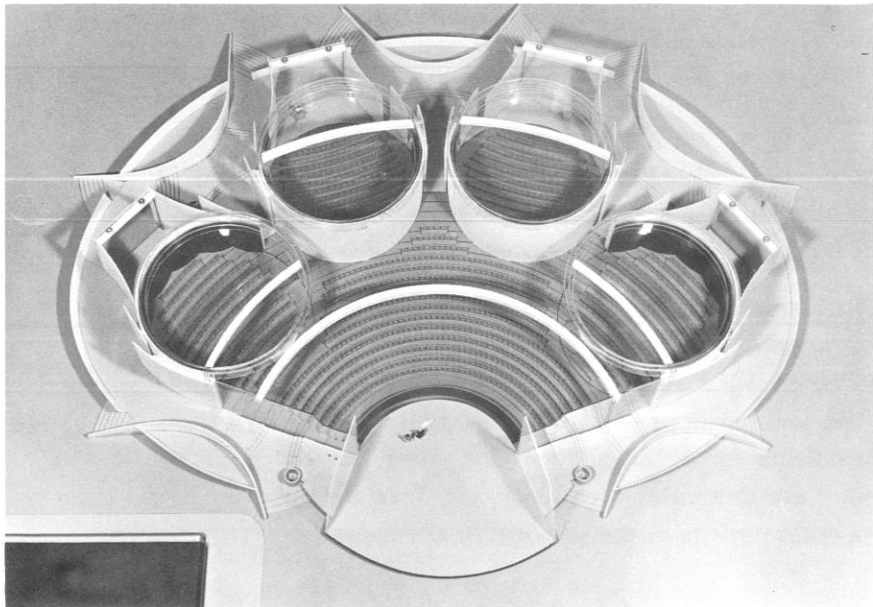
T H E M L C P R I N C I P L E



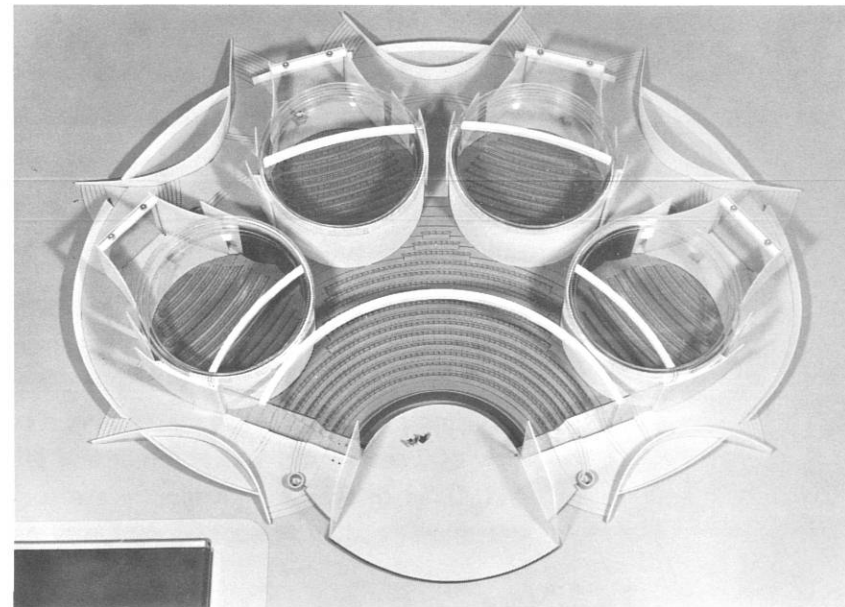
THE MLC ASSEMBLED 1



2 TWO LECTURE HALLS IN THE PROCESS OF TURNING



LECTURE HALLS 2 & 3 ARE NOW SEPARATED 3



4 ALL LECTURE HALLS ARE IN THEIR DOMAIN

PAT. PEND.

AS AN EDUCATIONAL FACILITY

HISTORY—The M.L.C. was invented by Dr. Wendell E. Rossman and developed for the Phoenix Union High School System. The initiator was Dr. Howard C. Seymour, Superintendent of the Phoenix Union High School System, whose enquiry into and challenge of the divisible auditorium has resulted in two years of investigation and research from which evolved the M.L.C.

- 1 A CASE FOR ADVANCED TEACHING — As a new educational facility the M.L.C. represents heretofore unknown advantages and possibilities. One teacher can teach to classes of 200, 400, 600, 800, etc., rather than 30. This triggers a chain reaction of advantages and possibilities.

A. One master teacher can be employed, thus presenting subject in superior manner, B. Time for preparation of lectures becomes sufficient, C. Existing conventional facilities like classrooms are now freed as well as the teachers for small group instruction, D. A most perfect pattern is thus obtained; a small group with emphasis on instructing the individual as the smallest unit, the medium group (or standard classroom), and finally, the large group which permits one master teacher for any subject, even to teach at several schools —

- 2 AND OF ECONOMICS — An instructional facility which can only be used 10% of the time is worth 10 cents for each dollar spent for its construction and maintenance — thus fare today's school auditoriums — and if lecture halls of equal capacity could be used 90% of the time, the combined efficiency is 50% with an initial cost of two facilities. Compared to this, the M.L.C. combines the two since the 90% takes place in the void of the 10% facility, giving nearly 100% efficiency with an initial cost of only one building.

- 3 THE SCHOOL AUDITORIUM RETURNS — Because of its ever more indefensible economic position, the traditional auditorium is about to vanish from the scene. The M.L.C. on the other hand is returning the auditorium to the American school in its fullest meaning, because the M.L.C. contains an auditorium an essential part in its design —

- 4 AND AFTER SCHOOL A DELIGHT TO THE COMMUNITY — With its incredible flexibility of spaces and capacity, the M.L.C. is pre-destined as a community center of note. While one group of 200 may hold a P.T.A. meeting, another group of 2 or 300 may listen to a talk and yet another group may be engaged in the discussion of a civic project, while all this time a large audience may attend a concert or play in the same structure. If a main function sells 600 tickets, only 600 seats will be in one hall and all other seats are available for separate functions. The economics of the M.L.C. as an educational facility are such that its size may have capacities of 800 or 3,000, or even more. It is therefore possible to apply community needs as one of the determinants in the decision of the capacity.

Dillard's

SHOW TIMES WEST

Volume VI, Issue VI

THE SOUTHWEST'S ENTERTAINMENT COMMUNICATOR SINCE 1986

April 24 10-30, 1989

INSIDE

THE NATIONAL WIRE

The new Depeche Mode film will be released with much hoopla in selected markets around North America ... Garrison Keillor on the road ... Madonna's Pepsi problem ... Jackson Browne on the road in June ... Hall & Oates in the studio again ... Del Shannon gets a career boost ... Rock in space?

TICKET SCALPING

There is a movement afoot to bring the Superbowl to Phoenix within the next three years. The National Football League will not let it happen if Arizona does not have some sort of ticket scalping laws on the books. Read Steve Webb, page 3.

SHOW TIMES EXPANDS, ETC.

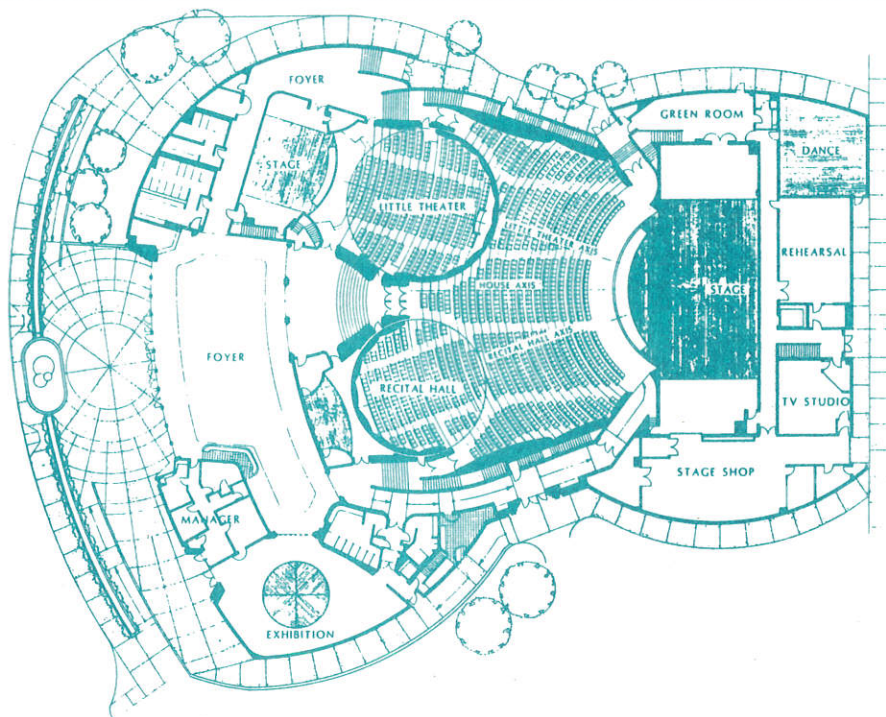
Now at 24 pages, *Dillard's Show Times West* can better serve Arizona audiences. An expanded calendar, more features, extensive national news, record reviews, and much more. Also, a rundown on local performers on the rise. See the Blender, page 8.

AROUND ARIZONA IN ENTERTAINMENT

Since Dillard's Box Office serves the entire state, our correspondents in Flagstaff and Tucson report what's happening on their beats. Read Jim Lipson's *Southern Nights*, page 6, and Rick Vellota's *Northern Lights*, page 7. Who knows, you might want to catch the Judds in Flagstaff, or Borracho Y Loco in Tucson. Both shows are April 28.

FRESH TRACKS

New albums are being released faster than you can play them. In this issue, our writers give their opinions on Madonna's new album, plus the Tom Tom Club, Paul McCartney's Russian release, Lyle Lovett, Tanita Tikaram, and others. Turn to page 20.



The seating and staging schematic of the Chandler Center for the Arts shows a state of the art facility with visions into the future.

A blueprint for the arts

Chandler Center fills cultural void in Southeast Valley

By DEBORAH ROSS

The once quiet farming community of Chandler is capitalizing on the continued population boom in southeast metropolitan Phoenix by building a 1,600-seat, fully appointed performing arts center.

That's right — Chandler. Not Mesa and not Tempe, the southeast Valley's two largest cities.

Upon its completion this summer, the Chandler Center for the Arts will join Gam-mage Center and the new Arizona State University Fine Arts Center as the only stages in the southeast Valley that can host a variety of theatrical, musical and dance productions by local and national performers. Mesa

Amphitheatre continues to provide a sizable outdoor venue, but offers mostly rock acts.

The main feature of the new center is its ability to transform three separate theatres into one. A 1,000-seat section faces the main stage; behind it are two circular, self-contained areas — sort of like cylinders — that can be rotated to face the main stage and provide additional seating for a main stage production or can be rotated to face their own, smaller stages.

The feature makes the center one of the most versatile stage facilities in the Southwest.

But can the southeast Valley support another performing arts center?

Continued on Page 4

COVER STORY

Continued from Page 1

Population figures seem to indicate the potential.

Mesa's population is 285,000; Tempe's is 145,000. Chandler has grown from 30,000 in 1980 to 80,000 today.

And the Chandler Center for the Arts sees its target audience as the East Valley rather than the Valley as a whole, said James Baudoin, the facility's general manager.

"The market size is big enough to support this hall," he said. "All the additional activity will prompt people to look into what's happening here more. It's also got the accessibility."

Location does serve the arts center well. It is a block north of the bustling intersection of Arizona Avenue and Chandler Boulevard. A few blocks away are the five-story Rocky Mountain Financial Center, the renovated Sheraton San Marcos Resort and the proposed sites of a high-rise office building and exhibition hall.

All are part of a downtown revitalization effort Chandler initiated a few years ago.

The exterior of the \$10.2 million Chandler Center for the Arts, with its graceful, curved design, copper fountains and majestic windows, will certainly help polish the city's image.

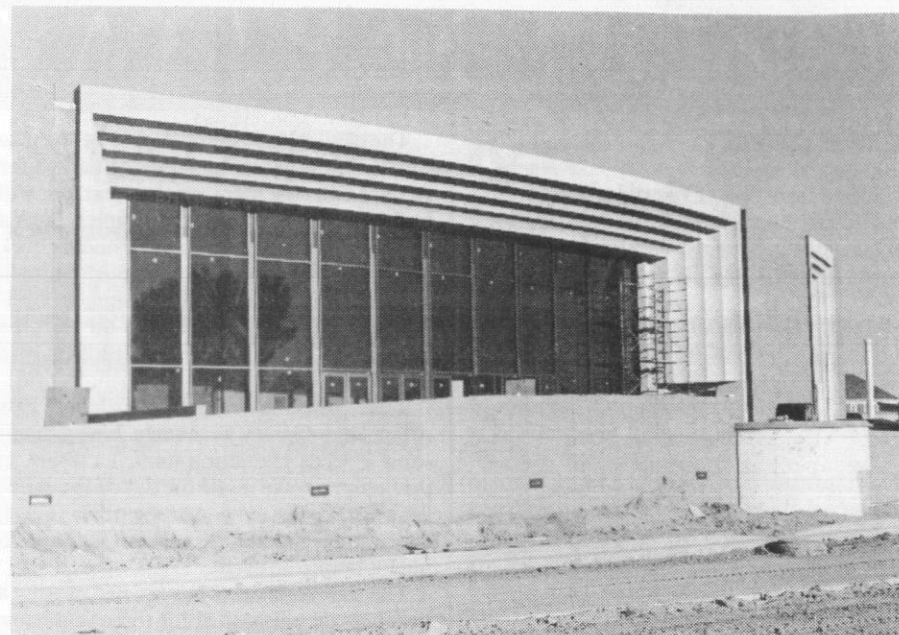
The performances being negotiated for the center are nothing to sneer at either. They include concerts by Roy Clark, Debbie Reynolds and Roger Williams and traveling productions of "Big River," "Mame" and the London Ballet Theatre.

"All performing arts centers here in the Valley have found a niche," said Baudoin, giving as examples the Scottsdale Center for the Arts with its reputation for good dance, chamber music and avant-garde programming and Gammage Center with its smorgasbord of nationally touring theatre productions.

"Our niche will be educational type of activities," he said, referring to the fact that the center is being jointly built by the city of Chandler and the Chandler Unified School District and thus must include the schools in its programming.

"We will be doing things here that involve the schools, such as if a Big Band performance is scheduled, it will be a band that can also hold a clinic for high school band students. Or it will be an actors' company that is interested in working with students," Baudoin said.

Not coincidentally the Chandler High School campus is adjacent to the Center for the Arts.



The windowed facade of the Chandler Center for the Arts. The building will be completed by early summer.

Students will have at their disposal a theatre-quality rehearsal hall, dance studio, dressing rooms and television studio. Student activities will be scheduled so as not to conflict with professional performances, and student productions usually will be held on the two smaller of the center's three stages.

The best thing about the arrangement with the school district is that it will keep the center in use during weekdays throughout the school year, Baudoin said. "Most of these arts facilities sit vacant during the day," he added.

Except for extended-run theatrical productions, most non-school performances will be scheduled for weekends, Baudoin said. This will make attendance at performances more convenient for people who work in Phoenix but live in the East Valley, he said.

"This is yuppie heaven here. We have a lot of young career couples with kids, and we have to appeal to them," he added.

But center programming also has to take into account the adult retirement community of Sun Lakes, south of Chandler, which is destined to become another Sun City.

"Being a public facility, we want to appeal to as many different audiences as we can," said Baudoin, who for eight years served as managing director of the Lutch Theatre for the Performing Arts outside Houston.

A non-profit corporation called the Chandler Cultural Foundation runs the center. The city appoints the foundation's nine directors; Greg Myers of Intel in Chan-

andler is chairman and Baudoin serves as president.

A major task of the foundation — besides programming — is raising funds to keep the center going.

The city has allotted \$300,000 for the center operations in fiscal year 1988-89 and projected close to \$200,000 for next fiscal year, according to the *Mesa Tribune*.

But the Chandler Cultural Foundation is hoping to develop an endowment with as much as \$4 million to cover long-term operation and maintenance costs of the center, Baudoin said. So far the foundation has garnered \$100,000 in pledges and donations from individuals and corporations through a seat sale campaign, he said.

Construction on the center began in December 1987 and will be essentially complete by mid-May, according to Baudoin. Crews will spend the next two months working out some of the kinks in the facility, such as checking the lighting and sound equipment and rigging; no performances are planned until August.

A unique sound baffling system makes it possible for the center's three stages to be used simultaneously, said Baudoin. The architectural firm Rossman Schneider Gadbey Shay designed the 60-foot main stage with operas, musicals and symphony concerts in mind, he said. Its orchestra pit accommodates 60 musicians.

The two other stages, tentatively called the Recital Hall and the Little

Continued on Page 5

COVER STORY

Continued from Page 4

Theatre, will be suited to small musical ensembles and local theatrical productions, as their names suggest. The Recital Hall seats 250 and has a 24-foot stage while the Little Theatre seats 350, has a 32-foot proscenium and has a small orchestra pit.

The architects tried to create a feeling of intimacy for the main theatre by making the seating area about as wide as it is long, Baudoin said. The length from the stage to the back row is 110 feet, thus a performer doesn't have to search too hard to find the last row, he said.

Other amenities of the center include: a tunnel underneath the main seating section to help technicians move equipment around during performances; basement dressing rooms to serve about 60 performers; a television studio that will be hooked into Channel 34 on Dimension Cable plus serve as an educational tool for Chandler students; a stage shop also available to the students; warm-up rooms for orchestras; a lobby with cash bar; and upholstered seats for the audience.

On the north end of the center is a high-ceilinged room with a skylight and round

wooden floor. Baudoin foresees using the space for children's theatre, lectures, student art exhibitions and exhibitions by artists whose work is purchased for permanent installation in other areas of the center.

Residents of the southeast Valley and others will have a chance to admire the completed facility when the Center for the Arts hosts a gala opening weekend Aug. 25-27. On the first night comedian Steve Allen will emcee a variety show, followed by a party at the Sheraton San Marcos. On Aug. 26, the Performing Arts Repertory Theatre of New York is scheduled to give two daytime performances for young audiences. That evening, the Tommy Dorsey Orchestra will be on tap for a Big Band concert. Planned for Aug. 27 are a recital by Chandler High School alumni and a country music attraction to be announced.

The center's fall season will not be announced until mid-June, Baudoin said, because dates for fall 1989 school district performances cannot be set until the end of this school year and because as joint owners of the center the schools and the city are obligated to work together to finalize the season schedule.

But Baudoin did name several perfor-

mances that appear to be certain for sometime in the fall, including the Chicago-based comedy troupe Second City, a theatrical presentation of "Christmas Carol," the musical "42nd Street" and the comedy "Greater Tuna."

Among the regional performing groups that will be included in the 1989-90 schedule, he said, are: Musical Theatre of Arizona, the Mesa and Scottsdale symphonies, Childsplay, Desert Dance Theatre, a ludwig co (dance ensemble), the Bach and Madrigal Society, East Valley Theatre Company, the SRO Theatre Troupe, Valley Chamber Musicians and Opera del Sol.

As far as student performances go, Baudoin hopes the center will host such events as all-state high school choir festivals and jazz band festivals.

If the aim of the Chandler Center for the Arts is to find its niche by serving both the school district and the entertainment needs of the East Valley community at large, then it appears to be on the right track. Even though the center is impressively designed and a noteworthy addition to downtown Chandler, its programming may ultimately determine if it succeeds.

As Baudoin pointed out, "People don't buy theatres, they buy shows."

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