A FINE ARTS CENTER FOR ROANOKE

Byron Barton Black
A thesis Submitted to the Graduate Committee for the Degree,

MASTER OF SCIENCE
IN ARCHITECTURE

Approved:

Charles S. Worley
Chief Critic

John W. Whittemore
Dean, School of Engineering and Architecture

Clinton H. Cowgill
Head, Department of Architecture

Dr. Louis A. Fardue
Director of Graduate Studies

Blacksburg, Virginia
July, 1955
I wish to acknowledge the valuable guidance given by Professor Charles S. Worley as chief design critic and to Professor Clinton H. Cowgill for his guidance during this and the previous four years.

I also wish to thank the entire faculty of the Department of Architecture and other instructors and fellow students who have in an indirect way made this thesis possible.

July, 1955

B. B. B.
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Art is one of the basic needs of man. Art in this sense is not limited to painting or sculpture, but encompasses everything which is an honest expression: music, mathematics, architecture, poetry, the spoken word. Man seems to have been born with an intuitive appreciation for art, but most people are not aware of this sense and have done little to develop it.

Art is important both to the individual and to the community. To the individual it can give a sense of personal pleasure and can make a person more aware of his surroundings and the beauty that exists in everyday life. To the community, art can be the motivating factor behind civic improvement and social functions.

Industrialization has shortened the working week, and more and more time has been left for relaxation. The mass entertainment media such as radio, television, magazines, and sports which draw thousands of spectators have kept pace with the development of industrialization, and have made the world in general, and this country in particular, into a well organized group of non-participating spectators. Instead of learning a skill or taking an active part in anything, most people prefer to turn on the radio or television and watch a professional perform. Even in the field of painting, many people instead of trying to express themselves, prefer to have the imaginative
part done for them, and "paint by number," which is even a simplification of the child's color book which at least leaves the choice of colors to the child. It seems that their leisure time could be more beneficial to them if it were spent in a serious study of art or in using their imaginations to create something of their own. The desire to create seems to be inherent in man, but most people are afraid to try because their own work will not be up to the standards of the professional work which they are accustomed to seeing. Even a little bit of instruction and guidance can go a long way toward giving a person confidence in his own ability.

Even if a person has no intention of making a career of art, he can benefit in many ways from a study of art, and his personal taste will be improved so that he will be more sensitive of his surroundings. An example of this can be seen in almost every house; a person will be more fond of one room or location than he will of another but can not tell why immediately. If he stops to think, he will realize that it may be the view, colors, or proportion of space that determines his decision. The same is true of a person's favorite suit of clothes; he will feel more confident or cheerful in one suit than he will in another, but will not bother to think why and will simply wear it more often. If he stops long enough to think, "Why?" he may discover that the color, shade, or style suits him better and he
can be more selective in the choice of his future clothes. A study of the basic principles of art can help make a person understand "Why."

The earlier a study of art is begun, the better. The training of children can be of invaluable benefit to them in their later life. It is especially important to begin the study while the children are young, since in adolescence it is quite common for art to be thought of as impractical and unimportant.

In addition to its value to the individual, art can be a beneficial influence on the community. An interest in art by the citizens of a community, or at least by the leaders, can be a strong factor in the desire for and the accomplishment of civic improvements. However, where civic improvements are concerned, the interest and understanding of art must be sincere if anything worth while is to result. The author knows of at least one city in Virginia (not Williamsburg), which, in an attempt to protect some really fine pieces of old architecture, has required all new construction in the area to be built in the same style as the old. In doing this, however, it is quite obvious that the understanding was not sincere. Instead of enhancing their old buildings, they have cheapened them by causing obviously false and poorly done buildings to be built nearby. No jeweler would ever display a diamond in the midst
of a pile of broken glass, a brilliant diamond contrasted against a background of black velvet is far more effective.

Art in the community can also provide the motive for many social functions by bringing together people who have a common interest. People of many different occupations can be mutually helpful to each other in the study and understanding of works of art and can also help each other in their efforts to express themselves in works of art of their own.
PART II

THE ART CENTER

The importance of art in a community is undeniable, and in order to make the benefits of art more readily available to the public, art centers have been established in many cities. An art center differs from a museum in that it is not primarily concerned with collecting and organizing a permanent collection; but it is concerned more with art as it affects everyday life, and achieves this purpose by exhibiting mainly traveling and temporary exhibits. It also encourages an active participation of the public in the various phases of art.

In its Certificate of Incorporation, the Roanoke Fine Arts Center has stated its purpose: "The object of the Roanoke Fine Arts Center shall be to encourage and develop interest in the study of the arts; to provide ways and means for the purchase of works in the arts; to exhibit fine arts and other works of art and to work for the eventual establishment of a center for these purposes." Another group, in Forth Worth, Texas, has defined a Community Art Center as "A workshop of the arts for painting, sculpture, music, theater, industrial design, dance, the crafts and architecture. It will serve to provide a program of art activities in which all interested people may participate in any or all of the arts; give encouragement, counsel, and material aid to independent cultural groups and to other educational programs and to enable the city to give public and specific evidence of its cultural growth." 1)

1) Fort Worth Art Center, Progressive Architecture, Vol. 34, August 1953, p.15
THE ART CENTER

The objectives as stated by these two groups are typical of art centers everywhere. It can be seen from the definitions that the art center is quite different from a museum and can play a more active part in the community.

A detailed study of two art centers has been made in order to determine the future needs and possibilities of a growing Fine Arts Center. The two centers which were studied are the Lynchburg Fine Arts Center and the Virginia Museum which, in addition to being the state museum, also functions as a fine arts center.

The Lynchburg Fine Arts Center is the outgrowth of an art group which is about 20 years old. The Center was incorporated a few years ago and now has its quarters in part of what was once a theater. The building is in a good downtown location and includes a gallery, an office, several painting studios and a patio which will soon be developed into an outdoor studio and lounge. The staff consists of a full-time director, a part-time secretary, and volunteer hostesses who serve as receptionists in the gallery.

The present activities of the group which are open to the public are the exhibition of traveling and local exhibits and sales of work by local artists. For members, the Center offers painting classes, lectures and movies, openings of exhibits, and other social functions such as dances and parties. Although
not sponsored by the group, ceramic classes are available to members on a private basis at a local ceramic plant.

For the year ending June 1, 1954 the center had 483 members made up of the following groups: 132 patrons, 336 members, and 25 student members. During this same period, a total of 253 students were enrolled, an average of 84 per term. During the year, 13 exhibits, which cost the group a total of $910.81, were shown at the center. The opening of each of these exhibits was a social function for members only. The center also held a sale of paintings by local artists for which the Arts Center charged a fee of 15%. In actuality, very little proceeds were realized from this sale.

Some Art Centers receive support from their local governments, but the Lynchburg Fine Arts Center is entirely privately supported. The present space occupied by the Center is given rent free, but they pay for utilities and for maintenance. The membership fees and gifts support the activities of the group, and the classes are self-supporting. The only salaries to be paid are those of the director, the secretary, and a part-time janitor.

The operating expenses of the center have been almost exactly $7000 a year for the last two years. The membership fees are $5.00 a person, $7.50 for a couple, and $2.00 for students. The tuition fees amount to $1.00 a lesson. For the
year ending May 31, 1953, the income is broken down as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patrons (86)</td>
<td>$2,625.00</td>
</tr>
<tr>
<td>Members (250)</td>
<td>1,335.00</td>
</tr>
<tr>
<td>Gifts</td>
<td>4,520.00</td>
</tr>
<tr>
<td>Class Tuition</td>
<td>1,147.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$9,627.00</strong></td>
</tr>
</tbody>
</table>

The Virginia Museum in Richmond is typical of many older museums in that it is performing the dual function of a museum and a fine arts center. As such, it is the center of many activities, both for the city of Richmond and the State of Virginia.

In its galleries, the Museum exhibits its own permanent collection and also traveling exhibits. In addition it makes up traveling exhibits from its own collection which are distributed to other museums by a specially equipped truck. Mr. Leslie Cheek, Jr., the director, believes that the Virginia Museum could, if necessary, supply from its own collection all of the exhibits needed by an art center in a year.

In the recently completed new wing of the museum, many facilities have been provided in order to allow the museum to function more as an art center. A theater to seat 500 people has been included which will be used for drama, dance, lectures and movies. This theater is probably as completely equipped as any theater anywhere. In what, at first glance, appears to be a balcony, is a press, radio, and television booth, a projection
room that contains equipment for every type of film and slide, and a room for a director and lighting controller. This theater differs from most in that the lights are not controlled from back stage. Under the front edge of the balcony is a curtain track so that the seating can be cut down to 300 if desired. The orchestra pit is on an elevator so that it can be lowered below the level of the floor for an orchestra, set level with the floor to provide additional seating, or raised to the level of the stage to provide a larger fore stage. The stage itself is trapped and may be used with a fly gallery or with stage wagons. The workshop is to the side of the stage and can be sound insulated by a system of double doors. The shop contains a complete selection of equipment which would be needed for building scenery or for building exhibit material for the museum. The service entrance is common both to the museum and to the theater.

The other newly added spaces which are needed for an art center, are a lounge, library, and studios. The lounge is open only to members and is directly off the lobby of the theater. The lounge opens onto a patio on one side, and is connected with the kitchen which is used for preparing refreshments for members and meals for the staff. The library is not a lending library but is for reference uses by the staff and by members. The library also contains a number of paintings
which are on exhibit but may be rented by members. There are several studios, and a locker is provided for each student to store his materials.

The Virginia Museum is supported from a number of sources. The old part of the building was built by private funds and the new wing was built partly by state funds and partly by private funds. The salaries and maintenance costs are paid by the state. The art objects are either gifts or purchased by funds from endowments. The activities are paid for by the money raised from membership fees, and the classes are self-supporting.

At present time, the Virginia Museum has approximately 2,300 members who pay the membership fee of $15.00

The Roanoke Fine Arts Center was incorporated in 1952, and at present has about 450 members. The present activities include exhibition of local and traveling exhibits both at the Center and at the gallery of the Roanoke Public Library. Classes are offered to adults and to children. The adult classes are in composition, drawing, design, and color and painting and are taught twice weekly for a term of ten weeks. The Group has recently combined with the Roanoke Cinema Club and the auditorium of the Center will be used for the showing of films and for lectures.

The first home of the Roanoke Fine Arts Center was in an unused store building on Franklin Road near the downtown part
of Roanoke. This building was only used for a few months, and the Center was presented the former South Roanoke Baptist Church, located at 25th Street and Carolina Avenue. This building, in a very good residential neighborhood, is a frame structure, 60' long and 32'-6" wide, located on a site which is 150' x 150'. The upper floor which was formerly the church auditorium is at present used for an auditorium and exhibit gallery, and the basement is used as an office and studies.

At present, the main source of income is from membership fees which are $5 per person or $15 for an organizational membership. Fees for patrons are $25 and the tuition for the classes is $15 a term. The proposed budget for the first year of occupancy in the new building is:

**Building:**

- Heating: $300.00
- Electricity: 130.00
- Water: 50.00
- Janitor: 400.00
- Painting: 20.00
- Materials: 75.00

**Secretary 34 hours/week x 40 weeks:** 1000.00
**Custodian at Library for 4 shows:** 200.00
**Exhibitions:** 600.00
**General Operating Expenses:** 800.00

**Total:** $3,625.00
The future activities of the Roanoke Fine Arts Center will be based to a large extent on the number of members in the group. One way to arrive at the number is to determine the percentage of the population of a city who are members. In Lynchburg, there are 483 members out of a population of 47,727, which is 1.01%. In Richmond, there are 2300 members out of a population of 230,310, which is 1.00%. From these figures, it should be safe to assume a percentage of 1.00% which with the 1950 population of 91,921 would give 920 members. This figure might be raised considerably if the Center were able to offer very complete facilities. The Lynchburg Center at present can only offer activities in the field of painting, and the Virginia Museum's newly completed wing with its increased facilities should certainly attract many new members. The movement of industry to Roanoke will certainly increase the population in the next few years, so an estimate of 1200 to 1500 members does not seem to be out of the question. Mr. Cheek, of the Virginia Museum, has said that Roanoke has the best possibilities of any city in the State for developing a Fine Arts Center.

The growth of an Art Center would certainly mean that the activities would be greatly expanded. One of the first spaces needed would be an enlarged exhibit gallery. The gallery should be intended primarily for temporary exhibits which would consist
of local exhibits and to a larger extent, traveling exhibits. It is common among many groups to attempt to start a permanent collection as soon as possible, but if one is started, it should be in the nature of a study collection rather than a permanent exhibit. Unless an object is of very great interest and importance it should not be placed on permanent exhibition since people will soon grow tired of it, and it will drive people away rather than attract them. Also, unless a very large gallery space is available, a permanent exhibit will take up space which would be better used for a timely exhibit that would attract crowds for each new exhibit. One type of permanent collection which would be useful would be a study collection which would be available to school children. This could consist of well organized reproductions of the various schools of painting and sculpture, and could even include photograph and slide collections of historical, industrial, or local importance.

The school part of the Art Center could be increased both in the adults and children's classes. The subjects, in addition to painting could include sculpture, ceramics, and other associated arts and crafts. The Center should also contain a shop where members can frame their own work.

The theater is a very important form of art and an Art Center should provide facilities for it. In Roanoke, there is a very active theatrical group and there will soon be a time
when the two groups can combine with a mutual benefit. In addition to its use for theatrical productions the theater could also be used for movies, lectures, and meetings.

The center should have a library of books on the subject of art which are available for research and study, and could also handle the sale of books, reproductions and paintings.

In order to attract new members, an Art Center must offer certain privileges and advantages. A lounge for members would be a place for informal gathering during any time the Center is open and would be a place to serve refreshments during openings and other social functions of the Center.

The financing of an Art Center is very difficult to predict when it comes to major outlays. It is almost impossible to make the Center financially able to pay for its own building program, so it must depend largely on donors for anything greater than operating expenses. If some support could be received from the city, one possible way of financing would be that similar to the Virginia Museum. The building would be built by private funds, and the city would pay for the salaries and maintenance. The membership fees would cover the cost of activities of the Center, and the classes would be self-supporting.
THE PROGRAM
PART III
THE PROGRAM

The first consideration in the program for an Art Center is the site. A site should be readily accessible to the greatest number of people possible, but should not be located in an overly congested spot. Mr. Laurence V. Coleman, Director of the American Association of Museums, says, "Downtown plots are occupied by a great many museums. Such a somewhat-near-business location, it now seems to be agreed, surpasses any other." 2) But Mr. Leslie Cheek feels that the suburban location is much to be preferred because of the Greater amount of parking space that is available. It is his belief that very few people visit a museum casually, but plan their trip ahead of time, and do not mind making a special trip to see something worth while.

The present location occupied by the Roanoke Fine Arts Center has several advantages, and several disadvantages. The building is in a very good residential neighborhood, and there is ample parking space available on the nearby streets. The lot, however, is not large enough to permit very much expansion of the present facilities, and for several reasons the building has a limited usefulness. The upper floor will be difficult to use as an exhibition space because of the large number of windows and because of the fact that many traveling exhibits must be exhibited in a fireproof gallery. At the present time most of the exhibits

are shown in the gallery of the new public library which is fireproof. The lower floor of the building does not have quite enough natural light for ideal studio space.

In view of the fact that the present site is not large enough for complete expansion of the Center's facilities, the author has selected another site for the purposes of this thesis. The selection is not meant to be a definite recommendation, but is merely an example of one site which would be suitable. The site is located on the northeast corner of the intersection of Jefferson Street and Bullitt Avenue, and is at present occupied by a filling station and parking lot. The property is approximately 150 feet wide on Jefferson Street and 344 feet deep along Bullitt Avenue. The cost has been estimated at $600,000 which would probably make its use prohibitive unless it were given as a large donation; but there are a number of features to recommend it.

It is on the edge of the business district where it is readily available from the downtown section. Roanoke has such a compact downtown district that the Center would be within easy walking distance from anywhere in the business district. The Center is located next to the library which has attracted a number of people during the lunch hour. It is certain that the Art Center in its proposed location would do likewise.
Although the parking situation is bad in Roanoke, the proposed site is one of the best in the downtown section as far as parking is concerned. There is a parking building nearby and the perimeter of Elmwood Park provides a number of parking spaces.

The Site Location Map, page 43, shows the relation of the existing site and the proposed site to the Roanoke-Salem Area. The map on page 44, shows the relation of the site to the downtown Roanoke area and several important buildings.

The proposed elements of the Fine Arts Center are listed below:

I. Lobby
   A. Information Desk
   B. Book and Print Sales
   C. Check Room
   D. Public Telephone
   E. Public Toilets

II. Exhibition Gallery

III. Theater
   A. Auditorium
   B. Stage
   C. Shop
      1. Wood Shop
      2. Paint Room
      3. Materials Storage
   D. Dressing Rooms
E. Wardrobe
   1. Sewing Shop
   2. Costume Storage
   3. Dyeing Room
F. Projection Room

IV. Library
   A. Reading Area
   B. Book Storage
   C. Study collection of paintings, reproductions, slides, etc.

V. School
   A. Painting Studies
   B. Sculpture Studio
   C. Ceramic Studio
   D. Crafts
   E. Lockers for Students
   F. Shop for making frames, bases, etc.

VI. Administrative Space
   A. Director's Office
      1. Closet
      2. Lavatory
   B. Secretary and Staff Office
      1. Closet
      2. Staff toilets
      3. File Storage
VII. Members' Lounge

A. Lounge Space

B. Patio

C. Kitchen for serving refreshments

VIII. Services

A. Receiving (should serve both theater and exhibitions)
   1. Loading Dock
   2. Work Space
   3. Storage

B. Mechanical
   1. Heating and Air Conditioning
   2. Transformer Room

C. Maintenance
   1. General equipment and material storage
   2. Janitor's Closet
PART IV

FUNCTIONAL AND TECHNICAL REQUIREMENTS

Entrance

In order to have the best control, the number of entrances should be minimized; it is best to have only one public entrance. There should be as few steps as possible in order to make it easy for older people to visit the Center.

Lobby

The lobby is the place for the control of crowds; it should be large enough to accommodate a number of people such as an entire school class. The information desk will be in the lobby and could be combined with the print and book sales. For the best control, the lobby should open onto as many spaces as possible such as the exhibition gallery, the library, the members' lounge, the administrative offices and perhaps should also serve as the lobby of the theater. If it is likely that the theater will be used at times when the other parts of the center are closed, it might be advisable to provide a separate lobby. A check room should be provided off the lobby and the public toilets should be readily accessible.

Mr. Leslie Check, suggests fifteen by twenty feet as the minimum size for the lobby. 3)

Exhibition Gallery

In many museums and galleries, the objects are not exhibited; they are merely placed where they can be seen. Mr. Lee Simonson, has offered the following postulates as a tentative set of first principles for architects and curators.

Aesthetics:

1) A museum exists only secondarily to preserve art objects and to catalogue them, for this might be done equally well in a vault. An art museum exists primarily to reveal the meaning of the value of art to the general public.

2) Aesthetic appreciation must be induced by an art museum. It cannot be taught until it is experienced. A museum has no justification unless it enhances the spectator's latent powers of perception and the emotions released thereby, and subjects him to less fatigue and less distraction than he encounters when viewing works of art elsewhere.

3) The aesthetic pleasure given him by works of art is an emotional release aroused by visual impressions. The form and design of the backgrounds in which art objects are displayed are therefore inseparable from the objects themselves in determining these visual impressions.

4) In a museum a thing of beauty is not a "joy forever" unless it is effectively displayed. Improperly displayed, it loses most of its aesthetic significance and cannot be adequately sensed or experienced.
Psychological and Physiological:
1) The eye is extremely sensitive to fatigue. It is easily distracted. It loses all resiliency and the capacity for keenness of perception if shown too much at once or too much in succession.
2) The capacity for visual attention requires that the eye be focused and guided, and given continual opportunity for rest and relaxation.
3) Aesthetic appreciation involves contemplation and reflection. The museum visitor, if he is to reflect on what he sees, must be given the maximum opportunity, not to stand up, but to sit down.
4) The state of attention necessary to appreciate a work of art requires a degree of concentration and conscious effort far beyond the native capabilities of the average and even the exceptional museum visitor, unless such concentration is deliberately aroused and sustained by every possible means.

Sociological and Educational:
1) An art museum must satisfy the needs of two classes of visitors—the expert and the layman.
2) Their needs are entirely distinct and require that the plan and display of collections intended entirely for the layman be different from the arrangement of collections intended for the specialist.
3) The general architectural plan of the museum must keep these two functions separate if one is not to nullify the other.

4) The amount of plastic art accumulated today is so great that no one except an historian or a philosopher of aesthetics can appreciate all the known epochs of art. An intensive appreciation of a few periods is all that even collectors or artists are capable of. The aim of an art museum should therefore be, not to lure the visitor in looking at everything on display, but to lead him directly to the art to which he has a temperamental affinity, and once there, to give him surroundings conductive to contemplating it." 4)

The above writing may seem like a lengthy item to quote, but embodied in it are several extremely important principles: first, that the objects on display should produce a sincere impression on the observer; secondly, that the gallery should produce an atmosphere that will enable the observer to appreciate the work of art; and last, that the gallery should allow the visitor to be selective in his choice.

The design of an exhibit room should be such that the maximum flexibility is possible in the lighting, arrangement of partitions, and method of exhibition. With this in mind, these three points will be discussed separately.

The lighting of a gallery is different from other rooms in that the lighting is required on the walls rather than on horizontal surfaces.

In the gallery, there must be two types of lighting, general and object lighting. There should be a contrast of brightness of about two to one between the object on view and the surrounding parts of the room. Contrasts up to five to one are good, and some are as high as ten to one, but the higher contrasts make seeing difficult.

For general lighting in the gallery, from five to twenty foot-candles is recommended. For the object lighting, the following table has been taken from the *I.E.S. Lighting Handbook.*

<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>Principal Plane and Surface</th>
<th>Illumination (ft-cand.)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Paintings</td>
<td>Canvas</td>
<td>Vertical</td>
<td>30</td>
<td>Annoying reflection; images are likely to be formed of high brightness, poorly placed luminaires</td>
</tr>
<tr>
<td>Individual</td>
<td>Wood</td>
<td>Dull</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>or group</td>
<td>Silk</td>
<td></td>
<td>30</td>
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</tr>
<tr>
<td>Unframed</td>
<td>Velvet</td>
<td></td>
<td>50-100</td>
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<tr>
<td>Framed</td>
<td>Canvas</td>
<td>Dull</td>
<td>30</td>
<td>To avoid reflections should not be displayed on opposing walls</td>
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<tr>
<td>Unframed</td>
<td>Wood</td>
<td>Vertical</td>
<td>50</td>
<td></td>
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<tr>
<td>Single</td>
<td>Canvas</td>
<td>Vertical</td>
<td>30-50</td>
<td>Mask completely from other objects, light as individual pieces</td>
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<td></td>
<td></td>
<td>Glossy</td>
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<th>Type</th>
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<td>Water Colors</td>
<td></td>
<td>Vertical</td>
<td>20</td>
<td>Mask completely from other objects, light as individual pieces</td>
</tr>
<tr>
<td>Group</td>
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<td></td>
</tr>
<tr>
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<td>Glossy</td>
<td></td>
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</tr>
<tr>
<td>Unframed</td>
<td>Dull</td>
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<td>Murals</td>
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<td>Individual Plaster</td>
<td>Vertical</td>
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<td>Display to avoid reflections</td>
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<td>Unframed</td>
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<tr>
<td></td>
<td>Dull</td>
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<td>Etchings</td>
<td>Paper</td>
<td>Vertical</td>
<td>20-30</td>
<td>Display to avoid reflections</td>
</tr>
<tr>
<td>Engravings</td>
<td>Dull</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mezzotint</td>
<td>Glossy</td>
<td></td>
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<tr>
<td>Group</td>
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<tr>
<td>Framed</td>
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</tr>
<tr>
<td>Unframed</td>
<td></td>
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</tr>
<tr>
<td>Ceramics</td>
<td>China, etc., Inclined</td>
<td>20</td>
<td>Generally shown in illuminated display cases</td>
<td></td>
</tr>
<tr>
<td>Group</td>
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<td></td>
<td>Semi-gloss</td>
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<tr>
<td>Sculpture</td>
<td>Marble</td>
<td>Vertical</td>
<td>30-100</td>
<td></td>
</tr>
<tr>
<td>Free Standing</td>
<td>Terra-Cotta, Bull</td>
<td></td>
<td>30-50</td>
<td></td>
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<tr>
<td>Individual</td>
<td>Plaster</td>
<td>Glossy</td>
<td>30-100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Semi-gloss</td>
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<tr>
<td></td>
<td>Glossy</td>
<td></td>
<td>20-100</td>
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### Functional and Technical Requirements

<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>Principal Plane and Surface</th>
<th>Illumination (ft-cand.)</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>Lt. Bronze</td>
<td></td>
<td></td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Dk. Bronze</td>
<td></td>
<td></td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Red Copper</td>
<td></td>
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<td>300</td>
<td></td>
</tr>
<tr>
<td>Green Copper</td>
<td></td>
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<td>500</td>
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<tr>
<td>Brass</td>
<td></td>
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<td>200</td>
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<tr>
<td>Gold</td>
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<tr>
<td>Silver</td>
<td></td>
<td></td>
<td>100</td>
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<tr>
<td>Ivory</td>
<td></td>
<td></td>
<td>30-50</td>
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<tr>
<td>Wax</td>
<td></td>
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<td>30-50</td>
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</tbody>
</table>

In lighting the gallery, the color of the light is also important. Direct sunlight produces light of about 5000 degrees Kelvin, when the sun is behind a cloud, the light is about 6500 degrees Kelvin, and a north sky gives off light of about 12000 degrees Kelvin. The light from incandescent lights is warmer than natural light, and will run from 2400 to 3100 degrees Kelvin. Fluorescent lights can more closely approximate daylight: bulbs may be obtained of 3500, 4500, or 6500 degrees Kelvin. These bulbs however are lacking many of the reds in natural light.

In selecting the lighting for a gallery, the question is whether to use natural light exclusively, artificial light exclusively, or a combination of the two.
FUNCTIONAL AND TECHNICAL REQUIREMENTS

There are several advantages in favor of natural light. First, it is a very strong source of light and is free. Natural light is constantly changing in color and intensity, and many connoisseurs of art believe that a work of art can best be studied under the changing conditions. Another important quality of natural light is the psychological effect of it. Mr. Coleman says, "There is, for instance, the trace of claustrophobia that most of us feel in the absence of windows or other openings through which to look out. Also, there is the reassurance that comes of having even a little natural light, even without any view, not to mention the reassurance that clings at night to the mere presence of a window though it can give neither view nor light." 6)

Many museums and galleries in the past have tried a number of different types of schemes to utilize natural light. One of the most popular means has been the use of skylights. The disadvantages of skylights are that they throw most of the light on the floor and give uneven lighting on the walls. Also, the skylights are expensive to build and maintain, and can be the source of much heat gain or heat loss. High windows along the walls can produce even illumination along the walls, but a high ceiling is required, and there may be an excessively high contrast of brightness between the windows and the walls below.

6) Supra (2), p. 76
Low side lighting is the usual window treatment found in most buildings, but like the high windows, it may produce high contrasts, and has the additional disadvantage of taking up valuable exhibition space. A newer type of natural lighting is corner lighting. A window is used in the corner of an exhibition gallery, not so much for its value as object lighting, but for general lighting and to make the visitors feel more at ease.

In spite of the advantages of natural light, there are many disadvantages which weigh against its use. First of all, the systems of natural lighting are difficult to build and expensive to maintain. In most of the systems it is difficult to have good lighting on the walls without having excessively high contrasts. Another reason against the use of natural light is that artificial light will have to be provided anyway, since there is more and more of a tendency for galleries to be open at night. Mr. Cheek has gone so far as to recommend that the galleries be lighted exclusively by artificial light.

If artificial lighting is used, it may be either incandescent or fluorescent. The incandescent lights have the advantage of lower first cost, and the light can be better directed such as in spotlights. These lights, however, have a lower efficiency than fluorescent lights; and, therefore, the operating cost will be higher. Most of the wasted power is given off as heat which may become a serious factor in designing for air conditioning.
The fluorescent lights are from two to five times as efficient as the incandescent lamps and only produce one-half the heat. In addition, the color of these lights is closer to the color of natural light. The main disadvantages seem to be the higher first cost and the fact that it is difficult to direct the light.

The artificial lighting may be used as either indirect or direct. The indirect lighting is generally used only for general lighting since it is usually necessary to have special object lighting. The direct lighting may be used in several ways—in trough or troffer fixtures, false skylights, or as spotlights. One versatile means of spotlighting is to use a reflector bulb in a swivel socket.

In many galleries, a hung ceiling is used; the lighting fixtures are above the ceiling and access is from above.

The partitions in an exhibition area should be as flexible as possible to allow free and easy alteration of space. The Museum of Modern Art has used movable partitions which are seven and one-half inches thick. They are secured at the bottom by friction and at the top by expansion bolts. If a series of movable partitions are used they should be planned on a module so that the same sockets for fasteners may be reused.

The surfaces of walls and partitions should provide some easy means of hanging paintings, which will not damage the
surface. There are two general means of doing this: One is
the use of picture rails and molding, and the other is the use
of a nailable surface on which the nail holes will not show.

If rails or moldings are used, quite a few will be needed
in order to hang paintings at different heights. The moldings
can be either plastered in the wall or can be applied to it.
In one art gallery, 7) the walls are plywood with horizontal
strips applied to it which have notches in the top edge. Any
system of rails or moldings will emphasize the horizontal lines
in a wall, which may or may not be desirable. Even if some
other means of hanging paintings is to be used, there should be
at least one picture rail at the top of the wall.

If the walls are to be nailable, generally some means of
concealing the nail holes is used. One of the most used methods
is to cover the wall with some rough textured fabric. When the
fabric becomes dirty, the entire walls may be painted over with
a synthetic-resin-bound water paint.

The flooring in an exhibition space must meet several
requirements: It must be durable, resilient, and there should
be some means of attaching partitions. Of all the materials
which can be used for the flooring, "wood represents a combina-
tion of virtues without a great many faults." 8)

7) Art Gallery for Raymond and Raymond, Architectural Forum,
   Vol. 93, September, 1950, p. 139
8) Supra (2), p. 167
FUNCTIONAL AND TECHNICAL REQUIREMENTS

Many of the older museums had high ceilings which were required because of the methods of natural lighting. With the use of artificial light, the ceiling height can be reduced considerably. Mr. Coleman recommends a hung ceiling at a height of from 12 to 16 feet under a roof that gives a clearance of from 17 to 20 feet. The minimum ceiling height is 10 feet.

Theater

Since theatricals are to be one of the art forms to be provided for in the center, a theater will be an important part. In addition, the auditorium will be used for lectures, slides, movies and chamber music.

Mr. Coleman recommends 1 seat for every 500 to 1000 people in the area to be served by the center. In Roanoke this would mean from 100 to 200 seats; but in anticipation of future growth, seating for 300 people does not seem to be out of the question.

The stage in the theater should allow as flexible use as possible. It should contain provisions for using scenery hung from a fly gallery and on stage wagons. There should be some type of sound insulation between the stage and the shop so that the stage may be used for a performance or a rehearsal while the shop is being used.

The shop should contain equipment and storage of material necessary for the building of scenery for the theater. Also,

9) Supra (2), p. 137
it may be possible to use the same shop for the construction of material for the exhibit galleries. The shop should include provisions for carpentry, electrical work, metal work, and painting. *Time-Saver Standards* recommends a space of 1500 square feet for the shop and another 1000 square feet for scenery storage. There should be provisions for a 30 feet high paint frame somewhere in the shop space, and the minimum ceiling height over the rest of the shop is 15 feet.\(^\text{10}\)

The dressing rooms should provide for about 20 actors and actresses, and a chorus of about 20 men and 20 women. Five dressing rooms of 200 square feet will accommodate four people each and two rooms of 800 square feet will accommodate the chorus.

The wardrobe workshop is an important part of the amateur theater, since many of the costumes will be made in the theater. A recommended size for the shop is 420 square feet with 200 square feet for costume storage and 80 square feet for dyeing of costumes.\(^\text{11}\) For the wardrobe workshop, north light is recommended.

Since the theater is to be used for a number of different purposes, the projection room must contain equipment for a number of different types of material. It should have a motion picture

\(^{10}\) *Time-Saver Standards*, Edition No. 2, F. W. Dodge Corp.
New York, N. Y., 1950, p. 367

\(^{11}\) Ibid., p. 367
projector for 35mm and one for 16mm film as well as for different types of slides. Also a spotlight could be located in the projection room for use during performances.

Library

The library and the study collection will be discussed under the same heading, since the purposes are similar and it might be possible to use the same control for both.

The library will be for the use of the public and for the staff. Since the building is so close to the public library, there would not be much point in duplication of material. A collection of several thousand books should be adequate. It should be remembered that most art books will require roughly twice the space occupied by the usual books. In addition to its books, the library should contain provisions for the storage of slides and photographs. Mr. Coleman says that "provision for 5000 photographs and 5000 lantern slides might be only a beginning in an active museum, however small; and provision for 25,000 photographs and 25,000 slides might not long be excessive."12)

Study collections have been one of the fastest growing museum functions. The study collection consists of paintings and study of material which are not on exhibit in the gallery, but which must be kept readily accessible. Paintings are

12) Supra, p. 165
generally stored by hanging them on sliding or fixed vertical panels. The study collection does not have to be located right at the exhibit rooms, but it should be readily accessible.

**School**

The school should contain provisions for classes in painting, sculpture, ceramics, and crafts. It is estimated that about 200 students will be enrolled at a time. Since the classes will meet at several different times, it is not necessary to accommodate everyone at one time.

In the book *Schools*, the classrooms for art are described. "The essential ingredient in terms of a physical plant for an arts and crafts program is sheer space. It should not be the sort of place where one will feel the urge to rush and get a rag when a blob of clay falls on the floor." 13) The space should be as flexible as possible so that the rooms can change with needs. The studios should contain running water and tack-board and some type of lockers for the students to store their work.

**Administrative Space**

The administrative space will include the Director’s Office, and a general office which should accommodate two or three workers. Although only one secretary might be a full-time worker.

Members' Lounge

The members' lounge should be readily accessible from the gallery, the school and from the theater. Mr. Leslie Cheek recommends that the lounge be for the exclusive use of the members as an inducement for new members to join; but Mr. Coleman believes that "the best place for the members' room is off the lobby; and the best policy for it there is to have it open to anyone interested rather than strictly reserved for people already with membership cards."[14]

There should be a kitchen for serving refreshments at social functions. Some museums have gone so far as serve luncheons in the lounge, but this would hardly be successful except in large cities.

Mechanical

The entire building should be air conditioned for a number of reasons: It will attract more people, the exhibition material can be kept cleaner, and the control of humidity will help to preserve the material.
In the design of the Fine Arts Center, several preliminary schemes were studied. In the first of these, the three basic parts of the Center, the gallery, the studios, and the theater were in separate blocks of the building. The gallery was in a one-story block located on Jefferson Street, close to the property line on the north side. The studios, lounge, and the office were in the form of an "L"-shaped block which paralleled the streets and connected to the theater which was in a two-story block at the east end of the site. Because of the slope of the land, the connecting "L" intersected the theater at the second floor.

This first scheme had several advantages; it could be very easily constructed in stages as finances permitted, and each block of the building would be expressive of the different functions. It was felt, however, that a scheme of this sort would make it very difficult to achieve a building having a great deal of unity. In an open location where a large amount of land would be available around the building, the different blocks would explain themselves. However, in a downtown location where a number of buildings would be close by, it would be difficult to find a point of view where the function of the building would apparent.

The second scheme was an attempt to achieve a more unified building, and an attempt to make a more economical use of th
land. Since the land is very expensive, and it is assumed that the Center would own the entire lot, if some of the land could be used commercially, it would provide a source of income for the Center which would be located on only part of the lot. With this in mind, the building was one rectangular block, located along Bullitt Avenue. This left the entire frontage along Jefferson Street to be used commercially. Of course, the use of this land, and the design of the buildings, would be controlled by the Center. The building had an open court in the center which would be used as outdoor studio and exhibition space. The gallery was located on the west end of the building, and the theater was located on the east end. The connecting link at the north side contained the studios and the shop, and the connecting link at the south side contained the office and lounge.

This second scheme was economically a good use of the land, but the space for the Center was found to be inadequate without going into more than two stories for the building. Also, a scheme such as this would have been difficult to build in stages, and would allow practically no expansion.

The final scheme is shown in the drawings which follow this section. The author believes that this scheme is expressive of the different functions, and at the same time is a unity both in space arrangement and in appearance.

This scheme contains several basic points of design which evolved from the first two schemes. The entrances are located
in almost the same manner as in the first scheme, and the building is built around a center court as in the second scheme.

The entrance to the gallery is from Jefferson Street. The visitor first passes through the entrance court which is a transition from the activity of the streets into the relaxed atmosphere of the Art Center. The lobby opens directly into the gallery or onto the outdoor exhibition area, and a flight of stairs goes down to the lounge or to the study collection and the offices.

The gallery space itself contains no fixed partitions, and its space merges with that of the other areas. The structure of the gallery is typical of that used throughout the Center. Structural bays thirty feet square are made up of inverted pyramids set on pre-cast, pre-stressed columns. A single bay such as this would be unable to resist lateral loads, but when several of these are placed together, they are mutually supporting to resist lateral loads.

In order to make the independance of these structural elements apparent, narrow skylights have been inserted between the edges of the pyramids, and there is a narrow window along the top of the brick wall which is on the south and west side of the Center. In order to prevent glare from these high windows, the roof overhang is four feet nine inches. These windows and skylights are intended only to provide a soft general lighting
to the gallery. For object lighting, a grid of rods is suspended from the ceiling to which spot or floodlights may be clamped. The rod would contain a conduit and a system of outlets similar to the "plugmold" system. If desired the panels could be fitted in this grid to present the appearance of a hung ceiling. The exhibition panels in the gallery can be anchored to inserts in the wooden floor, and are braced either by brackets from the columns or by the intersections with other panels. The panels themselves are wood covered with cloth—which may be painted or may be nailed onto. Paintings may be hung on the brick wall of the gallery by means of hangers which fit into the horizontally-raked joints of the wall. Exhibits coming into the gallery are brought in through the service entrance in the north wall of the building, unpacked in the floor below the gallery, and are raised to the gallery level by the hydraulic lift. The floor below the gallery is excavated and may be used for general storage until such time as it is necessary to expand the study collection into it.

The lounge space opens onto the court which may be used as a patio and outdoor studio. The roof level is continuous over both the gallery and the lounge. This was done in order to give a feeling of continuity between the spaces. Off the lounge is a small kitchen which may be used for refreshments.

The studios are in the connecting link on the south side of the building, and open to the north. The upper studio is in the
form of a balcony which may be entered either through the gallery or through the lounge. It was felt that an approach through the edge of the gallery would help create the proper atmosphere for creative work. The studios on the lower floor are separated by low cabinets from the corridor and exhibition space which is on the south side. From these studios there are doors which open onto the court.

The entrance and lobby of the theater is located on the south side along Bullitt Avenue. It was felt that this location would facilitate the handling of crowds coming to the theater since there is less traffic on Bullitt Avenue than on Jefferson Street. The structure of the theater is similar to that of the gallery space, but is composed of four mushroom columns of larger size. In this space the theater is located almost free-standing with a connection only on the stage side. The walls of the theater follow a form required for acoustical and visual reasons, and are only as high as is required for these purposes. The projection box penetrates the rear wall of the auditorium and is reached by two spiral stairways. The auditorium contains 305 fixed seats, and if the forestage, which is on a hydraulic lift, is raised to the level of the auditorium floor, a number of temporary seats may be added. Continental seating was chosen because it requires no aisles which take up some of the best seating space; and in a small auditorium such as this, continental seating can be used to
produce an intimate atmosphere, and in spite of the increased spacing of rows, there are no "bad" seats. The building code requires that exit doors be spaced not more than five feet along the walls and these doors open onto the lounge spaces at the sides of the auditorium. The floors of these spaces are sloped down along with the slope of the auditorium floor, but at the lower ends there are leveled off spaces which contain lounge furniture.

The green room is located one story above the lobby level of the theater and opens onto the outdoor exhibition area on one side and onto the dressing rooms on the other side. In addition to providing a place for the meeting of actors and audience, it could also be used for rehearsals and meetings.

The section containing the dressing rooms can accommodate four people each in six dressing rooms, and can accommodate twenty men and twenty women in the chorus dressing rooms. The wardrobe shop and storage rooms are located in this section, convenient to the dressing rooms. Wardrobe trunks may be raised from the shop level by means of a small lift.

The shop is two stories high and contains equipment and materials necessary for the erection of scenery for the theater. The scenery may be stored along the side of the shop or may be taken onto the stage through the rolling overhead door which connect the two. The shop contains a paint room for the storage
of paints and for the painting of smaller pieces of scenery. Large backgrounds of scenery may be hung against the rear wall of the stage house and painted from a movable scaffold. Off the shop space is a locker and shower room for the backstage members of the theater group.

The study collection is located beneath the outdoor exhibit area. The paintings and prints are hung on sliding frames which may be pulled out for examination. The library and offices are located near the study collection so that the entire area can be controlled from the offices. In the service drive, parking space for three staff members is provided.

One studio is located on the north side of the building. This studio is primarily intended for sculpture of large objects, and for crafts. Materials may be brought directly into the studio from the service drive and because of its location, the noise could be controlled more easily. This studio could also be used for life classes where privacy is required.

The mechanical equipment is located below the shop area. Air conditioning ducts for the theater would be located in the ceiling above the walls of the auditorium, and grilles and ducts for the gallery space would be located in the floors and walls.
Relation of Site to Surrounding Streets and Important Buildings
RELATION OF SITE TO SURROUNDING STREETS AND IMPORTANT BUILDINGS

- ARTS CENTER
- IMPORTANT BUILDING
- CITY BUS LINE
Plan of Upper Level
Aerial Perspective of Building
Perspective of Entrance Court
Perspective of Gallery
Perspective of Lounge
Perspective of Theater
Perspective of Entrance
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VITA
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