

5-21-1968

A Design Program and Solution for a Multi-media Instructional Center on the Central Campus of the University of New Mexico

Patrick McClernon

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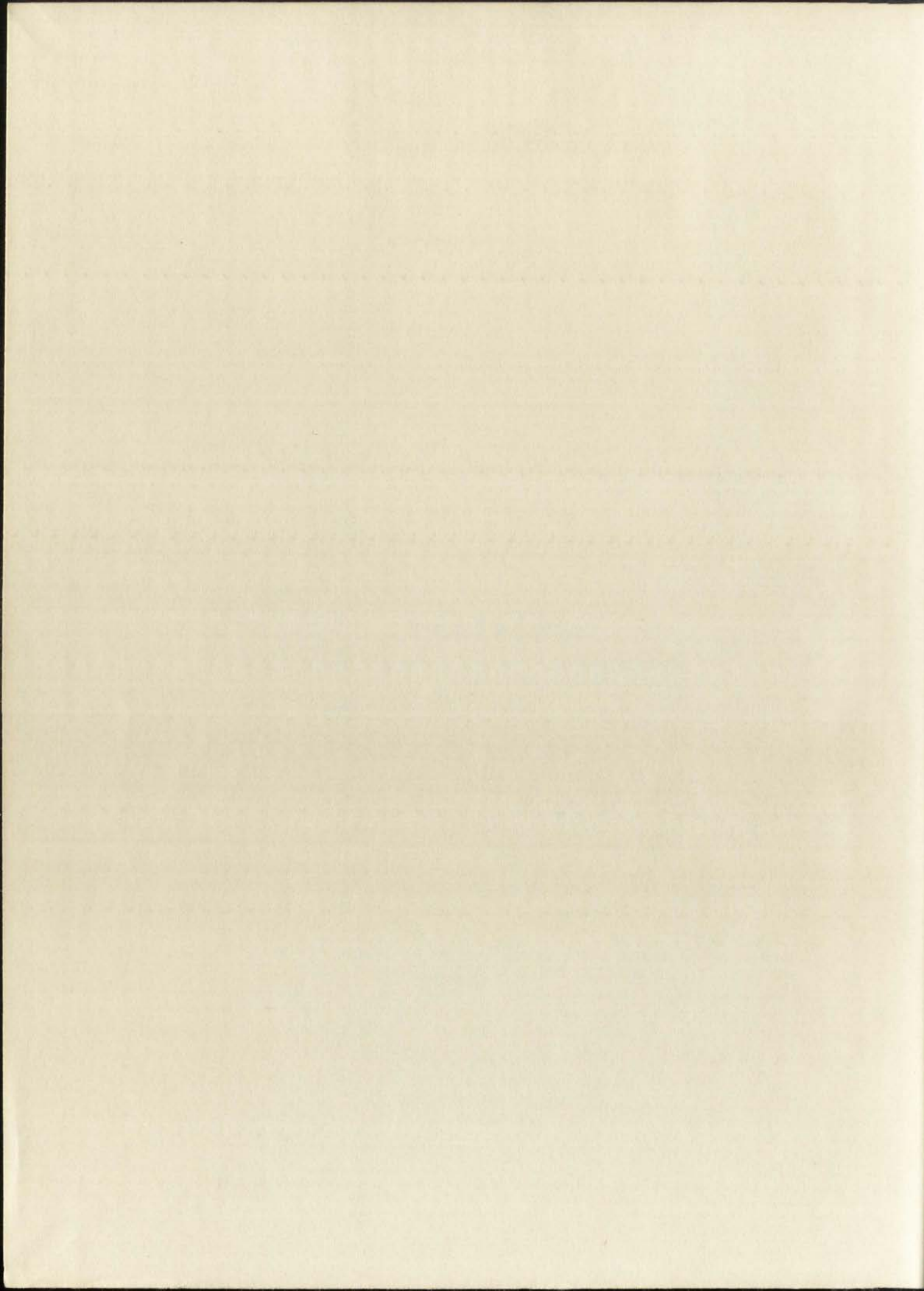
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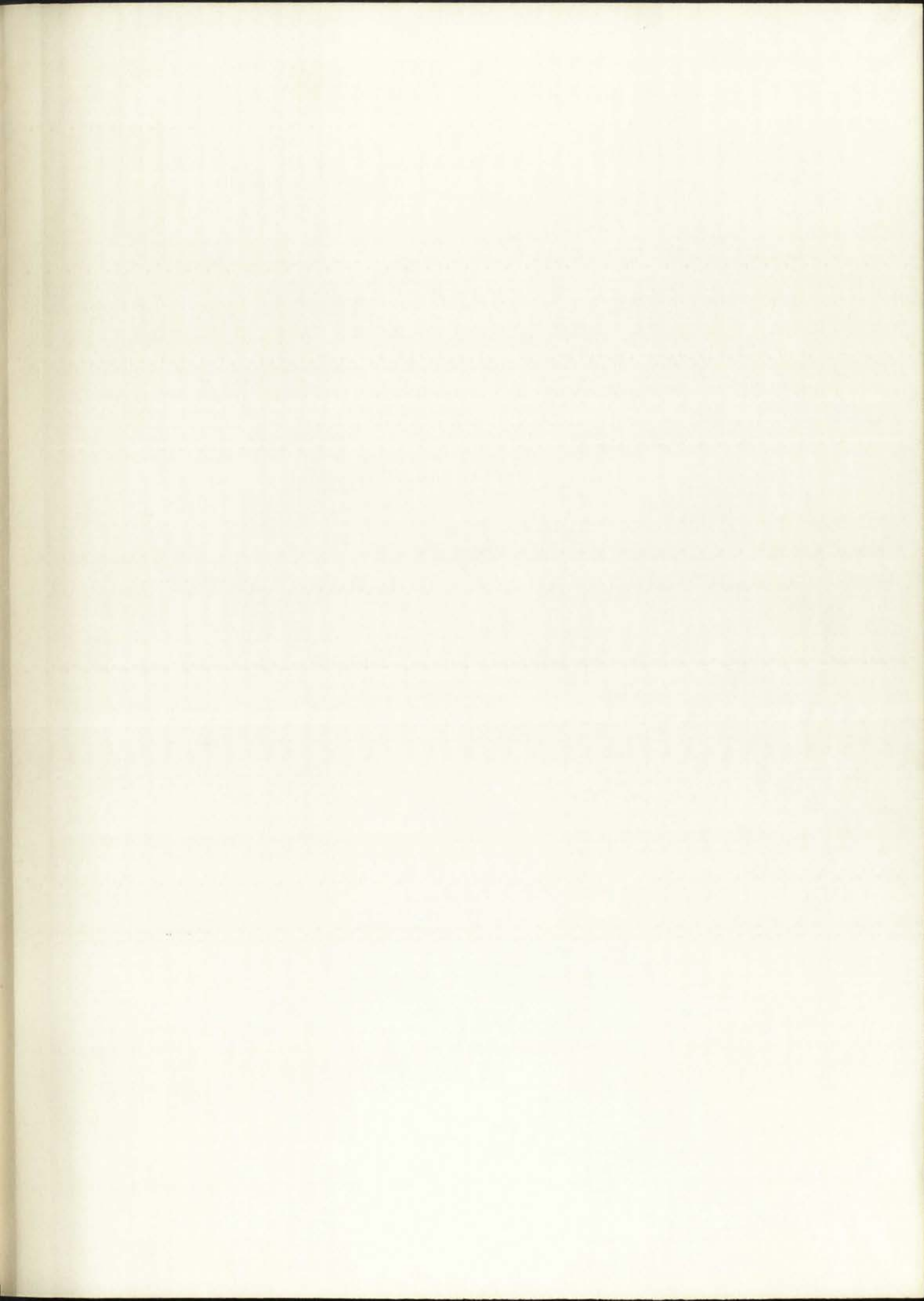
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multi media center for instruction
patrick mc clernon 1968



a design program and solution for a
multi-media instructional center on the central
campus of the university of new mexico.

by: patrick mc clernon

presented to the faculty of the department of
architecture, university of new mexico, in
partial fulfillment of the requirements for
the degree of bachelor of architecture.

university of new mexico

may 21, 1968

thesis committee:

thomas r. vreeland, jr., chairman
department of architecture

geoffrey holroyd, visiting lecturer
department of architecture

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department of architecture

A letter from the University of New Mexico
dated August 1954 and signed by the
President of the University of New Mexico.

The letter is addressed to the
Department of Architecture, University of
New Mexico, Albuquerque, New Mexico.

University of New Mexico
May 21, 1954

Very respectfully,
Thomas F. Swartz, Jr., Chairman
Department of Architecture

Secretary of Architecture
Department of Architecture
University of New Mexico

Department of Architecture
University of New Mexico

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OFFICE SUPERVISOR

PHOTOSTATIC COPIES OF ALL MATERIALS REFERRED TO IN THIS REPORT WILL BE AVAILABLE TO THE PUBLIC UPON REQUEST.

PART I INTRODUCTION

THE TRADITIONAL CORE OF EVERY GREAT UNIVERSITY HAS IT'S LIBRARY. THIS ALONG WITH THE FACULTY HAS FORMED THE TEACHING CORE AT THE UNIVERSITY.

TODAY MAN IS GATHERING NEW INFORMATION AT AN ALMOST UNBELIEVABLE PACE AND THE RATE AND METHOD OF DISEMINATION LAGS BEHIND. A MAJOR NEED, THEREFORE, IS A CENTER THAT CAN MAKE THIS INFORMATION AVAILABLE IMMEDIATELY FOR THOSE WHO REQUIRE IT.

MORE DATA INFORMATION HAS BEEN ACCUMULATED IN THE PAST 15 YEARS THAN IN THE WHOLE PREVIOUS HISTORY OF MANKIND. THIS INFORMATION EXPOLSION HAS BEEN IN PART CAUSED, BY INCREASED SPECIALIZATION WHICH IN TURN HAS BEEN INSTRUMENTAL IN CREATING EVEN GREATER AREAS OF SPECIALIZATION. OBVIOUSLY WITH THESE CHANGES BOTH IN QUANTITY AND TYPE OF INFORMATION AVAILABLE, NEW SPACE NEEDS ARE NECESSARY.

THE NEW CORE WILL HOLD AND DISSMINATE INFORMATION EVEN AS THE TRADITIONAL LIBRARY CENTER DID IN THE PAST. IT CAN BE IMAGINED THAT SUCH A CORE WOULD CONTAIN FACILITIES SO STUDENTS WILL HEAR AND SEE POETRY PRESENTED BY THE AUTHORS, OPEN-HEART SURGERY, DRAMA PERFORMANCES, GOVERMENTAL DEBATES, SCIENTIFIC EXPERIMENTS, ETC. ETC. . IN SHORT WITH CLOSED CIRCUIT T.V., TAPES, INFORMATION RECALL SYSTEMS, MULTI-MEDIA PRESENTATION SYSTEMS, ETC., IT IS POSSIBLE TO EXTEND AND EXPAND MANY TIMES OVER THE IMMEDIATE AVAILIBILITY OF INFORMATION AND MATERIAL.

SUCH A CENTER WILL NOT REPLACE THE TRADITIONAL LIBRARY BUT WILL SUPPLEMENT IT.

IT WILL CONTAIN AREAS WHERE STUDENTS AND FACULTY CAN COME AND BE TOUGHT; AREAS FOR LEARNING THE PHILOSOPHY AND OPERATION OF NEW COMPUTER SYSTEMS; AREAS FOR EVALUATING AND DISTRUBUTING MULTI-MEDIA SYSTEMS, AREAS FOR INDEPENTANT RESEARCH WORK WITH ALL NEW INFORMATION QUICKLY AVAILBLE THROUGH COMPUTER, TAPES, FILMS, SLIDES, TAPE RECORDERS, 3-D MODEL DISPLAYS, TELEVISION AND SYSTEM COMBINATIONS AND FOR EXPERMENTATION WITH MEDIA.

'THE COMPUTER HAS A MORE BENEFICIAL POTENTIAL FOR THE HUMAN RACE THEN ANY OTHER INVENTION IN HISTORY "RAY EPERT. NO OTHER ITEM HAS CHANGED THE BASIC TERMS OF SO MANY HUMAN ACTIVITES IN SO SHORT A TIME. THE COMPUTER IS CAPABLE OF COLLECTING MASSES OF INFORMATION & SELECTING THE RESULTS REQUIRED ALMOST INSTANTANEOUSLY.

THE TRADITIONAL CORE OF THE LIBRARY - THIS ALONG WITH THE TEACHING CORE AT THE UNIVERSITY

TODAY HAS IN FACTURING AND THE LIBRARY HAS TO BE RESPONSIBLE FOR THE FACTORS THAT CAN MAKE THIS INFORMATION AVAILABLE TO THE USER WHO REQUESTS IT.

MORE DATA INFORMATION HAS BEEN AVAILABLE IN THE PAST FEW YEARS THAN IN THE WHOLE OF THE PREVIOUS CENTURY. THIS INFORMATION EXTENSION HAS BEEN THE RESULT OF INCREASED SPECIALIZATION WHICH IN THE PAST HAS BEEN INSTRUMENTAL IN CREATING EVEN MORE INFORMATION. DEVELOPERS WITH THESE KNOWLEDGES ARE BEING TRAINED TO PROVIDE INFORMATION AVAILABLE, WHEREVER IT IS AVAILABLE.

THE NEW CORE WILL HOLD THE DISCIPLINE OF THE LIBRARY. THE TRADITIONAL LIBRARY OF THE UNIVERSITY HAS BEEN RESPONSIBLE FOR THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. STUDENTS WILL BEAR AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. AUTHORS, OTHER RESEARCHERS, AND OTHERS WILL BE RESPONSIBLE FOR THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. INFORMATION WILL BE AVAILABLE TO THE USER WHO REQUESTS IT.

SUCH A CENTER WILL NOT REPLACE THE LIBRARY BUT WILL SUPPLEMENT IT.

IT WILL COVER AREAS WHERE STUDENTS ARE RESPONSIBLE FOR THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. AREAS FOR RESEARCH AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. OPERATION OF NEW COMPUTERS AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. AND DISTRIBUTING MULTI-MEDIA AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. RESEARCH WORK WITH ALL RESEARCHERS AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. THROUGH COMPUTER, TELETYPE, AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. 3-D MODEL DISPLAY, TELETYPE, AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. FOR EXPERIMENTATION WITH RESEARCH.

THE COMPUTER HAS A MORE RESPONSIBLE FOR THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. MADE THEN ANY OTHER INFORMATION IS RESPONSIBLE FOR THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. OTHER THEN HAS CHANGED THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. ACTIVITIES IN RESEARCH AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. COLLECTING MATERIALS IN RESEARCH AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR. REQUIRED ALMOST INFORMATION AND THE FACTORS THAT SUCH A CORE HAS BEEN RESPONSIBLE FOR.

THE COMPUTER WILL BE USED AS A MAJOR EDUCATIONAL TOOL WITHIN THIS FACILITY THRU COMPUTER ASSISTED INSTRUCTION AND VARIOUS OTHER COMPONENTS TO BE DISCRIBED IN DETAIL. THE COMPUTER SPECIFIC USE IN THE C.A.I. PROGRAM IS AS FOLLOWS:

1. VISUAL COMMUNICATION:

- A. TYPEWRITERS ARE USED AS INPUT-OUTPUT DEVICES UNDER COMPUTER (E.G., TO ASK THE STUDENT A QUESTION OR DIRECT HIM TO SOME READING MATERIAL) OR UNDER STUDENT CONTROL (E.G., TO ANSWER THE QUESTION).
- B. FILM PROJECTION DEVICES:
 - (1) THE THOMPSON RAMO WOOLRIDGE MENTOR SELECTS FILMS ON THE BASIS OF NO-LINE RESPONSES, PRESENTS AUDITORY AND VISUAL MATERIALS, AND CAN SCORE STUDENT RESPONSES AUTOMATICALLY.
 - (2) DISPLAYS MAY NOW BE CREATED ON-LINE BY SUPERIMPOSING SYMBOLS ON A FILM-PROJECTED BACKGROUND TO HIGHLIGHT CERTAIN ASPECTS OF THE FILM. AS FILM DEVELOPMENT TIME IS SHORTENED (IT NOW TAKES 10-15 SECONDS), IT WILL BE POSSIBLE TO PHOTOGRAPH NEW INFORMATION AND UPDATE A DISPLAY ALMOST IMMEDIATELY.
- C. CATHODE RAY TUBES ARE THE MOST ADAPTABLE VISUAL DISPLAYS FOR ON-LINE USAGE AND CHANGING DISPLAY MATERIAL. USING A LIGHT PEN HELD NEAR A SCREEN, ONE CAN DRAW CURVES (ALTHOUGH THE PRESENT CAPACITY FOR HANDDRAWN RESPONSES IS LIMITED) OR INDICATE ANSWERS, WHICH CAN THEN BE EVALUATED BY THE COMPUTER BY PLOTTING COORDINATES. THESE DEVICES ARE BEING DEVELOPED IN COLOR, FOR THREE DIMENSIONAL DISPLAYS, AND WITH IMAGE STORAGE CAPABILITIES.
- D. RANDOM ACCESS SLIDES AND FILMS ARE ALSO IN POPULAR USE.

2. AUDITORY COMMUNICATION:

THOSE WHO WORK DAILY WITH C.A.I. CONSIDER AUDITORY COMMUNICATION A (IF NOT THE) MAJOR UNSOLVED TECHNICAL PROBLEM. WHILE RANDOM ACCESS TAPE RECORDERS ARE IN GENERAL USE, THEY ARE NOT AS EFFICIENT AS WORKERS WOULD LIKE. THUS, PROTOTYPES ARE BEING DEVELOPED FOR SPEECH GENERATION AND RECOGNITION. TWO TYPES OF SPEECH GENERATION DEVICES BEING DEVELOPED ARE THE FOLLOWING:

- A. COMPILED SPEECH, WHERE THE COMPUTER HAS RANDOM ACCESS MEMORY OF PRERECORDED WORDS OR PHRASES WHICH ARE THEN ARRANGED AS OUTPUT ON THE BASIS OF A STUDENT'S RESPONSE (E.G., THE COMPUTER COULD TELL A STUDENT THE FORMULA OF A CHEMICAL).

THE COMPUTER WILL BE USED IN THE
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AND VARIOUS OTHER
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- B. SYNTHETIC SPEECH, WHERE THE COMPUTER USES A SET OF RULES TO CONVERT STORED SPEECH SOUNDS INTO MEANINGFUL SPEECH PATTERNS.

ALTHOUGH THE C.A.I. WILL INCORPORATE MANY MEDIUMS FOR PRESENTATION OF MATERIAL, THEY WILL ALSO BE AVAILABLE FOR THE MORE CONVENTIONAL USES AS WE ARE NOW FAMILAR WITH. AT THIS POINT I FEEL A DISCUSSION OF MEDIA, MEDIA STIMULUS AND TYPE OF LEARNING IS APPROPRIATE SINCE IT WILL ULTIMATLY BE APPLIED FOR ADVANCEMENT OR EXPERIENCE.

THE KEY TO THE SELECTION OF THE APPROPRIATE INSTRUCTIONAL MEDIA TO USE IN ANY PARTICULAR TEACHING SITUATION IS RELATIVE EFFECTIVENESS OF THAT MEDIUM IN ACCOMPLISHING THE DESIRED EDUCATIONAL OBJECTIVE. IN OTHER WORDS, GIVEN A SPECIFIC INSTRUCTIONAL GOAL, WHAT IS THE BEST MEANS OF REACHING IT? INTERESTINGLY ENOUGH, IN EDUCATION THERE IS LITTLE EXPERIMENTAL EVIDENCE TO POINT THE WAY FOR MAKING OF THESE INSTRUCTIONAL DECISIONS. THIS DOES NOT MEAN, OF COURSE, THAT WE KNOW NOTHING ABOUT SELECTING APPROPRIATE MEDIA FOR INSTRUCTION IN SPECIFIC TASKS. IT IS JUST THAT THIS KNOWLEDGE HAS NOT BEEN SYSTEMATICALLY ORGANIZED INTO A USEABLE SET OF OPERATIONAL PROCEDURES THAT MIGHT BE APPLIED TO TEACHING.

OVER THE ENTIRE RANGE OF TEACHING YOU HAVE, AT DIFFERENT TIMES, A VARIETY OF EDUCATIONAL OBJECTIVES. OUR TASK HERE IS TO RELATE THE AUDIOVISUAL INSTRUCTIONAL MEDIA TO THE ACCOMPLISHMENT OF THESE VARIOUS OBJECTIVES. THIS IS A DIFFICULT TASK AND HAS NEVER BEEN SYSTEMATICALLY APPLIED TO INSTRUCTIONAL MEDIA SELECTION. IN TABLE 1 A VERY ROUGH & PRELIMINARY RATING IS GIVEN FOR THE EFFECTIVENESS OF DIFFERENT INSTRUCTIONAL MEDIA TYPES WHEN USED TO ACCOMPLISH SIX DIFFERENT LEARNING OBJECTIVES. IT IS SUGGESTED THAT THIS EVALUATIVE GRID BE USED JOINTLY WITH THE FOLLOWING EXPLANATION OF THE MEDIA-OBJECTIVES RELATIONSHIPS.

1. LEARNING FACTUAL INFORMATION. THIS INCLUDES INFORMATION SUCH AS NAMES, DATES, EVENTS, TERMS, DEFINITIONS, ETC., ALL OF WHICH HAVE CONCRETE REFERENTS. IN THE TEACHING OF ART THESE MIGHT INCLUDE SUCH TASKS AS LEARNING THE FACTS OF ART HISTORY, TERMINOLOGY, OR FACTS ABOUT ART MEDIA.

AN ABUNDANCE OF AUDIOVISUAL MEDIA RESEARCH POINTS TO THE EFFECTIVENESS OF FILMS, FILMSTRIPS, TELEVISION, AND PROGRAMED INSTRUCTION IN MEETING THE EDUCATIONAL OBJECTIVE. UNFORTUNATELY, HOWEVER, ALTHOUGH THE RESEARCH INDICATES THAT THESE AUDIOVISUAL MATERIALS ARE EFFECTIVE, IT DOES NOT TELL US SPECIFICALLY WHAT TYPES OF AUDIOVISUAL MEDIA ARE INDICATED UNDER WHAT KINDS OF TEACHING CONDITIONS.

ALTHOUGH THE EFFECTS OF TEACHING METHODS ON THE LEARNING OF SCIENCE ARE OF GREAT INTEREST TO ALL WHO ARE CONCERNED WITH THE EDUCATION OF THE YOUNG, THE MORE CONCRETE INFORMATION ON THIS POINT IS OF GREAT VALUE TO THE TYPE OF LEARNING IS APPLIED FOR ADVANCED STUDY.

THE KEY TO THE EFFECTIVE USE OF TEACHING METHODS TO USE IN AN INSTRUCTIONAL PROGRAM IS TO RELATE THE RELATIVE EFFECTIVENESS OF THE DIFFERENT EDUCATIONAL METHODS TO THE SPECIFIC INSTRUCTIONAL GOALS OF THE COURSE. READING IS THE MOST EFFECTIVE METHOD FOR THE ACQUISITION OF KNOWLEDGE IN THE AREA OF SCIENCE. THE MORE CONCRETE INFORMATION ON THIS POINT IS OF GREAT VALUE TO THE TYPE OF LEARNING IS APPLIED FOR ADVANCED STUDY.

OVER THE ENTIRE PERIOD OF THE COURSE, A VARIETY OF METHODS IS TO BE USED TO RELATE THE RELATIVE EFFECTIVENESS OF THE DIFFERENT EDUCATIONAL METHODS TO THE SPECIFIC INSTRUCTIONAL GOALS OF THE COURSE. READING IS THE MOST EFFECTIVE METHOD FOR THE ACQUISITION OF KNOWLEDGE IN THE AREA OF SCIENCE. THE MORE CONCRETE INFORMATION ON THIS POINT IS OF GREAT VALUE TO THE TYPE OF LEARNING IS APPLIED FOR ADVANCED STUDY.

AN ACCOUNT OF THE EFFECTS OF TEACHING METHODS ON THE LEARNING OF SCIENCE IS OF GREAT INTEREST TO ALL WHO ARE CONCERNED WITH THE EDUCATION OF THE YOUNG. THE MORE CONCRETE INFORMATION ON THIS POINT IS OF GREAT VALUE TO THE TYPE OF LEARNING IS APPLIED FOR ADVANCED STUDY.

THAT IS, WE HAVE NO EVIDENCE THAT WOULD HELP US CHOOSE FROM A VARIETY OF MATERIALS THAT PARTICULAR INSTRUCTIONAL MEDIUM THAT WOULD BE MOST EFFECTIVE. AT THIS STAGE OF OUR KNOWLEDGE, ONE MIGHT CONCLUDE THAT THE USE OF FILMS, PROJECTED STILL PICTURES, TELEVISION, AND PROGRAMED INSTRUCTION IN THE PRESENTATION OF FACTUAL INFORMATION ADDS LITTLE TO STUDENT LEARNING, AND THEY ARE PROBABLY NO MORE EFFECTIVE THAN SUCH CONVENTIONAL TYPES AS PRINT AND ORAL PRESENTATION. ON THE OTHER HAND, FILMS AND PROJECTED STILL PICTURES DO CONTRIBUTE GREATLY TO THE INTEREST LEVEL OF LEARNERS AND PROVIDE A USEFUL VARIETY IN THE TEACHING. IT SHOULD BE POINTED OUT THAT TELEVISION IS A CARRIER OF INFORMATION TO THE LEARNER AND PROBABLY POSSESSES NO PARTICULAR CHARACTERISTIC THAT WOULD MAKE IT MORE EFFECTIVE THAN ANY OTHER INSTRUCTIONAL MEDIUM IN TEACHING FACTUAL INFORMATION. THE CHARACTERISTICS OF TELEVISION IMAGE ARE IDENTICAL TO THAT OF SOUND MOTION PICTURE IMAGE, BUT WITH SIGNIFICANT DEGRADATION IN PICTURE QUALITY. THE EDUCATIONAL DIFFERENCES BETWEEN THE SOUND MOTION PICTURE & TELEVISION ARE THOSE RELATED TO THE METHOD OF IMAGE DISPLAY, THE CONTROL THAT CAN BE EXERCISED BY THE TEACHER IN USING THEM, AND THE SYSTEM OF DISTRIBUTION OF THE IMAGES. FROM THE STANDPOINT OF THE TEACHING FUNCTION, THEY APPEAR TO BE THE SAME. (HOWEVER, MARSHALL MCLUHAN WOULD DISAGREE, CLAIMING THAT TELEVISION IS A DIFFERENT MEDIUM WITH DIFFERENT INSTRUCTIONAL CHARACTERISTICS JUST BECAUSE OF SUCH FEATURES AS DEGRADED IMAGE AND DIFFERENCE IN DISPLAY). RESEARCH WITH PROGRAMED INSTRUCTION INDICATES THAT FACTUAL INFORMATION MAY BE EFFICIENTLY TAUGHT WITH TEACHING MACHINES OR PROGRAMED TEXTBOOKS, BUT NOT NECESSARILY MORE SO THAN WITH OTHER INSTRUCTIONAL METHODS. THE USE OF THREE-DIMENSIONAL OBJECTS OR DEMONSTRATIONS PROBABLY IS OF LITTLE INSTRUCTIONAL VALUE IN THE LEARNING OF FACTS AS SUCH.

2. LEARNING VISUAL IDENTIFICATION. THIS LEARNING TASK WILL INVOLVE THE USE OF VISUAL CUES TO DISCRIMINATE ONE ELEMENT FROM ANOTHER AND WILL REQUIRE THE IDENTIFICATION AND NAMING OF OBJECTS, WORDS OR SYMBOLS. THIS TYPE OF TASK IS ONE OF THE MOST COMMON PERFORMED BY HUMAN BEINGS. IN THE TEACHING OF ART IT MIGHT INCLUDE SUCH TASKS AS IDENTIFYING SHAPES AND FORMS, LEARNING THE CHARACTERISTICS OF DIFFERENT ART FORMS, RECOGNIZING WORKS OF ART, "SEEING" THE VARIOUS VISUAL ASPECTS OF THE ENVIRONMENT, OR DISCRIMINATING AMONG DIFFERENT SHADES AND TONES OF COLORS. IT WOULD BE EXPECTED THAT THIS LEARNING OBJECTIVE WOULD PLAY A SIGNIFICANT ROLE IN ART EDUCATION.

THESE ARE THE MAIN REASONS WHY THE USE OF TELEVISION IN THE CLASSROOM IS NOT AS WIDESPREAD AS IT SHOULD BE. THE MAIN REASONS ARE THE COST OF THE EQUIPMENT, THE LACK OF TRAINED TEACHERS, AND THE LACK OF ADEQUATE FACILITIES. IN ADDITION, THERE IS A GENERAL MISCONCEPTION THAT TELEVISION IS A PANACEA FOR ALL EDUCATIONAL PROBLEMS. IN FACT, IT IS ONLY ONE OF MANY TEACHING AIDS THAT CAN BE USED EFFECTIVELY IF THE TEACHER IS PROPERLY TRAINED AND THE MATERIAL IS WELL PREPARED.

TELEVISION IS A VALUABLE TOOL IN THE HAND OF A SKILLED TEACHER. IT CAN BE USED TO PRESENT COMPLEX MATERIALS IN A CLEAR AND CONCISE MANNER. IT CAN ALSO BE USED TO DEMONSTRATE LABORATORY EXPERIMENTS AND TO SHOW FILMS THAT ILLUSTRATE IMPORTANT CONCEPTS. HOWEVER, IT IS NOT A SUBSTITUTE FOR THE TEACHER. THE TEACHER MUST BE AWARE OF HIS OWN RESPONSIBILITIES AND MUST BE ABLE TO INTEGRATE TELEVISION INTO HIS TEACHING PROGRAM. THE USE OF TELEVISION SHOULD BE BASED ON THE NEEDS OF THE STUDENTS AND THE NATURE OF THE MATERIAL TO BE TAUGHT. IT SHOULD NOT BE USED AS A CRutch OR AS A MEANS OF AVOIDING THE TEACHER'S DUTY.

TELEVISION IS A VALUABLE TOOL IN THE HAND OF A SKILLED TEACHER. IT CAN BE USED TO PRESENT COMPLEX MATERIALS IN A CLEAR AND CONCISE MANNER. IT CAN ALSO BE USED TO DEMONSTRATE LABORATORY EXPERIMENTS AND TO SHOW FILMS THAT ILLUSTRATE IMPORTANT CONCEPTS. HOWEVER, IT IS NOT A SUBSTITUTE FOR THE TEACHER. THE TEACHER MUST BE AWARE OF HIS OWN RESPONSIBILITIES AND MUST BE ABLE TO INTEGRATE TELEVISION INTO HIS TEACHING PROGRAM. THE USE OF TELEVISION SHOULD BE BASED ON THE NEEDS OF THE STUDENTS AND THE NATURE OF THE MATERIAL TO BE TAUGHT. IT SHOULD NOT BE USED AS A CRutch OR AS A MEANS OF AVOIDING THE TEACHER'S DUTY.

IT HAS BEEN SHOWN THAT IN INSTRUCTIONAL SITUATIONS WHERE THE INITIAL PRESENTATION STIMULUS IS SIMILAR TO THE PERFORMANCE OR BEHAVIOR IN THE FINAL TASK TO BE LEARNED, HIGH POSITIVE TRANSFER WILL OCCUR. IT IS TO BE EXPECTED THAT SUCH A CONDITION WOULD PREVAIL IN THE LEARNING OF VISUAL DISCRIMINATIONS IN ART EDUCATION. THIS MEANS THAT THE STIMULUS REPRESENTATIONS OF THE ASSOCIATIONS TO BE LEARNED SHOULD BE MADE AS MUCH LIKE THE STIMULI IN THE PERFORMANCE OR BEHAVIOR IN THE FINAL TASK AS POSSIBLE. IT IS APPARENT THAT CONVENTIONAL PRINTED OR LECTURED VERBAL STIMULI HAVE ONLY SYMBOLIC SIMILARITY TO VISUAL IDENTIFICATION LEARNING TASKS AND WOULD NOT BE EXPECTED TO TRANSFER OPTIMALLY TO THE FINAL TASK SITUATION. ON THE OTHER HAND, HIGH AMOUNTS OF POSITIVE TRANSFER MAY BE EXPECTED FROM PICTURED REPRESENTATIONS (SUCH AS FILMS, SLIDES, FLAT PICTURES) OF STIMULUS OBJECTS WHERE THE FINAL TASK PERFORMANCE REQUIRES CRUCIAL KNOWLEDGE OF THESE OBJECTS. THE PURPOSE OF VISUALS OF THE KIND IS TO PRACTICE, IN THE LEARNING SITUATION, THE RESPONSE NEEDED IN THE PERFORMANCE SITUATION. GROPPER HAS CALLED THESE "CRITERION VISUALS" BECAUSE THE "USE OF VISUAL PRESENTATIONS APPEARS TO BE DESIRABLE IN THOSE SUBJECT MATTERS IN WHICH VISUALLY PERCEIVED PHYSICAL OBJECTS AND EVENTS ARE INTEGRAL PARTS OF THE CRITERION SITUATION". THAT IS, THE LEARNER SHOULD BE ABLE TO OBSERVE, DESCRIBE, INTERPRET, OR RECONSTRUCT THE PRECISE CONTENT PRESENTED IN THE INSTRUCTION.

IT WOULD APPEAR, THEN, THAT AUDIOVISUAL INSTRUCTIONAL MEDIA THAT CLOSELY REPRESENT THE PHYSICAL CHARACTERISTICS OF THIS MATERIAL BEING TAUGHT SHOULD BE EFFECTIVE IN THE TEACHING OF VISUAL DISCRIMINATIONS. THOSE INSTRUCTIONAL MEDIA PARTICULARLY HIGH IN THIS QUALITY ARE SOUND MOTION PICTURE FILMS, FILMSTRIPS, SLIDES, PHOTOGRAPHIC ILLUSTRATIONS, AND THREE-DIMENSIONAL OBJECTS. INTERESTINGLY ENOUGH, HOWEVER, LITTLE AUDIOVISUAL MEDIA RESEARCH HAS LOOKED SPECIFICALLY AT THIS PROBLEM. RATHER, THE RESEARCH HAS TESTED THE EFFECTS OF STIMULUS MATERIALS THAT HAVE MIXED OBJECTIVES; THUS, IT IS NOT POSSIBLE TO DETERMINE THE SPECIFIC OBJECTIVE. THE BEST WE CAN DO AT THIS POINT IS TO SAY THAT THE THEORY STRONGLY INDICATES THAT INSTRUCTIONAL MEDIA OF REPRESENTATIONAL NATURE WOULD BE HIGHLY EFFECTIVE IN THE TEACHING OF VISUAL IDENTIFICATIONS.

3. LARNING PRINCIPLES, CONCEPTS AND RULES. THIS TASK INVOLVES THE LEARNING AND UNDERSTANDING OF RELATIONSHIPS AMONG THINGS OR EVENTS, THE MEANING OF RULES, OR THE PRINCIPLES PERTAINING TO THE FUNCTIONING OF DIFFERENT KINDS OF OPERATIONS.

IT HAS BEEN SHOWN THAT THE INITIAL PERIOD OF TREATMENT OF AN INDIVIDUAL WITH A PSYCHIC DISORDER IS OF CRUCIAL IMPORTANCE IN DETERMINING THE COURSE OF THE ILLNESS AND THE CHANCES OF A FAVORABLE OUTCOME. THE STUDY REPORTED HEREIN WAS DESIGNED TO DETERMINE THE EFFECTS OF THERAPY ON THE BEHAVIOR OF PATIENTS WITH PSYCHIC DISORDERS WHOSE ILLNESSES WERE OF A CHRONIC NATURE. THE RESULTS OF THIS STUDY INDICATE THAT THERAPY HAS A SIGNIFICANT EFFECT ON THE BEHAVIOR OF THESE PATIENTS AND THAT THE EARLIEST INTERVENTION IS MOST EFFECTIVE.

THE STUDY WAS CONDUCTED OVER A PERIOD OF FIVE YEARS AND INVOLVED A TOTAL OF 100 PATIENTS WHOSE ILLNESSES WERE OF A CHRONIC NATURE. THE PATIENTS WERE DIVIDED INTO TWO GROUPS: A THERAPY GROUP AND A CONTROL GROUP. THE THERAPY GROUP RECEIVED THERAPY FROM THE ONSET OF THEIR ILLNESS, WHILE THE CONTROL GROUP DID NOT RECEIVE THERAPY UNTIL AFTER A PERIOD OF SEVERAL YEARS. THE RESULTS OF THIS STUDY INDICATE THAT THE THERAPY GROUP SHOWED A SIGNIFICANTLY HIGHER RATE OF RECOVERY AND A LOWER RATE OF RELAPSE THAN THE CONTROL GROUP. THIS SUGGESTS THAT EARLY INTERVENTION WITH THERAPY IS MORE EFFECTIVE IN THE TREATMENT OF CHRONIC PSYCHIC DISORDERS. THE REASON FOR THIS MAY BE THAT EARLY INTERVENTION PREVENTS THE DEVELOPMENT OF MORE SEVERE AND PERMANENT DAMAGE TO THE BRAIN AND NERVOUS SYSTEM. IT IS THEREFORE RECOMMENDED THAT PATIENTS WITH CHRONIC PSYCHIC DISORDERS BE IDENTIFIED AS EARLY AS POSSIBLE AND THAT THERAPY BE INITIATED AT THAT TIME.

THE STUDY ALSO INDICATED THAT THE EFFECTS OF THERAPY WERE MORE SIGNIFICANT IN PATIENTS WHOSE ILLNESSES WERE OF A SHORTER DURATION. THIS SUGGESTS THAT THERAPY IS MOST EFFECTIVE WHEN IT IS INITIATED EARLY IN THE COURSE OF THE ILLNESS. THE REASON FOR THIS MAY BE THAT EARLY INTERVENTION PREVENTS THE DEVELOPMENT OF MORE SEVERE AND PERMANENT DAMAGE TO THE BRAIN AND NERVOUS SYSTEM. IT IS THEREFORE RECOMMENDED THAT PATIENTS WITH CHRONIC PSYCHIC DISORDERS BE IDENTIFIED AS EARLY AS POSSIBLE AND THAT THERAPY BE INITIATED AT THAT TIME.

2. EARLY INTERVENTION WITH THERAPY IS MOST EFFECTIVE IN THE TREATMENT OF CHRONIC PSYCHIC DISORDERS. THIS SUGGESTS THAT THERAPY IS MOST EFFECTIVE WHEN IT IS INITIATED EARLY IN THE COURSE OF THE ILLNESS. THE REASON FOR THIS MAY BE THAT EARLY INTERVENTION PREVENTS THE DEVELOPMENT OF MORE SEVERE AND PERMANENT DAMAGE TO THE BRAIN AND NERVOUS SYSTEM. IT IS THEREFORE RECOMMENDED THAT PATIENTS WITH CHRONIC PSYCHIC DISORDERS BE IDENTIFIED AS EARLY AS POSSIBLE AND THAT THERAPY BE INITIATED AT THAT TIME.

IN THE TEACHING OF ART, THIS OBJECTIVE WOULD BE ASSOCIATED WITH LEARNING OF PRINCIPLES GOVERNING COLOR OR THE UNDERSTANDING OF THE CONCEPTS UNDERLYING THE VARIOUS SCHOOLS OF ART.

THERE IS LITTLE EXPERIMENTAL RESEARCH WITH PROJECTED MATERIALS OR TELEVISION LEARNING ON THIS PARTICULAR OBJECTIVE. HOWEVER, A RECENT STUDY BY GROPPER USED THE PROGRAMED INSTRUCTION MODE TO STUDY THE LEARNING OF SCIENCE CONCEPTS AND PRINCIPLES ON THE BASIS OF EITHER VISUAL (PICTORIAL) OR VERBAL (PRINT) PRESENTATION ALONE. GROPPER FOUND THAT WHEN A TOTALLY VISUAL (PICTORIAL) PRESENTATION OF THE CONCEPT TO BE LEARNED PRE-CEDED A VERBAL (PRINT) PRESENTATION OF THE SAME CONCEPT, THE LEARNING WAS SIGNIFICANTLY GREATER AND TOOK SIGNIFICANTLY LESS LEARNING TIME THAN WHEN THE VERBAL PRESENTATION PRECEDED THE VISUAL ONE. THE IMPORTANCE OF THIS STUDY, FOR OUR PURPOSES HERE, ARE TWOFOLD. FIRST, IT REPRESENTS A SYSTEMATIC ATTEMPT TO DEVELOPE A STRATEGY OF INSTRUCTIONAL MEDIA USE BY MANIPULATING CERTAIN VARIABLES AND CONTROLLING OTHERS TO ARRIVE AT A GENERALIZABLE CONCLUSION. SECOND, IT PRESENTS SOME VERY CONVINCING EVIDENCE IN SUPPORT OF THE EFFECTIVENESS OF VISUAL (PICTORIAL) PRESENTATIONS.

4. LEARNING PROCEDURES. THIS TASK INVOLVES LEARNING TO CARRY OUT A SEQUENCE OF ACTS OR OPERATIONS IN THE PROPER ORDER. IN THE TEACHING OF ART, THESE MIGHT BE THE LEARNING OF THE PROCEDURE FOR THE MAKING OF A SILK SCREEN PRINT OR THE PROCEDURE TO FOLLOW IN PREPARING ART MEDIA FOR USE. BECAUSE OF THE FAIRLY SIMPLE NATURE OF THE ORDER OF MOST ART PROCEDURES, THIS LEARNING OBJECTIVE MAY NOT BE AS IMPORTANT AS THE OTHERS. THERE IS NO RECOGNIZABLE AUDIOVISUAL RESEARCH RELATING DIRECTLY TO THIS PROBLEM, BUT IT MIGHT BE EXPECTED THAT SOUND MOTION PICTURES, TELEVISED INSTRUCTION, PROGRAMED INSTRUCTION, AND DEMONSTRATIONS WOULD BE THE EDUCATIONAL MEDIA MOST APT TO ENHANCE SUCH LEARNING.
5. PERFORMING SKILLED PERCEPTUAL-MOTOR ACTS. THIS TASK INVOLVES THE USE OF SIMPLE AND COMPLEX PERCEPTUALMOTOR SKILLS FOR PERFORMING A MANIPULATION TASK. IN THE TEACHING OF ART, THIS MIGHT ENTAIL THE LEARNING OF PROPER MANIPULATIVE TECHNIQUES WITH ART MEDIA SUCH AS THE HANDLING OF TOOLS, WATERCOLOR WASHES, ETC. .

IN THE TEACHING OF ART, THIS OBJECTIVE WOULD BE ASSOCIATED WITH LEARNING OF FUNDAMENTAL KNOWLEDGE OF THE UNDERSTANDING OF THE CONCEPTS UNDERLYING THE TEACHING OF ART.

THERE IS LITTLE EXPERIMENTAL RESEARCH WITH PROJECTED MATERIALS OR TELEVISION LEARNING IN THIS FACTORIAL OBJECTIVE. HOWEVER, A RECENT STUDY BY COPPER AND THE PROGRAMMED INSTRUCTION MODE TO STUDY THE LEARNING OF SCIENCE CONCEPTS AND PRINCIPLES ON THE BASIS OF EITHER VISUAL (PICTORIAL OR VERBAL PRINT) PRESENTATION ALONE, COPPER FOUND THAT WHEN A TOTALLY VISUAL (PICTORIAL) PRESENTATION OF THE CONCEPT TO BE LEARNED PRECEDED A VERBAL (PRINT) PRESENTATION OF THE SAME CONCEPT, THE LEARNING WAS SIGNIFICANTLY GREATER AND MORE SIGNIFICANTLY LESS LEARNING TOOK PLACE WHEN THE VERBAL PRESENTATION PRECEDED THE VISUAL ONE. THE IMPORTANCE OF THIS STUDY FOR OUR PURPOSES HERE ARE TWO. FIRST, IT REVEALS A SYSTEMATIC ATTEMPT TO RESEARCH A METHOD OF INSTRUCTIONAL MEDIA USE BY MANIPULATING CERTAIN VARIABLES AND CONTROLLING OTHERS TO ARRIVE AT A GENERALIZABLE CONCLUSION. SECOND, IT PRESENTS SOME VERY CONVINCING EVIDENCE IN SUPPORT OF THE EFFECTIVENESS OF VISUAL (PICTORIAL) PRESENTATIONS.

LEARNING PROCEDURE. THIS TASK INVOLVES LEARNING TO CARRY OUT A SEQUENCE OF STEPS OR OPERATIONS IN THE PROPER ORDER. IN THE TEACHING OF ART, THIS MIGHT BE THE LEARNING OF THE PROCEDURE FOR THE MAKING OF A SLICK SCREEN PRINT OR THE PROCEDURE TO FOLLOW IN REPAIRING ART MEDIA FOR USE. BECAUSE OF THE EARLY STAGE NATURE OF THE ORDER OF MOST ART PROCEDURES, THIS LEARNING OBJECTIVE MAY NOT BE AS IMPORTANT AS THE OTHERS. THERE IS NO RECOMMENDABLE ADDITIONAL RESEARCH RELATING DIRECTLY TO THIS PROBLEM, BUT IT MIGHT BE EXPECTED THAT SOME OTHER RESEARCH, TELETYPE INSTRUCTION, PROGRAMED INSTRUCTION, AND DEMONSTRATIONS WOULD BE THE EDUCATIONAL MEDIA MOST LIKELY TO ENHANCE SUCH LEARNING.

2. FUNDAMENTAL SKILLED PERCEPTUAL-MOTOR ACTS. THIS TASK INVOLVES THE USE OF SIMPLE AND COMPLEX PERCEPTUAL MOTOR SKILLS FOR PERFORMING A MANIPULATIVE TASK. IN THE TEACHING OF ART, THIS MIGHT ENTAIL THE LEARNING OF PROPER MANIPULATIVE TECHNIQUES WITH ART MEDIA SUCH AS THE HANDLING OF TOOLS, WATERCOLOR WASHES, ETC.

THERE IS LITTLE DOUBT ABOUT THE EFFECTIVENESS OF FILMS IN TEACHING PERCEPTUAL-MOTOR SKILLS, PARTICULARLY WHEN STUDENTS ARE GIVEN OPPORTUNITIES FOR ACTIVE PARTICIPATION DURING THE PRESENTATION PROCESS. STUDIES USING THE REPETITIVE 8MM FILM-LOOP FOR SKILL TRAINING HAVE DEMONSTRATED THE EFFICIENCY OF THIS PROMISING INSTRUCTIONAL TECHNIQUE. FOR THE ART TEACHER WHO WISHES TO DEVELOP SPECIFIC PERCEPTUAL-MOTOR SKILLS AND TO GIVE STUDENTS AN EXEMPLARY MODEL TO FOLLOW, THERE WOULD APPEAR TO BE A SOUND RESEARCH BASE FOR THE EMPLOYMENT OF MOTION PICTURE FILMS, PARTICULARLY IF THEY ARE USED CREATIVELY (STOPPING FOR PRACTICE, REPEATING, ETC.) RATHER THAN MERELY AS ONE-WAY ONE-TIME COMMUNICATION MEDIA. IF THE TEACHER WILL USE THE REPETITIVE 8MM FILM-LOOP AND BUILD IN OPPORTUNITY FOR STUDENT PARTICIPATION, SKILLS LEARNING WILL PROBABLY BE GREATLY ENHANCED.

6. DEVELOPING DESIRABLE ATTITUDES, OPINIONS AND MOTIVATIONS. THIS TASK RELATES TO THE ENHANCEMENT OF THE LEARNER'S PREFERENCE FOR A PARTICULAR POINT OF VIEW, IDEA, PRACTICE, OR COURSE OF ACTION, AND REQUIRES THE INVOLVEMENT OF HIS DRIVES, WISHES, OR NEEDS. IN THE TEACHING OF ART, THIS MIGHT INVOLVE THE DEVELOPMENT OF AWARENESS OF THE AESTHETICS OF PRESENTATION OR THE DESIRE TO ENGAGE IN ART ACTIVITIES. THERE IS LIMITED RESEARCH EVIDENCE POINTING TO THE SUPERIORITY OF ANY SPECIFIC MEDIUM OF INSTRUCTION; BUT IT WOULD APPEAR THAT A VARIETY OF DIFFERENT KINDS OF STIMULI, PRESENTING THE LEARNER WITH MANY DIMENSIONS OF THE SUBJECT, WOULD BE MOST LIKELY TO LEAD TO DEVELOPMENT OF DESIRABLE ATTITUDES.

THESE ARE THE MAIN REASONS WHY
TEACHING READING TO STUDENTS
DURING THE EARLY YEARS IS
CRUCIAL. THE REASON FOR THIS
IS THAT THE EARLY YEARS ARE
THE BEST TIME TO LEARN HOW
TO READ. IF THEY ARE NOT
LEARNING HOW TO READ AT THIS
TIME, THEY WILL FIND IT
DIFFICULT TO DO SO LATER.
THE EARLY YEARS ARE ALSO THE
BEST TIME TO LEARN HOW TO
WRITE. IF THEY ARE NOT
LEARNING HOW TO WRITE AT THIS
TIME, THEY WILL FIND IT
DIFFICULT TO DO SO LATER.
THE EARLY YEARS ARE ALSO THE
BEST TIME TO LEARN HOW TO
SPEAK. IF THEY ARE NOT
LEARNING HOW TO SPEAK AT THIS
TIME, THEY WILL FIND IT
DIFFICULT TO DO SO LATER.
THE EARLY YEARS ARE ALSO THE
BEST TIME TO LEARN HOW TO
LISTEN. IF THEY ARE NOT
LEARNING HOW TO LISTEN AT THIS
TIME, THEY WILL FIND IT
DIFFICULT TO DO SO LATER.
THE EARLY YEARS ARE ALSO THE
BEST TIME TO LEARN HOW TO
THINK. IF THEY ARE NOT
LEARNING HOW TO THINK AT THIS
TIME, THEY WILL FIND IT
DIFFICULT TO DO SO LATER.

THE EARLY YEARS ARE ALSO THE
BEST TIME TO LEARN HOW TO
WORK WITH OTHERS. IF THEY
ARE NOT LEARNING HOW TO
WORK WITH OTHERS AT THIS
TIME, THEY WILL FIND IT
DIFFICULT TO DO SO LATER.
THE EARLY YEARS ARE ALSO THE
BEST TIME TO LEARN HOW TO
PROBLEM SOLVE. IF THEY ARE
NOT LEARNING HOW TO
PROBLEM SOLVE AT THIS TIME,
THEY WILL FIND IT DIFFICULT
TO DO SO LATER. THE EARLY
YEARS ARE ALSO THE BEST TIME
TO LEARN HOW TO MANAGE
EMOTIONS. IF THEY ARE NOT
LEARNING HOW TO MANAGE
EMOTIONS AT THIS TIME, THEY
WILL FIND IT DIFFICULT TO
DO SO LATER. THE EARLY
YEARS ARE ALSO THE BEST TIME
TO LEARN HOW TO SET GOALS.
IF THEY ARE NOT LEARNING
HOW TO SET GOALS AT THIS
TIME, THEY WILL FIND IT
DIFFICULT TO DO SO LATER.

LEARNING OBJECTIVES:

INSTRUCTIONAL MEDIA TYPE:	Learning Factual Information	Learning Visual Identifications	Learning Principles, Concepts & Rules	Learning Procedures	Performing Skilled Perceptual-Motor Acts	Developing Desirable Attitudes, Opinions & Motivations
Still Pictures	M	H	M	M	L	L
Motion Pictures	M	H	H	H	M	M
Television	M	M	H	M	L	M
3-D Objects	L	H	L	L	L	L
Audio Recordings	M	L	L	M	L	M
Programed Instruction	M	M	M	H	L	M
Demonstration	L	M	L	H	M	M
Printed Textbooks	M	L	M	M	L	M
Oral Presentation	M	L	M	M	L	M

M- medium
H- high
L- low

Category	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Category 1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Category 2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Category 3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

1. The first column is labeled 'Category' and contains three entries: 'Category 1', 'Category 2', and 'Category 3'.
 2. The second column is labeled '1' and contains the letter 'M' for all 21 rows.
 3. The third column is labeled '2' and contains the letter 'M' for all 21 rows.
 4. The fourth column is labeled '3' and contains the letter 'M' for all 21 rows.
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 18. The eighteenth column is labeled '17' and contains the letter 'M' for all 21 rows.
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 20. The twentieth column is labeled '19' and contains the letter 'M' for all 21 rows.
 21. The twenty-first column is labeled '20' and contains the letter 'M' for all 21 rows.

PART II AIMS

CHANGE IS THE MOST CONSISTENT FACTOR IN AMERICAN EDUCATION TODAY. FROM MODERN MATHEMATICS TO MODULAR SCHEDULING, THE CURRICULUM, CONTENT, STAFF, ORGANIZATION, METHODOLOGY, AND BUILDINGS OF EDUCATION ARE ALL UNDERGOING REAPPRAISAL, EXPERIMENTATION AND CHANGE. THE COMMON GROUND THAT ALL INNOVATIONS SHARE CAN BE EXPRESSED BY THE FOLLOWING AIMS:

1. TO TEACH MORE STUDENTS WITH RELETIVELY FEWER FACULTY MEMBERS.
2. TO TEACH THEM MORE EFFECTIVELY IN SPITE OF THE GROWING COMPLEXITY OF SUBJECT MATTER.
3. TO BUILD NEW FACILITIES NEEDED TO ACCOMPLISH THESE GOALS.
4. TO DO THIS WHILE REDUCING THE OVER ALL COST OF EDUCATION.

THE MOST PROMISING KEY TO THE EVENTUAL SOLUTION OF THESE INTERLOCKING PROBLEMS SEEM TO BE CONCENTRATED EFFORT TO INCREASE THE EFFICIENCY OF THE TOTAL EDUCATIONAL PROCESS LARGELY BY TAKING ADVANTAGE OF THE FULL SPECTRUM OF AUDIO-VISUAL DEVICES AND OTHER COMMUNICATIONS INSTRUMENTS.

WITHIN THE PAST FEW YEARS THE IMPACT OF THE NEW AIDS AND MEDIA ON EDUCATION AT ALL LEVELS HAS BEEN THE SUBJECT OF EXTENSIVE DISCUSSION. PRIMARY INTEREST HAS CENTERED IN QUESTIONS OF PEDAGOGY, EDUCATIONAL PHILOSOPHY, AND THE EFFECTIVENESS OF THE NEW TECHNIQUES. LITTLE ATTENTION HAS BEEN GIVEN TO SOLVING THE ARCHITECTURAL PROBLEMS, PERHAPS BECAUSE THEY HAVE NOT BEEN RECOGNIZED. THERE IS LITTLE DOUBT, THOUGH, THAT MOST OF THE INSTRUCTIONAL AIDS AND MEDIA, TELEVISION INCLUDED, REQUIRED SPECIFIC ENVIRONMENTAL CONDITIONS FOR THEIR MOST EFFECTIVE USE. THESE CONDITIONS ARE NOT PROVIDED IN CONVENTIONAL COLLEGE CLASSROOMS AND BUILDINGS.

THE OPTIMUM USE OF THE NEW INSTRUCTIONAL AIDS AND MEDIA, REQUIRES NEW CONCEPTS OF SPACE TYPES AND THEIR DESIGN. TO REINFORCE THIS PREMISE, THE "LEARNING SPACE" HAS BEEN ADOPTED IN PLACE OF "CLASSROOM", "LECTURE HALL", OR "RECITATION ROOM". THE LEARNING SPACES ARE NEW IN FUNCTION AND IN DESIGN. GOOD LEARNING SPACES CANNOT BE CREATED BY APPLYING "FIRST AID" TO CONVENTIONAL SPACES.

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THE PLANNING OF FACILITIES WITH INSTRUCTIONAL AIDS AND MEDIA REQUIRES NOT ONLY A GRASP OF PRESENT USAGE, BUT A FORECASTING OF TRENDS. THE EDUCATIONAL FACILITIES LABORATORY OFFERS THE FOLLOWING DEVELOPMENTS TO BE ANTICIPATED:

1. FEDERAL, STATE, AND FOUNDATION SUPPORT AND INDUSTRIAL PROMOTION HAVE BROUGHT THE USE OF AIDS AND MEDIA TO PRESENT STATUS. WITHOUT SUCH INCENTIVE IT SEEMS DOUBTFUL THAT AMERICAN EDUCATION COULD HAVE ESPOUSED LEARNING MEDIA AS EXTENSIVELY AS IT HAS. NOTHING INDICATES THAT SUCH SUPPORT AND PROMOTION WILL BE WITHDRAWN; IF ANYTHING, THEY WILL BE EXPANDED.
2. INSTRUCTIONAL AIDS AND MEDIA WILL NOT "TAKE OVER" EDUCATION; TEACHERS WILL NOT BE REPLACED BY MACHINES. MEDIA BROADEN THE SPECTRUM OF EDUCATION; THEY DO NOT, OF THEMSELVES, PROVIDE AN EDUCATION. EVEN THE MOST MEDIA-ORIENTED EDUCATORS RECOGNIZE VALID LIMITS AND RESTRICTIONS, AND ARE SIMPLY TRYING TO ESTABLISH THE MOST APPROPRIATE ROLES FOR MEDIA WITHIN THE EDUCATIONAL PROCESS.
3. THE UTILIZATION AND ADMINISTRATION OF AIDS AND MEDIA HAVE GENERALLY BEEN FRAGMENTED; IN FACT, THE DEVELOPMENT OF MEDIA HAS BEEN A HISTORY OF "AUDIO-VISUAL CULTS". AN INTEGRATED, MULTI-MEDIA APPROACH HAS ONLY RECENTLY BEEN RECOGNIZED AS SIGNIFICANT FOR SUCCESS AND THIS CONCEPT WILL GROW. THE FILM MAKERS, THE TELEVISION SPECIALISTS, THE GRAPHIC ARTISTS, AND EQUIPMENT MANUFACTURERS WILL BE BROUGHT MORE AND MORE TOGETHER BOTH PHYSICALLY, AND PHILOSOPHICALLY. THIS IS THE FIRST REQUISITE FOR MORE EFFECTIVE MULTI-MEDIA USAGE AND SYSTEMS APPROACH TO LEARNING.
4. IN THE FUTURE, THE CLASSROOM TEACHER WILL BE BETTER PREPARED FOR, AND MORE SYMPATHETIC TOWARD, THE USE OF MEDIA IN DAY-BY-DAY INSTRUCTION.
5. THE AMOUNT OF HARDWARE AVAILABLE, THE VARIETY OF EQUIPMENT AND THE NUMBER OF FUNCTIONS IT CAN PERFORM, ARE INCREASING AND WILL CONTINUE TO INCREASE AT A RAPID RATE.
6. BECAUSE OF THE INTELLECTUAL CHALLENGE AND POTENTIAL CREATIVITY OF MEDIA IN EDUCATION, A SPECIALTY GROUP OF EDUCATORS, SKILLED AND HIGHLY MOTIVATED IN USES OF MEDIA, WILL DEVELOP. THESE PERSONS WILL BE MORE THAN TECHNICIANS; THEY WILL BE MEDIA-PEDAGOGISTS WHO WILL CREATE LEARNING SITUATIONS THAT WILL USE MEDIA AT ITS MAXIMUM VALUE.

THE SUPPORTING TEAM WILL ALSO INCLUDE THE PRODUCTION SPECIALISTS WELL VERSED IN EFFECTIVE TELEVISION PRODUCTION, FILM MAKING, GRAPHIC PRODUCTION, PROGRAMMING, AUDIO RECORDING AND RADIO.

THE PLANNING OF FACILITIES WITH VARIOUS TYPES AND SIZES
REQUIRES NOT ONLY A CAREFUL CONSIDERATION OF THE
FORECASTING OF NEEDS, THE PHYSICAL FACILITIES
LABORATORY OFFERS THE FOLLOWING SUGGESTIONS TO BE
CONSIDERED.

1. FEDERAL STATE, AND FOUNDATION SUPPORT AND INDUSTRIAL PROMOTION HAVE PROMOTED THE USE OF AIDS AND MEDIA TO PRESENT STATUS, WITHOUT SUCH PROMOTION IT SEEMS DOUBTFUL THAT ADEQUATE FACILITIES WOULD HAVE EXPANDED. LEARNING MEDIA AS CATEGORIES AS IT HAS. NOTHING INDICATES THAT SUCH EXPANSION AND PROMOTION WILL BE WITHHELD, IF ANYTHING, THEY WILL BE EXPANDED.
2. INSTRUCTIONAL AIDS AND MEDIA WILL NOT TAKE OVER EDUCATION. TEACHERS WHO ARE NOT AWARE OF METHODS MEDIA BRINGS THE METHOD OF INSTRUCTION. THEY DO NOT OF THEMSELVES PROVIDE AN EDUCATION. EVEN THE MOST MEDIA-ORIENTED EDUCATIONAL RESEARCHERS CALL FOR LIMITED RESTRICTIONS, AND ARE STRONGLY OPPOSED TO THE MOST EXTENSIVE USE OF MEDIA WITHIN THE EDUCATIONAL PROCESS.
3. THE UTILIZATION AND ADMINISTRATION OF AIDS AND MEDIA HAVE GENERALLY BEEN OVEREMPHASIZED IN FACT, THE DEVELOPMENT OF MEDIA HAS BEEN A HISTORY OF "BUBBLES" IN VARIOUS COUNTRIES. AN INTEGRATED MULTI-MEDIA APPROACH HAS ONLY RECENTLY BEEN DEVELOPED AS A NECESSARY FOR SUCCESS AND THIS CONCEPT WILL GROW. THE FILM MARKET, THE TELEVISION SPECIALISTS, THE GRAPHIC ARTISTS, AND EQUIPMENT MANUFACTURERS WILL BE BROUGHT MORE AND MORE TOGETHER BOTH PHYSICALLY AND ORGANIZATIONALY. THIS IS THE FIRST REQUIREMENT FOR MORE EFFECTIVE MULTI-MEDIA USAGE AND SYSTEMS APPROACH TO LEARNING.
4. IN THE FUTURE, THE CLASSROOM FUTURE WILL BE BETTER PREPARED FOR, AND MORE ORIENTED TOWARD, THE USE OF MEDIA IN DAY-BY-DAY INSTRUCTION.
5. THE AMOUNT OF MATERIAL AVAILABLE, THE VARIETY OF EQUIPMENT AND THE NUMBER OF CONDITIONS IT CAN FURNISH ARE INCREASING AND WILL CONTINUE TO INCREASE AT A RAPID RATE.
6. BECAUSE OF THE INTELLECTUAL CHALLENGE AND POTENTIAL CREATIVITY OF MEDIA IN EDUCATION, A SERIOUS GROUP OF EDUCATIONAL, SKILLED AND HIGHLY MOTIVATED IN USE OF MEDIA, WILL DEVELOP. THESE PERSONS WILL BE MORE THAN TEACHERS, THEY WILL BE MEDIA-PRODUCERS WHO WILL CREATE LEARNING SITUATIONS THAT WILL USE MEDIA AT ITS HIGHEST VALUE.
7. THE SUPPORTING TEAM WILL ALSO IMPROVE THE PRODUCTION SPECIALISTS WILL BE REQUIRED IN RESEARCH, TECHNICAL PRODUCTION, FILM MAKING, GRAPHIC PRODUCTION, PROGRAMMING, AUDIO RECORDING AND AUDIO.

THESE SPECIALISTS WILL BE SUPPORTED, AS WILL THE FACULTY, BY TECHNICIANS KNOWLEDGEABLE IN MEDIA HARDWARE, ITS OPERATION, MAINTENANCE, AND REPAIR.

7. ALONG WITH THE AMASSING OF INFORMATION AND THE EXPANDED USE OF MEDIA MUST COME MORE EFFICIENT SYSTEMS FOR STORING AND CALLING UP INFORMATION. HOWEVER, SUCH SYSTEMS WILL BE DEVELOPED AND WILL PRACTICAL ONLY FOR INFORMATION THAT IS IN GREAT DEMAND. IT IS INCONCEIVABLE THAT THERE WILL EVER BE A TIME WHEN ALL INFORMATION, REGARDLESS OF REMOTENESS AND LIMITED APPLICATION, WILL BE READILY ACCESSIBLE THROUGH HIGH SPEED RETRIEVAL SYSTEMS. THE USE OF DIAL-UP SYSTEMS WILL LIKELY BE LIMITED TO INFORMATION OF THE "READY REFERENCE" TYPE.

THE PHILOSOPHY BEHIND THE MEDIA CENTER IS THIS:

LARGE-GROUP INSTRUCTION IS TO BE AN INTEGRAL PART OF THE FABRIC OF COLLEGE INSTRUCTION, WHICH IS NECESSARY TO INSTRUCT MORE STUDENTS AND STILL ACCOMPLISH IT ECONOMICALLY.

MEDIA ORIENTED INSTRUCTION PLACES GREAT DEMANDS ON FACILITIES, THERE FORE IT MAKES SENSE TO PLACE SIMILAR FACILITIES OF THIS KIND, WITH SIMILAR REQUIREMENTS, TOGETHER.

TEACHING WITH MEDIA REQUIRES TECHNICAL AND PRODUCTION SUPPORT. BY CENTRALIZING TEACHING FACILITIES, AND LOCATING PRODUCTION FACILITIES NEAR THEM, A REAL WORKING COMBINATION IS EVOLVED.

SINCE THESE SPACES MUST BE INTERDISCIPLINARY TO RECEIVE ADEQUATE UTILIZATION, IT IS NOT LOGICAL TO SCATTER THEM AROUND THE CAMPUS, ASSIGNING THEM TO THE VARIOUS ACADEMIC DEPARTMENTS.

BY PLACING THESE FUNCTIONS TOGETHER IN ONE OR TWO BUILDINGS AT THE "HUB" OF THE CAMPUS, THE MEDIA CENTER IS EVOLVED AS A DISTINCT FACILITY TYPE. SUCH A CENTER CAN THEN ECONOMICALLY PROVIDE:

AN EFFICIENT ARRANGEMENT OF THE ODD ROOM SHAPES THAT ARE BEST FOR LECTURE ROOMS.

SHARED PROJECTION AREAS, ALLOWING EXPENSIVE EQUIPMENT TO BE BROUGHT TOGETHER AND USED IN ONE AREA OF THE CAMPUS. THIS INSURES PROPER CARE OF THE EQUIPMENT AND ITS ADEQUATE UTILIZATION.

A CENTRAL TECHNICAL STAFF, WORKING IN ONE BUILDING RATHER THAN BEING SCATTERED AMONG MANY.

THESE DOCUMENTS ARE THE PROPERTY OF THE NATIONAL ARCHIVES AND ARE LOANED TO YOU BY THE NATIONAL ARCHIVES. THEY ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE NATIONAL ARCHIVES. FOR MORE INFORMATION, CONTACT THE NATIONAL ARCHIVES AT COLLEGE PARK, MARYLAND 20740-6001. TEL: 301-837-1122. FAX: 301-837-1120. WWW.NATIONALARCHIVES.GOV

CENTRALIZATION OF PRODUCTION AND STUDIO AREAS.
A FOCAL POINT TRAINING FACULTY IN EFFECTIVELY USING
INSTRUCTIONAL AIDS AND MEDIA.

CENTRALIZATION OF PRODUCTION AND SALES
A SCOT FOUNTAIN PAPER COMPANY REPORT
INDUSTRIAL AND FINANCIAL

PART III SPACE REQUIREMENTS.

DUE TO THE CENTRALITY OF THE ZIMMERMAN PLAZA SITE AND ITS PROXIMITY TO THE MAJOR EXISTING CLASSROOMS, IT IS APPROPRIATE THAT MOST OR ALL OF THE ADDITIONAL CLASSROOM FACILITIES BE BUILT BETWEEN THE PRESENT AND SUCH TIME AS THE PROJECTED LIMITS OF 25,000 STUDENTS IS REACHED, SHOULD BE LOCATED IN THIS AREA.

AT THE PRESENT TIME, WITH STUDENT ENROLLMENT STANDING AT 12,000 STUDENTS, BOTH FULL AND PART-TIME, THERE IS A CUMULATIVE TOTAL OF 123,000 STUDENT-HOURS PER WEEK SPENT IN GENERAL CLASSROOM FACILITIES, BASED ON A 67-HOUR WEEK. APPROXIMATELY 80 PER CENT OF THESE STUDENT-HOURS ARE INVOLVED IN CLASSES HELD DURING 9 DAYTIME HOURS, 5 DAYS A WEEK. DURING THIS 45-HOUR WEEK, 98,000 STUDENT-HOURS ARE SPENT IN GENERAL CLASSROOMS. I WILL BASE ALL FURTHER CALCULATIONS PERTAINING TO NEED AND USE ON THIS 45-HOUR WEEK, AS ALL INDICATIONS SHOW THIS PERIOD AS THE CONTINUING PERIOD OF HIGHEST UTILIZATION.

ON THE BASIS OF A 45-HOUR WEEK, THERE IS A TOTAL CAPACITY OF 284,000 STUDENT-STATION-HOURS PER WEEK IN EXISTING CLASSROOM FACILITIES, WHICH OPERATE AT A CUMULATIVE EFFICIENCY OF 34.5 PER CENT. BY USE OF COMPUTERIZED SCHEDULING, OTHER UNIVERSITIES AND COLLEGES HAVE SUCCESSFULLY RAISED THIS FACTOR OF UTILIZATION EFFICIENCY TO LEVELS AS HIGH AS 85 PER CENT. HOWEVER, THIS EFFICIENCY LEVEL IS SOMEWHAT HIGH FOR PLANNING PURPOSES, SO I HAVE THEREFORE ARBITRARILY SET THE EFFICIENCY STANDARD AT 66 PER CENT, WHICH LEVEL SHOULD PROVIDE A SUFFICIENTLY BROAD LATITUDE FOR CONTINGENCIES AND POSSIBLE GROWTH BEYOND THE CURRENTLY STATED LIMITS.

ASSUMING THAT THE PRESENT AVERAGE OF 8.3 STUDENT-HOURS PER WEEK PER STUDENT IN CLASSROOM INSTRUCTION SHALL REMAIN MATERIALLY UNCHANGED IN THE FORSEEABLE FUTURE, AT THAT TIME THAT THE THEORETICAL LIMIT ON ENROLLMENT IS ARRIVED AT, CAPACITY OF 206,000 STUDENT-STATION-HOURS PER WEEK WILL BE NEEDED. IN THE INTERIM, HOWEVER, AN ESTIMATED TOTAL OF 97,000 STUDENT-STATION-HOURS PER WEEK WILL BE LOST TO CLASSROOM USE DUE TO THE REMOVAL OF BUILDINGS AND CONVERSION OF CLASSROOMS TO OTHER USES. THIS LOSS WILL LEAVE A 207,000 STUDENT-STATION-HOURS PER WEEK CAPACITY IN BUILDINGS TO BE CONTINUED IN USE.

ALL TO THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE FACILITIES AT ALL TIMES. THE PROJECT WILL BE LOCATED IN THE AREA

AT THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FACILITIES IN GENERAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FACILITIES IN GENERAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FACILITIES IN GENERAL.

ON THE BASIS OF THE INFORMATION PROVIDED TO THE CONTRACTOR BY THE CLIENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FACILITIES IN GENERAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FACILITIES IN GENERAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FACILITIES IN GENERAL.

ASSUMING THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FACILITIES IN GENERAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FACILITIES IN GENERAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FACILITIES IN GENERAL.

AT 66 PER CENT EFFICIENCY, A TOTAL CAPACITY OF 343,300 STUDENT-STATION-HOURS PER WEEK WILL BE NEEDED, LEAVING A TOTAL CAPACITY OF 146,300 STUDENT-STATION-HOURS PER WEEK, OR 3,200 STUDENT-STATIONS, TO BE BUILT.

BECAUSE OF THE EVER-INCREASING FRESHMAN ENROLLMENT AND AN APPARENTLY CONTINUING SHORTAGE OF HIGHLY QUALIFIED PROFESSORS, THERE IS NOW AND WILL BE INCREASINGLY IN THE FUTURE, A NEED FOR LARGE CLASSROOM SPACES IN WHICH ONE VERY GOOD MAN CAN PRESENT BASIC MATERIAL TO A LARGE NUMBER OF STUDENTS, AND FOR SMALL LECTURE AND SEMINAR ROOMS WHERE THE MATERIAL PRESENTED IN THESE LECTURES CAN BE DISCUSSED BY A SMALLER BODY OF STUDENTS AND A LOWER-RANKED INSTRUCTOR.

I THEREFORE DIVIDED THE REQUIRED NUMBER OF STUDENT-STATIONS TO BE BUILT INTO A VARIETY OF CLASS SIZES WITH THE EMPHASIS ON THE LARGER LECTURE HALLS.

AT 25 PER CENT EFFICIENCY, A TOTAL CAPACITY OF 25,000
STUDENT-STATION-HOURS PER YEAR WILL BE OBTAINED. WITH
A TOTAL CAPACITY OF 125,000 STUDENT-STATION-HOURS PER
YEAR, BY 2,500 STUDENT-STATIONS, TO BE BUILT.
BECAUSE OF THE EVER-INCREASING FRESHMAN ENROLLMENT AND
AN APPARENTLY CONSTANT SHORTAGE OF HIGHLY ABLE AND
PROFESSORS, THERE IS NOW AND WILL BE INCREASING
THE FUTURE, A NEED FOR LARGE LECTURE ROOMS IN WHICH
ONE VERY GOOD MAN CAN PRESENT BASIC MATERIAL TO A
NUMBER OF STUDENTS AND FOR SMALL LECTURE ROOMS IN WHICH
ROOMS WHERE THE MATERIAL PRESENTED IN THESE LECTURE
BE DISCUSSED BY A SMALLER BODY OF STUDENTS AND A LARGER
PARKING-AREA.

THESE DIVISIONS OF STUDENT STATIONS OF STUDENT
STATIONS TO BE BUILT INTO A VARIETY OF CLASS-SIZES WITH
THE EMPHASIS ON THE LARGER LECTURE HALLS.

PUBLIC SPACE:

LOBBY	4,000	SQ.FT.	
EXHIBITION	1,000	"	"
RECPTION	500	"	"
REST ROOMS		AS REQ'D.	

INSTRUCTION SPACE:

100 INDIVIDUAL STUDY AREAS	20	"	"
20 GROUP SEMINAR ROOMS	400	"	"
12 A-V LECTURE ROOMS FOR 50	900	"	"
8 SLOPE FLOOR LECTURE HALLS FOR 150	2,500	"	"
4 SLOPE FLOOR LECTURE HALLS FOR 240	4,000	"	"
2 SLOPE FLOOR LECTURE HALLS FOR 480	8,000	"	"

INFORMATION SPACES:

BOOK LIBRARY	(EXISTING)
COMPUTER CENTER	3,200	"	"
FILM & TAPE LIBRARY	10,000	"	"
A-V EQUIPMENT STORAGE & REPAIR	3,000	"	"

MEDIA PRODUCTION & DISTRIBUTION:

T.V. PRODUCTION & BROADCASTING	20,000	"	"
MOTION PICTURE PRODUCTION	10,000	"	"
RADIO STATION	4,500	"	"
GRAPHIC AND AIDS	14,000	"	"
MEDIA DISTRIBUTION	5,000	"	"

<u>PUBLIC SPACE</u>	
LOBBY	4,000 sq. ft.
EXHIBITION	1,000 sq. ft.
RECEPTION	500 sq. ft.
REST ROOMS	25 sq. ft.
<u>INSTRUCTION SPACE</u>	
109 INDIVIDUAL STUDY AREA	20 sq. ft.
29 GROUP SEMINAR ROOMS	400 sq. ft.
15 A-V LECTURE ROOMS FOR 25	300 sq. ft.
2 SLOPE FLOOR LECTURE HALLS FOR 250	1,500 sq. ft.
1 SLOPE FLOOR LECTURE HALLS FOR 250	1,000 sq. ft.
3 SLOPE FLOOR LECTURE HALLS FOR 250	8,000 sq. ft.
<u>INFORMATION SPACES</u>	
BOOK LIBRARY	(EXISTING)
COMPUTER CENTER	3,300 sq. ft.
FLM & TAPE LIBRARY	10,000 sq. ft.
A-V EQUIPMENT STORAGE & REPAIR	3,000 sq. ft.
<u>MEDIA PRODUCTION & DISTRIBUTION</u>	
T.V. PRODUCTION & BROADCASTING	20,000 sq. ft.
MOTION PICTURE PRODUCTION	10,000 sq. ft.
RADIO STATION	4,000 sq. ft.
GRAPHIC AND AID	14,000 sq. ft.
MEDIA DISTRIBUTION	2,000 sq. ft.

COMMUNICATIONS RESEARCH:

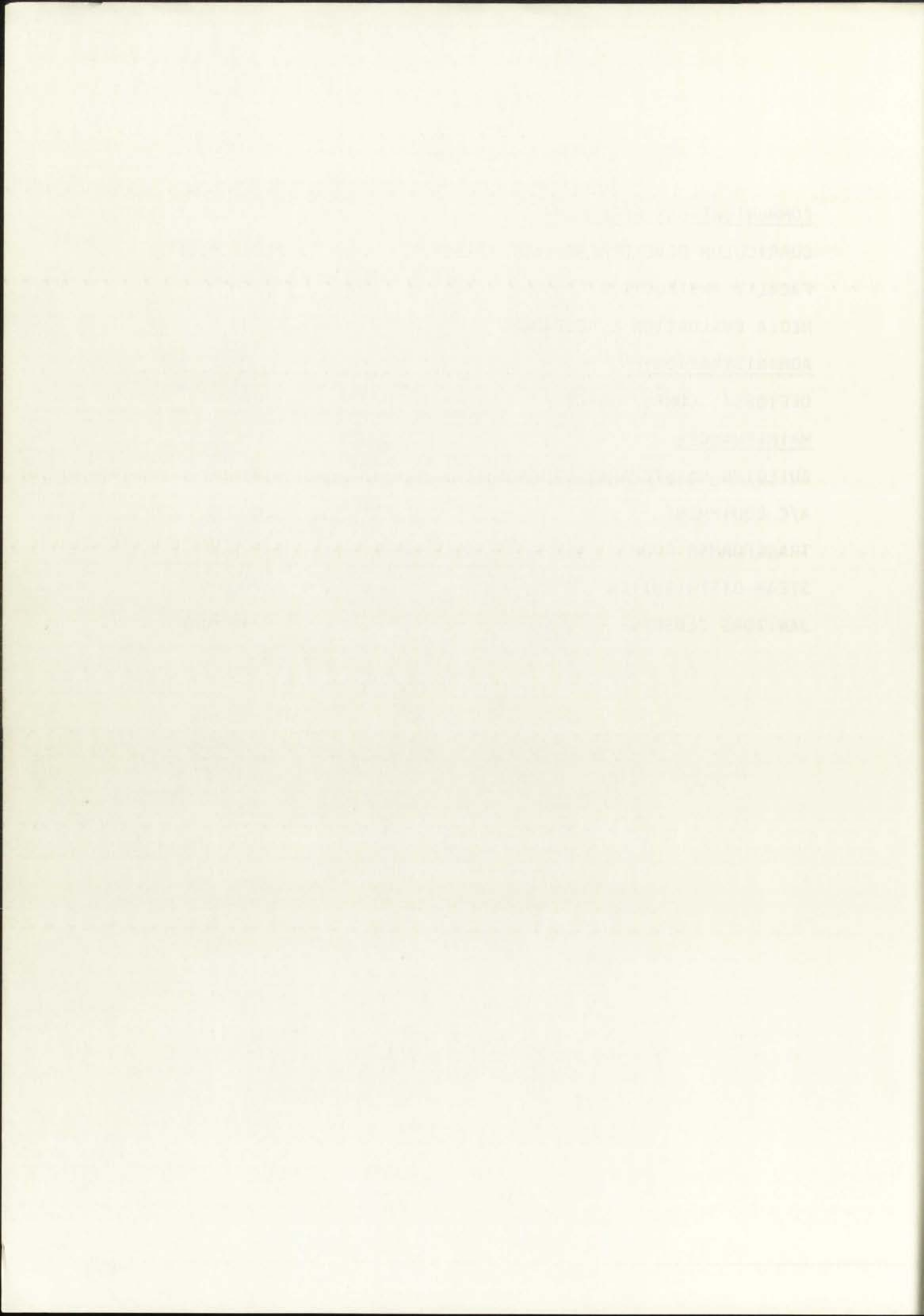
CURRICULUM DEVELOPMENT FACILITIES	2,000	SQ.FT.
FACULTY INSTRUCTION	4,000	" "
MEDIA EVALUATION & RESEARCH	3,000	" "

ADMINISTRATION:

OFFICES/ CONF./ SECT./	3,000	" "
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MAINTENANCE:

BUILDING MAINTENANCE STORAGE	4,000	" "
A/C EQUIPMENT	2,000	" "
TRANSFORMER ROOM	2,000	" "
STEAM DISTRIBUTION	1,200	" "
JANITORS CLOSETS		AS REQ'D.



PUBLIC SPACE:

PUBLIC SPACES OTHER THAN CIRCULATION INCLUDE AN EXHIBITION SPACE WHICH WILL BE OPEN FOR A VARIETY OF MATERIALS, ETC. MOSTLY RELATED TO EDUCATION. REST ROOMS WILL BE PROVIDED AS DICTATED BY THE PLAN.

INSTRUCTIONAL SPACES:

THIS AREA MOST IMPORTANT TO THE STUDENT, WILL PROVIDE A WIDE VARIETY OF SPACES WHICH WILL FACILITATE ANY COMBINATION OF CLASS SIZE. THE SMALLEST BEING THE INDIVIDUAL STUDY AREA WHICH WILL BE EQUIPTED WITH A VARIETY OF ELECTRONIC DEVICES RANGING FROM EAR PHONES TO A COMPUTER-CONNECTED DIAL-ACCESS SYSTEM ORIENTATED TOWARD SELF-EDUCATION. THEY WILL VARY IN DESIGN; SOME SHOULD GIVE STUDENTS A SENSE OF PRIVACY AND "IDENTITY" BUT NOT COMPLETE ISOLATION, WHILE OTHERS WILL PROVIDE TOTAL ACOUSTIC AND VISUAL PRIVACY. INDIVIDUAL UNITS, PARTICULARLY CARRELS, WILL VARY IN DESIGN AND FUNCTION DEPENDING ON THE LEARNING FUNCTIONS TO BE HOUSED.

THE SEMINAR ROOMS PROVIDED WILL HANDLE UP TO 20 STUDENTS AND WILL FUNCTION SIMILAR TO EXISTING FACILITIES. THE DIFFERENTIATION IS IN THE AVAILABILITY OF THE MEDIA PRESENTED IN THEM. THESE WILL OFTEN OCCUR IN CONJUNCTION WITH LABORATORIES, LARGE GROUP CLASSROOMS, AND SPECIALIZED INSTRUCTIONAL ROOMS WHERE IT IS DESIRABLE TO TAKE A PART OF A GROUP ASIDE FOR SPECIAL SMALL GROUP ACTIVITIES, OR WHERE A LARGE GROUP IS QUICKLY DIVIDED INTO SEVERAL SMALLER GROUPS FOR INTERACTIVE AND MORE PERSONAL LEARNING.

THE AUDIO-VISUAL LECTURE ROOMS WILL ACCOMODATE SMALL GROUPS (UP TO 50 PEOPLE) AND AGAIN WILL BE EQUIPTED WITH VARIOUS MEDIA SYSTEMS APPLICABLE TO SMALL GROUP PRESENTATION. THE GENERAL SHAPE OF THE GROUP ROOM IS OFTEN A SQUARE OR VARIATIONS ON IT, EITHER FOCUSED TO A CORNER OR FOCUSED TO ONE SIDE; IN THE LATTER CASE, THE FRONT CORNERS BECOME STORAGE, PREPARATION, OR OTHER ADJUNCT FACILITIES. THEY ARE GROUPED IN PAIRS SO THEY CAN EXPAND INTO ONE LARGE SPACE.

AS THE GROUP SPACES BECOME LARGE IT BECOMES NESSECARY TO PROVIDE MORE SOPHISTICATED SPACES. THE 120 PERSONS ACCOMODATED IN A SINGLE SPACE DICTATES SUCH THINGS AS SLOPED FLOORS AND ACCOUSTICALLY ORIENTED SIDE WALLS.

PLANT ROOMS

PLANT ROOMS SHALL BE LOCATED IN THE
SPACE WHICH IS CURRENTLY OCCUPIED BY
THE PLANT ROOMS AS SHOWN ON THE
AS NOTED ON THE DRAWINGS.

INSTRUCTIONAL ROOMS

THIS AREA WILL BE USED FOR
WITH VARIOUS TYPES OF
ATION OF THE STUDENT
STUDY AREA WHICH
ETHNIC BEHAVIOR
CONDUCTED WITHIN THE
EDUCATION. THE
STUDENTS A GROUP OF
COMPLETE INSTRUCTION
ACQUISITION AND
PARTICULARLY
DEPENDENT ON THE

THE LEARNER MUST
AND WILL BE
DIFFERENTIATED
PRESENTED IN
WITH LABORATORY
INSTRUCTIONAL
OF A GROUP
WHERE A LEARNER
SMALLER GROUPS

THE AUDIO-VISUAL
GROUPS UP
VARIOUS PROJECTS
THE GENERAL
VARIATIONS
TO THE SIDE
STORAGE, REARRANGING
ARE GROUPED IN
SPACE.

AS THE GROUP SHALL BE
PROVIDE MORE
ACCOMMODATION IN
STUDY FLOOR AND

LARGE-GROUP INSTRUCTION CAN INCLUDE LEARNING FUNCTIONS OTHER THAN THE SIMPLE PRESENTATION OF INFORMATION. EMPLOYED HERE IS A COMBINATION OF LABORATORY AND LECTURE-DEMONSTRATION FUNCTIONS WITHIN THE SAME FACILITY. THE RESULTING "LECTURE-LABORATORY" PERMITS THE EXPERIMENTAL INFORMATION PRESENTATION FUNCTIONS TO BE CARRIED ON SIMULTANEOUSLY AND WITHOUT CHANGING ROOMS. THE ADVANTAGES OF BEING ABLE TO DEMONSTRATE AND PRESENT INFORMATION TO A GROUP OF STUDENTS SEATED AT LABORATORY STATIONS IS ONE THAT MAY HELP OVERCOME THE PROBLEMS OF AMALGAMATING MEDIA AND INSTRUCTION IN SCIENCE AREAS.

THE 240 AND 480 PERSON LECTURE HALLS WILL PROVIDE BASIC INSTRUCTION AND PRESENTATION OF INFORMATION. EVEN IN SPACES OF THIS SIZE, APPROPRIATE FACILITIES WILL PERMIT THE EXTENSIVE AND EFFECTIVE UTILIZATION OF LEARNING MEDIA WHICH BECOMES MOST EFFICIENT WITH GROUPS OF THIS SIZE.

INFORMATIONAL SPACES:

THE BOOK LIBRARY WHICH WILL ALWAYS PLAY A ROLE IN EDUCATION IS PRESENTLY EXISTING AND THERE WILL BE NO NEED TO DUPLICATE THIS FACILITY WITHIN THE PROPOSED COMPLEX.

THE COMPUTER CENTER WHICH WILL NOT HOUSE THE COMPUTERS THEMSELVES BUT WILL PROVIDE STUDY CUBICLES (PUBLIC AREA FOR STUDENT AND FACULTY TO COLLECT INFORMATION) AND TRAINING ROOMS, A CONFERENCE ROOM AND 5 TECHNICIANS OFFICES. THE FUNCTIONS WILL INCLUDE INFORMATION RETRIVAL, PROGRAMED INSTRUCTION, ETC. INCLUDING DATA PROCESSING FOR INVENTORY, SCHEDULING, ETC. .

THE FILM AND TAPE LIBRARY WILL BE OPEN TO STUDENT AND FACULTY ALIKE AND WILL FUNCTION IN MUCH THE SAME MANNER AS THE EXISTING LIBRARIES.

THE A-V EQUIPMENT STORAGE AND MAINTENCE SECTION IS ALSO A RENTAL FACILITY FOR STUDENTS AND FACULTY AND WILL OPERATE IN THIS MANNER.

MEDIA PRODUCTION & DISTRIBUTION:

WITHIN THE PRODUCTION SPACES; T.V., SOUND AND FILM STUDIOS, DRESSING ROOMS, CENTRAL ENGINEERING AND CONTROL, EQUIPMENT STORAGE, PROP STORAGE, FILMPROCESSING AND EDITING AND STAFF SPACES FOR WORK CONFERENCE AND PREVIEWING WILL MAKE UP MAJOR PORTION ALOTTED.

THE UNIVERSITY OF MICHIGAN LIBRARY
ANN ARBOR, MICHIGAN 48106-1500
SERIALS ACQUISITION
300 NORTH ZEEB ROAD
ANN ARBOR, MI 48106-1500
TEL: 734 763 1000
FAX: 734 763 1001
WWW: WWW.LIBRARY.MICHIGAN.EDU

THE UNIVERSITY OF MICHIGAN LIBRARY
ANN ARBOR, MICHIGAN 48106-1500
SERIALS ACQUISITION
300 NORTH ZEEB ROAD
ANN ARBOR, MI 48106-1500
TEL: 734 763 1000
FAX: 734 763 1001
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THE UNIVERSITY OF MICHIGAN LIBRARY
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TEL: 734 763 1000
FAX: 734 763 1001
WWW: WWW.LIBRARY.MICHIGAN.EDU

PART IV SITE REQUIREMENTS

THE ZIMMERMAN FIELD AREA IS THE PROPOSED SITE BECAUSE OF ITS GEOGRAPHICAL PROXIMITY TO ALL PORTIONS OF THE CAMPUS. THE UNIQUENESS OF THE GEOGRAPHICAL LOCATION AND THE EXISTING OPENESS SUGGEST THE RETENTION IN CONCEPT THAT IT REMAIN OPEN TO ACCOMODATE STUDENT GATHERINGS OF ALL PURPOSES. IN THIS CONNOTATION IT THUS BECOMES A FORMAL SPACE BOUNDED ON EVERY SIDE WITH BUILDINGS.

LIGHT AND SHADOW ARE ALSO PRIME CONSIDERATIONS, PARTICULARLY IN OUR WARM, SEMI-ARID CLIMATE. THE PLAZA MUST BE LONG ENOUGH IN THE NORTH-SOUTH DIRECTION THAT THE MAJORITY OF THE AREA RECEIVES SUN DURING MOST OF THE DAY IN THE WINTER, WHILE SUFFICIENT SHADE FOR COMFORT MUST BE PROVIDED DURING THE SUMMER.

OVER THE YEARS THE CENTER OF GRAVITY OF THE CENTRAL CAMPUS HAS MOVED STEADILY EASTWARD. AT THE FINAL STAGE OF DEVELOPMENT THE GEOGRAPHIC AND TRAFFIC CENTER OF THE CAMPUS WILL BE IN THE AREA OF ZIMMERMAN PLAZA.

AT PRESENT THE HEAVIEST SINGLE PATTERN OF CAMPUS FOOT TRAFFIC FLOWS EAST-WEST JUST NORTH OF ZIMMERMAN PLAZA ALONG ASH STREET (THE FUTURE ASH MALL). THIS TRAFFIC, BETWEEN THE ACADEMIC AREA AND THE UNION BUILDING-DORMITORY AREA, IS AUGMENTED BY FLOW BETWEEN THE LIBRARY AND THE ACADEMIC AREA AND BETWEEN THE LIBRARY AND THE UNION. AS THE ACADEMIC AREA IN THE SOUTHWEST PART OF THE CAMPUS IS INTENSIVELY DEVELOPED, AS THE STUDENT ADMINISTRATION AND INFIRMARY BUILDING AND SWIMMING POOL ARE BUILT, AND AS THE DORMITORY AREA EXPANDS TO THE SOUTHEAST, IT SEEMS LIKELY THAT ANOTHER MORE SOUTHERLY LINE OF EAST-WEST TRAFFIC WILL DEVELOP. SINCE THE UNION IS ONE OF THE HEAVIEST TRAFFIC GENERATORS ON CAMPUS THE EAST-WEST FLOW MIGHT MOVE ACROSS ZIMMERMAN PLAZA THROUGH THE GAP BETWEEN THE UNION AND THE FINE ARTS CENTER.

The first part of the book is devoted to a description of the country and its people. The author describes the various tribes and their customs and habits. He also mentions the different languages spoken in the region. The second part of the book is a history of the country from the earliest times to the present. The author discusses the various wars and conquests that have taken place in the region. He also mentions the different dynasties that have ruled the country. The third part of the book is a description of the different parts of the country. The author describes the different mountains, rivers, and lakes. He also mentions the different cities and towns in the region. The fourth part of the book is a description of the different plants and animals in the region. The author mentions the different types of trees and plants that grow in the region. He also mentions the different types of animals that live in the region. The fifth part of the book is a description of the different customs and habits of the people in the region. The author mentions the different types of clothing that the people wear. He also mentions the different types of food that the people eat. The sixth part of the book is a description of the different religions in the region. The author mentions the different types of gods and goddesses that the people worship. He also mentions the different types of rituals and ceremonies that the people perform. The seventh part of the book is a description of the different languages spoken in the region. The author mentions the different types of dialects that are spoken in the region. He also mentions the different types of words and phrases that are used in the region. The eighth part of the book is a description of the different arts and crafts in the region. The author mentions the different types of handicrafts that the people make. He also mentions the different types of music and dance that the people perform. The ninth part of the book is a description of the different festivals and holidays in the region. The author mentions the different types of festivals that the people celebrate. He also mentions the different types of holidays that the people observe. The tenth part of the book is a description of the different legends and myths in the region. The author mentions the different types of legends that the people tell. He also mentions the different types of myths that the people believe in.

The first part of the book is devoted to a description of the country and its people. The author describes the various tribes and their customs and habits. He also mentions the different languages spoken in the region. The second part of the book is a history of the country from the earliest times to the present. The author discusses the various wars and conquests that have taken place in the region. He also mentions the different dynasties that have ruled the country. The third part of the book is a description of the different parts of the country. The author describes the different mountains, rivers, and lakes. He also mentions the different cities and towns in the region. The fourth part of the book is a description of the different plants and animals in the region. The author mentions the different types of trees and plants that grow in the region. He also mentions the different types of animals that live in the region. The fifth part of the book is a description of the different customs and habits of the people in the region. The author mentions the different types of clothing that the people wear. He also mentions the different types of food that the people eat. The sixth part of the book is a description of the different religions in the region. The author mentions the different types of gods and goddesses that the people worship. He also mentions the different types of rituals and ceremonies that the people perform. The seventh part of the book is a description of the different languages spoken in the region. The author mentions the different types of dialects that are spoken in the region. He also mentions the different types of words and phrases that are used in the region. The eighth part of the book is a description of the different arts and crafts in the region. The author mentions the different types of handicrafts that the people make. He also mentions the different types of music and dance that the people perform. The ninth part of the book is a description of the different festivals and holidays in the region. The author mentions the different types of festivals that the people celebrate. He also mentions the different types of holidays that the people observe. The tenth part of the book is a description of the different legends and myths in the region. The author mentions the different types of legends that the people tell. He also mentions the different types of myths that the people believe in.

GRAPHICS PRODUCTION WITH ART AND FINISHING STUDIOS, PHOTO AND FINISHING STUDIOS, STAFF AND PREVIEW AREAS WILL TAKE UP TO REMAINDER.

THE FUNCTION OF THE PRODUCTION AREA STAFF WILL BE TO PROVIDE THE NECESSARY ART WORK, ETC. TO FURTHER THE MULTI-MEDIA EDUCATIONAL APPROACH. THE STAFF CORE WILL BE MADE UP OF PERSONS WHO WILL BE MORE THAN TECHNICIANS; THEY WILL BE MEDIA PEDAGOGISTS WHO WILL ALSO HAVE PRODUCTION SPECIALISTS ETC. TO CARRY OUT THE TECHNOLOGICAL ASPECT OF T.V., FILMS, ETC. .

COMMUNICATIONS RESEARCH:

THE CURRICULUM DEVELOPMENT FACILITY OBJECTIVES ARE:

- TO CARRY ON A PROGRAM OF EDUCATIONAL RESEARCH. THESE ACTIVITIES WILL MOST LIKELY BE ACCOMPLISHED BY QUALIFIED PERSONS AND WILL HAVE WIDESPREAD RATHER THAN LIMITED APPLICATIONS.
- TO DEVELOP NEW CURRICULUM UNITS WITH SPECIAL WAYS OF SUPPORTING THEM.
- TO TEST, EVALUATED & DISSEMINATE INNOVATIONS

IN ORDER TO ACHIEVE THESE GOALS, THE LABORATORY WILL REMAIN FLEXIBLE. IT WILL ADAPT TO THE SITUATION AS NECESSARY, CHANGING ITS OWN CHARACTER AS IT UNDERTAKES DIFFERANT KINDS OF PROJECTS.

MEDIA EVALUATION WILL BE A RESEARCH ORIENTED FACILITY PROVIDING SMALL OFFICES AND CONFERENCE ROOMS.

ADMINISTRATION:

THE ADMINISTRATION OF SUCH A LARGE CENTER WILL NECESSARILY BE DECENTRALIZED FOLLOWING A SYSTEM NOW INFORCE BY DIFFERENT COLLEGES WITHIN THE UNIVERSITY. THUS THE MULTI-MEDIA CENTER DOESN'T BECOME THE PROPERTY OF ANY DEPARTMENT OR DISCIPLINE, ITS USE WILL BE ENCOURAGED FOR ALL DEPARTMENTS.

GRANTED FUNDING WITH AN END VIEW TO THE STUDY, TWO
AND THE STUDY, THAT THE STUDY WILL BE
UP TO FORWARD.

THE FOCUS OF THE PROJECT IS TO STUDY THE
THE NECESSARY AND THE STUDY THE
EDUCATIONAL APPROACH. THE STUDY WILL
UP OF FEW WHO ARE MORE THAN THE STUDY. THEY WILL
BE MEDIA RESEARCHERS AND WILL BE THE STUDY.
THEY WILL BE THE STUDY OF THE STUDY.
THEY WILL BE THE STUDY OF THE STUDY.

EDUCATIONAL RESEARCH

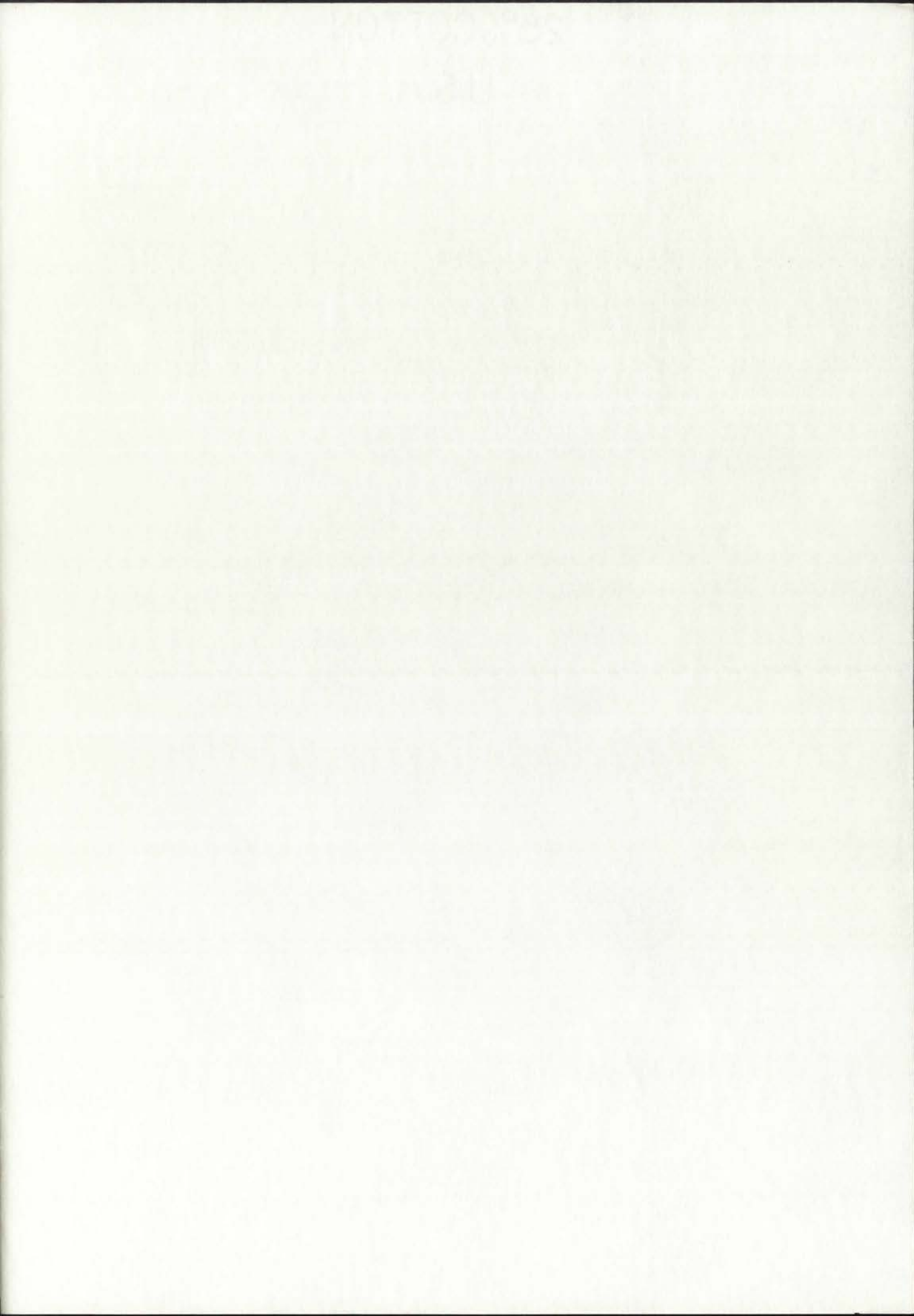
THE CURRICULUM DEVELOPMENT RESEARCH OBJECTIVES ARE:

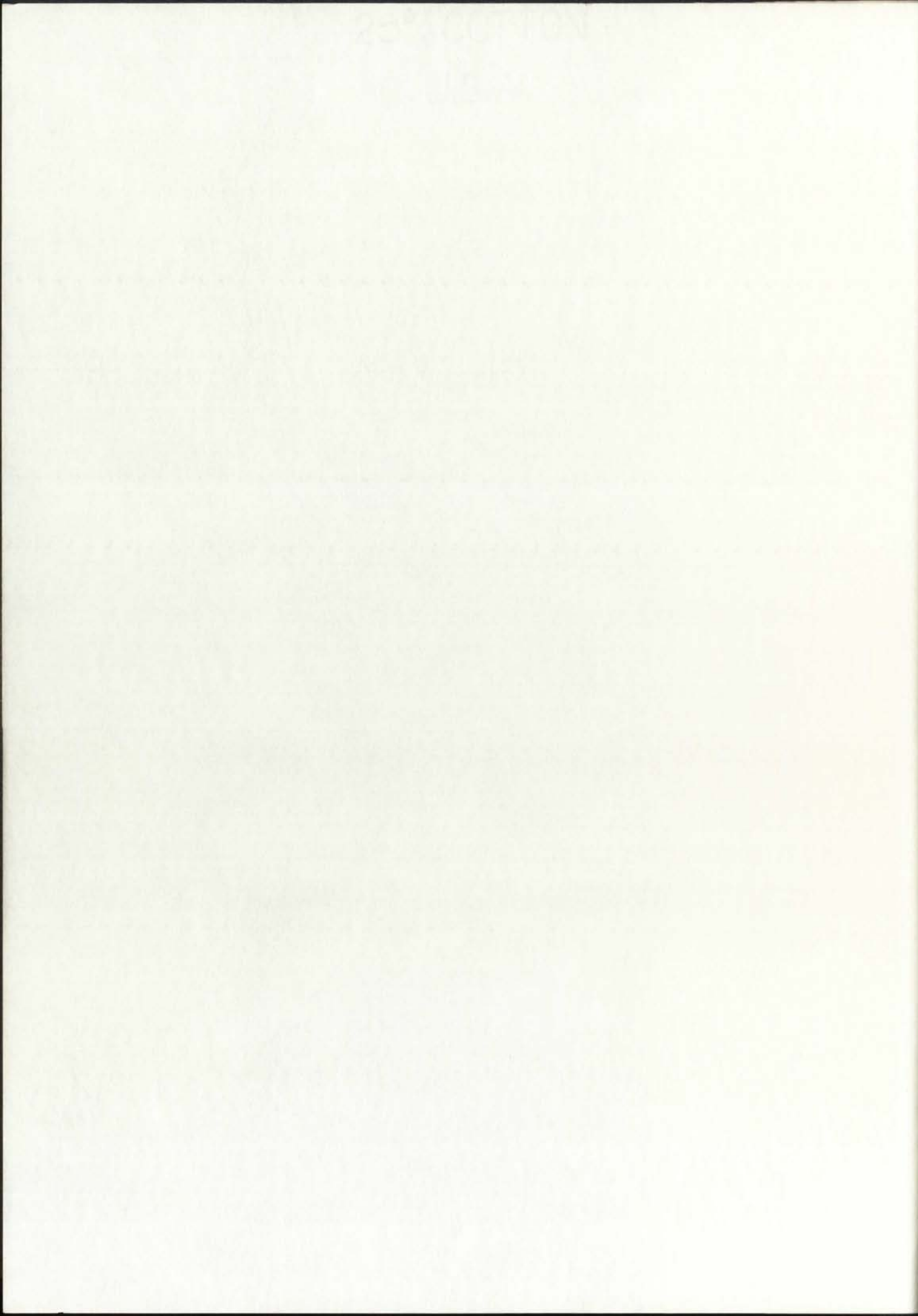
TO CARRY ON A PROGRAM OF EDUCATIONAL RESEARCH
THESE ACTIVITIES WILL BE ACCOMPLISHED
BY FORMER/RESEARCHERS WHO WILL HAVE RESEARCH
EXPERIENCE IN RESEARCH RESEARCH.
TO DEVELOP NEW CURRICULUM WITH SPECIAL
WAYS OF SUPPORTING THEM.
TO TEST EVALUATE A RESEARCH RESEARCH
IN ORDER TO ACHIEVE THESE GOALS, THE RESEARCHERS WILL REMAIN
AVAILABLE. IT WILL BE THE RESEARCHERS RESEARCH.
CHANGING THE RESEARCH AS IT RESEARCH RESEARCH
KIND OF RESEARCH.

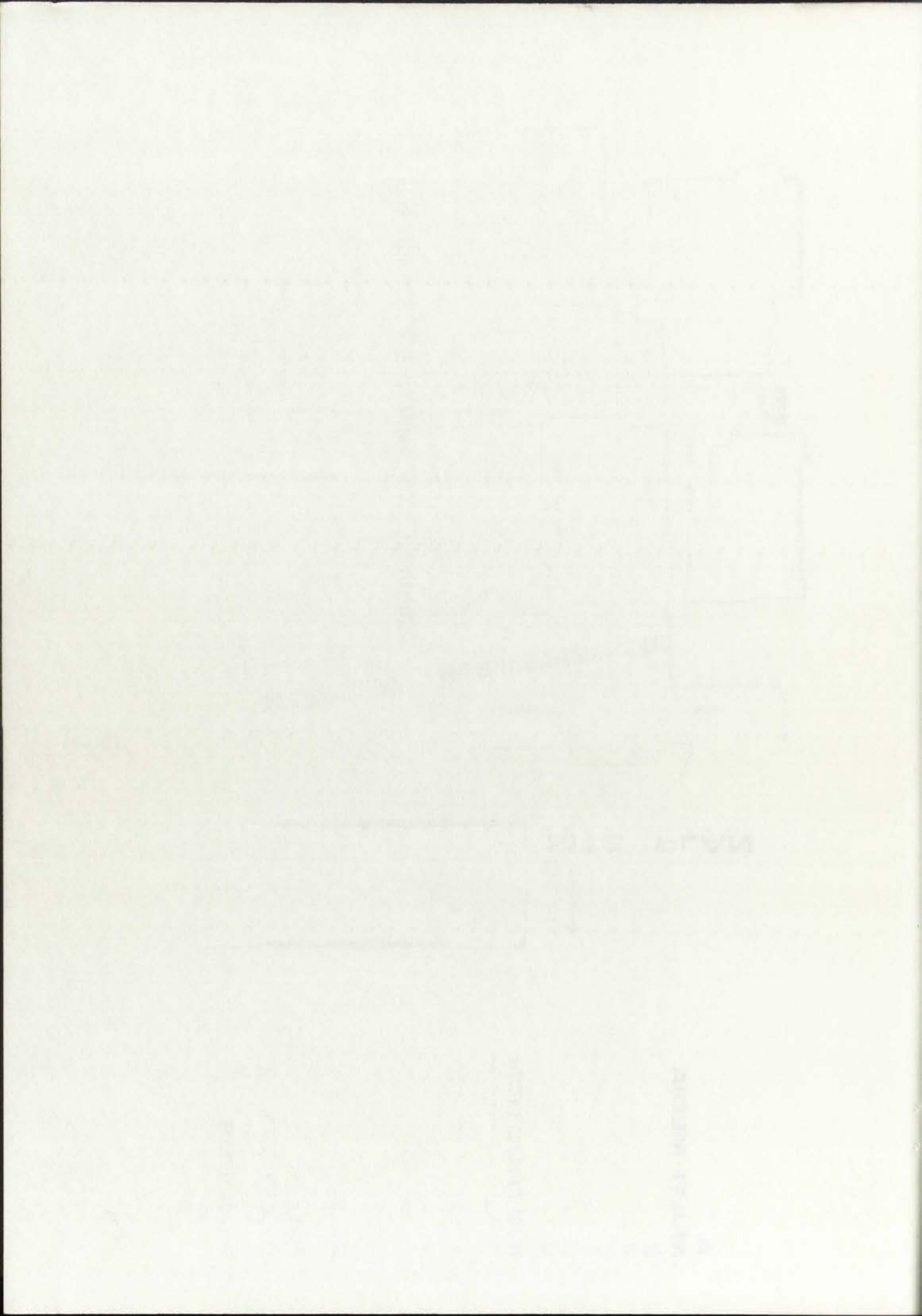
RESEARCH EVALUATION WILL BE A RESEARCH ORIENTED FACILITY
PROVIDING SMALL OFFICES AND RESEARCH ROOMS.

ADMINISTRATION

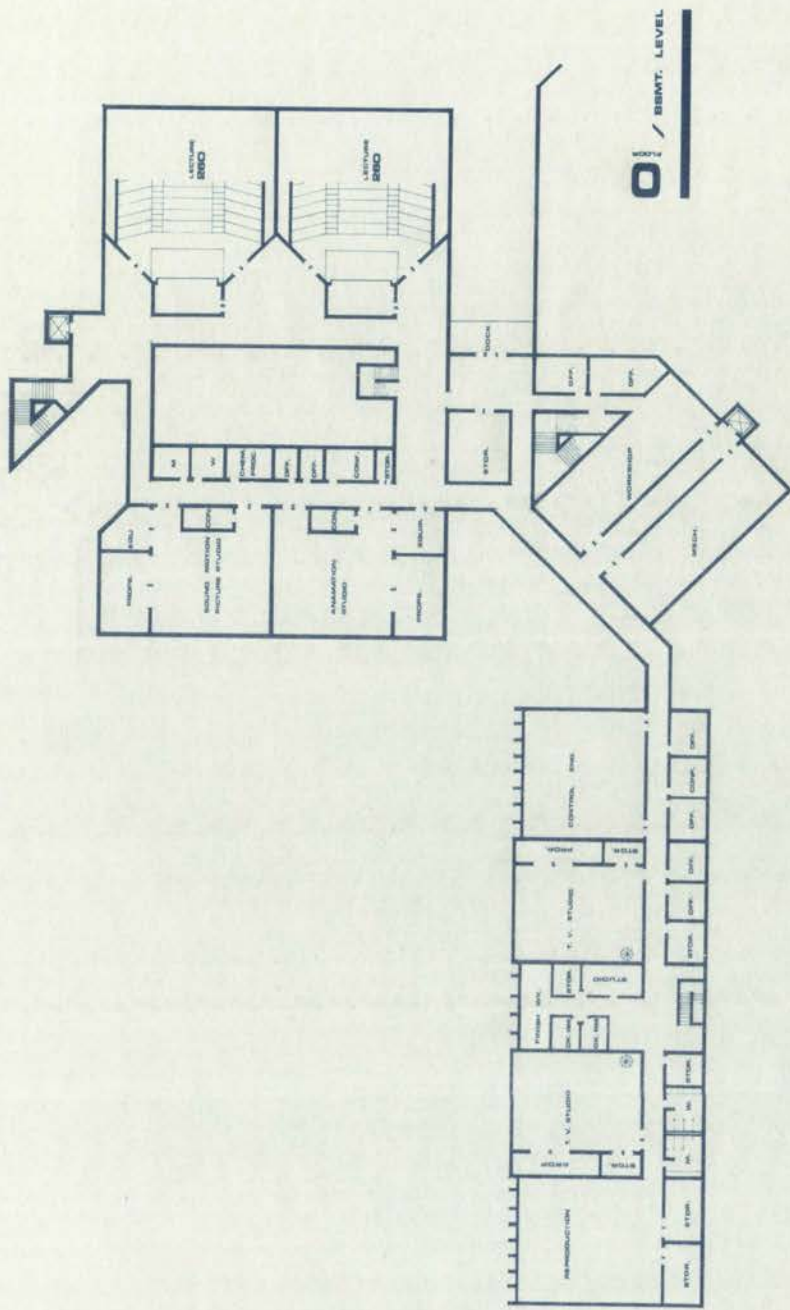
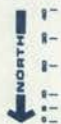
THE ADMINISTRATION OF SUCH A RESEARCH CENTER WILL NECESSARILY
BE DECENTRALIZED FOLLOWING A RESEARCH RESEARCH BY
DIFFERENT COLLEGES WITHIN THE RESEARCH. THE RESEARCH
RESEARCH RESEARCH RESEARCH RESEARCH RESEARCH RESEARCH
ON RESEARCH, THE USE WILL BE RESEARCH FOR ALL
RESEARCHERS.



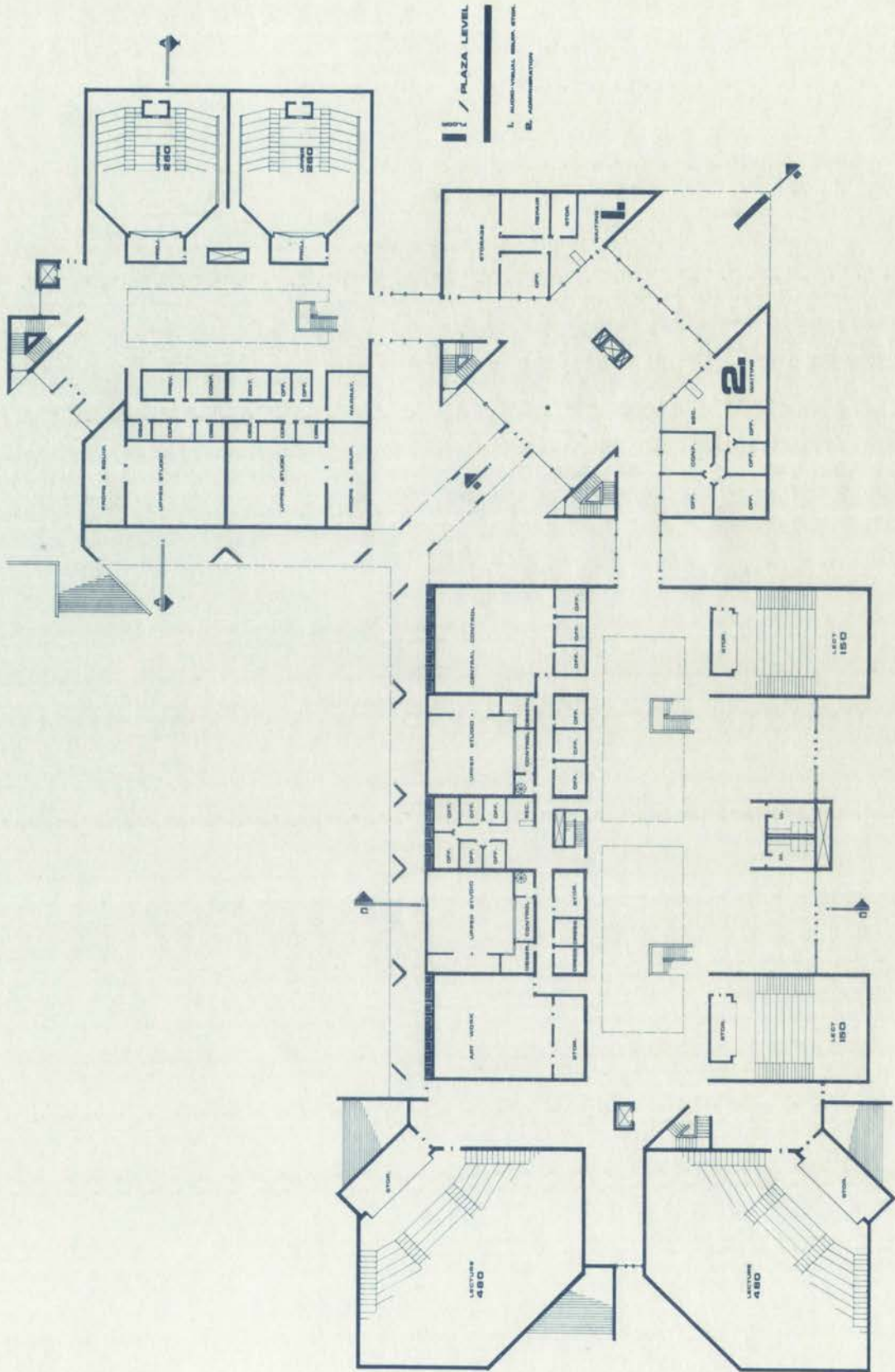
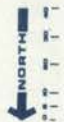


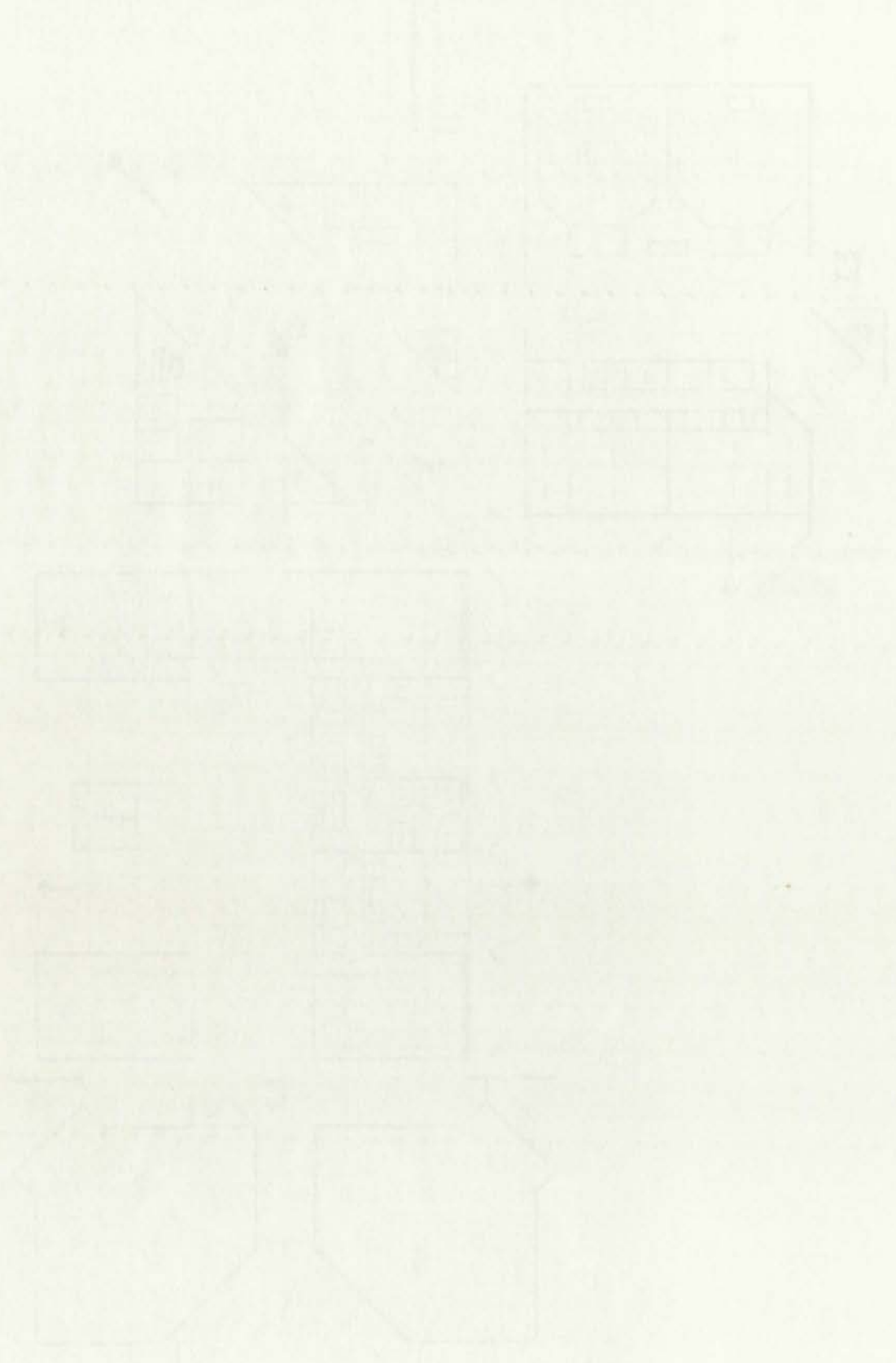


FLOOR PLAN-0



FLOOR PLAN





PLAN OF THE BUILDING

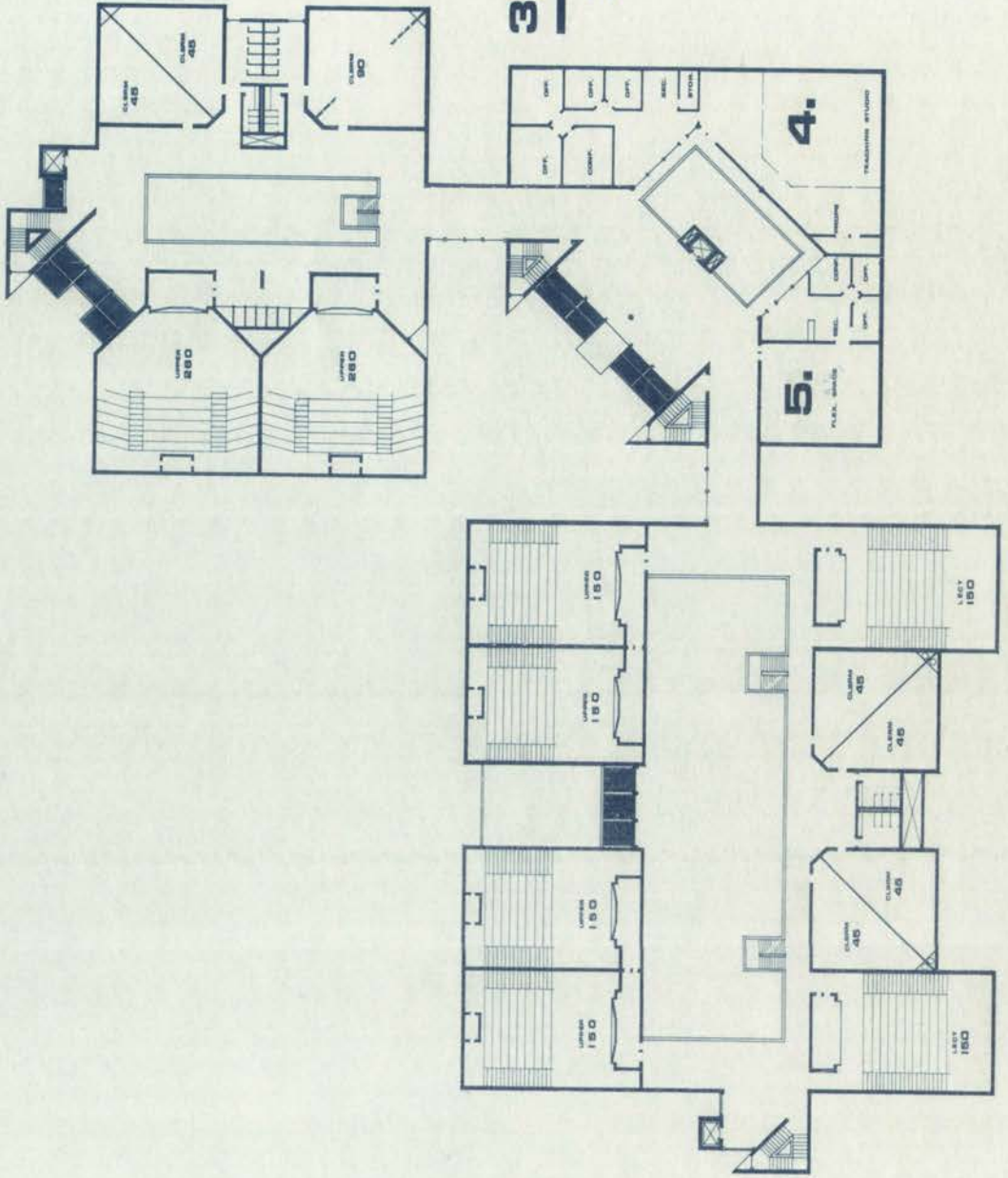
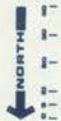
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9-17-78 2011-10-10

10-10-11 2011-10-10

FLOOR PLAN-C



3 LEVEL

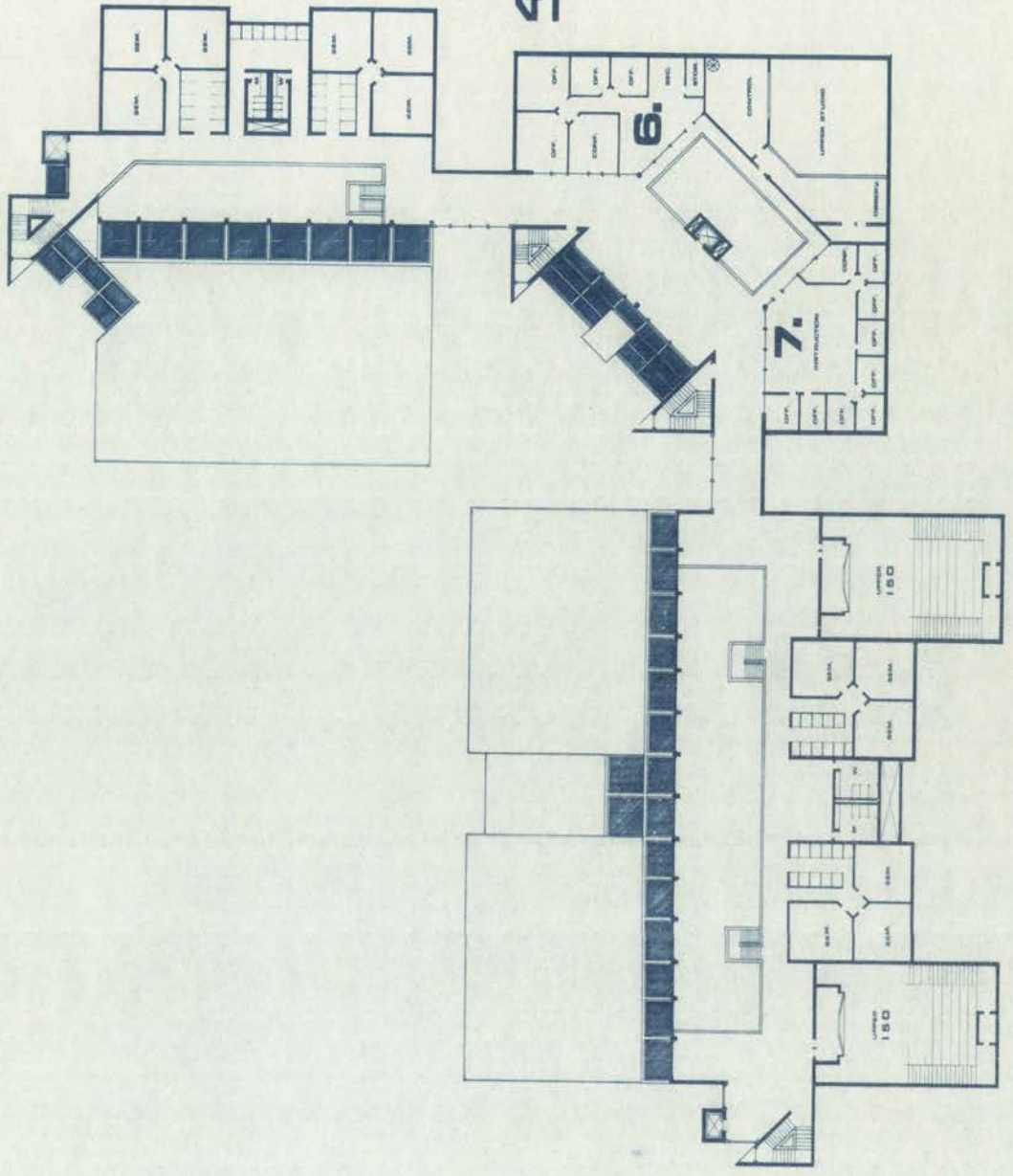
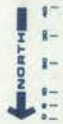
- 4. FACILITY - AUDITORIUM
- 5. RESTROOM
- 6. OFFICE
- 7. CLASSROOM
- 8. LABORATORY



5-5714 ROOM

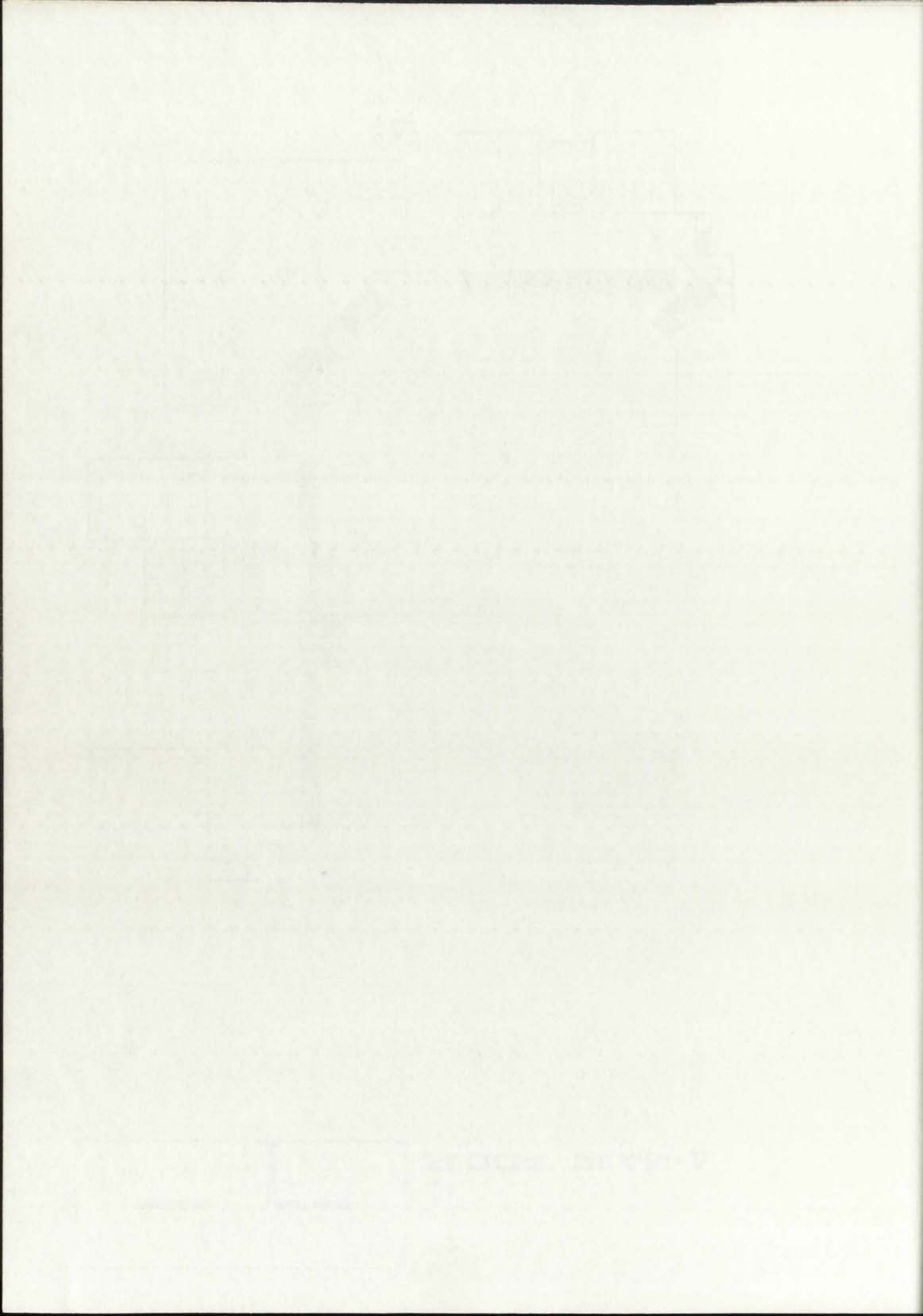


FLOOR PLAN 4



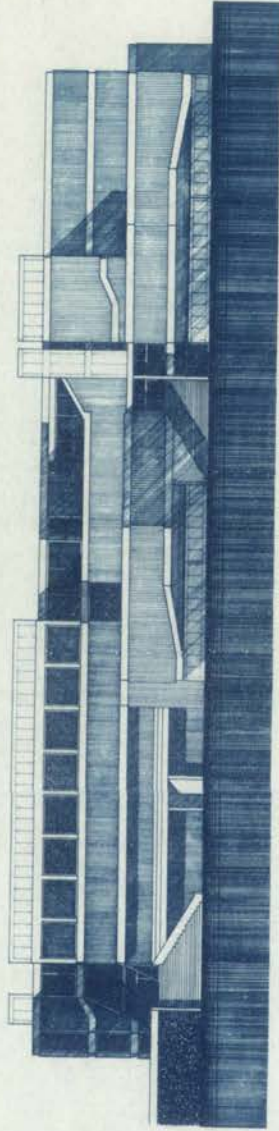
4 LEVEL

6. MEDIA EVALUATION
7. COMPUTER CENTER

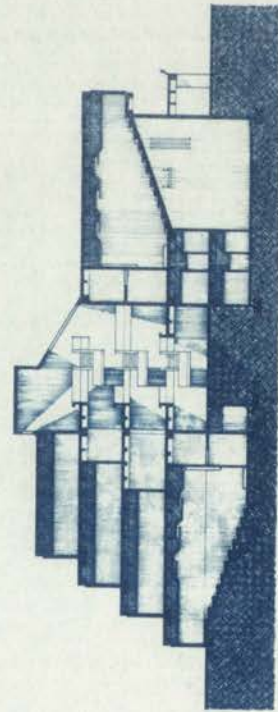


ELEVATIONS

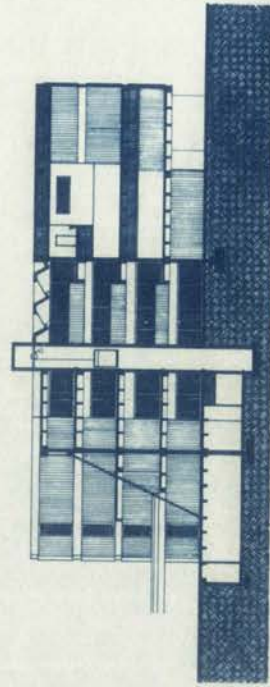
1
2
3
4
5
6



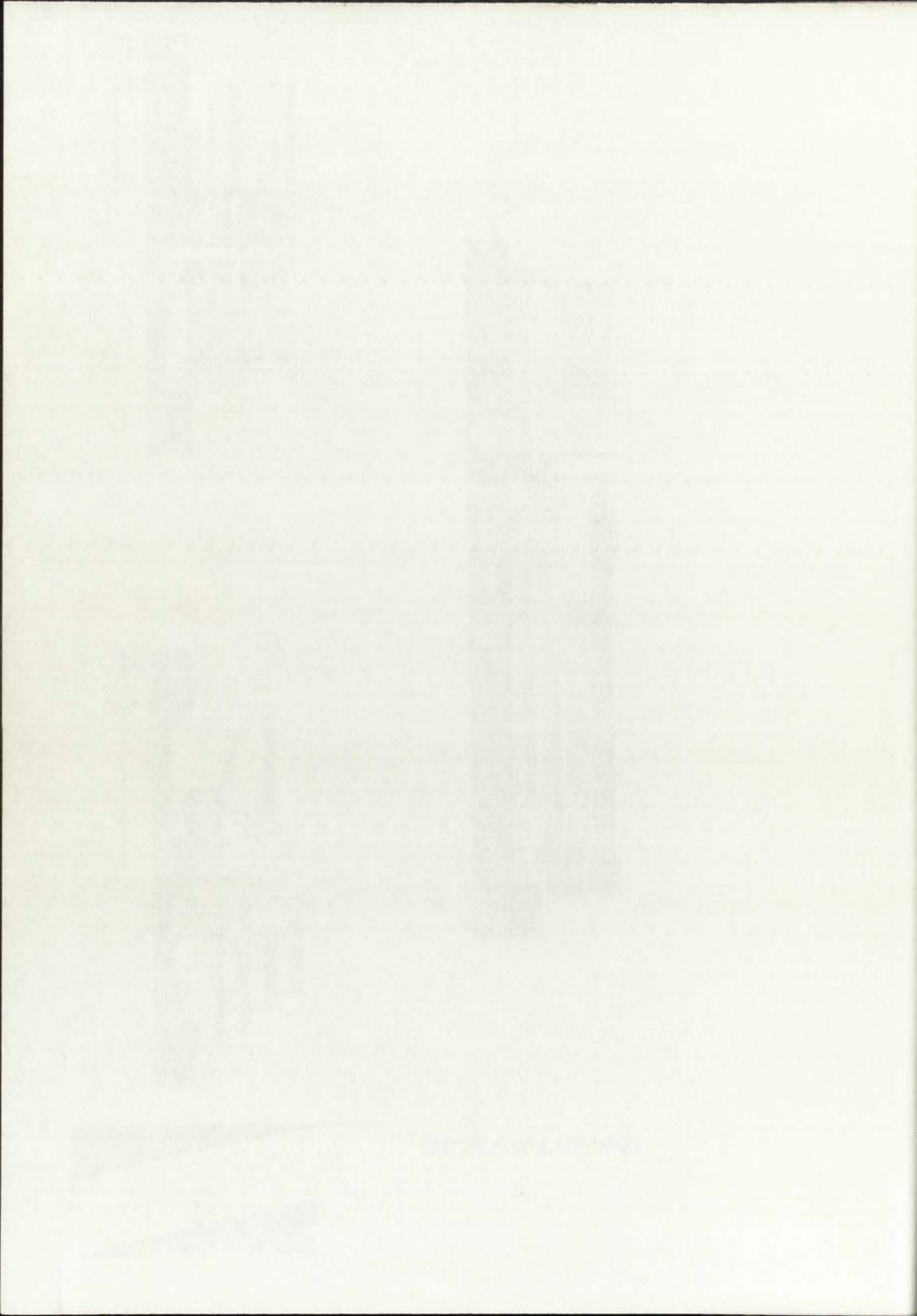
NORTH



PRODUCTION / INSTRUCTION
A-A

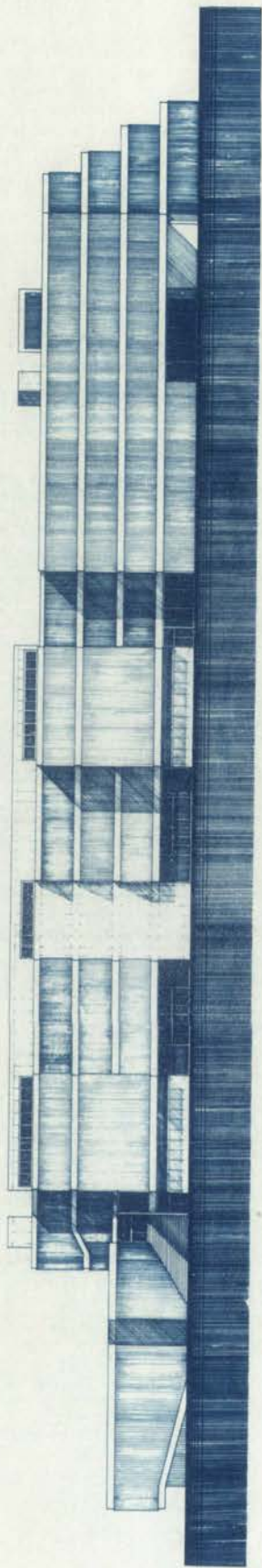
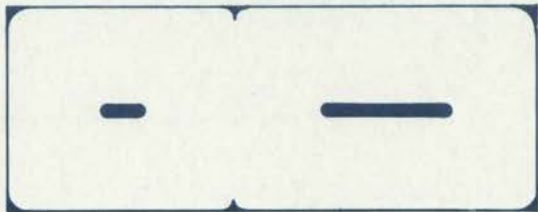


INFORMATION
B-B

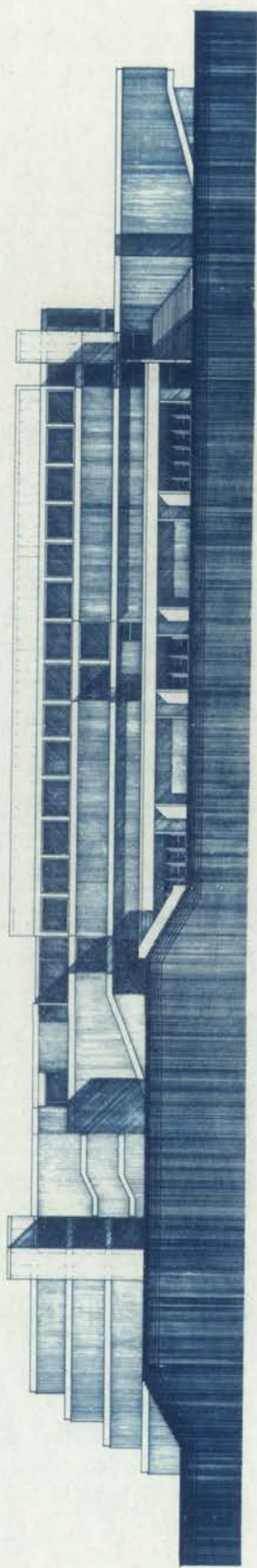


ELEV. & SECT.

1-1
2-2
3-3
4-4
5-5



WEST



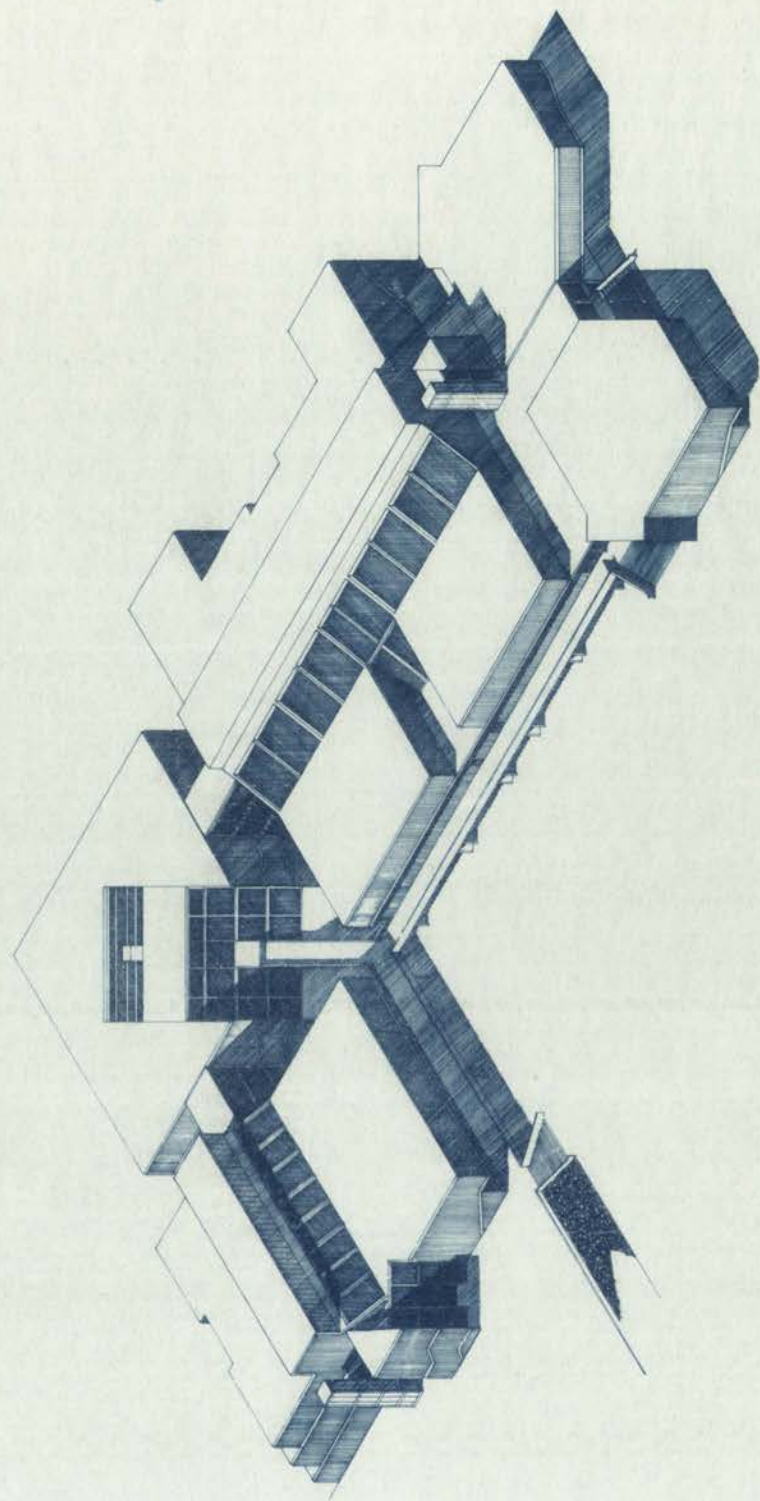
EAST

[Faint, illegible text block]

[Faint, illegible text block]

[Faint, illegible text block]

JOHN & MARY



AXONOMETRIC

1 1/2 x 1 1/2 in.

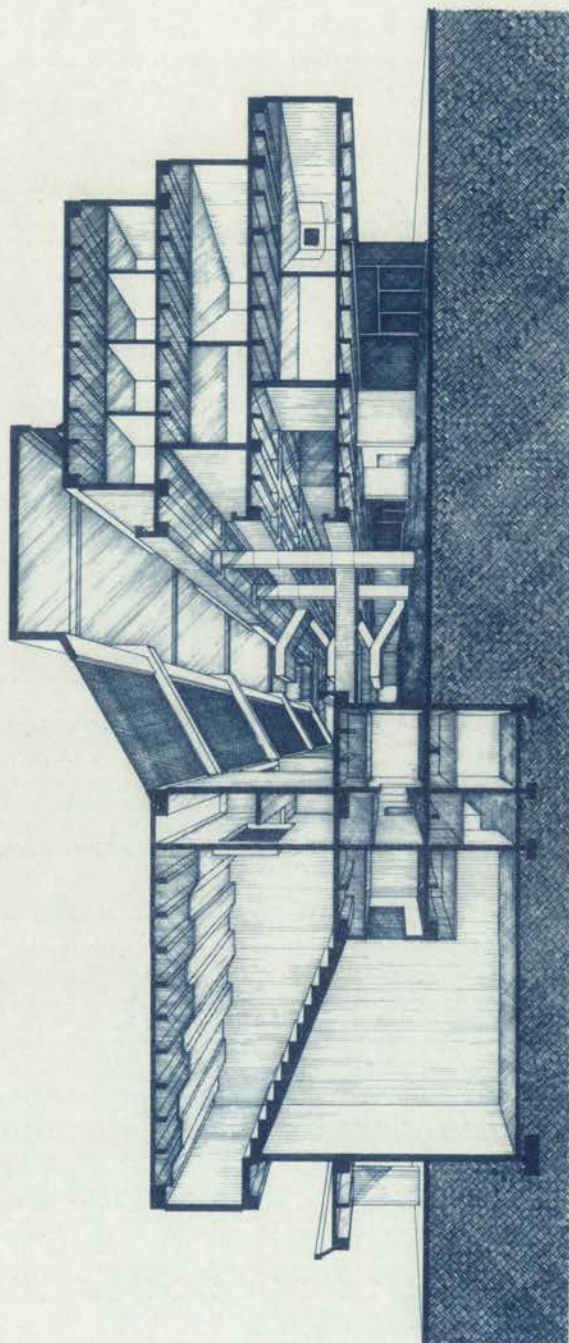
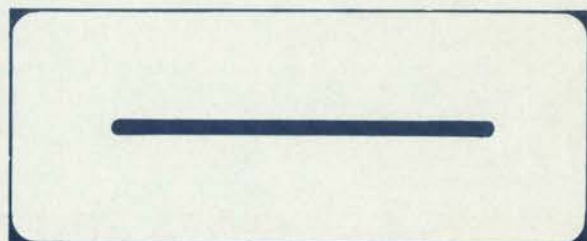


1111111111

1111111111

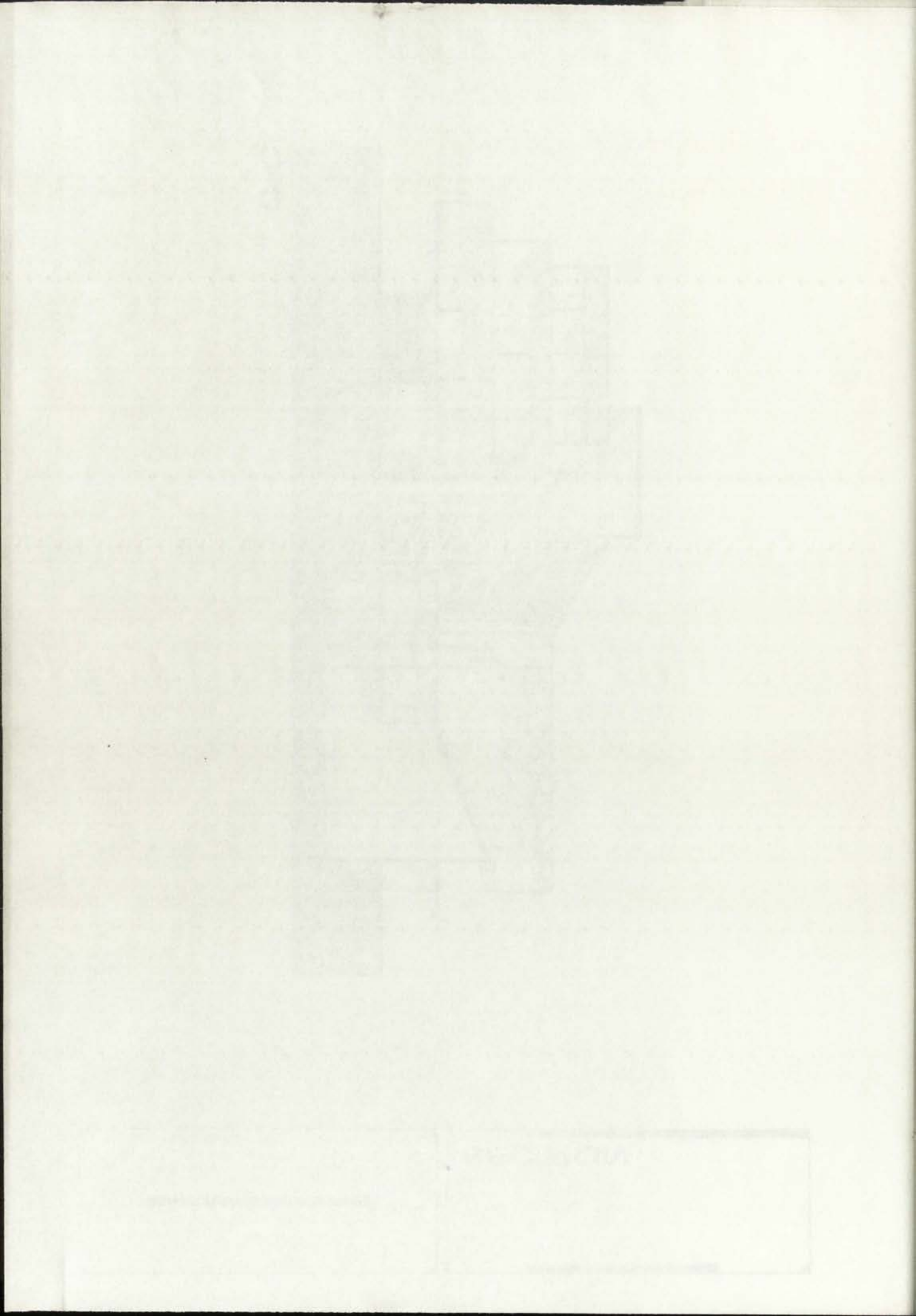
SECTION

1
2
3
4
5

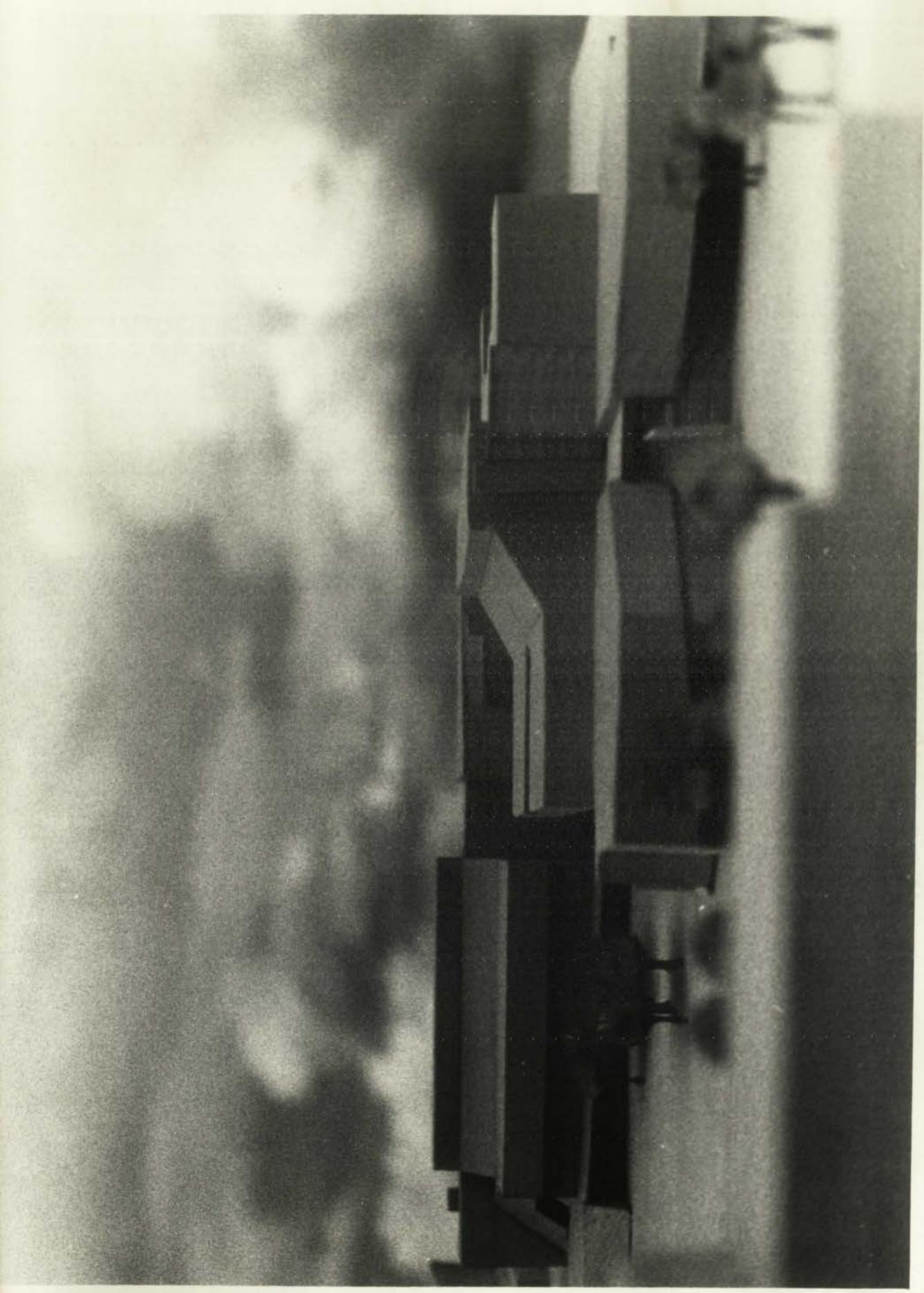


C-C

PRODUCTION / INSTRUCTION







SECTION
OF BELLEFOND







